DRAINAGE ANALYSIS
SITE DEVELOPMENT

MAP 154, LOT 2
BREWERY LANE
PORTSMOUTH, NH
For
CHINBURG PROPERTIES / PORTSMOUTH WEST END DEVELOPMENT, LLC

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STATE OF NEW HAMPSHIRE - JOSEPH L. MULLEDY No. 11502 LICENSED PROFESSIONAL ENGINEER

4/17/18

Ambit Engineering, Inc.

Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 436.2315
E-mail: jlm@ambitengineering.com

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EXECUTIVE SUMMARY

In a recent review by the Planning Board, it was suggested that the hydrologic modeling consider the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) be as used for modeling purposes. These values have been used and are included in this report.

This analysis is meant to be used by Town officials, the developer, builders, earthwork contractors and other interested parties to better understand the assumptions and intent of the drainage management and treatment scheme. This drainage analysis examines and compares the existing and proposed conditions stormwater drainage patterns for a Site Development on Brewery Lane in the City of Portsmouth, at Assessor's Map 154, Lot 2. The total lot size is 5.03 acres including areas of off-site watershed that flows onto the parcel and is included in the drainage analysis. Because of the project size, the applicant is required to obtain an NHDES Alteration of Terrain permit which require that stormwater runoff be treated prior to its discharge off the property. This will be achieved by the use of stormwater treatment BMP's and best management practices.

The "existing" conditions site plan show the condition immediately before development (i.e., as it exists today). Runoff amounts from this existing state are a function of the land cover, vegetation and soils; together those factors produce what is known as the Curve Number. The "existing" or pre-developed curve number for the area consisting of one subcatchments is 97. Typically, highly developed areas with a substantial amount impervious area will have curve numbers approaching 90, whereas undisturbed or undeveloped areas can have curve numbers as low as 30 if the soils are well-drained and covered with forest. The proposed development's curve number decreases to 93. Because we have reduced the total amount of impervious surface on the site, the chance of an increase in runoff is very low. For this reason, only treatment practices are proposed at this time to meet State permitting requirements (Alteration of Terrain).

Because the overall impervious surface area has been decreased in the proposed condition, peak rates of runoff can be maintained without on site detention. However,

the runoff will require treatment. Deep sump catch basins with water quality elbows will provide secondary stormwater treatment. Primary treatment will be achieved by the use of two filtration systems and an "Environment 21" (V2B1 Model #6) system. The filtration systems treat runoff by filtering it through a layer of engineered soil that removes pollutants through filtering and absorption. The rate of outflow through these ponds is primarily a function of the filter media porosity and the perforated underdrain within that filter media. The two filtration systems are located inside of the islands within the parking lot on the north side of the site. The water quality unit will be located within the community patio in front of the building. A NHDES Alteration of Terrain permit application will be filed for the project because the disturbed areas will exceed 100,000 square-feet.

Treatment of stormwater runoff is required for the "first-flush" runoff (or Water Quality Volume) and is defined by NHDES as a continuous storm with a rainfall of 1". Statistically, 90% of all storm events in the State of New Hampshire in any given year produce 1" or less rainfall during a 24 hour period. These storms are assumed to carry the majority of the pollutants associated with stormwater runoff. The water quality volume (WQV) is calculated based on this small storm and that volume is treated in the BMP (in this case the filter ponds). Larger storms are also passed through these BMP's but since the majority of the pollutants have already been removed there is no need to treat the entire volume of runoff. For these storms, the volume above and beyond the water quality volume is " by-passed" through the outlet structure untreated.

There is one design point on this parcel which are used to compare pre and post-developed runoff amounts. The design point is labeled DP1 and is located within a drain manhole within the intersection of Jewell Court and Brewery Lane.

The 2, 10, 25 and 50 year, 24 hour storm events are used to compare the peak runoff amounts at the design point.

The following table summarizes the pre and post developed peak runoff flows at the one Design Point:

Comparison of Pre and Post Developed Discharge Rates

Design Point	Existing 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)	Proposed 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)	Change 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)
DP1	18.0/27.6/35.2/42.2	15.7/25.3/32.7/39.6	-2.3/-2.3/-2.5/-2.6

As the above chart shows, flows are either maintained or reduced in the proposed condition. The following table summarizes the pre and post developed stormwater volumes at the Design Point:

Comparison of Pre and Post Developed Stormwater Volumes

Design Point	Existing 2 yr/10 yr/25 yr/50 yr Volume (af)	Proposed 2 yr/10 yr/25 yr/50 yr Volume (af)	Change 2 yr/10 yr/25 yr/50 yr Volume (af)
DP1	1.1/1.8/2.3/2.7	0.9/1.5/2.0/02.5	-0.2/-0.3/-0.3/-0.2

As the above table shows, volumes are either maintained or reduced at the Design Point. This meets Alteration of Terrain Permit requirements as well as City of Portsmouth requirements.

DRAINAGE ANALYSIS
SITE DEVELOPMENT

MAP 154, LOT 2
125, 155 & 145 BREWERY LANE
PORTSMOUTH, NH
For
CHINBURG PROPERTIES / PORTSMOUTH WEST END DEVELOPMENT, LLC

INTRODUCTION

In a recent review by the Planning Board, it was suggested that the hydrologic modeling consider the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) be as used for modeling purposes. These values have been used and are included in this report.

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on City of Portsmouth Assessor's Map 154 as Lot 2. The proposed project is for the redevelopment of a 4.7-acre parcel for additional residential use.

This report includes information about the existing site and the proposed development as necessary to analyze stormwater runoff treatment and management. The report includes maps of existing and proposed subcatchments and calculations of runoff. The report will provide a brief narrative description of the storm water runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management and treatment structures and methods will also be described. To fully understand the proposed site development the reader should review plans W1 and W2 which graphically show the assumptions used in the HydroCAD stormwater model (Note: these plans are not meant to be used for construction purposes).

In order to maintain or reduce developed peak-runoff amounts to pre-developed levels, the applicants will have to provide for detention of runoff. This will be achieved by the use of two filtration systems and a water quality unit (WQU). The filtration basins treat runoff by filtering it through a layer of engineered soil that removes pollutants through

filtering and absorption. The rate of outflow through these basins is primarily a function of the filter media porosity. The two filtration systems are located inside of the islands within the parking lot on the north side of the site. The water quality unit will be located within the community patio in front of the building. A NHDES Alteration of Terrain permit application will be filed for the project because the disturbed areas will exceed 100,000 square-feet.

Treatment of stormwater runoff is required for the "first-flush" runoff (or Water Quality Volume) and is defined by NHDES as a continuous storm with a rainfall of 1". Statistically, 90% of all storm events in the State of New Hampshire in any given year produce 1" or less rainfall during a 24-hour period. These storms are assumed to carry the majority of the pollutants associated with stormwater runoff. The water quality volume (WQV) is calculated based on this small storm and that volume is treated in the BMP (in this case the filter ponds). Larger storms are also passed through these BMP's (or should be) but since the majority of the pollutants have already been removed there is no need to treat the entire volume of runoff. For larger storms, the volume above and beyond the water quality volume is " by-passed" through the outlet structure untreated.

METHODOLOGY

This report uses the US Soil Conservation Service Method for prediction of storm water runoff. The SCS method is published in The National Engineering Handbook, Section 4 "Hydrology", in Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release-55 (TR-55) "Urban Hydrology for Small Watersheds". This report uses the HydroCAD program, written by Applied Microcomputer Systems, Chocorua, N.H., to apply these methods. Rainfall data are taken from the Extreme Precipitation Tables published by the Northeast Climate Center.

SITE SPECIFIC INFORMATION

Located on Brewery Lane in Portsmouth, this site the location of a former DPW garage and two brick structures.

The site is bound by Cheverolet ave to the southeast, Brewery Lane to the northwest, Plaza 800 to the southwest and existing Malt House buildings to the northeast.

The majority of Soils on this site are of the Urban Land "Canton Complex". These soils can be described as being well-drained. A waiver is requested from the requirement for a site specific soil report as is required by State Alteration of Terrain permitting, because the soil is "made" land.

DRAINAGE ANALYSIS

In a recent review by the Planning Board, it was suggested that the hydrologic modeling consider the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) be as used for modeling purposes. These values have been used and are included in this report.

This drainage analysis consists of two sections, an analysis of the stormwater runoff from the site in the existing condition, and an analysis of the stormwater runoff from the same area with the proposed development. Areas and drainage information were taken from an existing condition plan and site topographic map prepared by this office. Soils information was taken from the Soil Conservation Service (SCS) Web Soil Survey. Vegetative cover information was determined by on-site inspection as well as aerial orthophotography.

There is one discharge point identified for analysis of stormwater runoff for this project. This is the same point in the existing and proposed conditions. This discharge point is located inside an existing drain manhole within the intersection of Brewery Lane and Jewell Court.

Existing or Pre-Developed Site Runoff

In order to study the site in greater detail, design closed systems and estimate peak stormwater runoff, it is necessary to divide the site into watershed subcatchments. There is a single subcatchment in the existing analysis. The design point is an existing drain manhole (DMH 4) located in the intersection of Brewery Lane and Jewell Court. The large majority of these discharges are sheet flow.

Subcatchment Summaries

Subcatchment ES1*: This Subcatchment comprises 100% of the total area including runoff from offsite (5.035 ac). Existing groundcover is largely impervious surfaces consisting of paved parking and rooftops with some small areas of compacted gravel surface. Runoff from this subcatchment flows to the municipal drainage system along Jewett Court.

*Runoff volumes are based on the 2-year storm event for comparison purposes only.

The following table summarizes the existing subcatchments. The hydrologic modeling consider the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) be as used for modeling purposes.

The total rainfall amounts for the 2, 10, 25 and 50-year storm are 3.69", 5.60", 7.10" and 8.50". These are the rainfall amounts promulgated by NHDES and are taken from the Northeast Regional Climate Center website. They represent extreme precipitation + 15%.

Table 1: Existing Watershed Subcatchment Runoff Results.

Subcatchment	Area Sf	Tc min.	CN	2 Year Peak cfs	10 Year Peak cfs	25 Year Peak cfs	50 Year Peak cfs
ES1	219,330	5.0	97	18.0	27.6	35.2	42.2

Consistent with TR-55 methodology, a minimum Time of Concentration of 5.0 minutes was set in the HydroCAD modeling software. See "Plan of Proposed Subcatchments" – W1.

Proposed or Post-Developed Site Runoff

There are eight subcatchments in the proposed analysis including runoff from off site. The same Design Point is utilized for the developed state. Subcatchments PS1, PS2 , PS3, PS4, PS5, PS6, PS7 andPS8 all flow to Discharge Point 1 (DP1).

The following is a description of the various subcatchments:

Subcatchment PS1 is the northwest corner of the lot and represents an existing building on site, a small amount of landscaping, sidewalk and pavement within Brewery Lane. Flow from this subcatchment discharges directly to design point DP1.

Subcatchment PS2 represents the majority of runoff from the rear of the building in PS1 as well as pavement, sidewalk and landscaping. The flow from this subcatchment is captured and treated in Filter Pond #1.

Subcatchment PS2a represents offsite rooftop runoff that will be captured in a swale/underdrain system that will bypass the onsite treatment.

Subcatchment PS3 is the northwest corner of the lot and is largely pavement with smaller amounts of sidewalk and landscape area. The flow from this subcatchment is captured and treated in Filter Pond #2.

Subcatchment PS3a represents offsite rooftop runoff that will be captured in a swale/underdrain system that will bypass the onsite treatment.

Subcatchement PS4 is the located in the southwest corner of the property and represents runoff from an existing building on site, a small amount of landscaping, sidewalk and pavement within Brewery Lane. Flow from this subcatcheent discharges directly to design point DP1.

Subcatchment PS5 is contains the majority of the area for the entire lot and is comprised of the entire rooftop from the proposed sidewalk, pavement and landscaped areas. Runoff from this subcatchment will be treated in a Water Quaility Unit (WQU) located within the community patio in the front of the building.

Subcatchment PS5A is contains sidewalk, pavement and landscaped areas.

Subcatchment PS5B is contains sidewalk, pavement and landscaped areas.

Subcatchment PS5C is contains the majority of the area for the entire entire rooftop from the proposed building.

Subcatchement PS6 is located along Cheverolet Avenue to the rear of the proposed building and is comprised of pavement, sidewalk and landscaped area.

Subcatchement PS7 is located adjacent to the parking lot of Plaza 800 and is comprised of pavement, sidewalk and landscaped area.

Subcatchments PS8 represent runoff from a small part of the property that flows to proposed catch basin PCB2.

All proposed subcatchments flow to and are analyzed at design point DP 1 (DMH 4).

Table 2: Proposed or Developed Conditions

Subcatchment	Area Sf	Tc min *	Weighted CN	2 Year Peak cfs	10 Year Peak cfs	25 Year Peak cfs	50 Year Peak cfs
PS1	7,157	5.0	97	0.6	0.9	1.1	1.4
PS2a	20,584	5.0	93	1.6	2.5	3.2	3.9
PS2b	11,747	5.0	94	0.9	1.4	1.8	2.2
PS3a	19,589	5.0	94	1.5	2.4	3.1	3.7
PS3b	40,960	5.0	92	3.0	4.9	6.3	7.7
PS4	12,006	5.0	94	0.9	1.5	1.9	2.3
PS5	34,260	5.0	91	2.5	4.0	5.2	6.4
PS5A	9,298	5.0	97	0.8	1.2	1.5	1.8
PS5B	13,605	5.0	92	1.0	1.6	2.1	2.5
PS5C	18,430	5.0	98	1.5	2.3	3.0	3.6
PS6	20,527	5.0	88	1.3	2.3	3.0	3.7
PS7	8,740	5.0	94	0.7	1.1	1.4	1.7
PS8	2,398	5.0	94	0.2	0.3	0.4	0.5
Totals							

See "Plan of Proposed Subcatchments" – W2.

*Consistent with TR-55 methodology, a minimum Time of Concentration of 5.0 minutes was set in the HydroCAD modeling software.

**By inspection, the Time of Concentration for several small subcatchments was "Direct Entered" with a Tc of 5.0 minutes.

Stormwater Quality BMP's

We understand the City is in process of generating requirements for stormwater treatment, the applicant is preparing an NHDES Alteration of Terrain (NHDES AoT) permit application and is required to treat stormwater runoff as part of that approval process.

The State recognizes many different "BMP's" (best management practices) for purposes of treating stormwater runoff. This project proposes several different BMPs to accomplish the goals of the Alteration of Terrain permit:

1. Filtration Basins are proposed for several reasons: a) The runoff can be filtered. b) Filter ponds provide good treatment and cooling of stormwater runoff and c) Filter ponds can be designed to regulate outflow so that channel protection requirements are met. On this site, filtration ponds have been chosen for their ease of construction, maintenance and cost.

2. Environment 21 V2B1 Model #6.

Peak Flow Rates

One of the main goals of any stormwater runoff analysis has to do with maintaining peak runoff amounts to pre-developed levels. The following table summarizes and compares the peak runoff amounts for the existing and proposed conditions, at the Design Point:

Comparison of Pre and Post Developed Discharge Rates

Design Point	Existing 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)	Proposed 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)	Change 2 yr/10 yr/25 yr/50 yr Peak Flow (cfs)
DP1	18.0/27.6/35.2/42.2	15.7/25.3/32.7/39.6	-2.3/-2.3/-2.5/-2.6

Discussion: The design of the stormwater management system is such that no increases in peak flow are seen at the design point.

Channel Protection Requirements

Meeting the Channel Protection Requirements (Env-Wq 1507-05) for this project was achieved at design point DP1.

The following table summarizes the pre and post developed stormwater volumes at the five Design Point:

Comparison of Pre and Post Developed Stormwater Volumes

Design Point	Existing 2 yr/10 yr/25 yr/50 yr Volume (af)	Proposed 2 yr/10 yr/25 yr/50 yr Volume (af)	Change 2 yr/10 yr/25 yr/50 yr Volume (af)
DP1	1.1/1.8/2.3/2.7	0.9/1.5/2.0/02.5	-0.2/-0.3/-0.3/-0.2

Discussion: As the above table shows, volumes are either maintained or reduced for all subcatchments. This meets Alteration of Terrain Permit requirements as well as requirements of the City of Portsmouth.

Conclusion

The new development can be built without increasing the risk of flooding or erosion onto neighboring properties or overburdening the existing City of Portsmouth stormwater system. Given the results of the preceding analysis and compliance with known state and city requirements noted above, it is our opinion that this project will not have downstream impact to the existing storm drain system.

INSPECTION & MAINTENANCE PLAN

FOR

Chinburg Properties / Portsmouth West End Development, LLC

Site Redevelopment

125 Brewery Lane

Portsmouth, NH

Introduction

The intent of this plan is to provide Chingurg Properties / Portsmouth West End Devleopment, LLC (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the detention ponds, infiltration system and associated structures on the project site (collectively referred to as the "Stormwater Management System").

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly. These measures will also help minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the City of Portsmouth Code Enforcement Officer.

Inspection & Maintenance Checklist/Log

The following pages contain a Stormwater Management System Inspection & Maintenance Checklist and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

STORMWATER MANAGEMENT SYSTEM COMPONENTS

The Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMP's

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to: temporary and permanent mulching, temporary and permanent grass cover, trees, shrubs and ground covers, miscellaneous landscape plantings, dust control, tree protection, topsoiling, sediment barriers, and a stabilized construction entrance.

Structural BMP's

Structural BMP's are more labor and capital intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to: storm drains, the micro detention ponds and associated outlet control structures, and the infiltration trench system.

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Grassed areas:** After each rain event of 0.5" or more during a 24 hour period, inspect grassed areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and make adjustments to the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection.
3. **Storm Drain Structures (POCS):** Monitor drain inlets and outlets for excessive accumulation of sediments or missing stone/riprap. Remove sediments as required.
4. **Filtration Basin:** After acceptance of the Filtration Basin, perform the following inspections on a semi-annual basis or after significant rainfall events (10 year, 24 hour storms, or back to back 2 year, 24 hour storms):
    a. Monitor Filtration Basin for 72 hours following a rain storm. If the Filtration Basin fails to fully drain within this period time, the engineered soil may have become plugged. Inspect for other causes of blockage. If it's determined that the soil has become plugged and is no longer functioning as engineered, then replacement of soils shall be required. Contractor shall use care in removing soil around tree roots. An airspade shall be used to remove soils around tree roots.
    b. Monitor for excessive or concentrated accumulations of debris, or excessive erosion. Remove debris as required.

c. Monitor the outfall structure for problems with clogged pipes. Repair or remove clogs as required, and determine cause of clogging. Pipes should be inspected annually and after every major rainstorm. Broken or damaged pipes should be repaired or replaced as necessary.

d. Monitor side slopes of ponds for damages or erosion—repair as necessary.

e. Monitor turf health and keep protected from fire, grazing, traffic and dense weed growth. Lime and fertilizer should be applied as necessary to promote good growth as determined by soil tests. Mowing the vegetated areas of the basin should be carried out as necessary.

f. Sediment accumulation should be continually checked in the basin. Sediment should be removed as it is discovered. Particularly if it has accumulated near the outlet of the basin.

g. The outlet control structure should be inspected annually and after every major rainstorm. The outlet control structure has within it a weir structure with various size orifices for controlling flow out of the basin. These orifices should be kept clear and unclogged. Any sediment or debris that has built up inside the outlet control structure should be removed when discovered.

h. The use of sand shall be prohibited and the use of salt shall be limited.

Invasive Species

Monitor Stormwater Management System for signs of invasive species growth. If caught earlier enough, their eradication is much easier. The most likely places where invasions start are in wetter, disturbed soils or detention ponds. Species such as phragmites and purple loose-strife are common invaders in these wetter areas. If they are found then the owner shall contact a wetlands scientist with experience in invasive species control to implement a plan of action to eradicate the invaders. Measures that do not require the application of chemical herbicides should be the first line of defense.

Stormwater Management System

Inspection & Maintenance Checklist for Post Construction Condition—for Chinburg Properties / Portsmouth West End Devlopment, 125 Brewery Lane, Portsmouth, NH

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Closed Drainage System			
Drainage Pipes	Yearly	*Check for sediment clogging, or soiled runoff.*	Clean entire drainage system and remove all sediments if discovered in piping.
Filtration Basin	2 X Annually	*Check for sediment clogging, excessive weed growth and standing water*	Remove any weeds, trash, debris and accumulated sediment. If trench does not drain within 72 hours following a rain event, a qualified professional should assess the condition of the facility to determine restoration measures.
Environment 21 **V2B1 Model #6**	See Attached	*See Attached*	See Attached
Annual Report	Yearly	*Prepare Annual Report, including all Inspection & Maintenance Logs. Provide to Town (if required).*	N/A

Stormwater Management System Maintenance Summary

Inspection & Maintenance Log—for Chinburg Properties / Portsmouth West End Devlopment, 125 Brewery Lane, Portsmouth, NH

BMP/System Component	Date Inspected	Inspector	Problems Noted, Required Maintenance *(List Items/Comments)*	Date of Maintenance	Performed By

Data Sheets

V2B1® SYSTEM MAINTENANCE

1.0 REQUIRED MAINTENANCE FREQUENCY

1.1 The required maintenance practice for the V2B1® System is to initially plan on quarterly inspections and an annual pump-out. After experience is gained, the schedule may be more accurately determined.

1.2 It is recommended that the V2B1® System should be pumped out when the sediment storage depth in the first structure is at 50% of the design sediment storage depth. Refer to the project design package for the design sediment storage depth.

1.3 Oil Sheen and floating debris are retained in the first two chambers of the V2B1® System. Annual accumulation is estimated at less than 0.50 inches; however, it is dependent on the site.

2.0 CONDITIONS THAT CAUSE THE NEED FOR MAINTENANCE

2.1 The most common cause of poor performance of the V2B1® System is lack of maintenance. The V2B1® System removes pollution from the environment and, if this pollution is not routinely removed from V2B1® System, the effectiveness of the V2B1® System could be compromised. The following are things that trigger the need for maintenance and the consequences of not completing said maintenance.

2.1.1 Sediment build-up in the chambers – As the sediment level increases past the recommended maintenance interval, less sediment will be removed from the runoff. Additionally, a large storm could cause entrainment of some of the sediment that was previously captured.

2.1.2 Excess floatables in the chambers – Similar to sediment build-up, floatables (oil and litter) build up risking the capture of additional floatables.

2.1.3 Obstructed piping/baffles – If the piping or baffles become obstructed due to improper maintenance (timely removal of obstructions), flooding may occur upstream of the V2B1® System.

2.1.4 As with most buried structures, the access covers could be moved out of position during extreme flooding conditions.

2.2 In addition to the V2B1® System internal inspections, frequent site inspections should be conducted. These frequent site inspections are recommended as visual only and do not require tools, equipment, or removal of the access covers. Things to look for during these inspections are signs of flooding at catch basins upstream of the V2B1® System, unexpected loss of outlet flow, out of place access covers, and downstream pollution (oil sheen, litter, etc.).

3.0 ACCESS POINTS AND REQUIRED INSPECTION

3.1 Maintenance access is through access frames (rings), with covers, which are provided in the V2B1® System roof.

3.2 The floatables observation and sediment depth measurement are obtained by removal of the covers and access through the access frames of the V2B1® System.

3.3 Illuminate the water surface in the first stage of the V2B1® System while gently stirring the floatables to estimate the depth of the floatables. Obtain a sample of the floatables, water, or sediment, if required, to determine disposal. The depth of the oil sheen and floatable debris will typically be less than one inch and may be skimmed from the surface prior to the pump-out of the sediment. Organic debris that has become waterlogged and settled to the floor is expected to be present in relatively small quantities that will be removed during the pump-out of the mineral sediment.

3.4 Inspect all surfaces, which can be seen, of the V2B1® System for wear (e.g., cracking, spalling, etc.). Also, examine the inlet and elbow pipes for wear, blockage, and damage (cracks, etc.). Report signs of degradation to the proper authorities (i.e., property owner, municipality, etc.) as required,

3.5 Lower a measuring rod into the first chamber of the V2B1® System until a slight resistance is noticed. The measuring rod is now at the top of the sediment pile. Obtain a measurement by sighting the measure increments on the rod to a point on the access frame. Repeat this several times at different locations of the sediment pile in the first chamber of the V2B1® System to verify the measurement. This is Measurement A.

3.6 While the measuring rod is on top of the sediment pile, force it down through the sediment pile using a twisting motion until the measuring rod reaches the floor of the chamber (verify the expected elevation using the project submittal drawings). Obtain a measurement by sighting the measure increments on the rod to the same point on the access frame as was used in Step 3.5. This is Measurement B.

3.7 Refer to the Environment 21 system specific design package for the design sediment storage depth. This is measurement C.

3.8 Plug the numbers obtained from the previous three steps into the following equation to obtain the percent full sediment depth of the first chamber of the V2B1® System:

$$((B - A)/C) * 100$$

3.9 Complete Steps 3.2 through 3.8 for all chambers of the V2B1® System.

3.10 Contact the following for approval and notification of the intent to pump out the V2B1® System.

3.10.1 Obtain permission from the property owner to pump out the contents of the V2B1® System.

3.10.2 Verify the disposal requirements with the local regulatory agency.

3.10.3 Contract with an approved vendor to pump out the V2B1® System. If the pump-out will be completed without a contracted vendor, go to Step 3.11, otherwise go to Step 3.16.

3.11 Obtain a standard truck-mounted sewer and catch basin cleaner with proper pump-out equipment (e.g., positive displacement rotary lobe vacuum pump). This equipment will be used for Steps 3.12 through 3.15.

3.12 Remove the floatables and hydrocarbons from the first chamber of the V2B1® System. Segregate this waste as required.

3.13 Remove the standing water and sediment from the first chamber of the V2B1® System. Segregate this waste as required.

3.14 Wash down the interior surface of the first chamber of the V2B1® System using a clean water supply. Suction the chamber while washing it. Break up and suspend into the rinse water any solids found in the chamber and verify all solids have been removed.

3.15 Repeat Steps 3.12 through 3.14 for the remaining chambers of the V2B1® System.

3.16 Using a flood light inspect all visible surfaces of the V2B1® System. Check for wear (e.g., cracking, spalling, etc.) on the surfaces. In addition, examine the inlet and elbow pipes for wear, blockage, and damage (e.g., cracks, etc.). Report signs of degradation to the proper authorities (i.e., owner, municipality, etc.) as required.

3.17 Refill the V2B1® System, with clean water, to the inlet/outlet pipe invert elevation.

3.18 Properly dispose of the waste removed from the V2B1® System.

3.19 Verify that no personnel, tools, or equipment are in the V2B1® System.

3.20 Inspect the access frames and covers for damage (e.g., cracks, deformations, etc.).

3.21 Clear the access frames of any extraneous material and carefully replace the covers using proper lifting and rigging techniques and equipment. Verify that the covers are properly seated.

3.22 Remove all tools, equipment, and material used in the inspection/pump-out. Verify that the work area is returned to the pre-work or better condition.

3.23 Complete an inventory of all tools and equipment used for the inspection/pump-out accounting for lost, damaged, or stolen tools or equipment.

3.24 Maintenance is a very important aspect in keeping the V2B1® System performance up to par. Attachment A "V2B1® SYSTEM MAINTENANCE DATA SHEET" is provided and should be used to document the maintenance performed on the V2B1® System.

3.25 Provide a copy of the "V2B1® SYSTEM MAINTENANCE DATA SHEET" to the owner, required government agencies, and Environment 21 LLC.

4.0 IMPORTANT ASPECTS

4.1 Safety is a priority and the most stringent of regulations (OSHA, local, etc.) should be followed while performing maintenance on the V2B1® System.

4.2 An advantage of the design of the V2B1® System is that all of the maintenance may be completed without personnel entry into the V2B1® System. In the remote chance that an entry into the V2B1®

System is needed, refer to regulations (OSHA, Confined Space, local, etc.) for requirements and definitions.

4.3 A running inventory of all tools and equipment used for completion of this procedure should be maintained while performing maintenance on the V2B1® System.

4.4 The V2B1® System is normally equipped with cast iron access frames and vented covers to provide approach to all chambers. The accesses are normally at ground level so the work area should be staged properly to prevent anyone or anything from inadvertently falling through any of the accesses of the V2B1® System.

4.5 After maintenance is complete on the V2B1® System, the access covers must be set securely in place, all materials and equipment should be removed, and the area should be cleared of slip and trip hazards.

4.6 This document and the project specific data capture the requirements for maintenance of the V2B1® System. Any additional maintenance and product information may be obtained by calling Environment 21, LLC at 800-809-2801.

5.0 REQUIRED EQUIPMENT

5.1 The recommended tools/equipment for completing the work outlined in this procedure include but are not limited to a flood light, proper lifting and rigging equipment, hose that supplies clean water with sufficient pressure ($\geq$ 40 psi) and volume ($\geq$ 5 GPM), and a rigid measuring rod (increments in inches marked on the rod) that will reach the floor of the V2B1® System and still extend a minimum of 2' above the access frames.

5.2 Environment 21, LLC should be contacted if any repairs are required so that the system will be restored to proper operation.

environment 21
Global Stormwater Solutions
P.O. Box 55 | East Pembroke | NY 14056
Phone: 1-800-808-2601 | Fax: 1-585-815-4701
www.env21.com | enveng@env21.com
Technology That Separates

V2B1 SYSTEM MAINTENANCE DATA SHEET

SITE NAME:_____

LOCATION:_____**INSTALLATION DATE:**_____

OWNER NAME:_____**CHANGE SINCE LAST INS.? Y N**

ADDRESS:_____**PHONE NUMBER**_____

CITY:_____**STATE**_____**ZIP CODE**_____

SITE STATUS:_____

DATE:_____**TIME**_____**SITE CONDITIONS**_____

environment 21
Global Stormwater Solutions
P.O. Box 55 | East Pembroke | NY 14056
Phone: 1-800-505-2807 | Fax: 1-585-615-4701
www.env21.com | enveng@env21.com
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SITE INSPECTION

Inspection Frequency Key: A=annual; M=monthly; S=after major storms

Inspection Items	Inspection Frequency	Inspected (Yes/NO)	Maintenance Needed? (Yes/No)	Comments/Descriptions
Debris Removal				
Adjacent area free of debris?	M			
Inlets and Outlets free of debris?	M			
Facility (internally) free of debris?	M			
Vegetation				
Surrounding area fullly stabilized (no evidence of eroding material into proprietary BMP)				
Grass mowed?	M			
Water retention where required				
Water holding chambers at normal pool?	M			
Evidence of erosion?				
Sediment Deposition				
50% full?	A			

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Structural Components				
Any evidence of structural deterioration?	A			
Grates in good condition	A			
Spalling or cracking of structural parts?	A			
Outlet/Overflow Spillway	A			
Other				
Noticeable odors?	A			
Evidence of flow bypassing facility?	A			

Inspector Comments:_____

_____

_____

_____

_____

_____

_____

_____

Overall Condition of Facility: ☐ Acceptable ☐ Unacceptable

environment 21
Global Stormwater Solutions
P.O. Box 55 | East Pembroke | NY 14056
Phone: 1-800-808-2001 | Fax: 1-585-815-4701
www.env21.com | enveng@env21.com
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V2B1® SYSTEM INSPECTION

OWNER NOTIFIED AS REQUIRED.	☐
LOCAL AGENCIES NOTIFIED AS REQUIRED.	☐

PIPING	**YES**	**NO**
ANY VISIBLE CRACKS/DAMAGE	☐	☐
ANY VISIBLE DISPLACEMENT/LEAKS	☐	☐
ANY VISIBLE OBSTRUCTIONS	☐	☐

STRUCTURE	**YES**	**NO**
ANY VISIBLE CRACKS/SPALLING/DAMAGE	☐	☐
ANY VISIBLE CRACKS/SPALLING/DAMAGE	☐	☐
ANY VISIBLE LEAKS	☐	☐
ANY VISIBLE SURFACE WEAR	☐	☐

environment 21
Global Stormwater Solutions
P.O. Box 55 | East Pembroke | NY 14056
Phone: 1-800-605-2801 | Fax: 1-585-816-4701
www.env21.com | enveng@env21.com
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FRAMES/COVERS	YES	NO
ANY VISIBLE CRACKS/DAMAGE	☐	☐
ANY VISIBLE SEAT SURFACE OBSTRUCTIONS	☐	☐
COVERS PROPERLY SEATED	☐	☐

DATE	SEDIMENT PILE DEPTH			OIL SHEEN YES/NO			FLOATABLE DEPTH			PUMPOUT REQUIRED YES/NO		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd			

DATE	SAMPLED YES/NO			SAMPLE RESULTS		
	1st	2nd	3rd	1st	2nd	3rd

The next routine inspection is scheduled for approximately: _____
(DATE)

NOTE: 1st, 2nd, and 3rd refer to the V2B1 chambers.

environment 21
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WORK COMPLETION

	YES	NO
ALL CAST IRON COVERS HAVE BEEN PROPERLY REPLACED.	☐	☐
NO HAZARDOUS CONDITIONS EXIST AS A RESULT OF THE MAINTENANCE WORK.	☐	☐
ALL PPE, TOOLS, AND EQUIPMENT HAVE BEEN INVENTORIED AND REMOVED FROM THE SITE.	☐	☐
THE WORK AREA HAS BEEN RETURNED TO A SAFE PRE-WORK CONDITION.	☐	☐
ALL NOTIFICATIONS HAVE BEEN MADE, AS REQUIRED, THAT THE WORK IS COMPLETED.	☐	☐

Corrective Actions Taken: _____

_____

_____

INSPECTED BY: (signature)_____

INSPECTED BY: (printed)_____

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **POCS1**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
0.47	ac	A = Area draining to the practice	
0.37	ac	A_I = Impervious area draining to the practice	
0.79	decimal	I = percent impervious area draining to the practice, in decimal form	
0.76	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.36	ac-in	WQV= 1" x Rv x A	
1,294	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
324	cf	25% x WQV (check calc for sediment forebay volume)	
971	cf	75% x WQV (check calc for surface sand filter volume)	
Sedimentation		Method of Pretreatment? (not required for clean or roof runoff)	
324	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
1,511	sf	A_{SA} = surface area of the practice	
-	iph	I_{DESIGN} = design infiltration rate[1]	
Yes	Yes/No	If I_{DESIGN} is < 0.50 iph, has an underdrain been provided?	
-	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
14.00	feet	E_{FC} = elevation of the bottom of the filter course material[2]	
12.75	feet	E_{UD} = invert elevation of the underdrain (UD), if applicable	
11.67	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
10.17	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.25	feet	$D_{FC\ to\ UD}$ = depth to UD from the bottom of the filter course	← ≥ 1'
3.83	feet	$D_{FC\ to\ ROCK}$ = depth to bedrock from the bottom of the filter course	← ≥ 1'
2.33	feet	$D_{FC\ to\ SHWT}$ = depth to SHWT from the bottom of the filter course	← ≥ 1'
14.75	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
15.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage[3] (attach a stage-storage table)	← ≥ 75%WQV
	inches	D_{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← **yes**
	cf	V = volume of storage[3] (attach a stage-storage table)	← **≥ WQV**
	inches	D_{FC} = filter course thickness	← **18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	← **≥3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

		Type of pavement proposed (concrete? Asphalt? Pavers? Etc)	
	acres	A_{SA} = surface area of the pervious pavement	
1.0	:1	ratio of the contributing area to the pervious surface area	← **5:1**
	inches	D_{FC} = filter course thickness	← **12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	← **304.1 sand**

1. Rate of the limiting layer (either the filter course or the underlying soil). See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: _____

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **POCS2**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
0.45	ac	A = Area draining to the practice	
0.37	ac	A_I = Impervious area draining to the practice	
0.82	decimal	I = percent impervious area draining to the practice, in decimal form	
0.79	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.36	ac-in	WQV= 1" x Rv x A	
1,290	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
323	cf	25% x WQV (check calc for sediment forebay volume)	
968	cf	75% x WQV (check calc for surface sand filter volume)	
Sedimentation		Method of Pretreatment? (not required for clean or roof runoff)	
323	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
2,683	sf	A_{SA} = surface area of the practice	
-	iph	I_{DESIGN} = design infiltration rate[1]	
Yes	Yes/No	If I_{DESIGN} is < 0.50 iph, has an underdrain been provided?	
-	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
13.00	feet	E_{FC} = elevation of the bottom of the filter course material[2]	
11.75	feet	E_{UD} = invert elevation of the underdrain (UD), if applicable	
10.97	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
8.80	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.25	feet	$D_{FC\ to\ UD}$ = depth to UD from the bottom of the filter course	← ≥ 1'
4.20	feet	$D_{FC\ to\ ROCK}$ = depth to bedrock from the bottom of the filter course	← ≥ 1'
2.03	feet	$D_{FC\ to\ SHWT}$ = depth to SHWT from the bottom of the filter course	← ≥ 1'
14.24	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
14.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage[3] (attach a stage-storage table)	← ≥ 75%WQV
	inches	D_{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← **yes**
	cf	V = volume of storage[3] (attach a stage-storage table)	← **≥ WQV**
	inches	D_{FC} = filter course thickness	← **18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	← **≥3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

		Type of pavement proposed (concrete? Asphalt? Pavers? Etc)	
	acres	A_{SA} = surface area of the pervious pavement	
1.0	:1	ratio of the contributing area to the pervious surface area	← **5:1**
	inches	D_{FC} = filter course thickness	← **12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	← **304.1 sand**

1. Rate of the limiting layer (either the filter course or the underlying soil). See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

FILTRATION PRACTICE DESIGN CRITERIA (Env-Wq 1508.07)

Type/Node Name: **ENV 21**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable

Yes		Have you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.07(a)?	
0.79	ac	A = Area draining to the practice	
0.54	ac	A_I = Impervious area draining to the practice	
0.68	decimal	I = percent impervious area draining to the practice, in decimal form	
0.67	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.53	ac-in	WQV= 1" x Rv x A	
1,908	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
477	cf	25% x WQV (check calc for sediment forebay volume)	
1,431	cf	75% x WQV (check calc for surface sand filter volume)	
		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = sediment forebay volume, if used for pretreatment	← ≥ 25%WQV
	sf	A_{SA} = surface area of the practice	
-	iph	I_{DESIGN} = design infiltration rate[1]	
	Yes/No	If I_{DESIGN} is < 0.50 iph, has an underdrain been provided?	
-	hours	T_{DRAIN} = drain time = V / (A_{SA} * I_{DESIGN})	← ≤ 72-hrs
	feet	E_{FC} = elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = invert elevation of the underdrain (UD), if applicable	
	feet	E_{SHWT} = elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
	feet	E_{ROCK} = elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
-	feet	$D_{FC\ to\ UD}$ = depth to UD from the bottom of the filter course	← ≥ 1'
-	feet	$D_{FC\ to\ ROCK}$ = depth to bedrock from the bottom of the filter course	← ≥ 1'
-	feet	$D_{FC\ to\ SHWT}$ = depth to SHWT from the bottom of the filter course	← ≥ 1'
	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
	ft	Elevation of the top of the practice	
-		50 peak elevation ≤ Elevation of the top of the practice	← yes

If a surface sand filter or underground sand filter is proposed:

YES	ac	Drainage Area check.	← < 10 ac
	cf	V = volume of storage[3] (attach a stage-storage table)	← ≥ 75%WQV
	inches	D_{FC} = filter course thickness	← 18", or 24" if within GPA
Sheet		Note what sheet in the plan set contains the filter course specification	
	Yes/No	Access grate provided?	← yes

If a bioretention area is proposed:

YES	ac	Drainage Area no larger than 5 ac?	← **yes**
	cf	V = volume of storage[3] (attach a stage-storage table)	← **≥ WQV**
	inches	D_{FC} = filter course thickness	← **18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	← **≥3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	

If porous pavement is proposed:

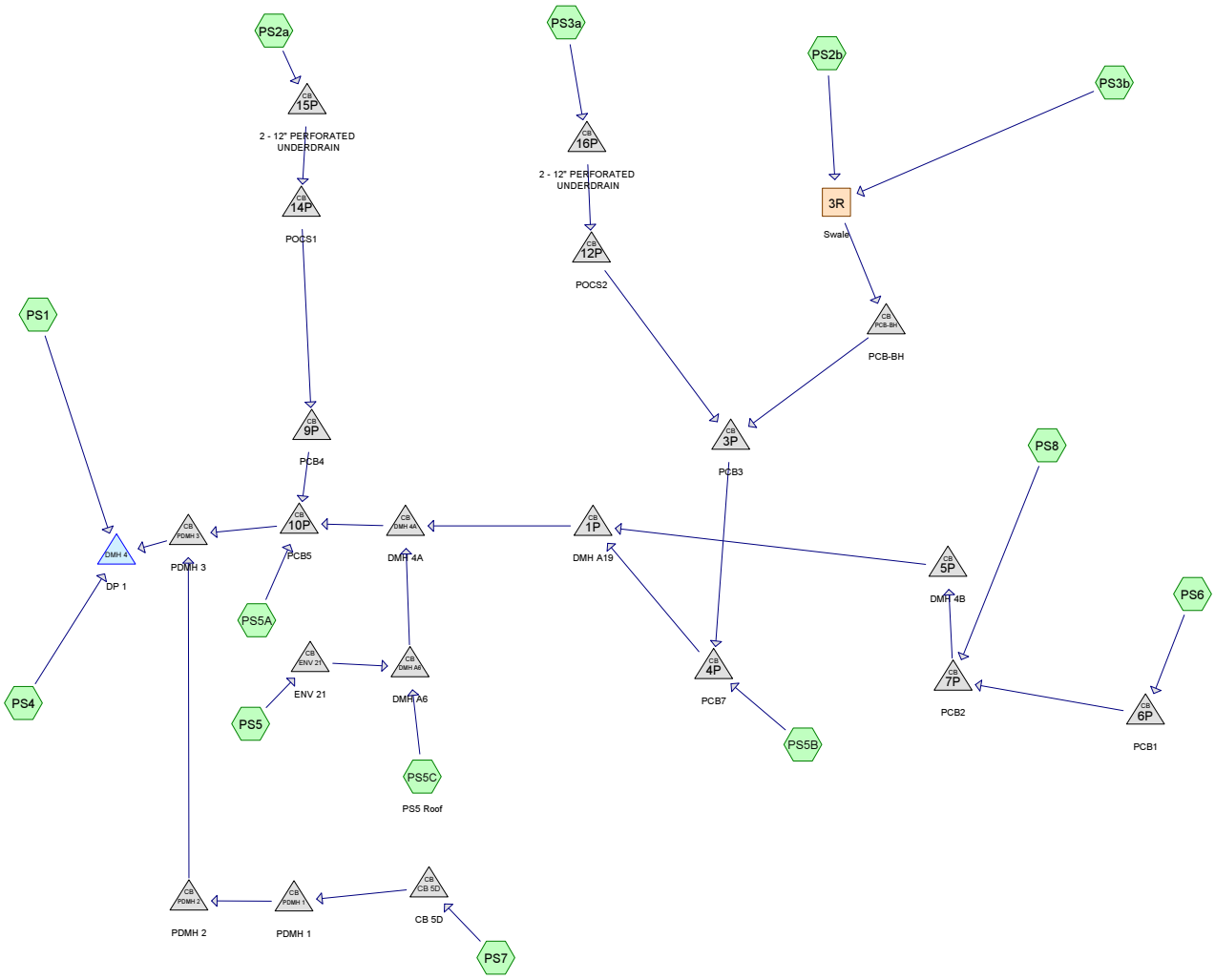
		Type of pavement proposed (concrete? Asphalt? Pavers? Etc)	
	acres	A_{SA} = surface area of the pervious pavement	
1.0	:1	ratio of the contributing area to the pervious surface area	← **5:1**
	inches	D_{FC} = filter course thickness	← **12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	← **304.1 sand**

1. Rate of the limiting layer (either the filter course or the underlying soil). See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:



Subcat Reach Pond Link

Routing Diagram for Proposed Conditions
Prepared by Ambit Engineering, Inc., Printed 3/19/2018
HydroCAD® 10.00 s/n 00801 © 2013 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.104	74	>75% Grass cover, Good, HSG C (PS1, PS2a, PS2b, PS3a, PS3b, PS4, PS5, PS5A, PS5B, PS6, PS7, PS8)
2.024	98	Paved parking, HSG C (PS1, PS2a, PS3a, PS3b, PS4, PS5, PS5A, PS5B, PS6, PS7, PS8)
1.577	98	Roofs, HSG C (PS1, PS2b, PS3b, PS4, PS5, PS5C, PS6, PS7)
0.329	98	Sidewalks, HSG C (PS1, PS2a, PS4, PS5, PS5A, PS5B, PS6, PS7)
5.034	**93**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
5.034	HSG C	PS1, PS2a, PS2b, PS3a, PS3b, PS4, PS5, PS5A, PS5B, PS5C, PS6, PS7, PS8
0.000	HSG D	
0.000	Other	
5.034		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.104	0.000	0.000	1.104	>75% Grass cover, Good	PS1, PS2a, PS2b, PS3a, PS3b, PS4, PS5, PS5A, PS5B, PS6, PS7, PS8
0.000	0.000	2.024	0.000	0.000	2.024	Paved parking	PS1, PS2a, PS3a, PS3b, PS4, PS5, PS5A, PS5B, PS6, PS7, PS8
0.000	0.000	1.577	0.000	0.000	1.577	Roofs	PS1, PS2b, PS3b, PS4, PS5, PS5C, PS6, PS7
0.000	0.000	0.329	0.000	0.000	0.329	Sidewalks	PS1, PS2a, PS4, PS5, PS5A, PS5B, PS6, PS7
0.000	**0.000**	**5.034**	**0.000**	**0.000**	**5.034**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	8.17	7.87	106.0	0.0028	0.012	36.0	0.0	0.0
2	3P	10.00	9.52	43.0	0.0112	0.013	24.0	0.0	0.0
3	4P	9.40	8.20	46.0	0.0261	0.013	24.0	0.0	0.0
4	5P	8.25	8.18	104.0	0.0007	0.012	36.0	0.0	0.0
5	6P	14.00	11.80	109.0	0.0202	0.013	12.0	0.0	0.0
6	7P	11.70	11.60	9.0	0.0111	0.013	12.0	0.0	0.0
7	9P	10.20	10.11	18.0	0.0050	0.013	24.0	0.0	0.0
8	10P	7.85	7.49	45.0	0.0080	0.013	36.0	0.0	0.0
9	12P	10.90	10.10	40.0	0.0200	0.013	24.0	0.0	0.0
10	14P	11.00	10.30	46.0	0.0152	0.013	24.0	0.0	0.0
11	15P	13.50	13.50	65.0	0.0000	0.013	12.0	0.0	0.0
12	16P	13.00	13.00	75.0	0.0000	0.013	12.0	0.0	0.0
13	CB 5D	10.24	9.87	37.0	0.0100	0.013	12.0	0.0	0.0
14	DMH 4A	7.85	7.74	23.0	0.0048	0.012	36.0	0.0	0.0
15	DMH A6	8.50	8.41	44.0	0.0020	0.012	24.0	0.0	0.0
16	ENV 21	9.00	8.90	10.0	0.0100	0.013	18.0	0.0	0.0
17	PCB-BH	10.20	10.10	34.0	0.0029	0.013	12.0	0.0	0.0
18	PDMH 1	10.04	9.15	78.0	0.0114	0.013	12.0	0.0	0.0
19	PDMH 2	9.05	8.49	196.0	0.0029	0.013	24.0	0.0	0.0
20	PDMH 3	7.48	6.94	110.0	0.0049	0.012	36.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=7,157 sf 95.88% Impervious Runoff Depth=3.34"
Tc=5.0 min CN=97 Runoff=0.6 cfs 0.046 af

Subcatchment PS2a: Runoff Area=20,584 sf 77.98% Impervious Runoff Depth=2.92"
Tc=5.0 min CN=93 Runoff=1.6 cfs 0.115 af

Subcatchment PS2b: Runoff Area=11,747 sf 83.79% Impervious Runoff Depth=3.02"
Tc=5.0 min CN=94 Runoff=0.9 cfs 0.068 af

Subcatchment PS3a: Runoff Area=19,589 sf 82.66% Impervious Runoff Depth=3.02"
Tc=5.0 min CN=94 Runoff=1.5 cfs 0.113 af

Subcatchment PS3b: Runoff Area=40,960 sf 73.37% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=92 Runoff=3.0 cfs 0.221 af

Subcatchment PS4: Runoff Area=12,006 sf 85.32% Impervious Runoff Depth=3.02"
Tc=5.0 min CN=94 Runoff=0.9 cfs 0.069 af

Subcatchment PS5: Runoff Area=34,260 sf 68.76% Impervious Runoff Depth=2.72"
Tc=5.0 min CN=91 Runoff=2.5 cfs 0.178 af

Subcatchment PS5A: Runoff Area=9,298 sf 93.79% Impervious Runoff Depth=3.34"
Tc=5.0 min CN=97 Runoff=0.8 cfs 0.059 af

Subcatchment PS5B: Runoff Area=13,605 sf 74.26% Impervious Runoff Depth=2.82"
Tc=5.0 min CN=92 Runoff=1.0 cfs 0.073 af

Subcatchment PS5C: PS5 Roof Runoff Area=18,430 sf 100.00% Impervious Runoff Depth=3.46"
Tc=5.0 min CN=98 Runoff=1.5 cfs 0.122 af

Subcatchment PS6: Runoff Area=20,527 sf 57.17% Impervious Runoff Depth=2.44"
Tc=5.0 min CN=88 Runoff=1.3 cfs 0.096 af

Subcatchment PS7: Runoff Area=8,740 sf 85.26% Impervious Runoff Depth=3.02"
Tc=5.0 min CN=94 Runoff=0.7 cfs 0.051 af

Subcatchment PS8: Runoff Area=2,398 sf 81.98% Impervious Runoff Depth=3.02"
Tc=5.0 min CN=94 Runoff=0.2 cfs 0.014 af

Reach 3R: Swale Avg. Flow Depth=0.49' Max Vel=1.60 fps Inflow=3.9 cfs 0.289 af
n=0.030 L=380.0' S=0.0050 '/' Capacity=16.9 cfs Outflow=3.5 cfs 0.289 af

Pond 1P: DMH A19 Peak Elev=9.92' Inflow=7.4 cfs 0.585 af
36.0" Round Culvert n=0.012 L=106.0' S=0.0028 '/' Outflow=7.4 cfs 0.585 af

Pond 3P: PCB3 Peak Elev=11.04' Inflow=4.9 cfs 0.402 af
24.0" Round Culvert n=0.013 L=43.0' S=0.0112 '/' Outflow=4.9 cfs 0.402 af

Pond 4P: PCB7 Peak Elev=10.47' Inflow=5.9 cfs 0.475 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0261 '/' Outflow=5.9 cfs 0.475 af

Pond 5P: DMH 4B Peak Elev=9.92' Inflow=1.5 cfs 0.110 af
36.0" Round Culvert n=0.012 L=104.0' S=0.0007 '/' Outflow=1.5 cfs 0.110 af

Pond 6P: PCB1 Peak Elev=14.61' Inflow=1.3 cfs 0.096 af
12.0" Round Culvert n=0.013 L=109.0' S=0.0202 '/' Outflow=1.3 cfs 0.096 af

Pond 7P: PCB2 Peak Elev=12.47' Inflow=1.5 cfs 0.110 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0111 '/' Outflow=1.5 cfs 0.110 af

Pond 9P: PCB4 Peak Elev=10.82' Inflow=1.6 cfs 0.115 af
24.0" Round Culvert n=0.013 L=18.0' S=0.0050 '/' Outflow=1.6 cfs 0.115 af

Pond 10P: PCB5 Peak Elev=9.64' Inflow=13.6 cfs 1.060 af
36.0" Round Culvert n=0.013 L=45.0' S=0.0080 '/' Outflow=13.6 cfs 1.060 af

Pond 12P: POCS2 Peak Elev=11.42' Inflow=1.5 cfs 0.113 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0200 '/' Outflow=1.5 cfs 0.113 af

Pond 14P: POCS1 Peak Elev=11.52' Inflow=1.6 cfs 0.115 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0152 '/' Outflow=1.6 cfs 0.115 af

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.21' Inflow=1.6 cfs 0.115 af
12.0" Round Culvert x 2.00 n=0.013 L=65.0' S=0.0000 '/' Outflow=1.6 cfs 0.115 af

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=13.72' Inflow=1.5 cfs 0.113 af
12.0" Round Culvert x 2.00 n=0.013 L=75.0' S=0.0000 '/' Outflow=1.5 cfs 0.113 af

Pond CB 5D: CB 5D Peak Elev=10.74' Inflow=0.7 cfs 0.051 af
12.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=0.7 cfs 0.051 af

Pond DMH 4: DP 1 Inflow=15.7 cfs 1.225 af
Primary=15.7 cfs 1.225 af

Pond DMH 4A: DMH 4A Peak Elev=9.82' Inflow=11.3 cfs 0.885 af
36.0" Round Culvert n=0.012 L=23.0' S=0.0048 '/' Outflow=11.3 cfs 0.885 af

Pond DMH A6: DMH A6 Peak Elev=9.88' Inflow=4.0 cfs 0.300 af
24.0" Round Culvert n=0.012 L=44.0' S=0.0020 '/' Outflow=4.0 cfs 0.300 af

Pond ENV 21: ENV 21 Peak Elev=9.92' Inflow=2.5 cfs 0.178 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=2.5 cfs 0.178 af

Pond PCB-BH: PCB-BH Peak Elev=11.89' Inflow=3.5 cfs 0.289 af
12.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=3.5 cfs 0.289 af

Pond PDMH 1: PDMH 1 Peak Elev=10.46' Inflow=0.7 cfs 0.051 af
12.0" Round Culvert n=0.013 L=78.0' S=0.0114 '/' Outflow=0.7 cfs 0.051 af

Pond PDMH 2: PDMH 2 Peak Elev=9.52' Inflow=0.7 cfs 0.051 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0029 '/' Outflow=0.7 cfs 0.051 af

Pond PDMH 3: PDMH 3 Peak Elev=9.13' Inflow=14.2 cfs 1.110 af
36.0" Round Culvert n=0.012 L=110.0' S=0.0049 '/' Outflow=14.2 cfs 1.110 af

Total Runoff Area = 5.034 ac Runoff Volume = 1.225 af Average Runoff Depth = 2.92"
21.93% Pervious = 1.104 ac 78.07% Impervious = 3.930 ac

Summary for Subcatchment PS1:

[49] Hint: Tc<2dt may require smaller dt

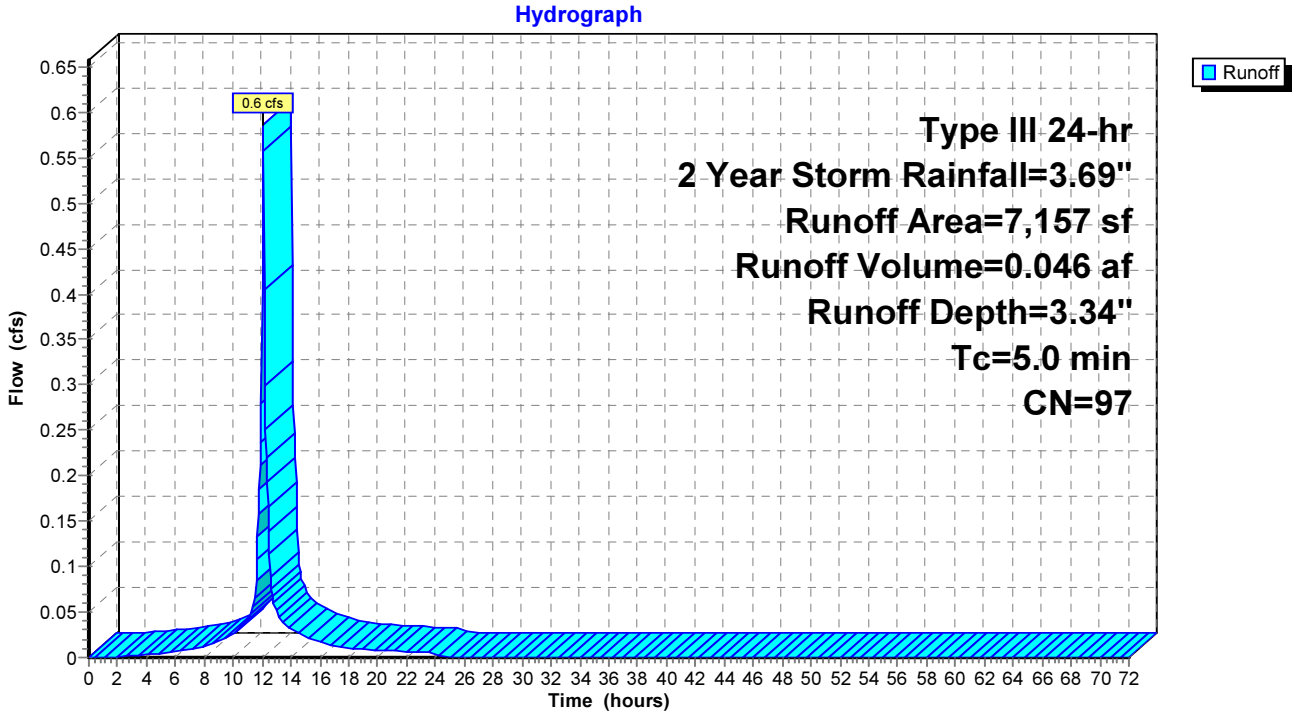
Runoff = 0.6 cfs @ 12.07 hrs, Volume= 0.046 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	1,344	98	Paved parking, HSG C
*	544	98	Sidewalks, HSG C
	4,974	98	Roofs, HSG C
	295	74	>75% Grass cover, Good, HSG C
	7,157	97	Weighted Average
	295		4.12% Pervious Area
	6,862		95.88% Impervious Area

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

Subcatchment PS1:



Summary for Subcatchment PS2a:

[49] Hint: Tc<2dt may require smaller dt

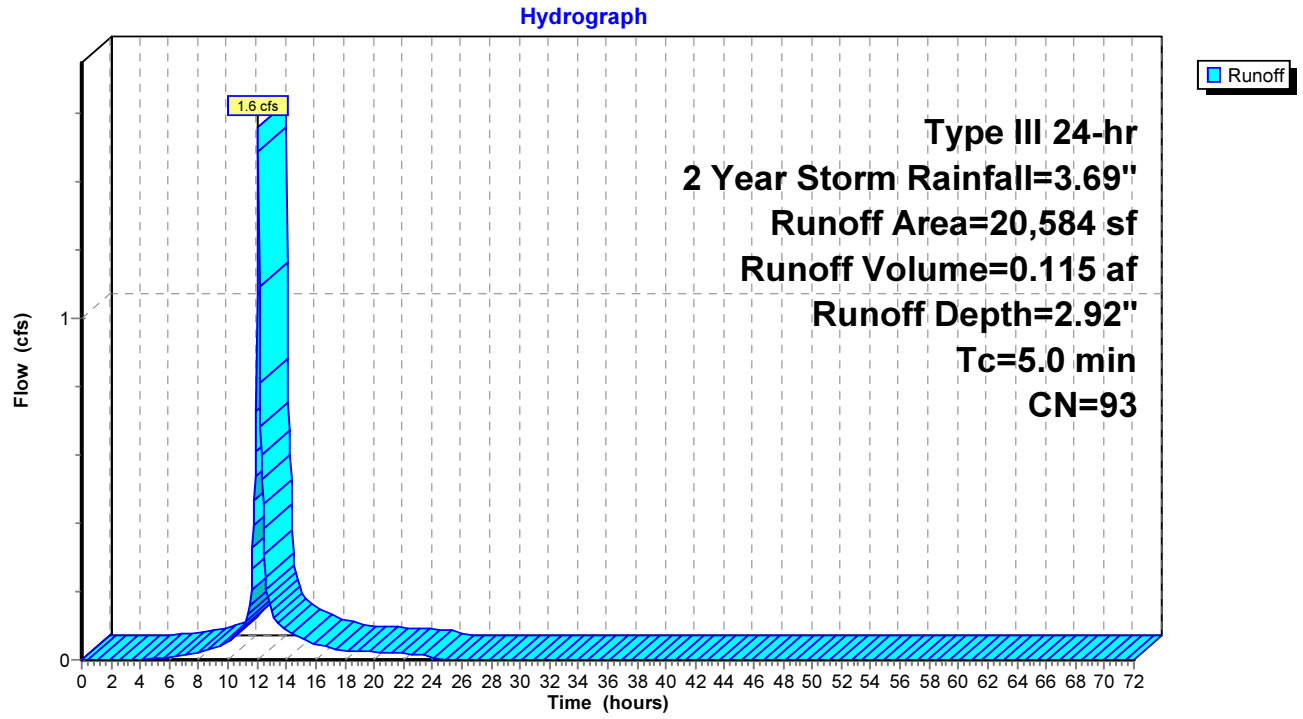
Runoff = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	15,319	98	Paved parking, HSG C
*	733	98	Sidewalks, HSG C
	4,532	74	>75% Grass cover, Good, HSG C
	20,584	93	Weighted Average
	4,532		22.02% Pervious Area
	16,052		77.98% Impervious Area

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

Subcatchment PS2a:



Summary for Subcatchment PS2b:

[49] Hint: Tc<2dt may require smaller dt

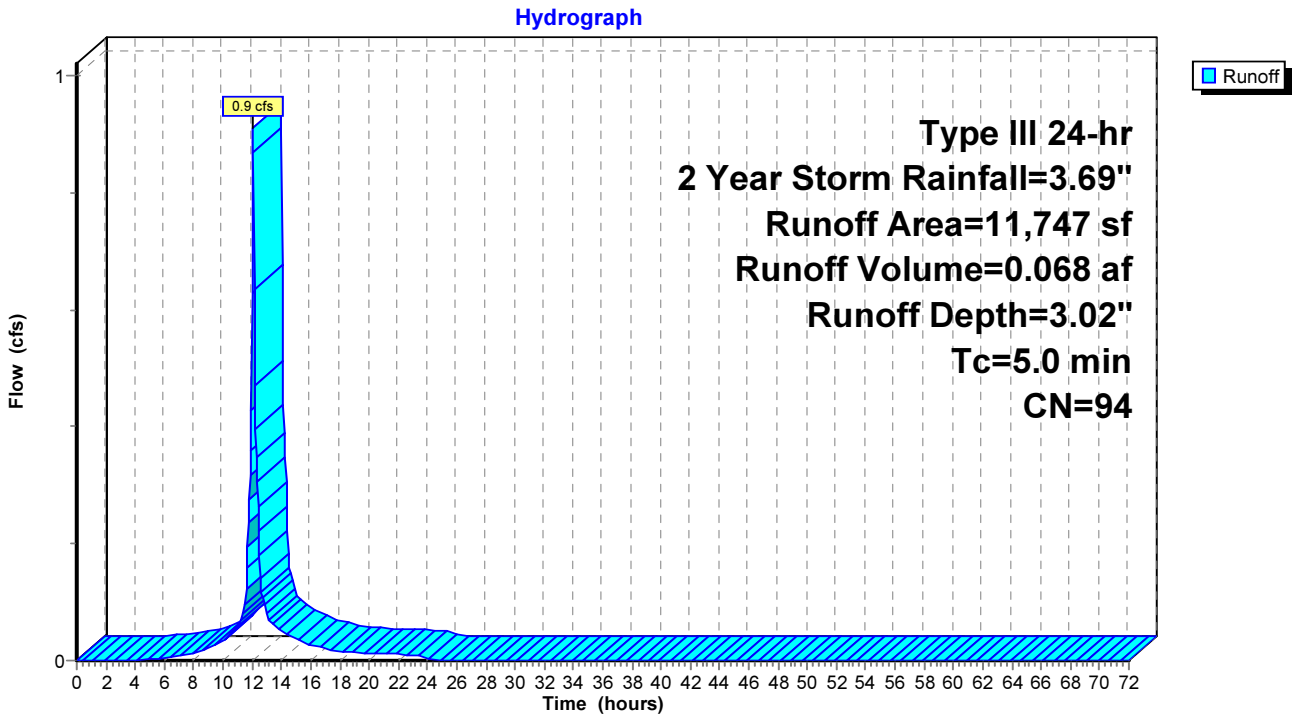
Runoff = 0.9 cfs @ 12.07 hrs, Volume= 0.068 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
9,843	98	Roofs, HSG C
1,904	74	>75% Grass cover, Good, HSG C
11,747	94	Weighted Average
1,904		16.21% Pervious Area
9,843		83.79% Impervious Area

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

Subcatchment PS2b:



Summary for Subcatchment PS3a:

[49] Hint: Tc<2dt may require smaller dt

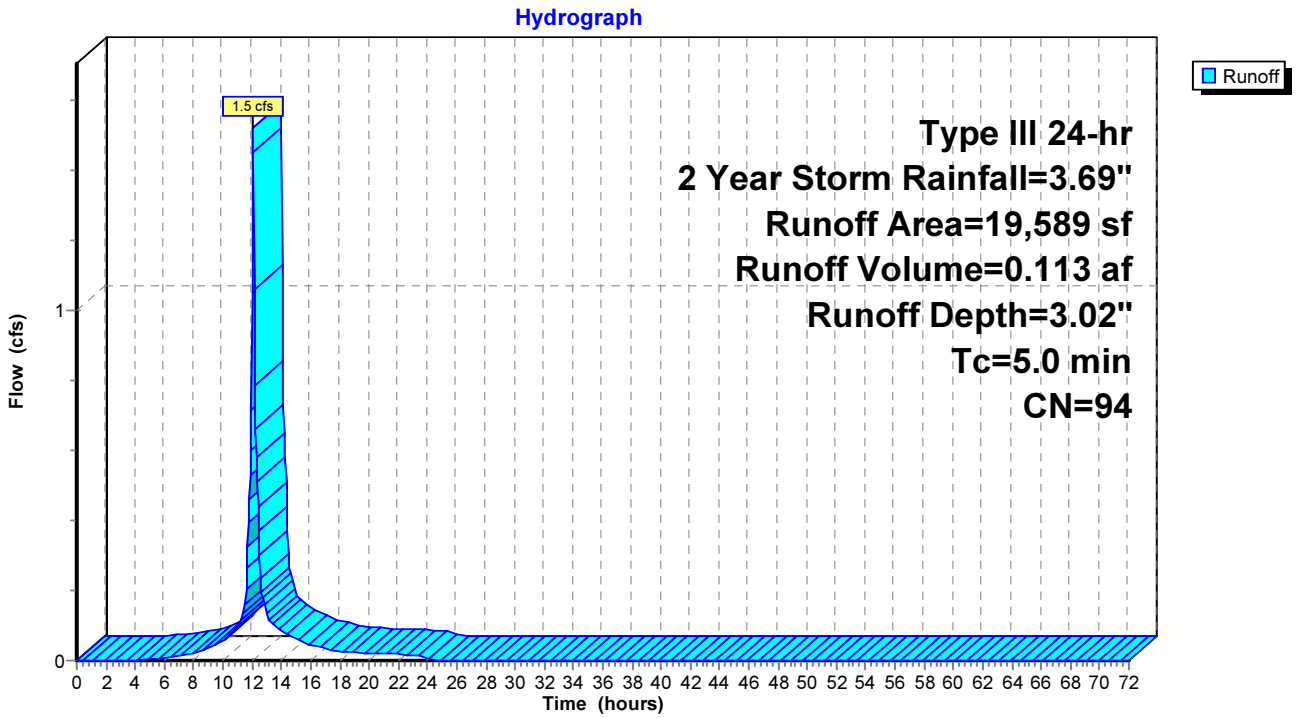
Runoff = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
16,192	98	Paved parking, HSG C
3,397	74	>75% Grass cover, Good, HSG C
19,589	94	Weighted Average
3,397		17.34% Pervious Area
16,192		82.66% Impervious Area

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

Subcatchment PS3a:



Summary for Subcatchment PS3b:

[49] Hint: Tc<2dt may require smaller dt

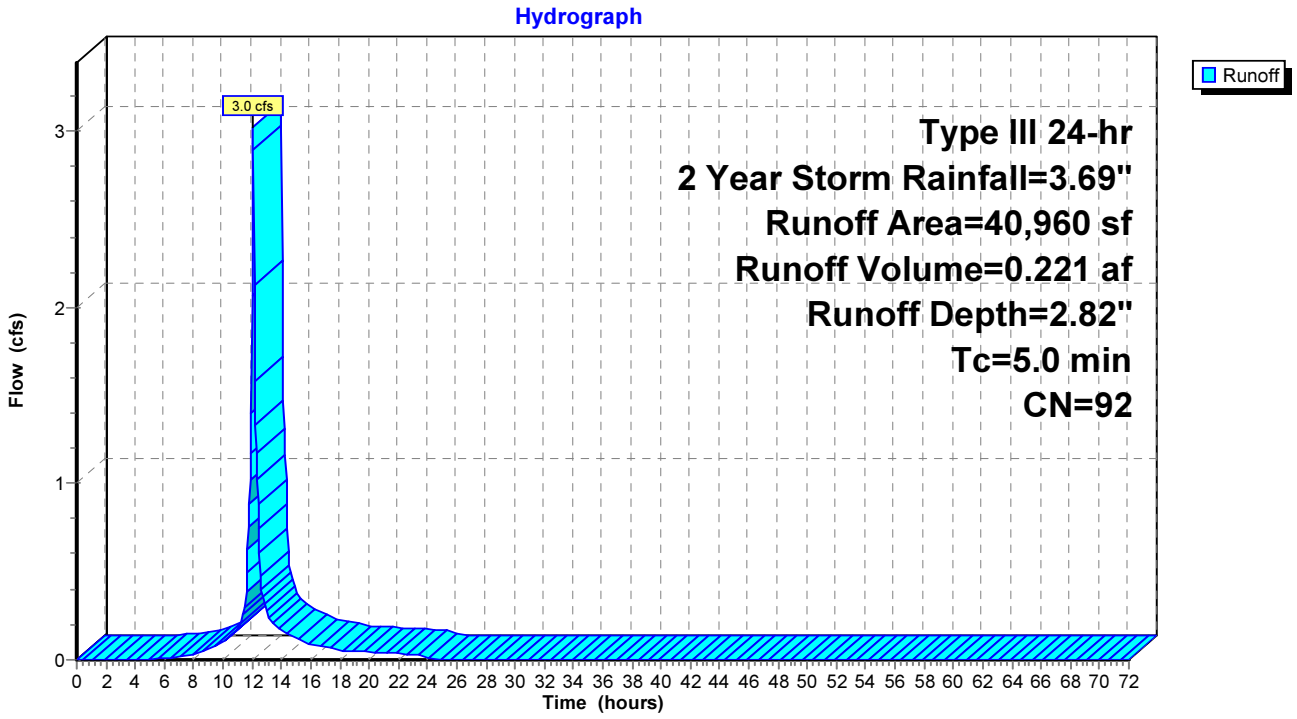
Runoff = 3.0 cfs @ 12.07 hrs, Volume= 0.221 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
24,825	98	Roofs, HSG C
10,906	74	>75% Grass cover, Good, HSG C
5,229	98	Paved parking, HSG C
40,960	92	Weighted Average
10,906		26.63% Pervious Area
30,054		73.37% Impervious Area

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

Subcatchment PS3b:



Summary for Subcatchment PS4:

[49] Hint: Tc<2dt may require smaller dt

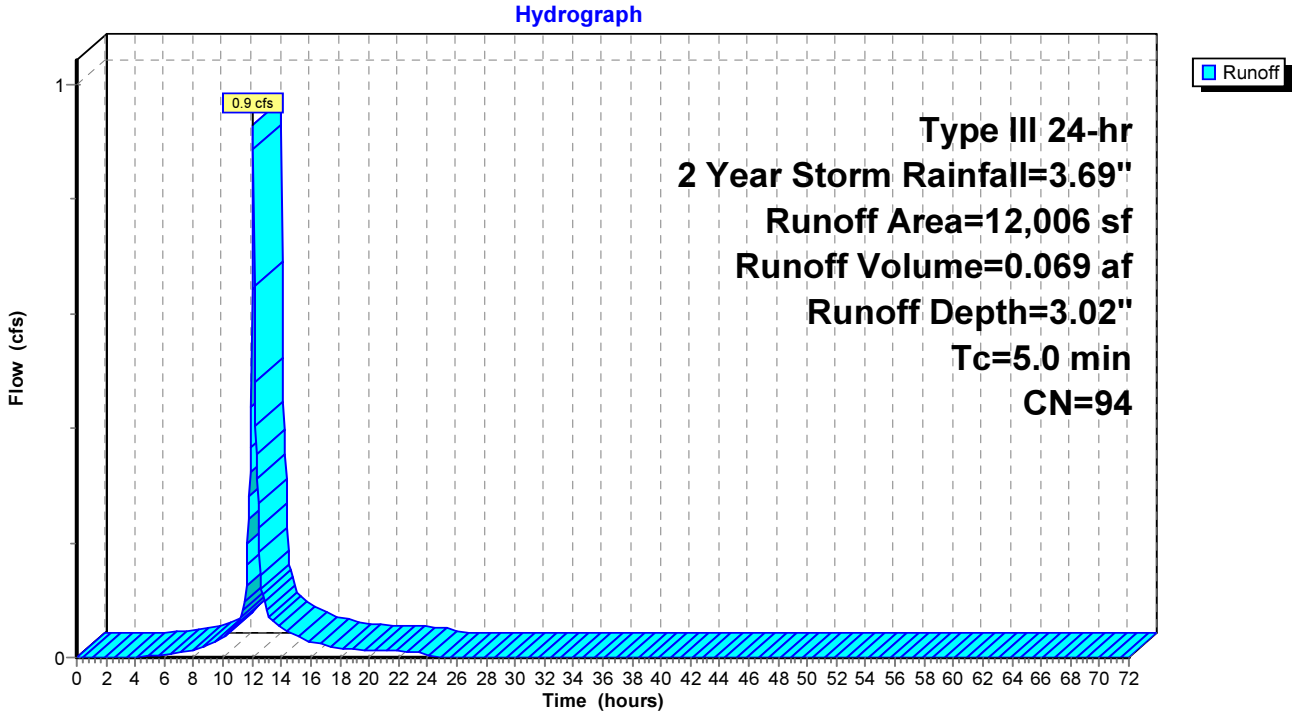
Runoff = 0.9 cfs @ 12.07 hrs, Volume= 0.069 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	4,504	98	Paved parking, HSG C
*	2,085	98	Sidewalks, HSG C
	3,654	98	Roofs, HSG C
	1,763	74	>75% Grass cover, Good, HSG C
	12,006	94	Weighted Average
	1,763		14.68% Pervious Area
	10,243		85.32% Impervious Area

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

Subcatchment PS4:



Summary for Subcatchment PS5:

[49] Hint: Tc<2dt may require smaller dt

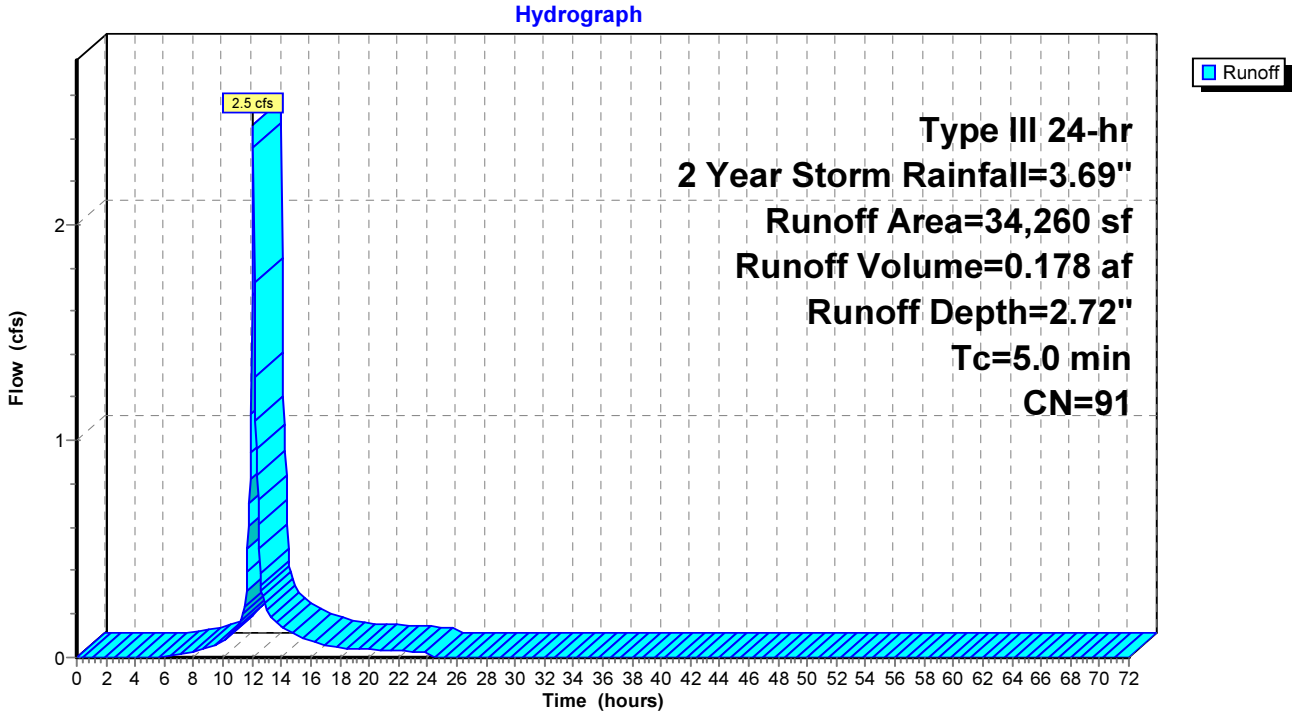
Runoff = 2.5 cfs @ 12.07 hrs, Volume= 0.178 af, Depth= 2.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	21,695	98	Paved parking, HSG C
*	310	98	Sidewalks, HSG C
	1,551	98	Roofs, HSG C
	10,704	74	>75% Grass cover, Good, HSG C
	34,260	91	Weighted Average
	10,704		31.24% Pervious Area
	23,556		68.76% Impervious Area

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

Subcatchment PS5:



Summary for Subcatchment PS5A:

[49] Hint: Tc<2dt may require smaller dt

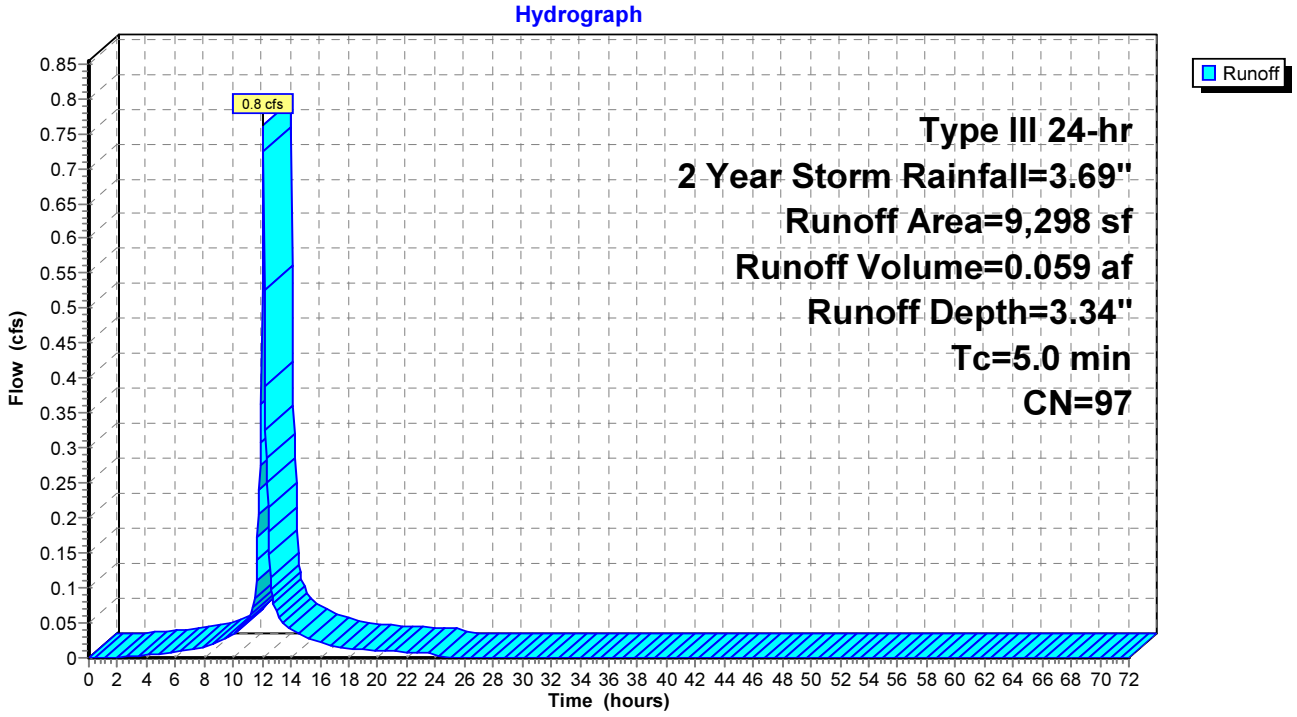
Runoff = 0.8 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	7,491	98	Paved parking, HSG C
*	1,230	98	Sidewalks, HSG C
	577	74	>75% Grass cover, Good, HSG C
	9,298	97	Weighted Average
	577		6.21% Pervious Area
	8,721		93.79% Impervious Area

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

Subcatchment PS5A:



Summary for Subcatchment PS5B:

[49] Hint: Tc<2dt may require smaller dt

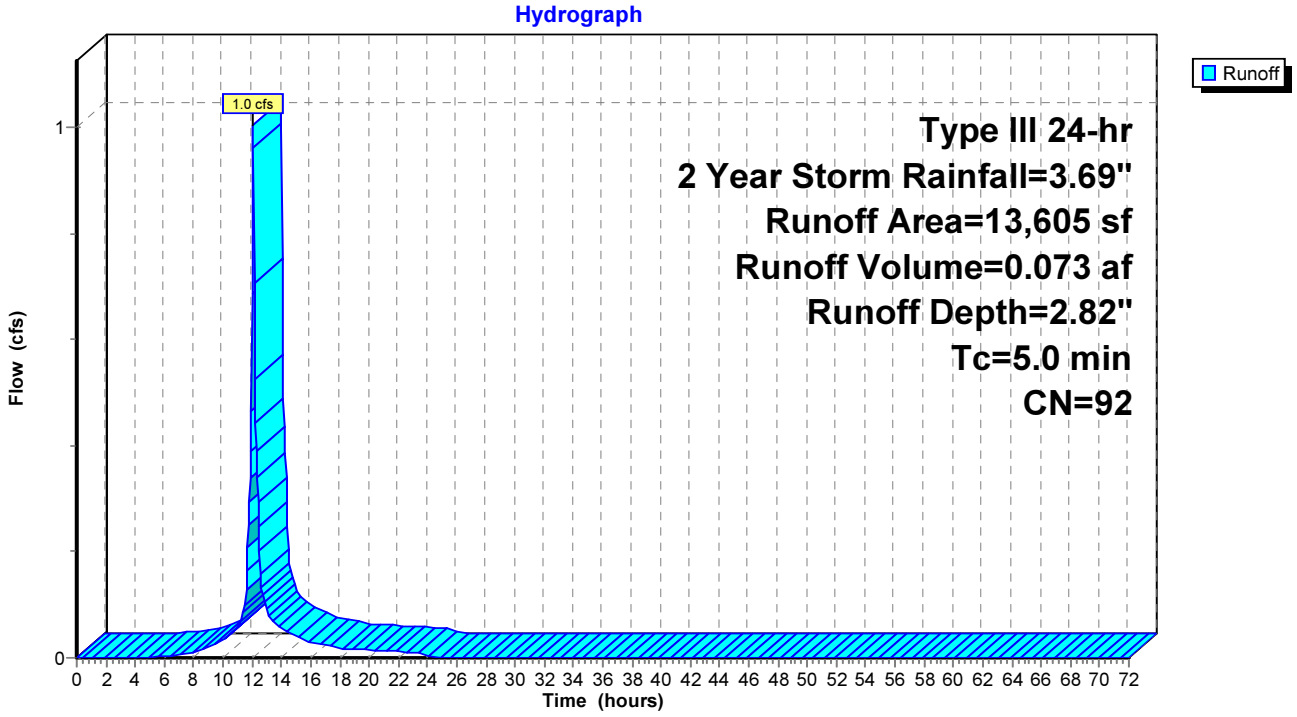
Runoff = 1.0 cfs @ 12.07 hrs, Volume= 0.073 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	7,275	98	Paved parking, HSG C
*	2,828	98	Sidewalks, HSG C
	3,502	74	>75% Grass cover, Good, HSG C
	13,605	92	Weighted Average
	3,502		25.74% Pervious Area
	10,103		74.26% Impervious Area

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

Subcatchment PS5B:



Summary for Subcatchment PS5C: PS5 Roof

[49] Hint: Tc<2dt may require smaller dt

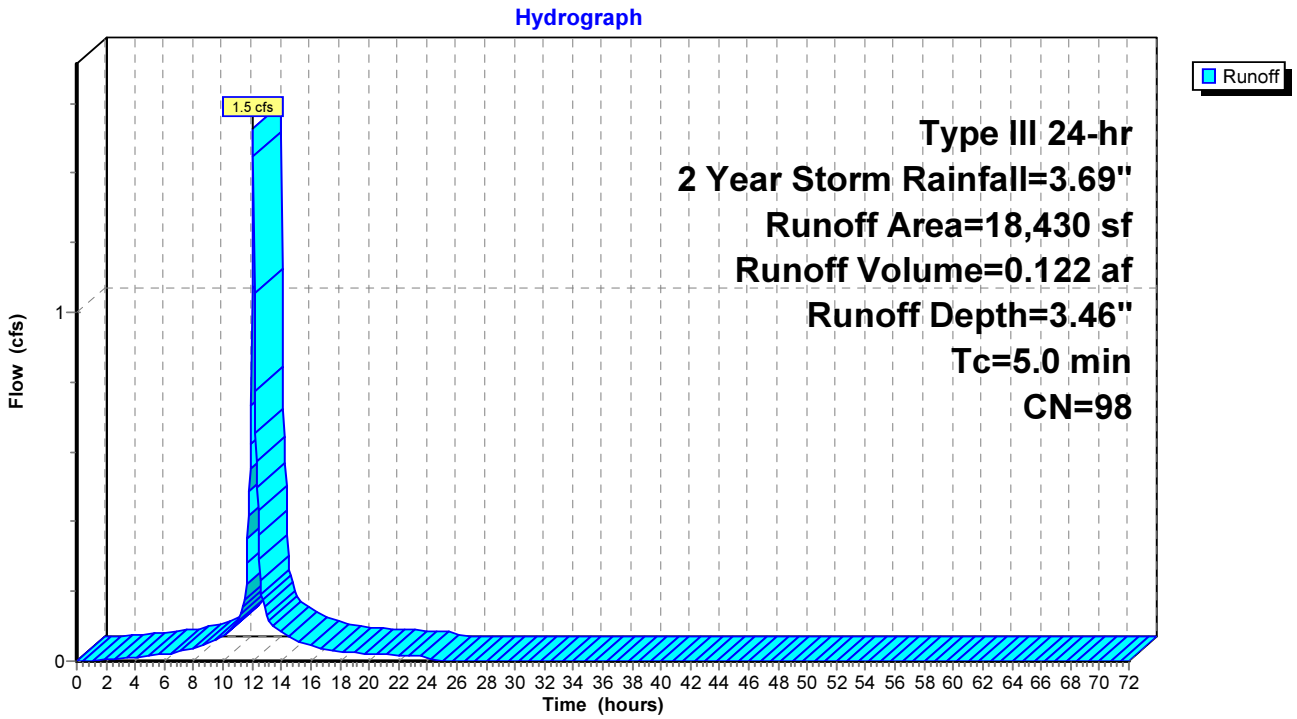
Runoff = 1.5 cfs @ 12.07 hrs, Volume= 0.122 af, Depth= 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
18,430	98	Roofs, HSG C
18,430		100.00% Impervious Area

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

Subcatchment PS5C: PS5 Roof



Summary for Subcatchment PS6:

[49] Hint: Tc<2dt may require smaller dt

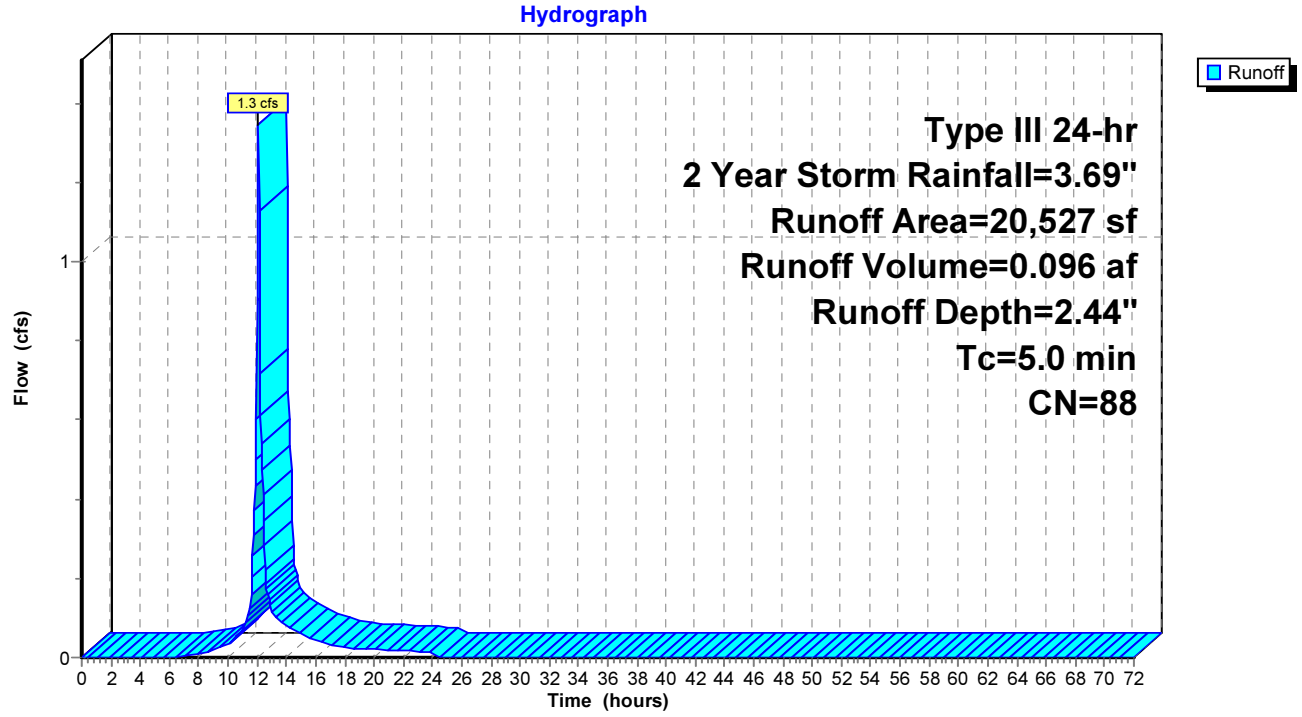
Runoff = 1.3 cfs @ 12.07 hrs, Volume= 0.096 af, Depth= 2.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	6,762	98	Paved parking, HSG C
*	2,312	98	Sidewalks, HSG C
	2,662	98	Roofs, HSG C
	8,791	74	>75% Grass cover, Good, HSG C
	20,527	88	Weighted Average
	8,791		42.83% Pervious Area
	11,736		57.17% Impervious Area

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

Subcatchment PS6:



Summary for Subcatchment PS7:

[49] Hint: Tc<2dt may require smaller dt

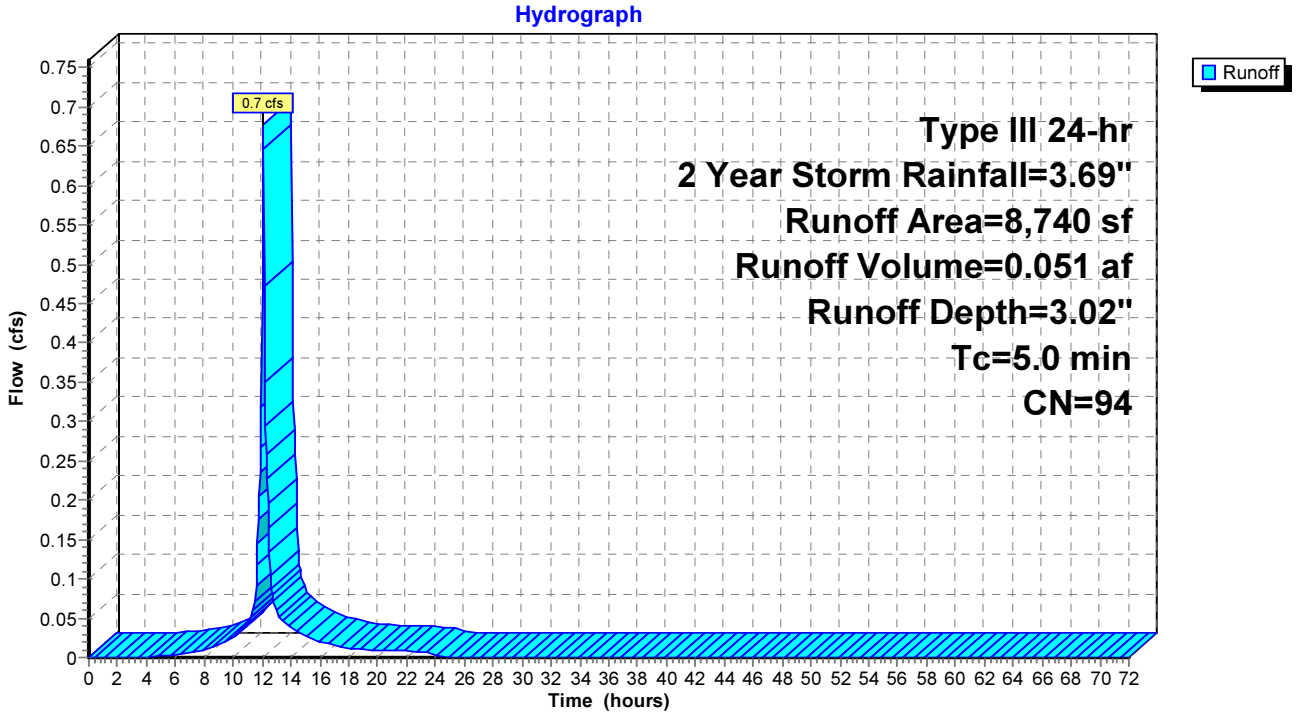
Runoff = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

	Area (sf)	CN	Description
	410	98	Paved parking, HSG C
*	4,272	98	Sidewalks, HSG C
	2,770	98	Roofs, HSG C
	1,288	74	>75% Grass cover, Good, HSG C
	8,740	94	Weighted Average
	1,288		14.74% Pervious Area
	7,452		85.26% Impervious Area

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

Subcatchment PS7:



Summary for Subcatchment PS8:

[49] Hint: Tc<2dt may require smaller dt

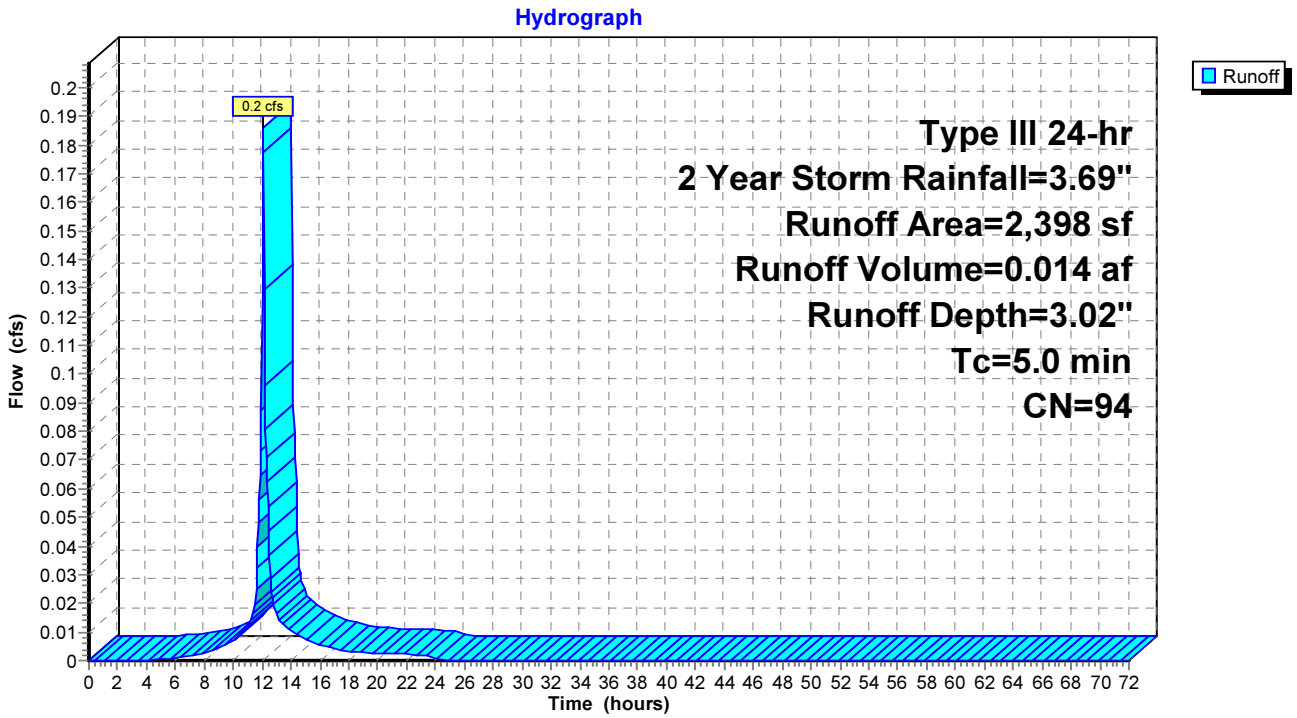
Runoff = 0.2 cfs @ 12.07 hrs, Volume= 0.014 af, Depth= 3.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
1,966	98	Paved parking, HSG C
432	74	>75% Grass cover, Good, HSG C
2,398	94	Weighted Average
432		18.02% Pervious Area
1,966		81.98% Impervious Area

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

Subcatchment PS8:



Summary for Reach 3R: Swale

Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 2.86" for 2 Year Storm event
Inflow = 3.9 cfs @ 12.07 hrs, Volume= 0.289 af
Outflow = 3.5 cfs @ 12.12 hrs, Volume= 0.289 af, Atten= 11%, Lag= 2.6 min

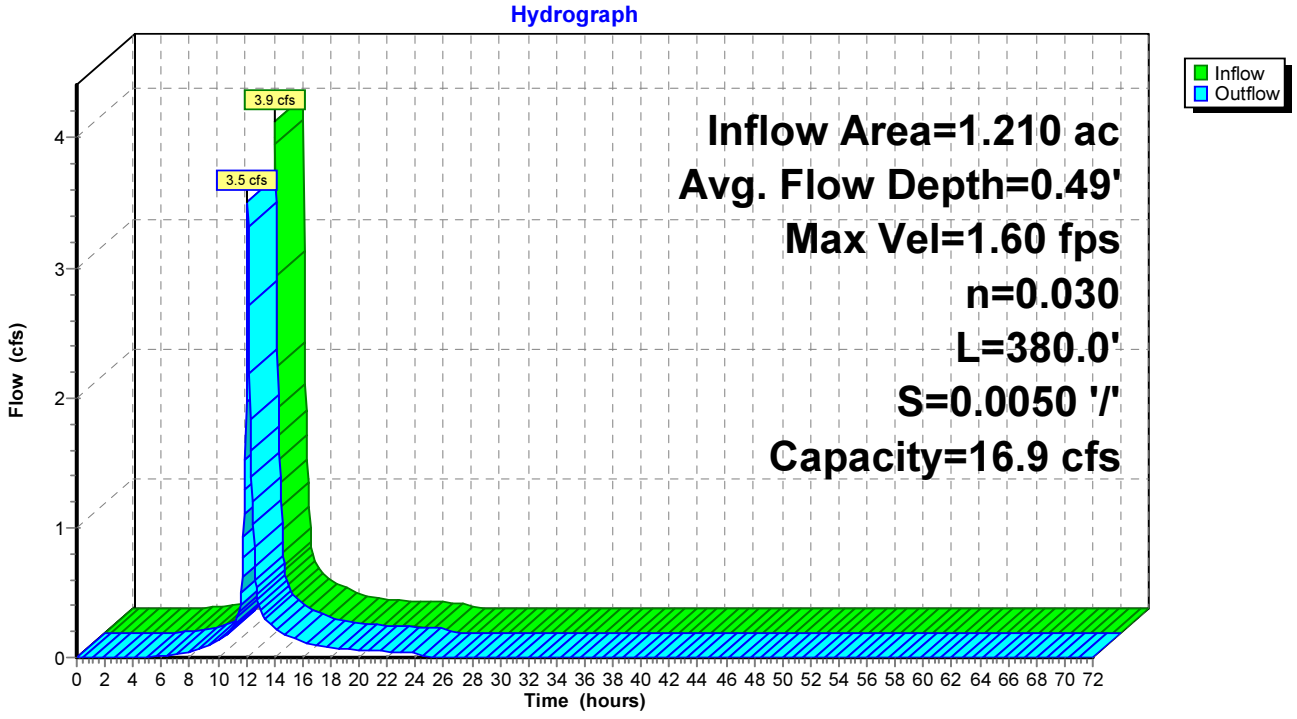
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.60 fps, Min. Travel Time= 3.9 min
Avg. Velocity = 0.47 fps, Avg. Travel Time= 13.4 min

Peak Storage= 828 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 16.9 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 5.0 '/' Top Width= 12.00'
Length= 380.0' Slope= 0.0050 '/'
Inlet Invert= 17.15', Outlet Invert= 15.25'

‡

Reach 3R: Swale



Summary for Pond 1P: DMH A19

[57] Hint: Peaked at 9.92' (Flood elevation advised)
[80] Warning: Exceeded Pond 5P by 0.19' @ 12.05 hrs (4.7 cfs 0.103 af)

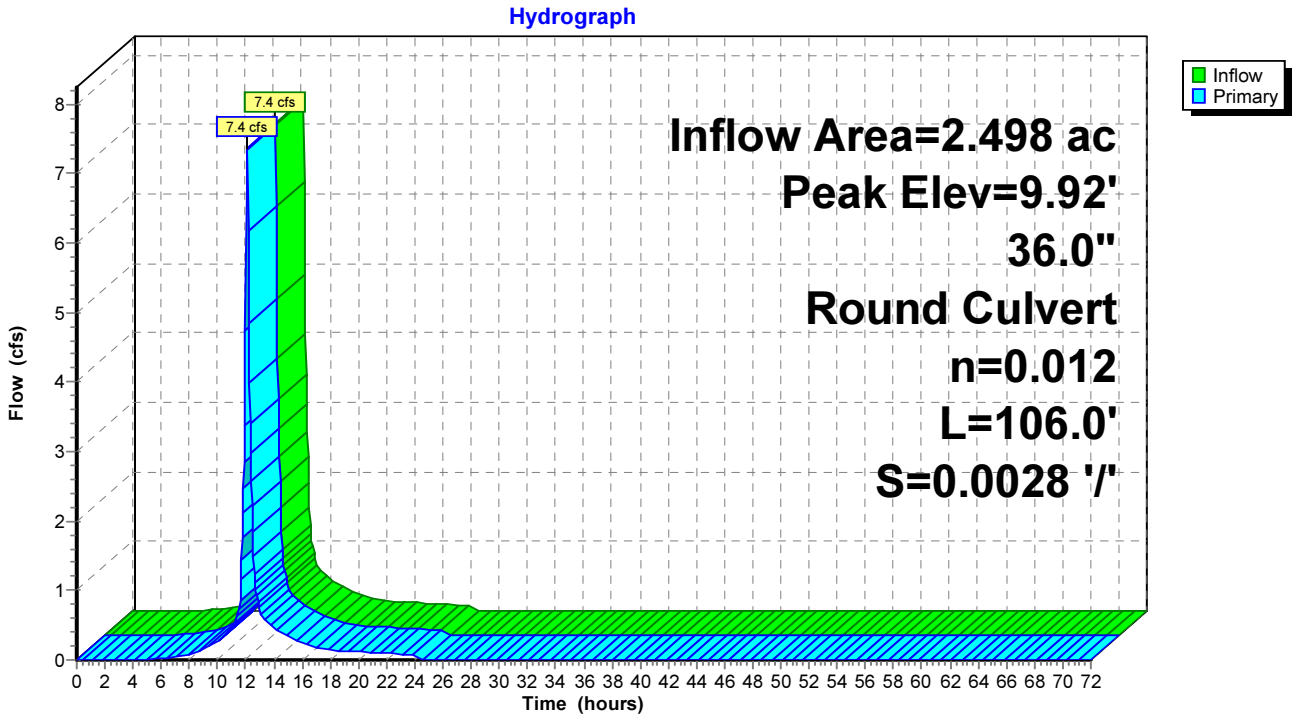
Inflow Area =	2.498 ac,	73.41% Impervious,	Inflow Depth =	2.81"	for 2 Year Storm event
Inflow =	7.4 cfs @	12.09 hrs,	Volume=	0.585 af	
Outflow =	7.4 cfs @	12.09 hrs,	Volume=	0.585 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.4 cfs @	12.09 hrs,	Volume=	0.585 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.92' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.17'	**36.0" Round Culvert** L= 106.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.17' / 7.87' S= 0.0028 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=2.9 cfs @ 12.09 hrs HW=9.77' TW=9.72' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 2.9 cfs @ 1.09 fps)

Pond 1P: DMH A19



Summary for Pond 3P: PCB3

[57] Hint: Peaked at 11.04' (Flood elevation advised)

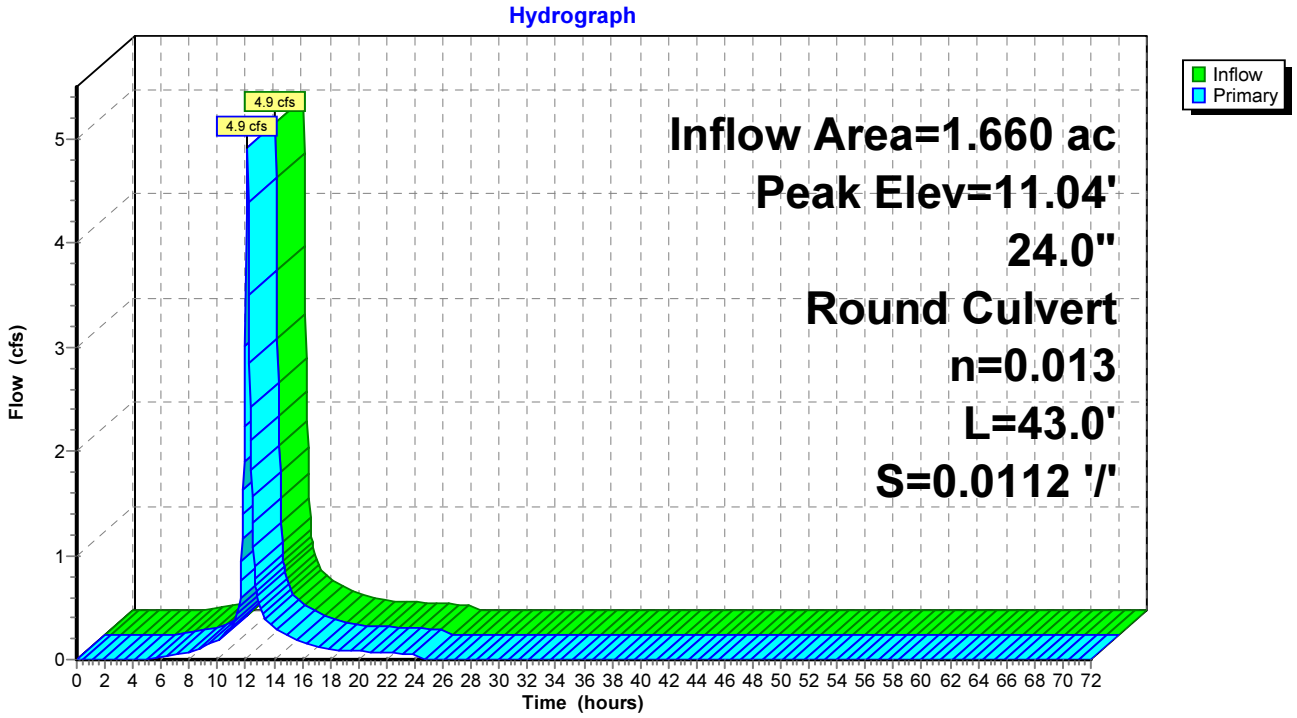
Inflow Area = 1.660 ac, 77.58% Impervious, Inflow Depth = 2.91" for 2 Year Storm event
Inflow = 4.9 cfs @ 12.10 hrs, Volume= 0.402 af
Outflow = 4.9 cfs @ 12.10 hrs, Volume= 0.402 af, Atten= 0%, Lag= 0.0 min
Primary = 4.9 cfs @ 12.10 hrs, Volume= 0.402 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.04' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.00'	**24.0" Round Culvert** L= 43.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.00' / 9.52' S= 0.0112 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.6 cfs @ 12.10 hrs HW=11.03' TW=10.46' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.6 cfs @ 4.11 fps)

Pond 3P: PCB3



Summary for Pond 4P: PCB7

[57] Hint: Peaked at 10.47' (Flood elevation advised)

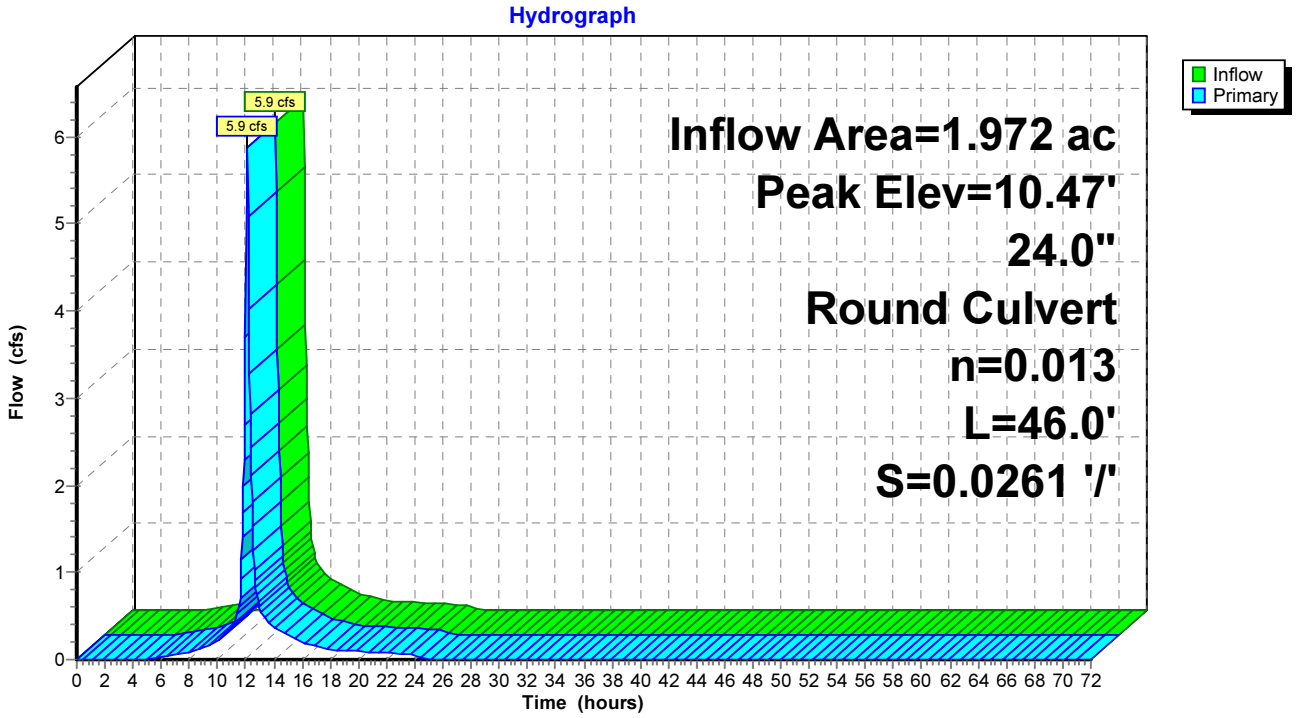
Inflow Area = 1.972 ac, 77.06% Impervious, Inflow Depth = 2.89" for 2 Year Storm event
Inflow = 5.9 cfs @ 12.10 hrs, Volume= 0.475 af
Outflow = 5.9 cfs @ 12.10 hrs, Volume= 0.475 af, Atten= 0%, Lag= 0.0 min
Primary = 5.9 cfs @ 12.10 hrs, Volume= 0.475 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.47' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.40'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.40' / 8.20' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.1 cfs @ 12.10 hrs HW=10.46' TW=9.79' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.1 cfs @ 4.42 fps)

Pond 4P: PCB7



Summary for Pond 5P: DMH 4B

[57] Hint: Peaked at 9.92' (Flood elevation advised)

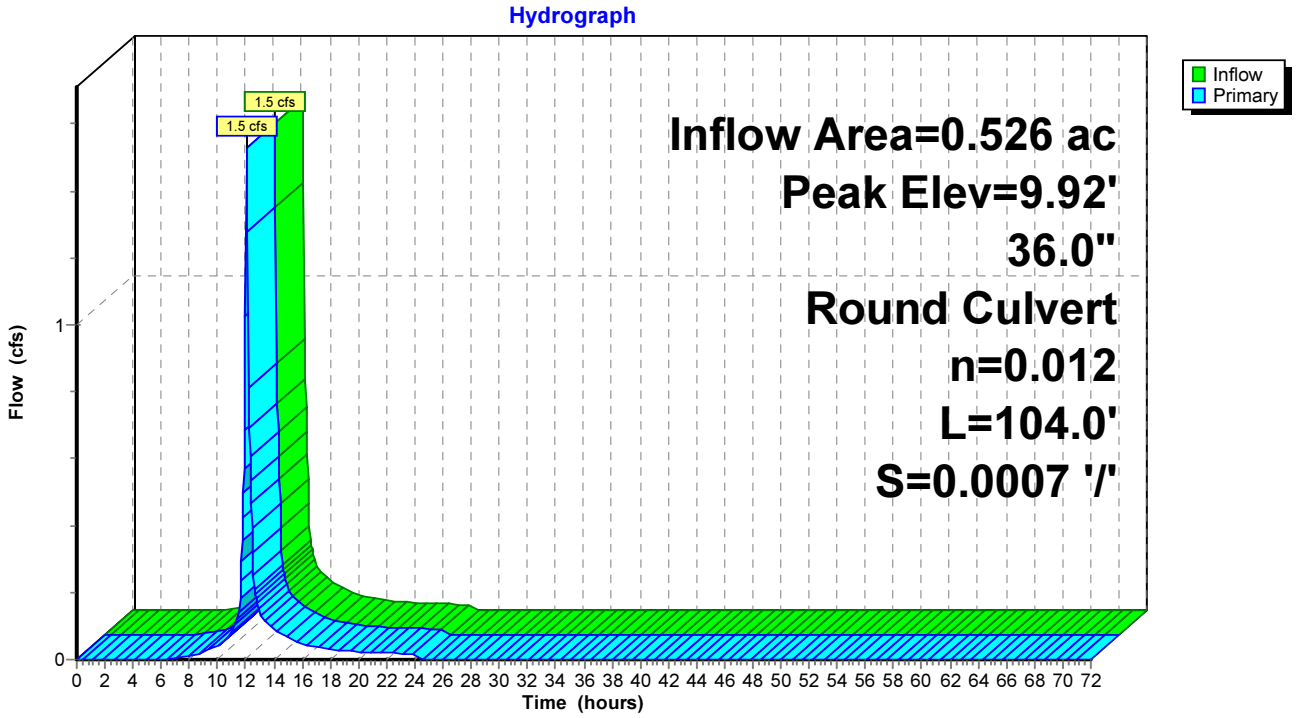
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 2.50" for 2 Year Storm event
Inflow = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af
Outflow = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.92' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.25'	**36.0" Round Culvert** L= 104.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.25' / 8.18' S= 0.0007 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=9.50' TW=9.69' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond 5P: DMH 4B



Summary for Pond 6P: PCB1

[57] Hint: Peaked at 14.61' (Flood elevation advised)

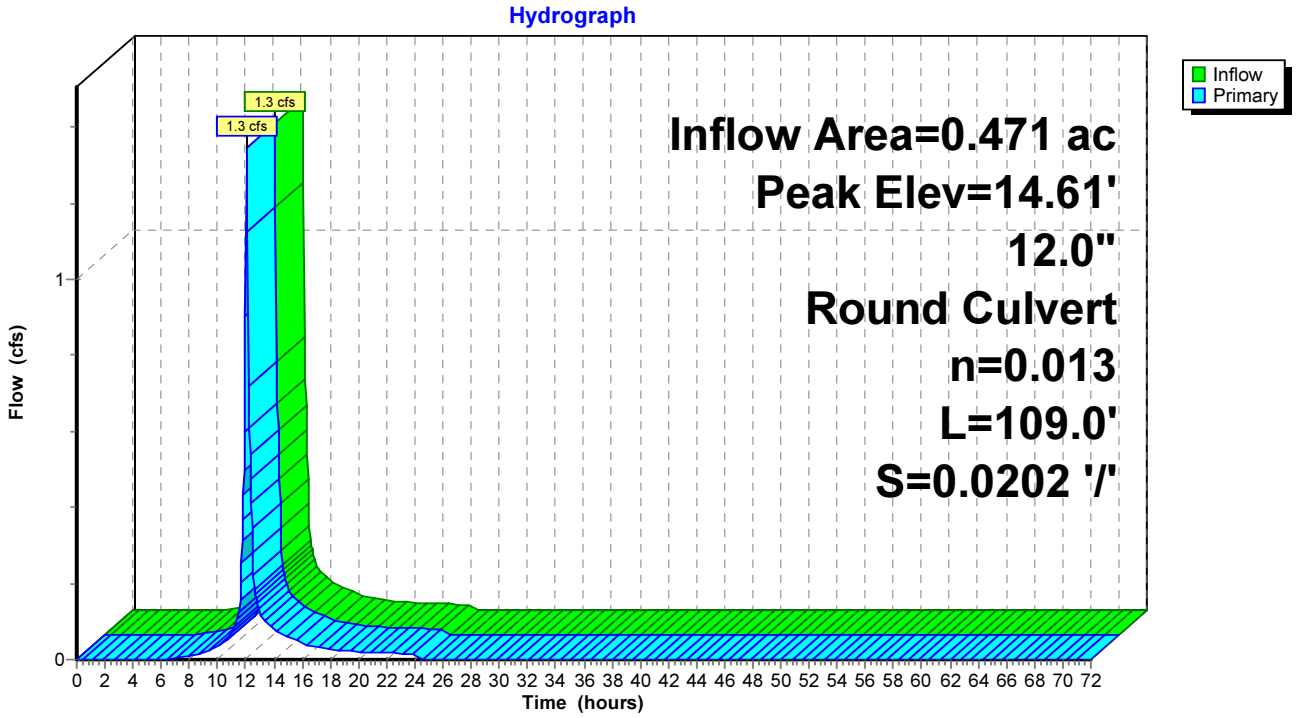
Inflow Area = 0.471 ac, 57.17% Impervious, Inflow Depth = 2.44" for 2 Year Storm event
Inflow = 1.3 cfs @ 12.07 hrs, Volume= 0.096 af
Outflow = 1.3 cfs @ 12.07 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min
Primary = 1.3 cfs @ 12.07 hrs, Volume= 0.096 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.61' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 109.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 11.80' S= 0.0202 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.07 hrs HW=14.60' TW=12.45' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.3 cfs @ 2.64 fps)

Pond 6P: PCB1



Summary for Pond 7P: PCB2

[57] Hint: Peaked at 12.47' (Flood elevation advised)

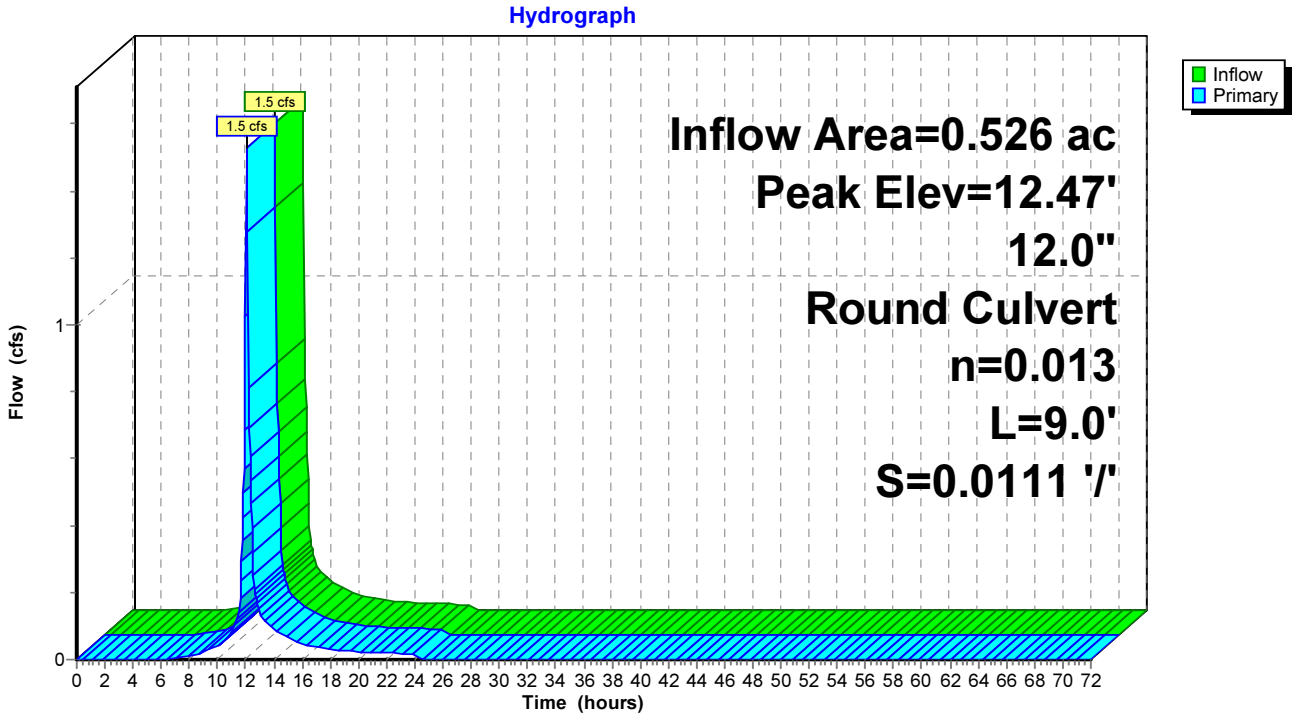
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 2.50" for 2 Year Storm event
Inflow = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af
Outflow = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.07 hrs, Volume= 0.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.47' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.60' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.5 cfs @ 12.07 hrs HW=12.45' TW=9.50' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.5 cfs @ 3.24 fps)

Pond 7P: PCB2



Summary for Pond 9P: PCB4

[57] Hint: Peaked at 10.82' (Flood elevation advised)

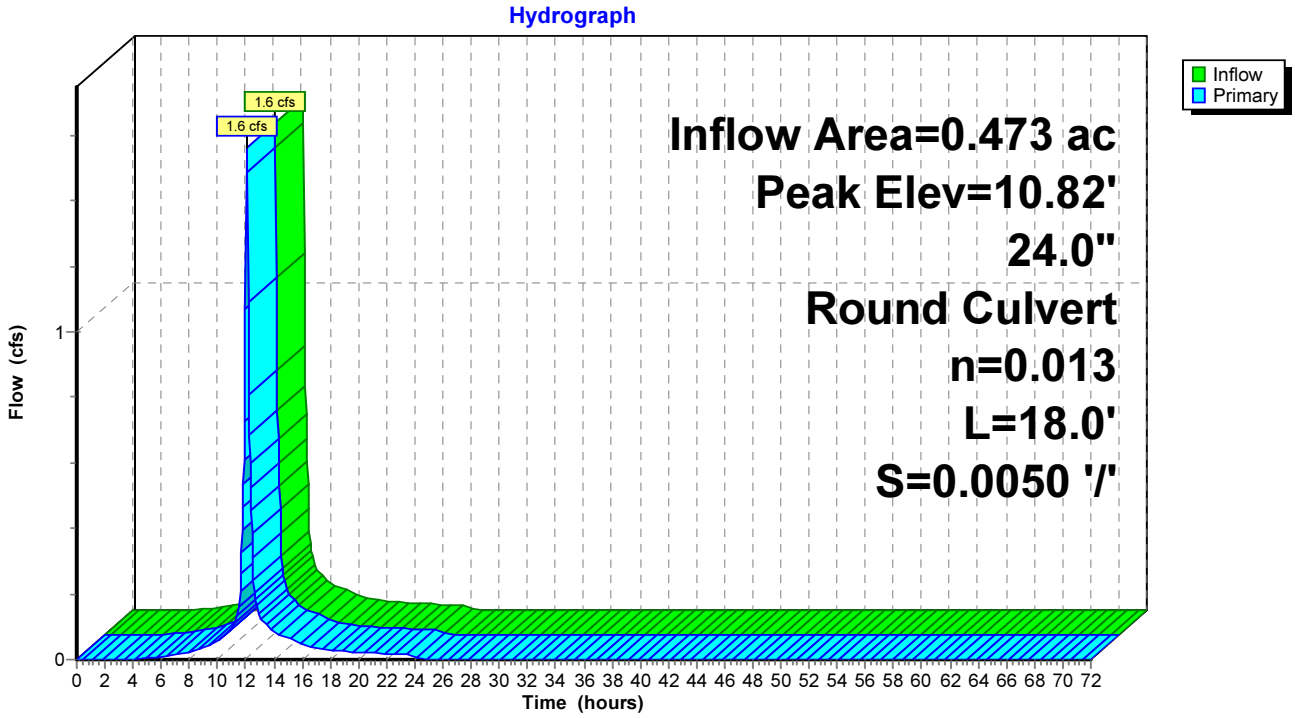
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 2.92" for 2 Year Storm event
Inflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af
Outflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.82' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**24.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.11' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.5 cfs @ 12.07 hrs HW=10.81' TW=9.54' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.5 cfs @ 2.79 fps)

Pond 9P: PCB4



Summary for Pond 10P: PCB5

[57] Hint: Peaked at 9.64' (Flood elevation advised)

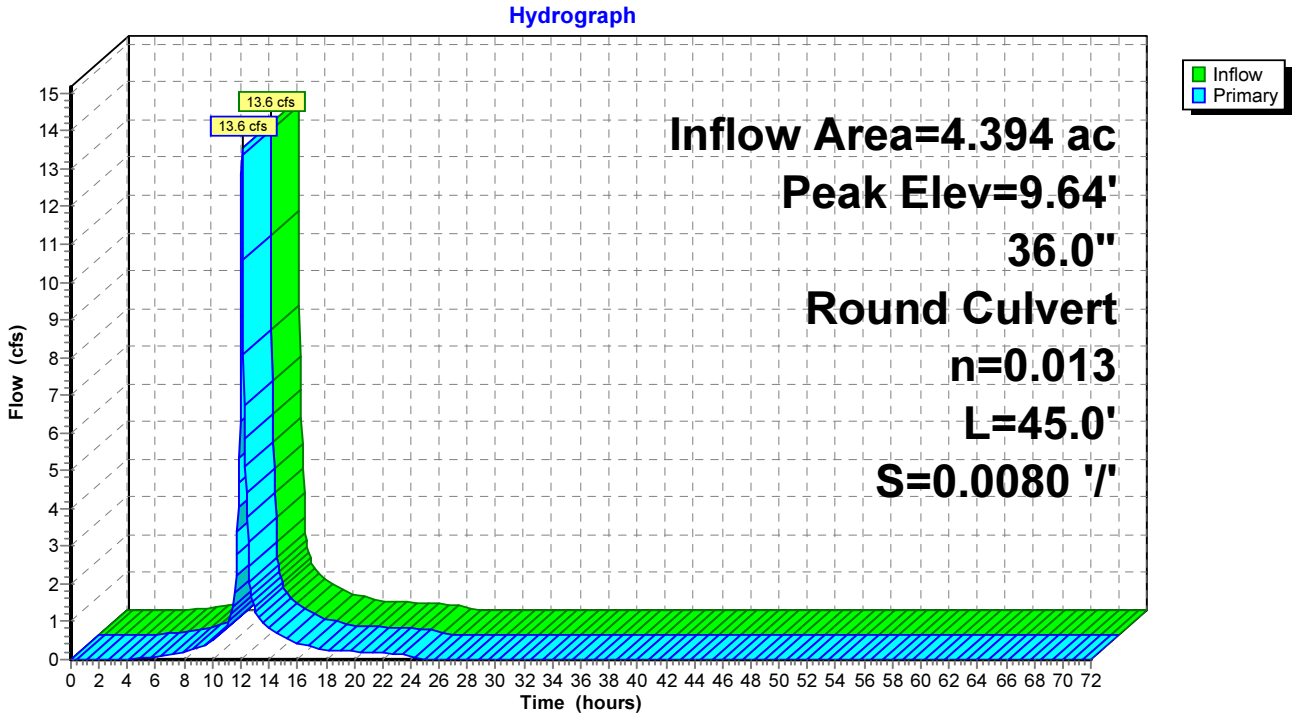
Inflow Area = 4.394 ac, 76.62% Impervious, Inflow Depth = 2.89" for 2 Year Storm event
Inflow = 13.6 cfs @ 12.08 hrs, Volume= 1.060 af
Outflow = 13.6 cfs @ 12.08 hrs, Volume= 1.060 af, Atten= 0%, Lag= 0.0 min
Primary = 13.6 cfs @ 12.08 hrs, Volume= 1.060 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.64' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.49' S= 0.0080 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=11.8 cfs @ 12.08 hrs HW=9.58' TW=9.11' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.8 cfs @ 4.03 fps)

Pond 10P: PCB5



Summary for Pond 12P: POCS2

[57] Hint: Peaked at 11.42' (Flood elevation advised)

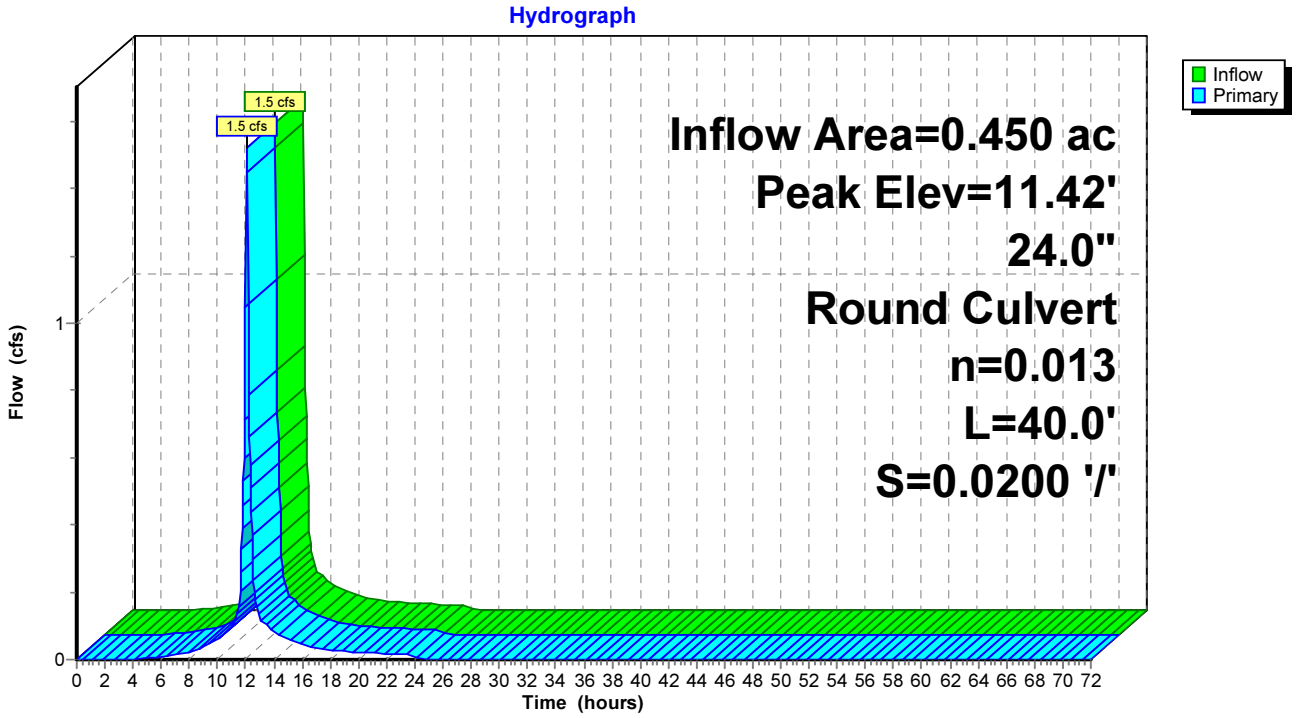
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 3.02" for 2 Year Storm event
Inflow = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af
Outflow = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.42' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.90'	**24.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.90' / 10.10' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.3 cfs @ 12.07 hrs HW=11.41' TW=10.97' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.3 cfs @ 3.13 fps)

Pond 12P: POCS2



Summary for Pond 14P: POCS1

[57] Hint: Peaked at 11.52' (Flood elevation advised)

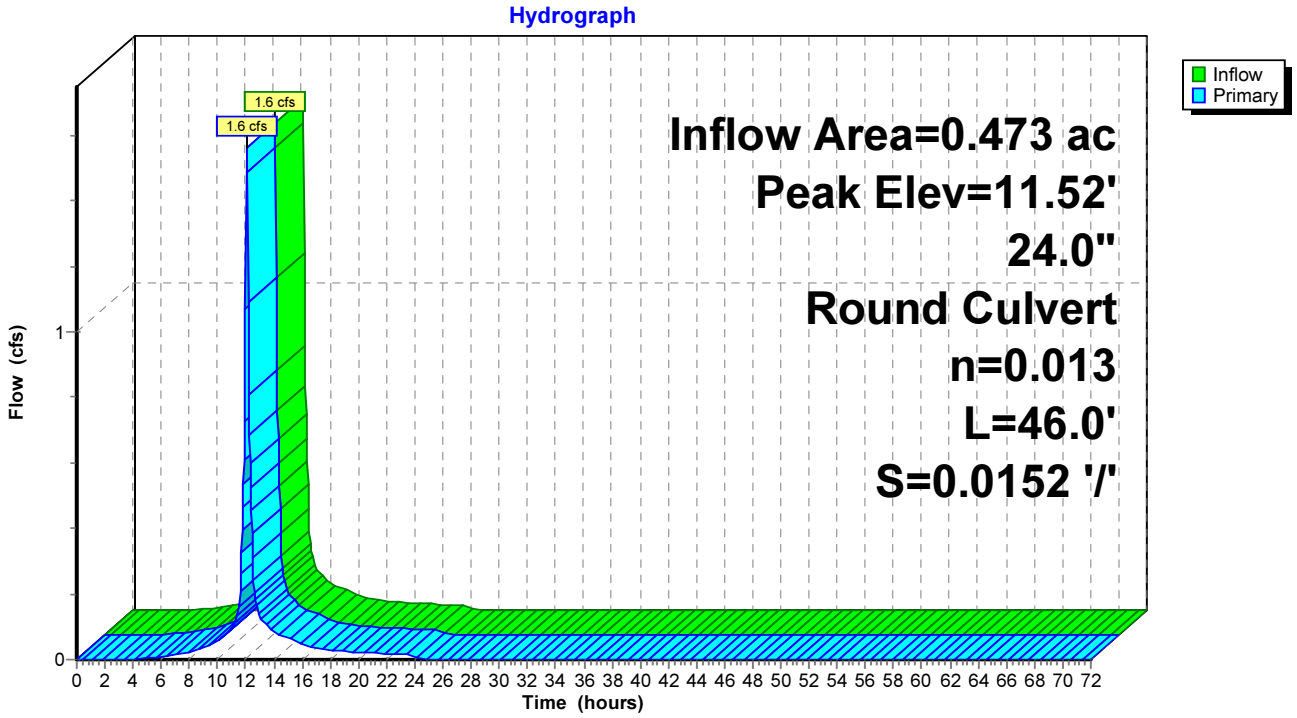
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 2.92" for 2 Year Storm event
Inflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af
Outflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.52' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.00'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.00' / 10.30' S= 0.0152 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.5 cfs @ 12.07 hrs HW=11.50' TW=10.81' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.5 cfs @ 2.42 fps)

Pond 14P: POCS1



Summary for Pond 15P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.21' (Flood elevation advised)

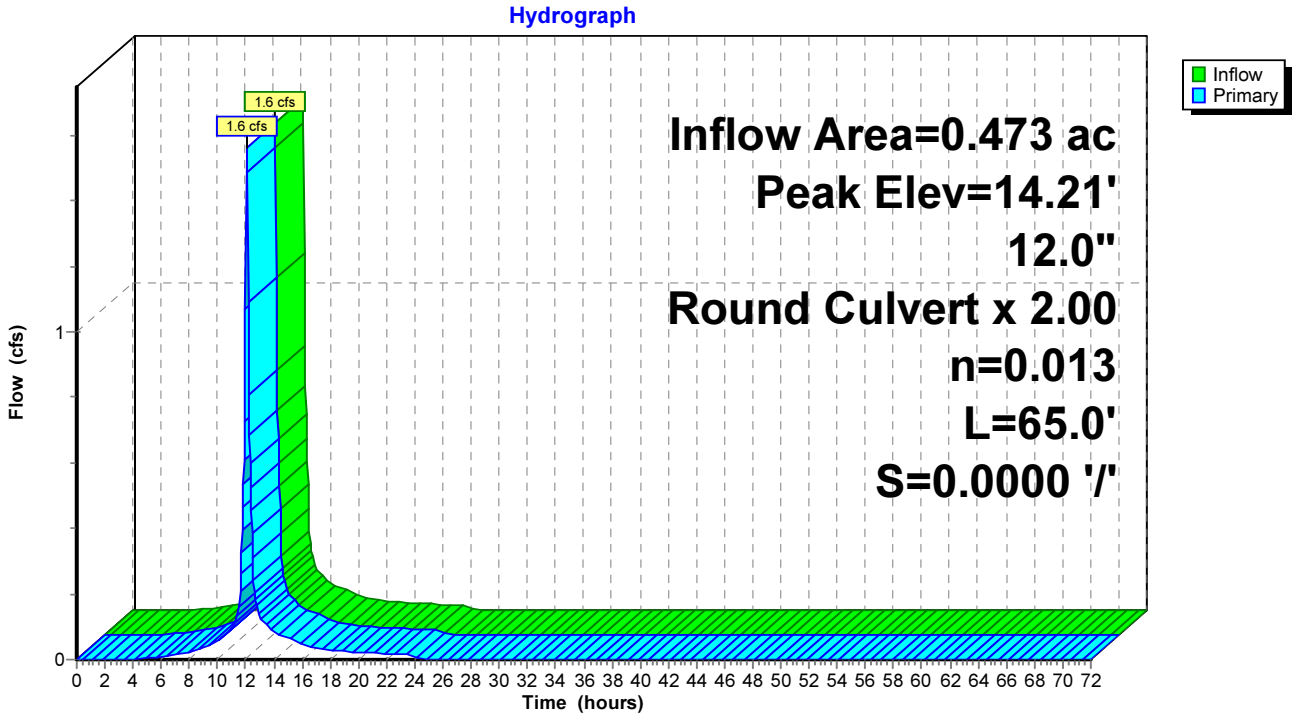
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 2.92" for 2 Year Storm event
Inflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af
Outflow = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min
Primary = 1.6 cfs @ 12.07 hrs, Volume= 0.115 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.21' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert X 2.00** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.5 cfs @ 12.07 hrs HW=14.20' TW=11.50' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 1.5 cfs @ 1.80 fps)

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond 16P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 13.72' (Flood elevation advised)

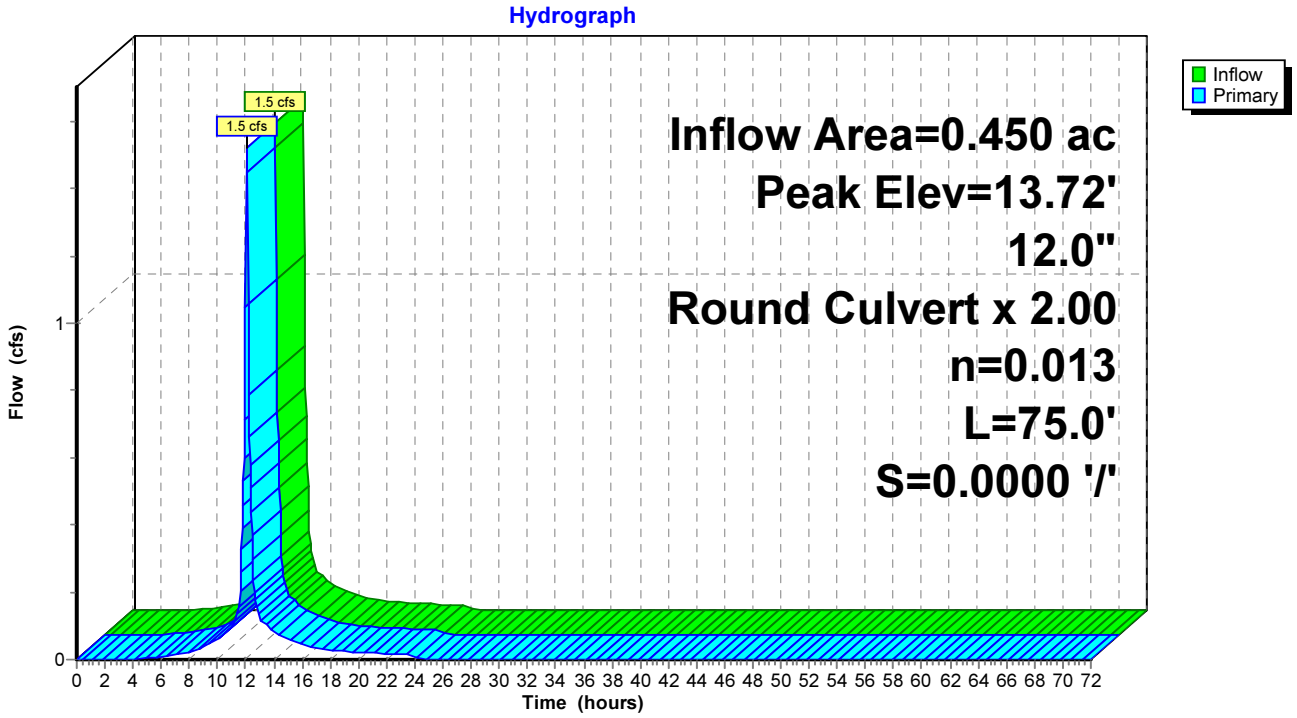
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 3.02" for 2 Year Storm event
Inflow = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af
Outflow = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min
Primary = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.72' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.00'	**12.0" Round Culvert X 2.00** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.00' / 13.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.5 cfs @ 12.07 hrs HW=13.70' TW=11.41' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 1.5 cfs @ 1.74 fps)

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond CB 5D: CB 5D

[57] Hint: Peaked at 10.74' (Flood elevation advised)

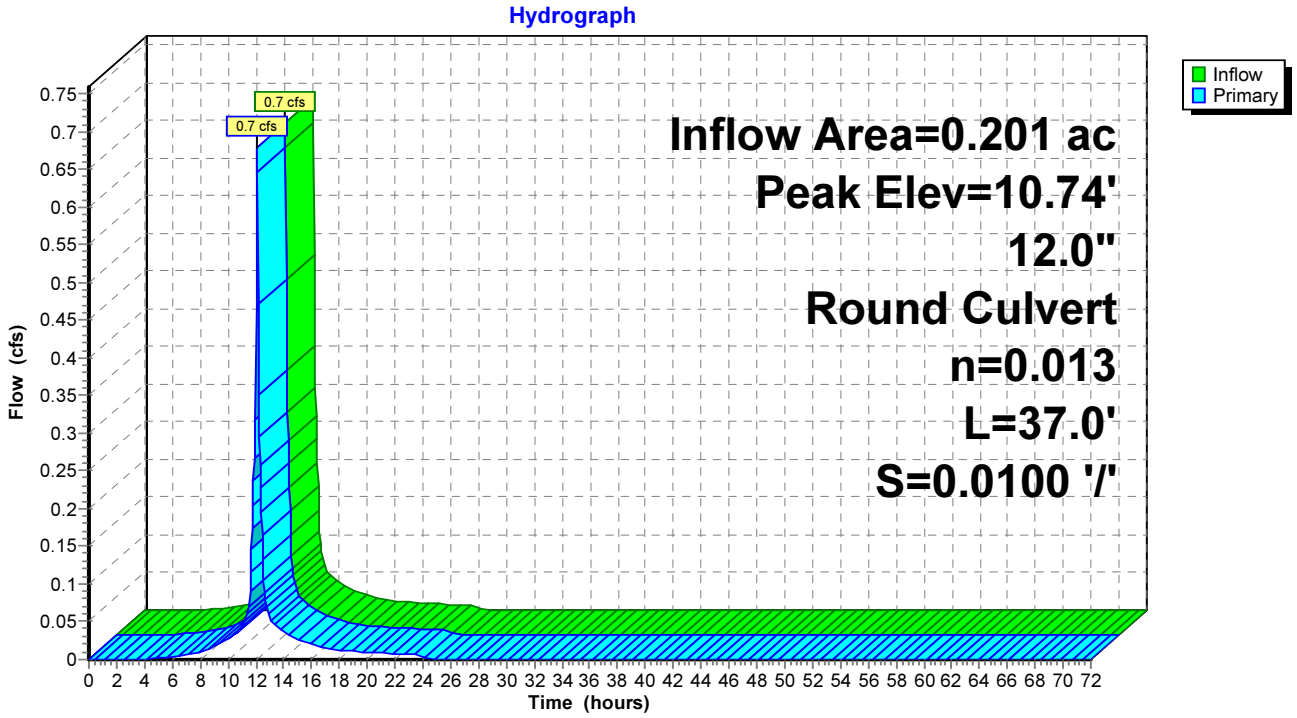
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 3.02" for 2 Year Storm event
Inflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af
Outflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.24'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.24' / 9.87' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.6 cfs @ 12.07 hrs HW=10.72' TW=10.45' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 2.40 fps)

Pond CB 5D: CB 5D



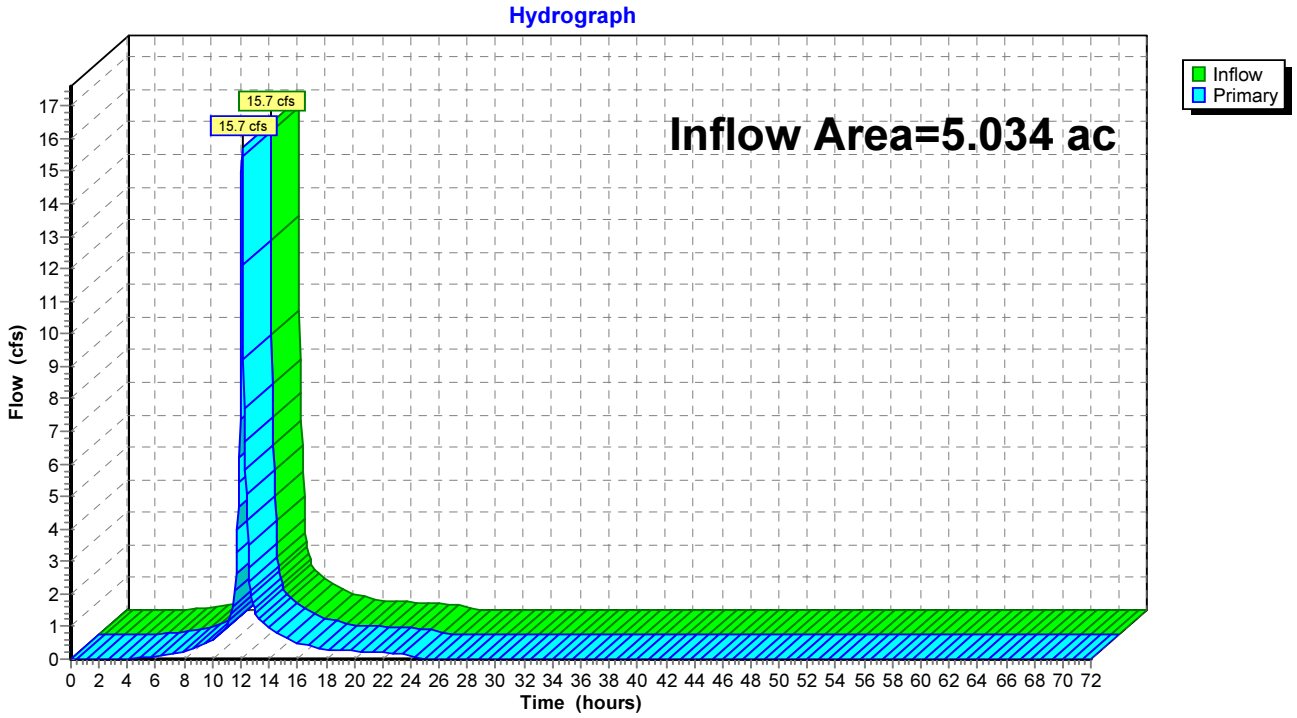
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.034 ac, 78.07% Impervious, Inflow Depth = 2.92" for 2 Year Storm event
Inflow = 15.7 cfs @ 12.08 hrs, Volume= 1.225 af
Primary = 15.7 cfs @ 12.08 hrs, Volume= 1.225 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH 4A

[57] Hint: Peaked at 9.82' (Flood elevation advised)
[80] Warning: Exceeded Pond DMH A6 by 0.01' @ 12.10 hrs (0.8 cfs 0.003 af)

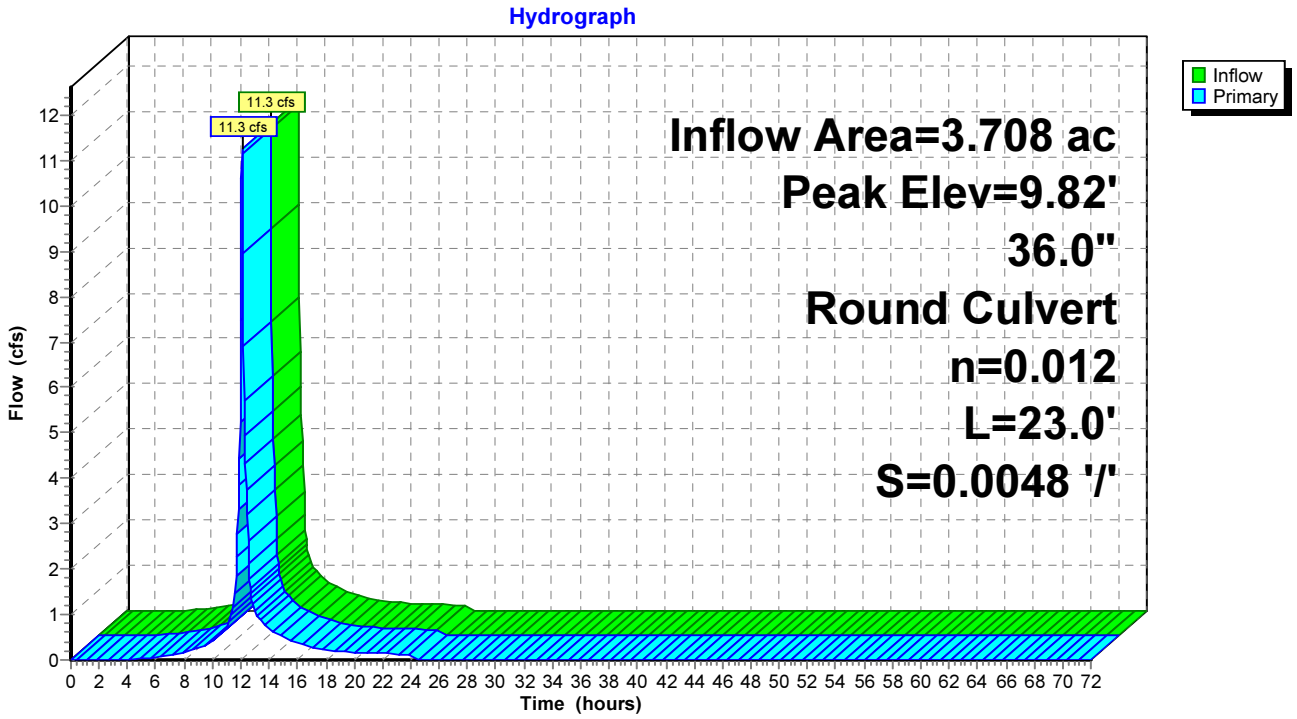
Inflow Area =	3.708 ac,	75.46% Impervious,	Inflow Depth =	2.87"	for 2 Year Storm event
Inflow =	11.3 cfs @	12.08 hrs,	Volume=	0.885 af	
Outflow =	11.3 cfs @	12.08 hrs,	Volume=	0.885 af,	Atten= 0%, Lag= 0.0 min
Primary =	11.3 cfs @	12.08 hrs,	Volume=	0.885 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.82' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 23.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.74' S= 0.0048 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=6.4 cfs @ 12.08 hrs HW=9.69' TW=9.59' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 6.4 cfs @ 2.01 fps)

Pond DMH 4A: DMH 4A



Summary for Pond DMH A6: DMH A6

[57] Hint: Peaked at 9.88' (Flood elevation advised)

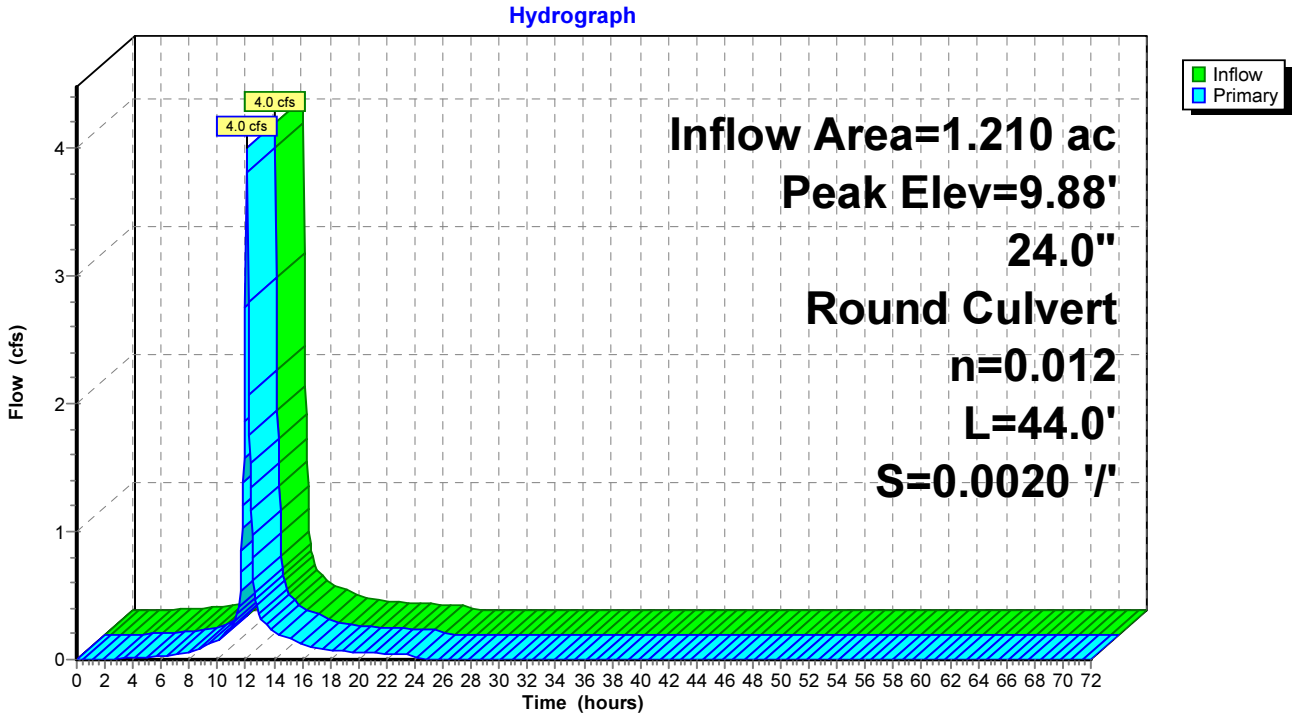
Inflow Area = 1.210 ac, 79.68% Impervious, Inflow Depth = 2.98" for 2 Year Storm event
Inflow = 4.0 cfs @ 12.07 hrs, Volume= 0.300 af
Outflow = 4.0 cfs @ 12.07 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min
Primary = 4.0 cfs @ 12.07 hrs, Volume= 0.300 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.88' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.50'	**24.0" Round Culvert** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.50' / 8.41' S= 0.0020 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=1.2 cfs @ 12.07 hrs HW=9.66' TW=9.63' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.2 cfs @ 0.93 fps)

Pond DMH A6: DMH A6



Summary for Pond ENV 21: ENV 21

[57] Hint: Peaked at 9.92' (Flood elevation advised)

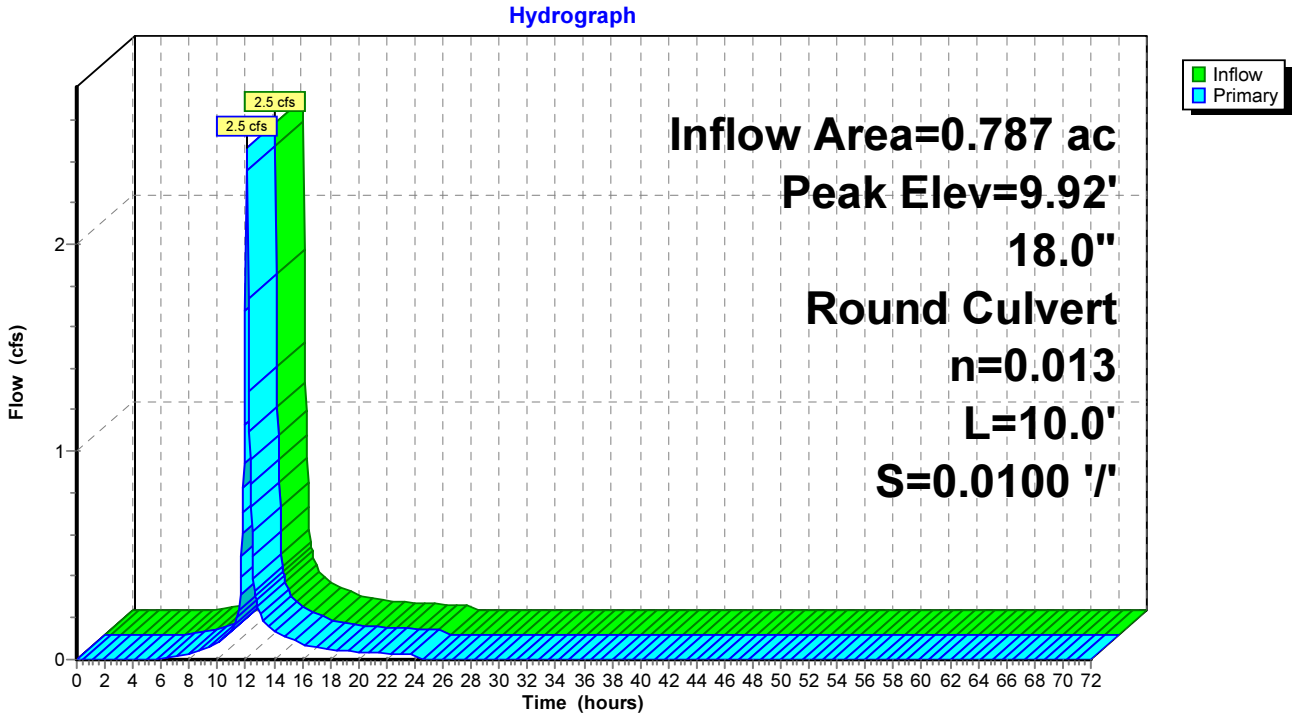
Inflow Area = 0.787 ac, 68.76% Impervious, Inflow Depth = 2.72" for 2 Year Storm event
Inflow = 2.5 cfs @ 12.07 hrs, Volume= 0.178 af
Outflow = 2.5 cfs @ 12.07 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.07 hrs, Volume= 0.178 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.92' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	**18.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.00' / 8.90' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.9 cfs @ 12.07 hrs HW=9.85' TW=9.66' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.9 cfs @ 2.64 fps)

Pond ENV 21: ENV 21



Summary for Pond PCB-BH: PCB-BH

[57] Hint: Peaked at 11.89' (Flood elevation advised)

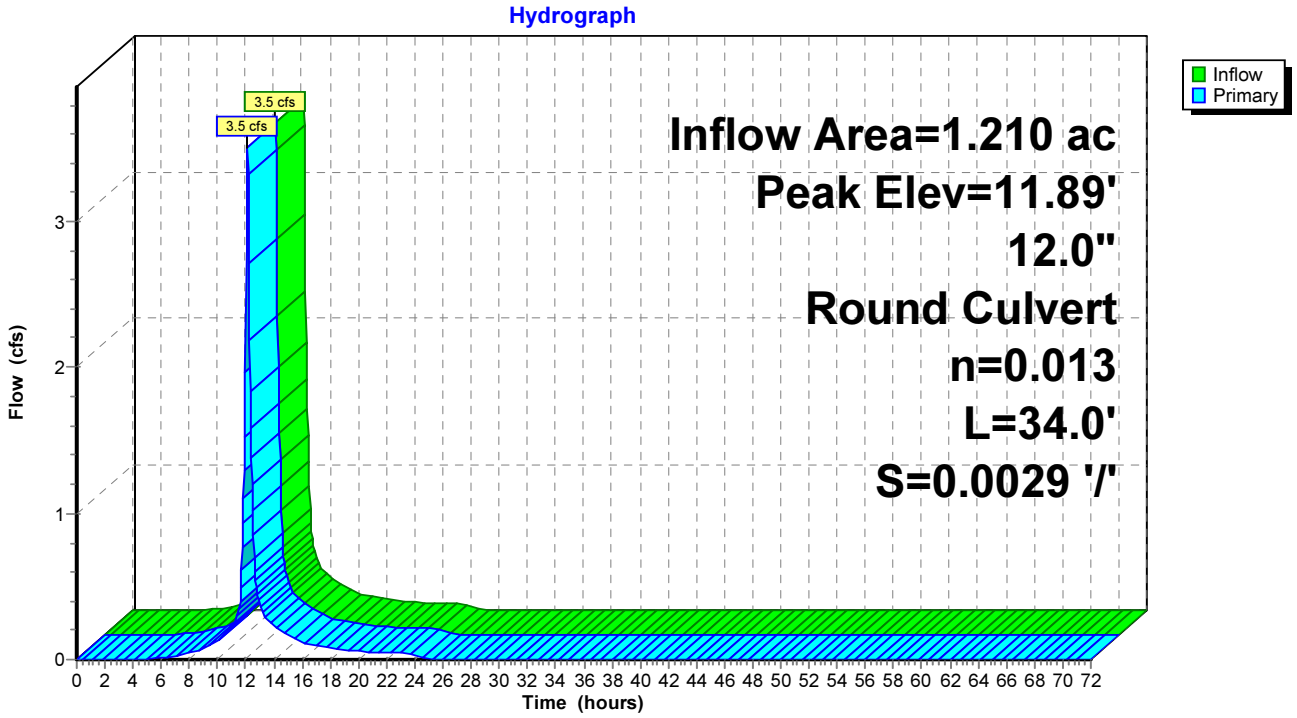
Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 2.86" for 2 Year Storm event
Inflow = 3.5 cfs @ 12.12 hrs, Volume= 0.289 af
Outflow = 3.5 cfs @ 12.12 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.0 min
Primary = 3.5 cfs @ 12.12 hrs, Volume= 0.289 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.89' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**12.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.10' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.4 cfs @ 12.12 hrs HW=11.85' TW=11.03' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.4 cfs @ 4.35 fps)

Pond PCB-BH: PCB-BH



Summary for Pond PDMH 1: PDMH 1

[57] Hint: Peaked at 10.46' (Flood elevation advised)

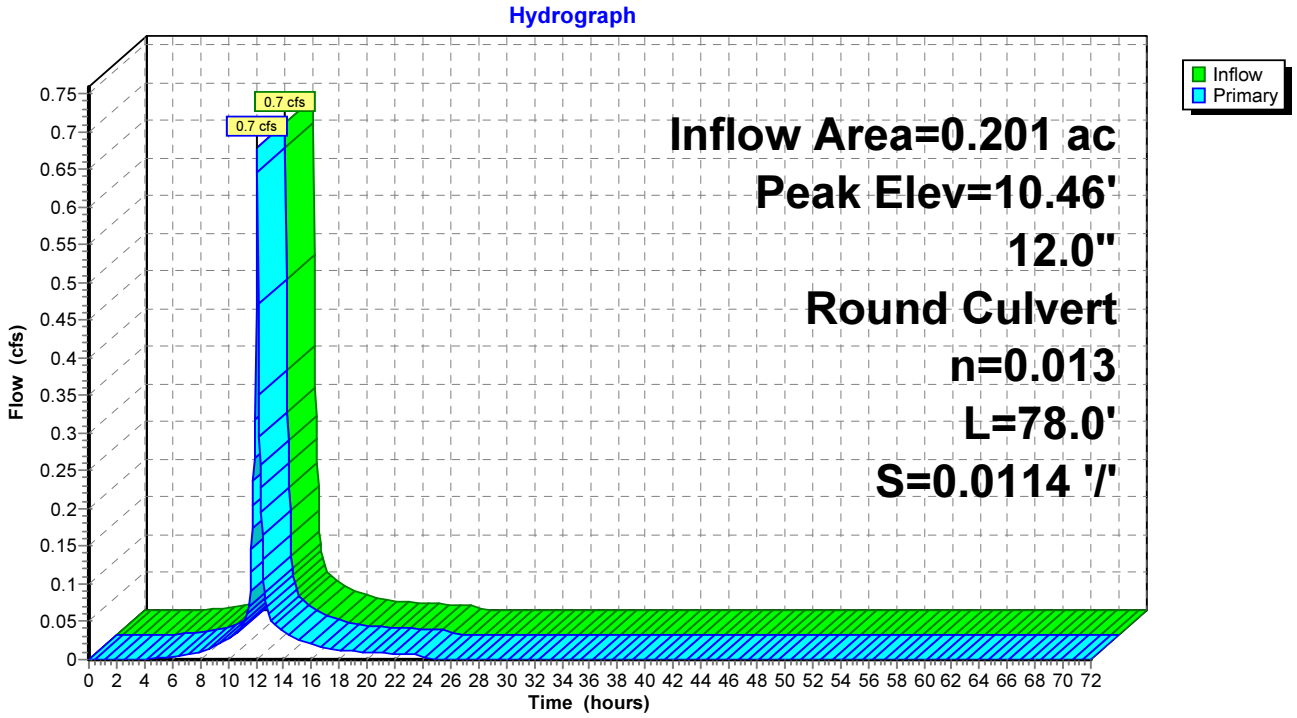
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 3.02" for 2 Year Storm event
Inflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af
Outflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.46' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.04'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.04' / 9.15' S= 0.0114 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.7 cfs @ 12.07 hrs HW=10.45' TW=9.49' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.7 cfs @ 2.17 fps)

Pond PDMH 1: PDMH 1



Summary for Pond PDMH 2: PDMH 2

[57] Hint: Peaked at 9.52' (Flood elevation advised)

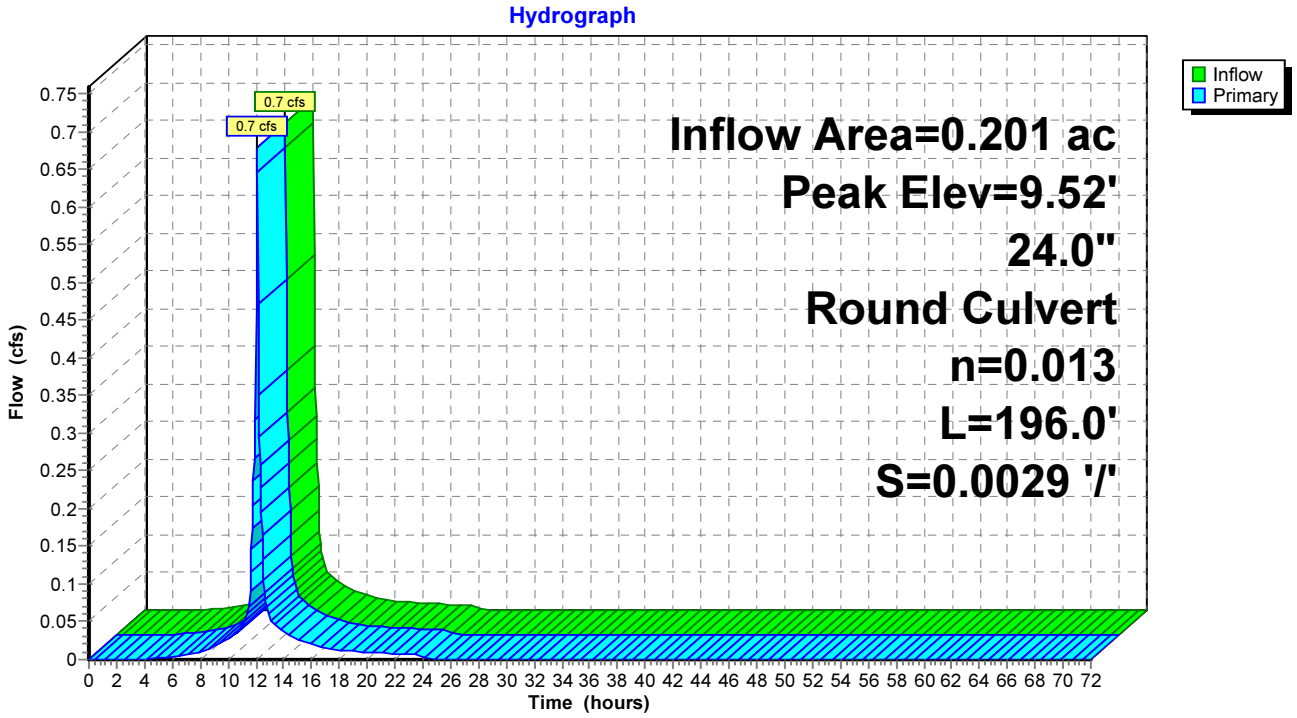
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 3.02" for 2 Year Storm event
Inflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af
Outflow = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min
Primary = 0.7 cfs @ 12.07 hrs, Volume= 0.051 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.52' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.05'	**24.0" Round Culvert** L= 196.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.05' / 8.49' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.6 cfs @ 12.07 hrs HW=9.49' TW=9.10' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.6 cfs @ 1.62 fps)

Pond PDMH 2: PDMH 2



Summary for Pond PDMH 3: PDMH 3

[57] Hint: Peaked at 9.13' (Flood elevation advised)

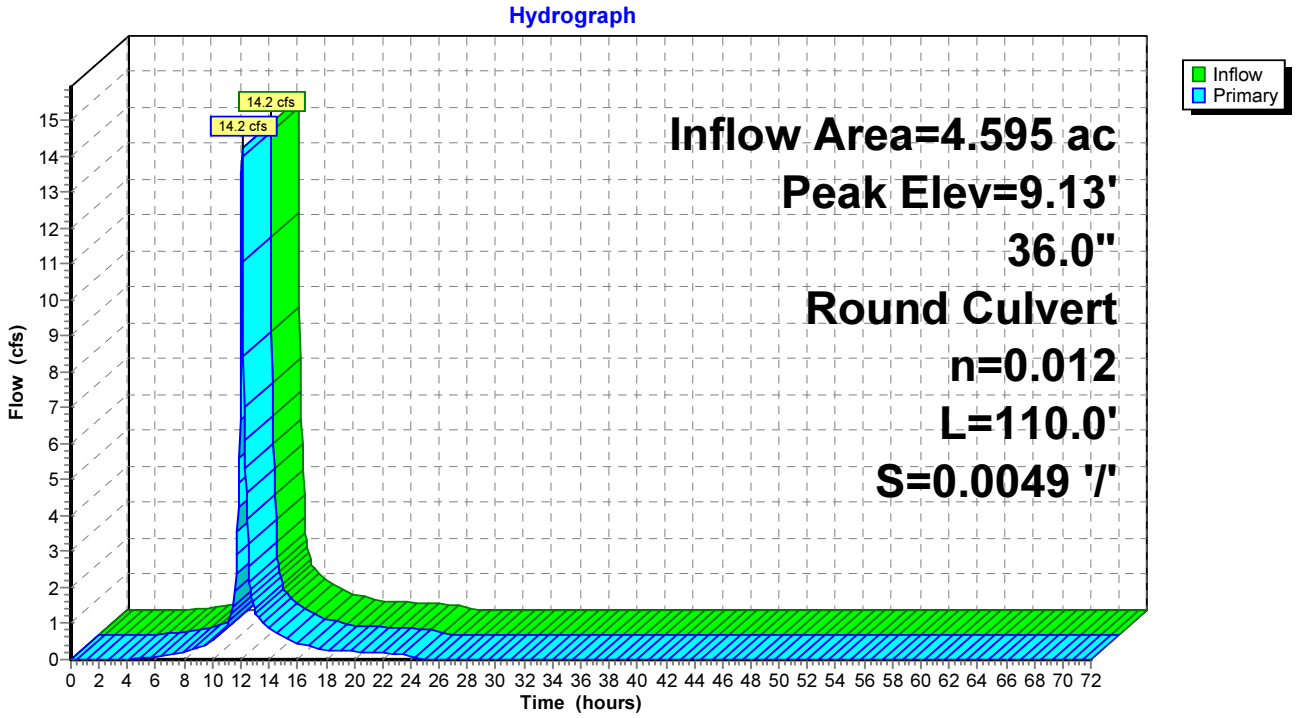
Inflow Area = 4.595 ac, 77.00% Impervious, Inflow Depth = 2.90" for 2 Year Storm event
Inflow = 14.2 cfs @ 12.08 hrs, Volume= 1.110 af
Outflow = 14.2 cfs @ 12.08 hrs, Volume= 1.110 af, Atten= 0%, Lag= 0.0 min
Primary = 14.2 cfs @ 12.08 hrs, Volume= 1.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.13' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.48'	**36.0" Round Culvert** L= 110.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.48' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=13.8 cfs @ 12.08 hrs HW=9.11' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 13.8 cfs @ 5.12 fps)

Pond PDMH 3: PDMH 3



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=7,157 sf 95.88% Impervious Runoff Depth=5.25"
Tc=5.0 min CN=97 Runoff=0.9 cfs 0.072 af

Subcatchment PS2a: Runoff Area=20,584 sf 77.98% Impervious Runoff Depth=4.79"
Tc=5.0 min CN=93 Runoff=2.5 cfs 0.189 af

Subcatchment PS2b: Runoff Area=11,747 sf 83.79% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=94 Runoff=1.4 cfs 0.110 af

Subcatchment PS3a: Runoff Area=19,589 sf 82.66% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=94 Runoff=2.4 cfs 0.184 af

Subcatchment PS3b: Runoff Area=40,960 sf 73.37% Impervious Runoff Depth=4.68"
Tc=5.0 min CN=92 Runoff=4.9 cfs 0.366 af

Subcatchment PS4: Runoff Area=12,006 sf 85.32% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=94 Runoff=1.5 cfs 0.113 af

Subcatchment PS5: Runoff Area=34,260 sf 68.76% Impervious Runoff Depth=4.57"
Tc=5.0 min CN=91 Runoff=4.0 cfs 0.299 af

Subcatchment PS5A: Runoff Area=9,298 sf 93.79% Impervious Runoff Depth=5.25"
Tc=5.0 min CN=97 Runoff=1.2 cfs 0.093 af

Subcatchment PS5B: Runoff Area=13,605 sf 74.26% Impervious Runoff Depth=4.68"
Tc=5.0 min CN=92 Runoff=1.6 cfs 0.122 af

Subcatchment PS5C: PS5 Roof Runoff Area=18,430 sf 100.00% Impervious Runoff Depth=5.36"
Tc=5.0 min CN=98 Runoff=2.3 cfs 0.189 af

Subcatchment PS6: Runoff Area=20,527 sf 57.17% Impervious Runoff Depth=4.24"
Tc=5.0 min CN=88 Runoff=2.3 cfs 0.167 af

Subcatchment PS7: Runoff Area=8,740 sf 85.26% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=94 Runoff=1.1 cfs 0.082 af

Subcatchment PS8: Runoff Area=2,398 sf 81.98% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=94 Runoff=0.3 cfs 0.022 af

Reach 3R: Swale Avg. Flow Depth=0.62' Max Vel=1.83 fps Inflow=6.3 cfs 0.477 af
n=0.030 L=380.0' S=0.0050 '/' Capacity=16.9 cfs Outflow=5.7 cfs 0.477 af

Pond 1P: DMH A19 Peak Elev=10.59' Inflow=12.0 cfs 0.971 af
36.0" Round Culvert n=0.012 L=106.0' S=0.0028 '/' Outflow=12.0 cfs 0.971 af

Pond 3P: PCB3 Peak Elev=11.44' Inflow=8.0 cfs 0.660 af
24.0" Round Culvert n=0.013 L=43.0' S=0.0112 '/' Outflow=8.0 cfs 0.660 af

Pond 4P: PCB7 Peak Elev=10.95' Inflow=9.5 cfs 0.782 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0261 '/' Outflow=9.5 cfs 0.782 af

Pond 5P: DMH 4B Peak Elev=10.59' Inflow=2.6 cfs 0.189 af
36.0" Round Culvert n=0.012 L=104.0' S=0.0007 '/' Outflow=2.6 cfs 0.189 af

Pond 6P: PCB1 Peak Elev=14.86' Inflow=2.3 cfs 0.167 af
12.0" Round Culvert n=0.013 L=109.0' S=0.0202 '/' Outflow=2.3 cfs 0.167 af

Pond 7P: PCB2 Peak Elev=12.79' Inflow=2.6 cfs 0.189 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0111 '/' Outflow=2.6 cfs 0.189 af

Pond 9P: PCB4 Peak Elev=11.00' Inflow=2.5 cfs 0.189 af
24.0" Round Culvert n=0.013 L=18.0' S=0.0050 '/' Outflow=2.5 cfs 0.189 af

Pond 10P: PCB5 Peak Elev=10.27' Inflow=21.9 cfs 1.741 af
36.0" Round Culvert n=0.013 L=45.0' S=0.0080 '/' Outflow=21.9 cfs 1.741 af

Pond 12P: POCS2 Peak Elev=11.64' Inflow=2.4 cfs 0.184 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0200 '/' Outflow=2.4 cfs 0.184 af

Pond 14P: POCS1 Peak Elev=11.66' Inflow=2.5 cfs 0.189 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0152 '/' Outflow=2.5 cfs 0.189 af

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.42' Inflow=2.5 cfs 0.189 af
12.0" Round Culvert x 2.00 n=0.013 L=65.0' S=0.0000 '/' Outflow=2.5 cfs 0.189 af

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=13.92' Inflow=2.4 cfs 0.184 af
12.0" Round Culvert x 2.00 n=0.013 L=75.0' S=0.0000 '/' Outflow=2.4 cfs 0.184 af

Pond CB 5D: CB 5D Peak Elev=10.88' Inflow=1.1 cfs 0.082 af
12.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=1.1 cfs 0.082 af

Pond DMH 4: DP 1 Inflow=25.3 cfs 2.008 af
Primary=25.3 cfs 2.008 af

Pond DMH 4A: DMH 4A Peak Elev=10.48' Inflow=18.3 cfs 1.459 af
36.0" Round Culvert n=0.012 L=23.0' S=0.0048 '/' Outflow=18.3 cfs 1.459 af

Pond DMH A6: DMH A6 Peak Elev=10.54' Inflow=6.4 cfs 0.488 af
24.0" Round Culvert n=0.012 L=44.0' S=0.0020 '/' Outflow=6.4 cfs 0.488 af

Pond ENV 21: ENV 21 Peak Elev=10.58' Inflow=4.0 cfs 0.299 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=4.0 cfs 0.299 af

Pond PCB-BH: PCB-BH Peak Elev=13.60' Inflow=5.7 cfs 0.477 af
12.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=5.7 cfs 0.477 af

Pond PDMH 1: PDMH 1 Peak Elev=10.58' Inflow=1.1 cfs 0.082 af
12.0" Round Culvert n=0.013 L=78.0' S=0.0114 '/' Outflow=1.1 cfs 0.082 af

Pond PDMH 2: PDMH 2 Peak Elev=9.81' Inflow=1.1 cfs 0.082 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0029 '/' Outflow=1.1 cfs 0.082 af

Pond PDMH 3: PDMH 3 Peak Elev=9.68' Inflow=22.9 cfs 1.823 af
36.0" Round Culvert n=0.012 L=110.0' S=0.0049 '/' Outflow=22.9 cfs 1.823 af

Total Runoff Area = 5.034 ac Runoff Volume = 2.008 af Average Runoff Depth = 4.79"
21.93% Pervious = 1.104 ac 78.07% Impervious = 3.930 ac

Summary for Subcatchment PS1:

[49] Hint: Tc<2dt may require smaller dt

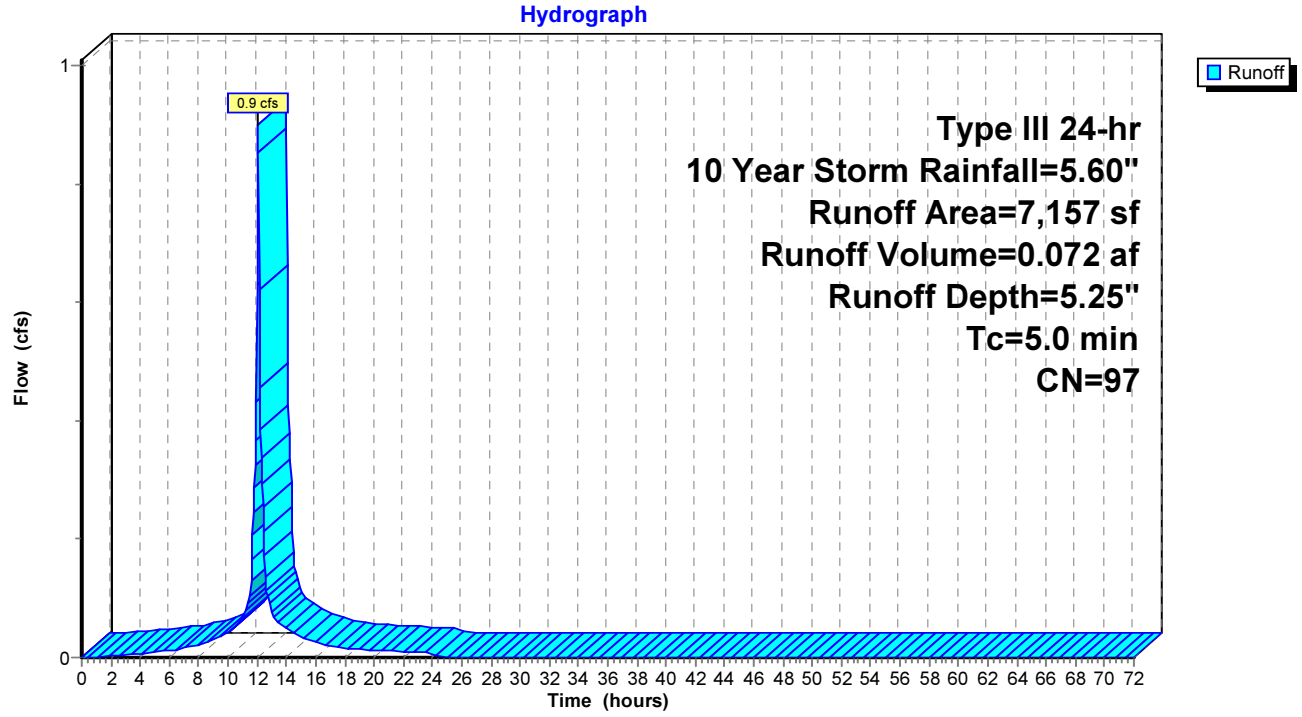
Runoff = 0.9 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	1,344	98	Paved parking, HSG C
*	544	98	Sidewalks, HSG C
	4,974	98	Roofs, HSG C
	295	74	>75% Grass cover, Good, HSG C
	7,157	97	Weighted Average
	295		4.12% Pervious Area
	6,862		95.88% Impervious Area

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

Subcatchment PS1:



Summary for Subcatchment PS2a:

[49] Hint: Tc<2dt may require smaller dt

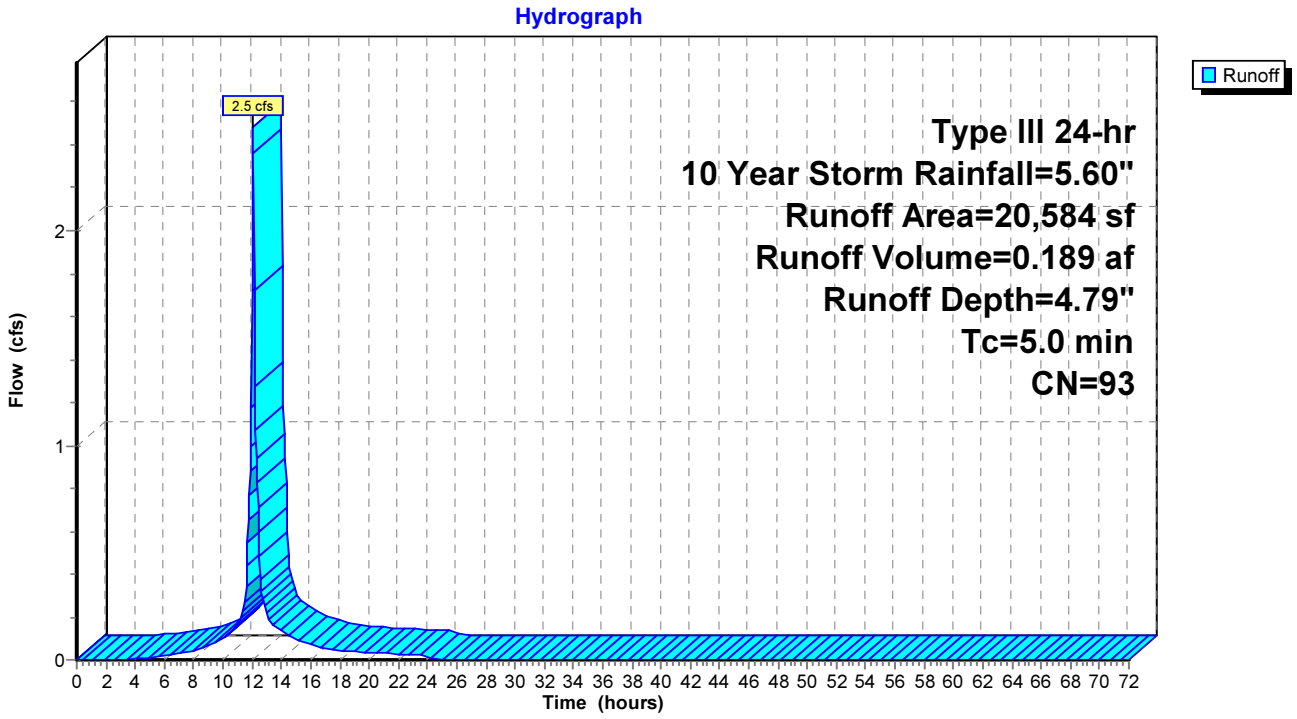
Runoff = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af, Depth= 4.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	15,319	98	Paved parking, HSG C
*	733	98	Sidewalks, HSG C
	4,532	74	>75% Grass cover, Good, HSG C
	20,584	93	Weighted Average
	4,532		22.02% Pervious Area
	16,052		77.98% Impervious Area

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

Subcatchment PS2a:



Summary for Subcatchment PS2b:

[49] Hint: Tc<2dt may require smaller dt

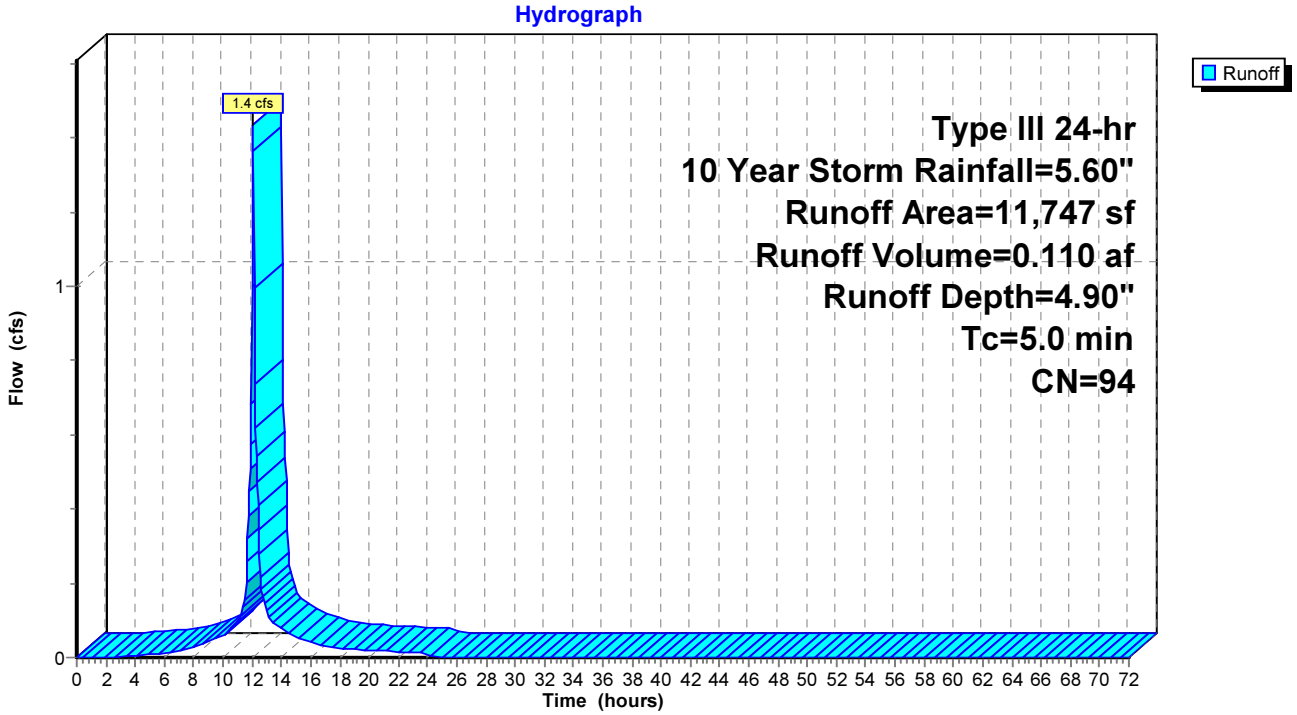
Runoff = 1.4 cfs @ 12.07 hrs, Volume= 0.110 af, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
9,843	98	Roofs, HSG C
1,904	74	>75% Grass cover, Good, HSG C
11,747	94	Weighted Average
1,904		16.21% Pervious Area
9,843		83.79% Impervious Area

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

Subcatchment PS2b:



Summary for Subcatchment PS3a:

[49] Hint: Tc<2dt may require smaller dt

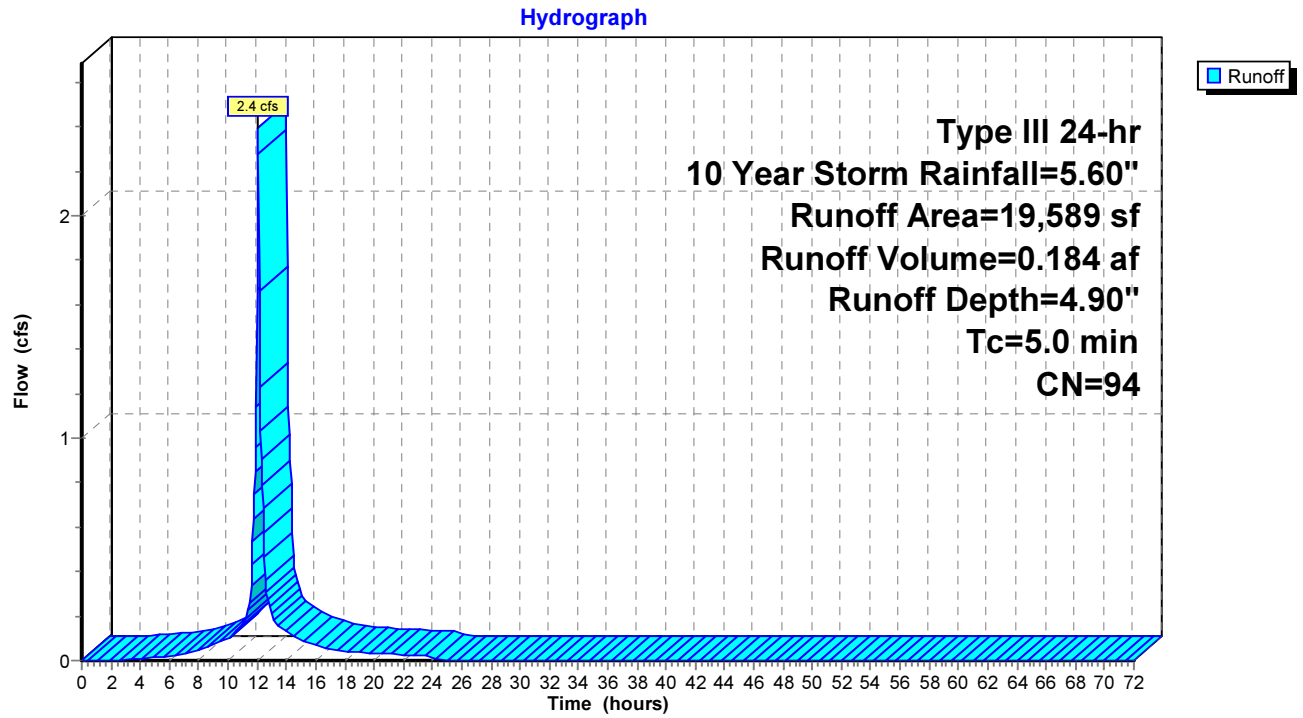
Runoff = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
16,192	98	Paved parking, HSG C
3,397	74	>75% Grass cover, Good, HSG C
19,589	94	Weighted Average
3,397		17.34% Pervious Area
16,192		82.66% Impervious Area

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

Subcatchment PS3a:



Summary for Subcatchment PS3b:

[49] Hint: Tc<2dt may require smaller dt

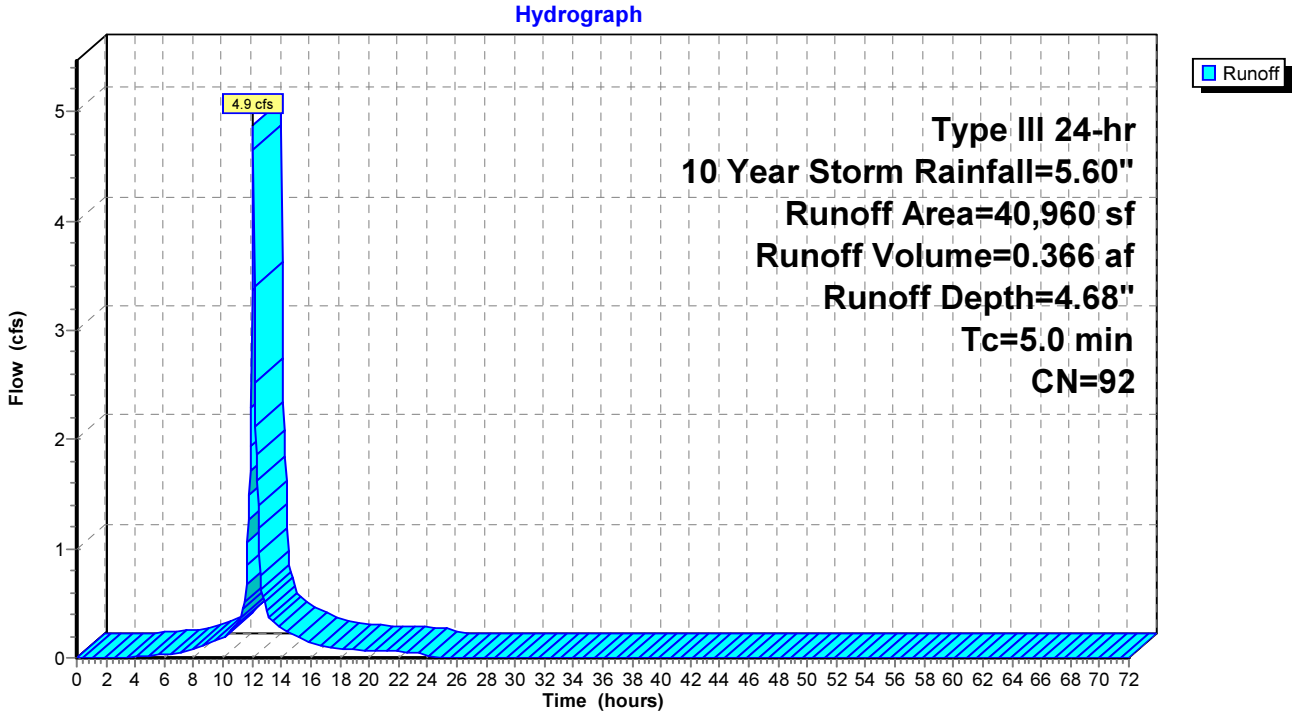
Runoff = 4.9 cfs @ 12.07 hrs, Volume= 0.366 af, Depth= 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
24,825	98	Roofs, HSG C
10,906	74	>75% Grass cover, Good, HSG C
5,229	98	Paved parking, HSG C
40,960	92	Weighted Average
10,906		26.63% Pervious Area
30,054		73.37% Impervious Area

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

Subcatchment PS3b:



Summary for Subcatchment PS4:

[49] Hint: Tc<2dt may require smaller dt

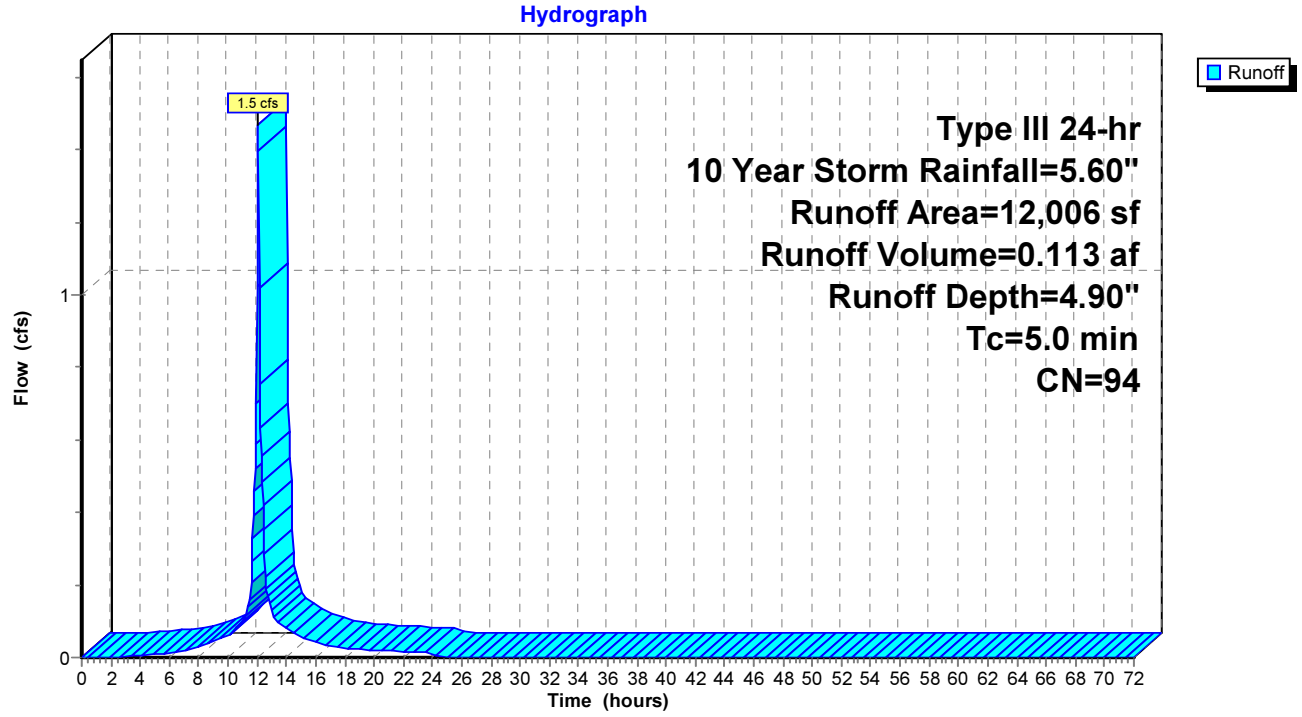
Runoff = 1.5 cfs @ 12.07 hrs, Volume= 0.113 af, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	4,504	98	Paved parking, HSG C
*	2,085	98	Sidewalks, HSG C
	3,654	98	Roofs, HSG C
	1,763	74	>75% Grass cover, Good, HSG C
	12,006	94	Weighted Average
	1,763		14.68% Pervious Area
	10,243		85.32% Impervious Area

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

Subcatchment PS4:



Summary for Subcatchment PS5:

[49] Hint: Tc<2dt may require smaller dt

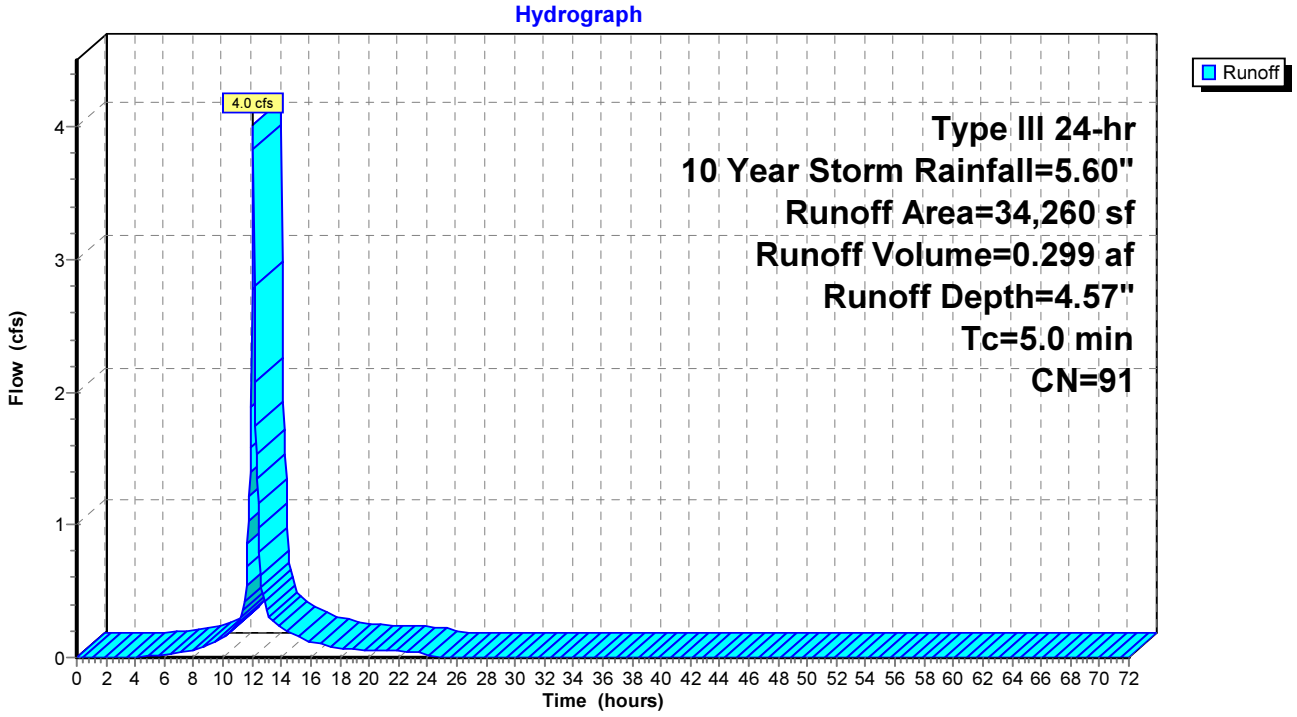
Runoff = 4.0 cfs @ 12.07 hrs, Volume= 0.299 af, Depth= 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	21,695	98	Paved parking, HSG C
*	310	98	Sidewalks, HSG C
	1,551	98	Roofs, HSG C
	10,704	74	>75% Grass cover, Good, HSG C
	34,260	91	Weighted Average
	10,704		31.24% Pervious Area
	23,556		68.76% Impervious Area

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

Subcatchment PS5:



Summary for Subcatchment PS5A:

[49] Hint: Tc<2dt may require smaller dt

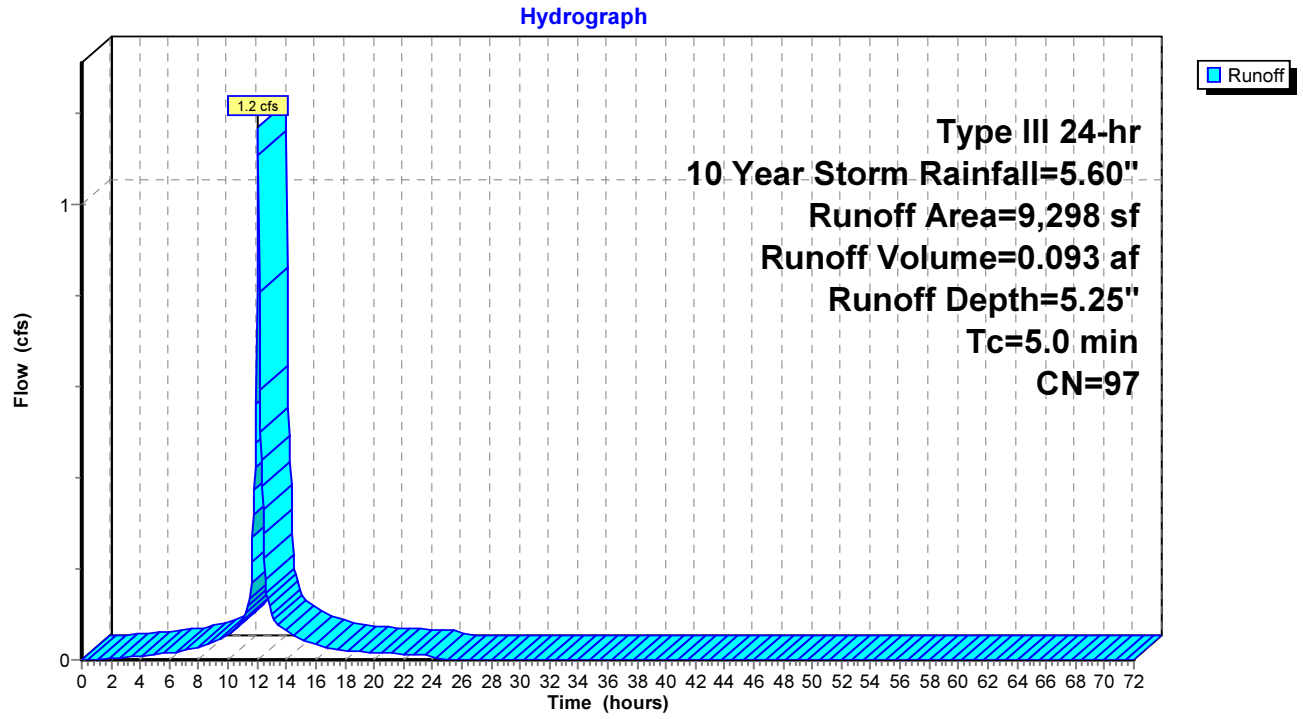
Runoff = 1.2 cfs @ 12.07 hrs, Volume= 0.093 af, Depth= 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	7,491	98	Paved parking, HSG C
*	1,230	98	Sidewalks, HSG C
	577	74	>75% Grass cover, Good, HSG C
	9,298	97	Weighted Average
	577		6.21% Pervious Area
	8,721		93.79% Impervious Area

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

Subcatchment PS5A:



Summary for Subcatchment PS5B:

[49] Hint: Tc<2dt may require smaller dt

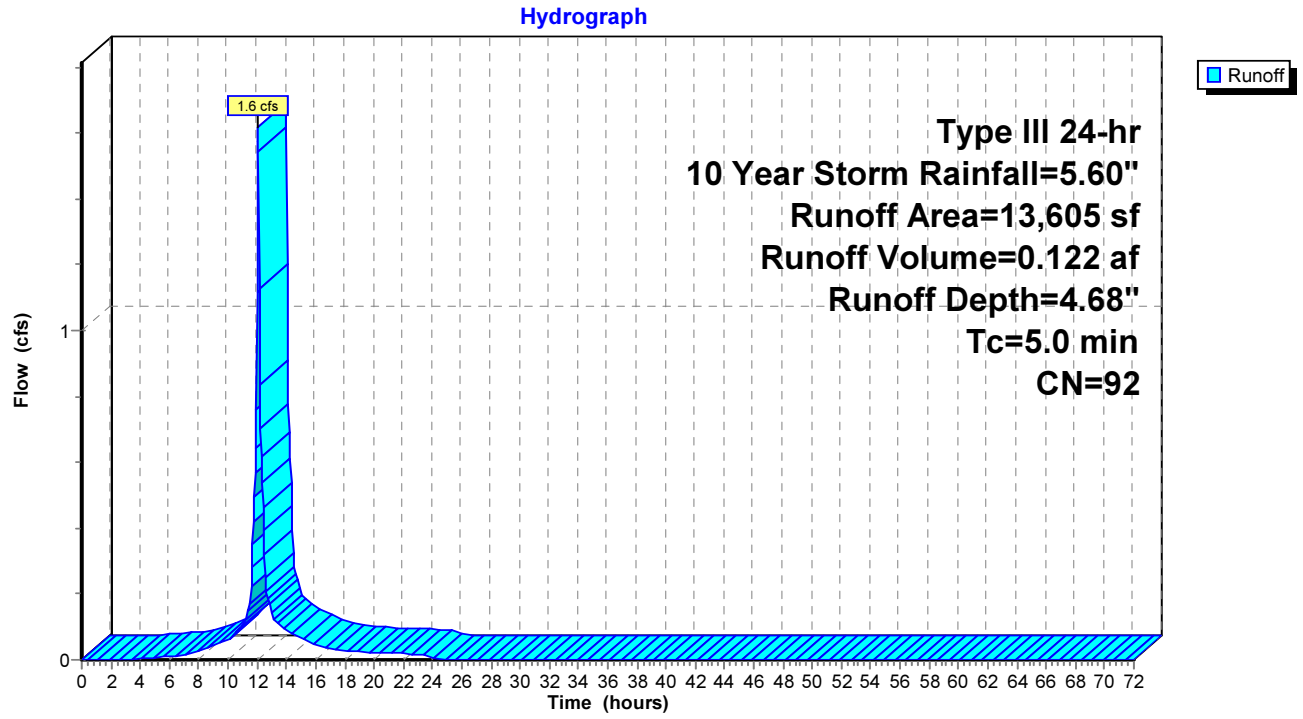
Runoff = 1.6 cfs @ 12.07 hrs, Volume= 0.122 af, Depth= 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	7,275	98	Paved parking, HSG C
*	2,828	98	Sidewalks, HSG C
	3,502	74	>75% Grass cover, Good, HSG C
	13,605	92	Weighted Average
	3,502		25.74% Pervious Area
	10,103		74.26% Impervious Area

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

Subcatchment PS5B:



Summary for Subcatchment PS5C: PS5 Roof

[49] Hint: Tc<2dt may require smaller dt

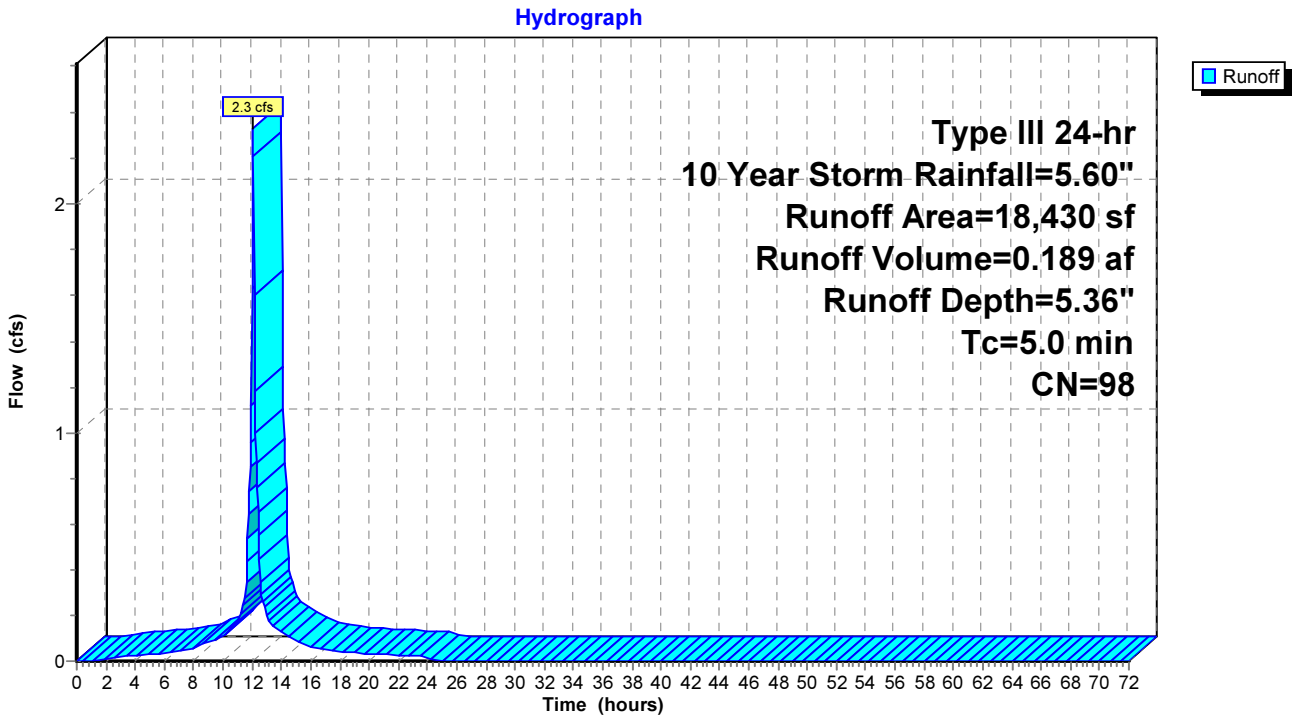
Runoff = 2.3 cfs @ 12.07 hrs, Volume= 0.189 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
18,430	98	Roofs, HSG C
18,430		100.00% Impervious Area

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

Subcatchment PS5C: PS5 Roof



Summary for Subcatchment PS6:

[49] Hint: Tc<2dt may require smaller dt

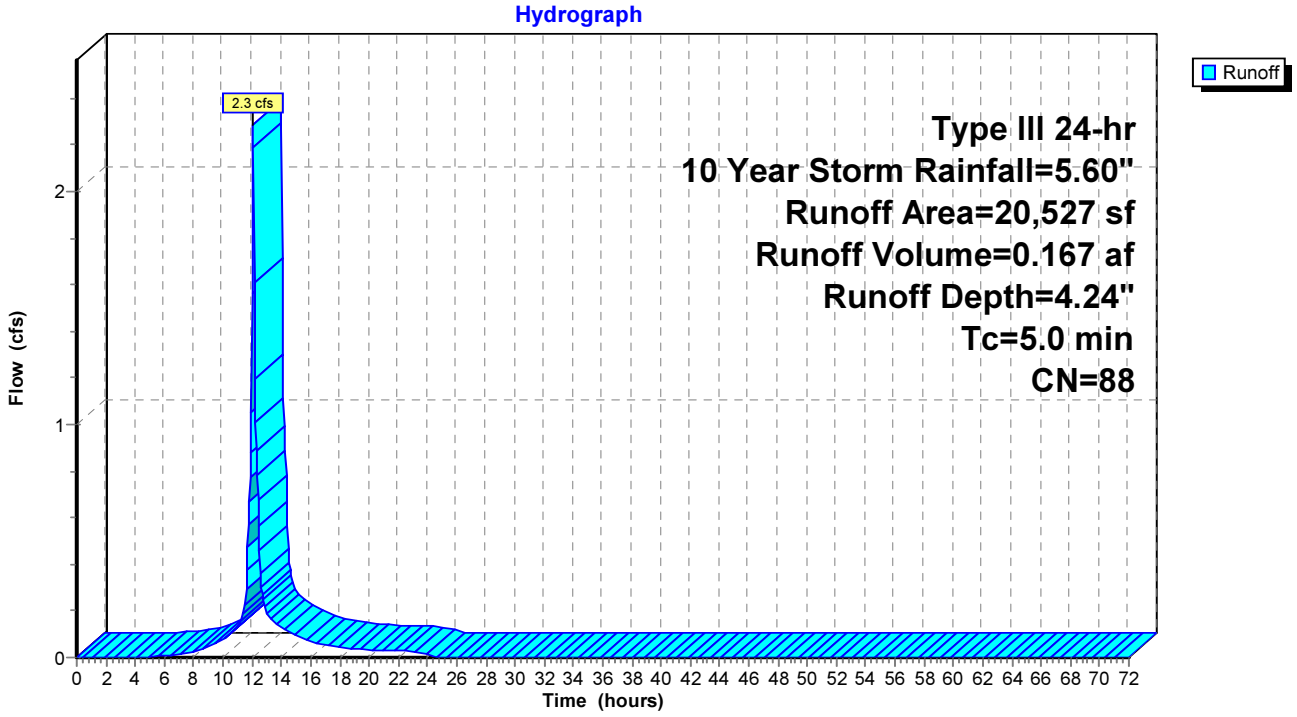
Runoff = 2.3 cfs @ 12.07 hrs, Volume= 0.167 af, Depth= 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	6,762	98	Paved parking, HSG C
*	2,312	98	Sidewalks, HSG C
	2,662	98	Roofs, HSG C
	8,791	74	>75% Grass cover, Good, HSG C
	20,527	88	Weighted Average
	8,791		42.83% Pervious Area
	11,736		57.17% Impervious Area

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

Subcatchment PS6:



Summary for Subcatchment PS7:

[49] Hint: Tc<2dt may require smaller dt

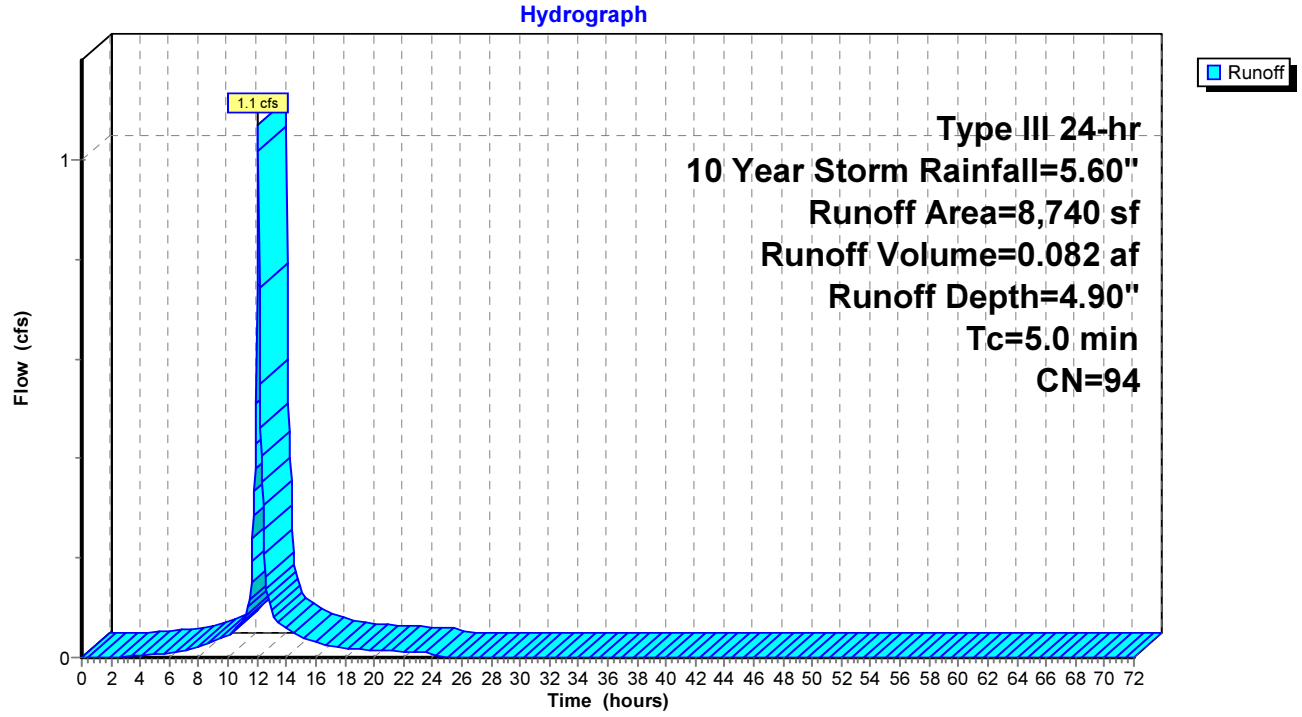
Runoff = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

	Area (sf)	CN	Description
	410	98	Paved parking, HSG C
*	4,272	98	Sidewalks, HSG C
	2,770	98	Roofs, HSG C
	1,288	74	>75% Grass cover, Good, HSG C
	8,740	94	Weighted Average
	1,288		14.74% Pervious Area
	7,452		85.26% Impervious Area

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

Subcatchment PS7:



Summary for Subcatchment PS8:

[49] Hint: Tc<2dt may require smaller dt

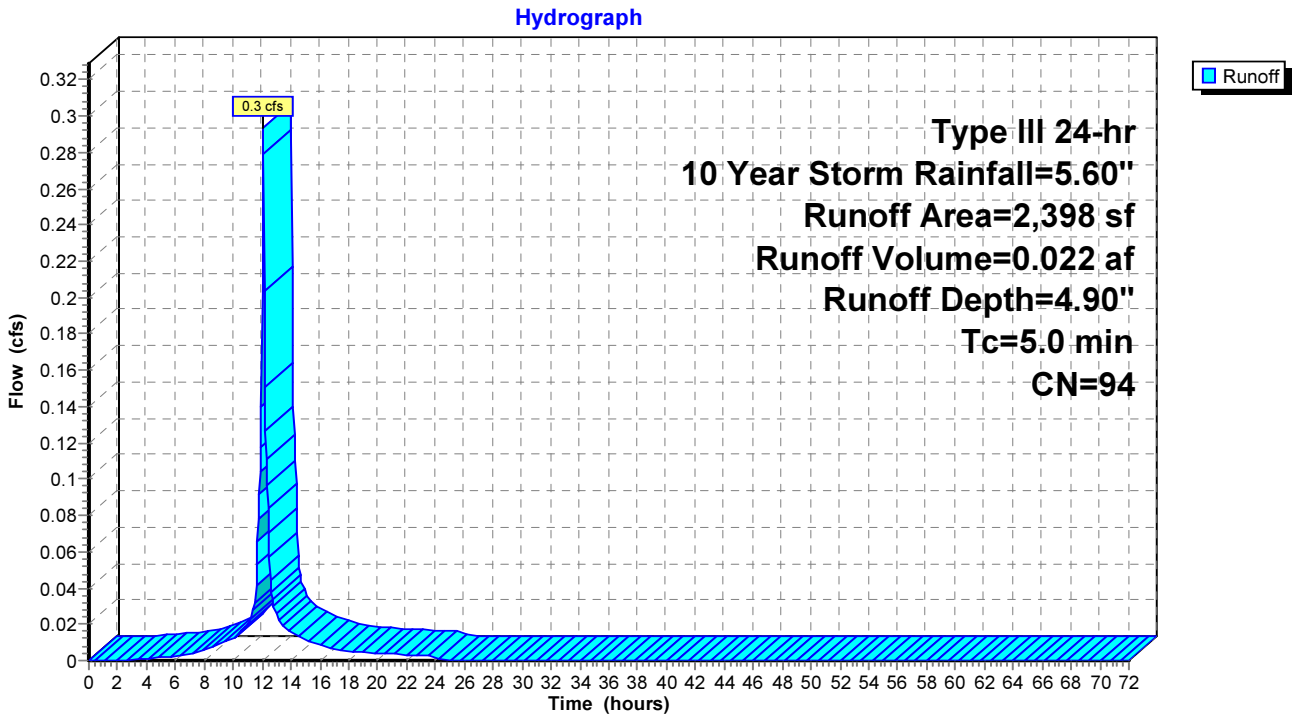
Runoff = 0.3 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
1,966	98	Paved parking, HSG C
432	74	>75% Grass cover, Good, HSG C
2,398	94	Weighted Average
432		18.02% Pervious Area
1,966		81.98% Impervious Area

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

Subcatchment PS8:



Summary for Reach 3R: Swale

Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 4.73" for 10 Year Storm event
Inflow = 6.3 cfs @ 12.07 hrs, Volume= 0.477 af
Outflow = 5.7 cfs @ 12.11 hrs, Volume= 0.477 af, Atten= 9%, Lag= 2.4 min

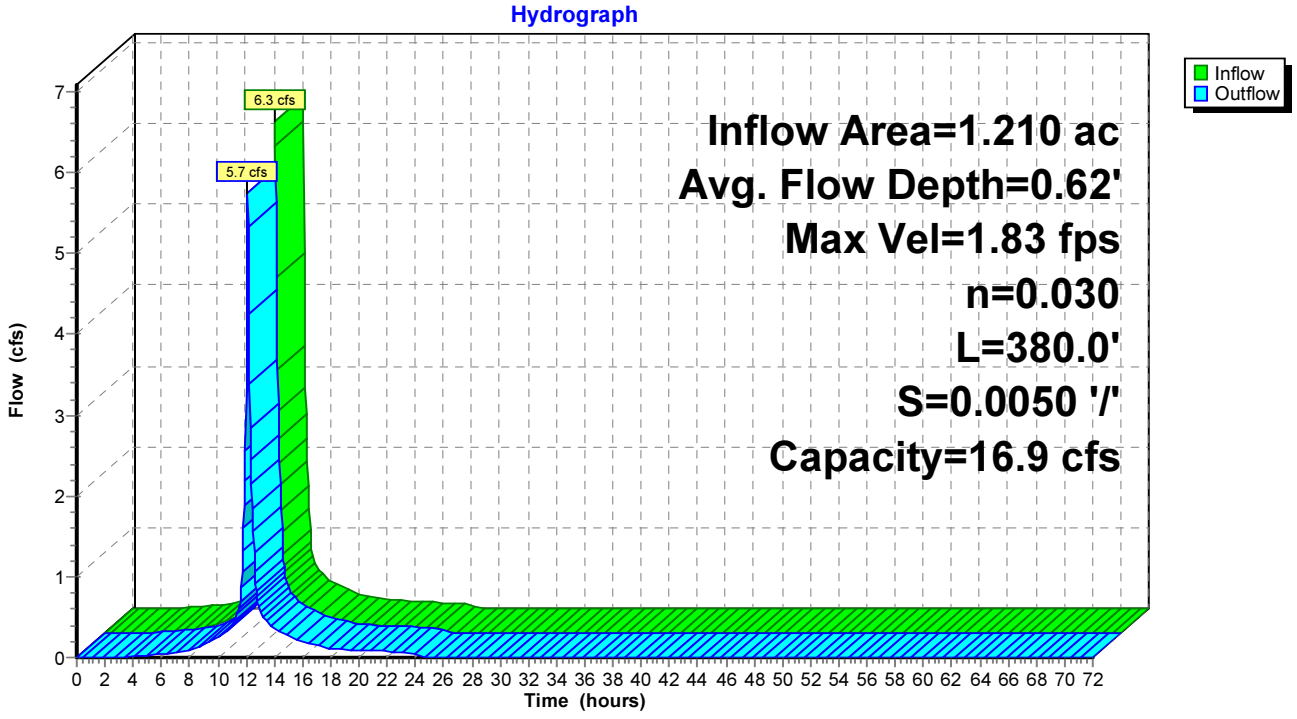
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.83 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 11.6 min

Peak Storage= 1,190 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.62'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 16.9 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 5.0 '/' Top Width= 12.00'
Length= 380.0' Slope= 0.0050 '/'
Inlet Invert= 17.15', Outlet Invert= 15.25'

‡

Reach 3R: Swale



Summary for Pond 1P: DMH A19

[57] Hint: Peaked at 10.59' (Flood elevation advised)
[80] Warning: Exceeded Pond 5P by 0.27' @ 12.10 hrs (10.8 cfs 0.222 af)

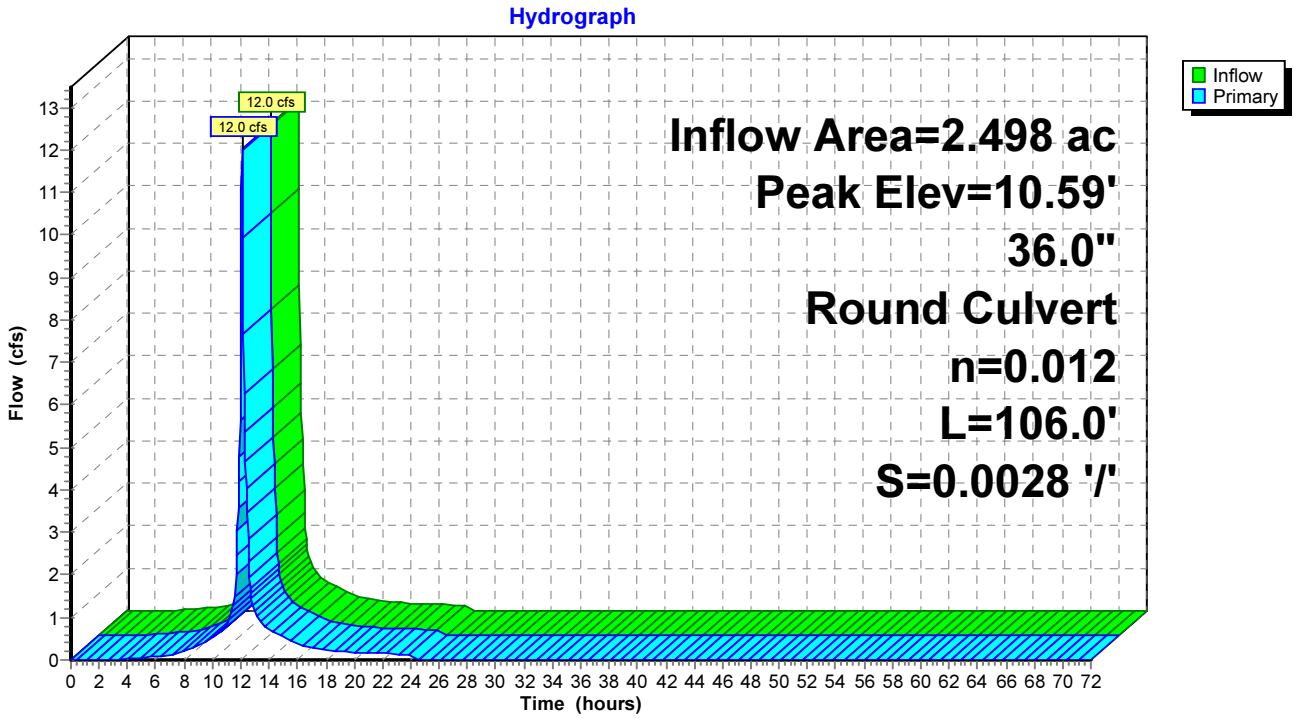
Inflow Area =	2.498 ac,	73.41% Impervious,	Inflow Depth =	4.66"	for 10 Year Storm event
Inflow =	12.0 cfs @	12.09 hrs,	Volume=	0.971 af	
Outflow =	12.0 cfs @	12.09 hrs,	Volume=	0.971 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.0 cfs @	12.09 hrs,	Volume=	0.971 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.59' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.17'	**36.0" Round Culvert** L= 106.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.17' / 7.87' S= 0.0028 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=10.31' TW=10.32' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond 1P: DMH A19



Summary for Pond 3P: PCB3

[57] Hint: Peaked at 11.44' (Flood elevation advised)

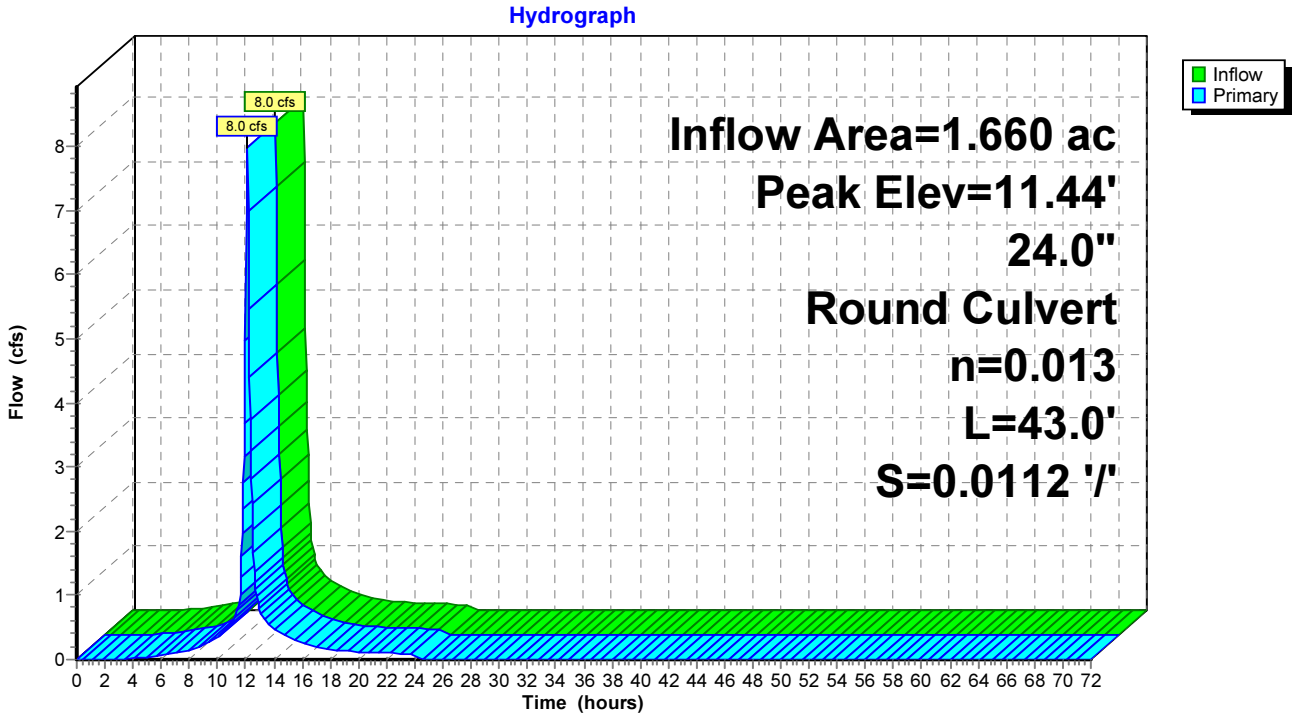
Inflow Area = 1.660 ac, 77.58% Impervious, Inflow Depth = 4.77" for 10 Year Storm event
Inflow = 8.0 cfs @ 12.10 hrs, Volume= 0.660 af
Outflow = 8.0 cfs @ 12.10 hrs, Volume= 0.660 af, Atten= 0%, Lag= 0.0 min
Primary = 8.0 cfs @ 12.10 hrs, Volume= 0.660 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.44' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.00'	**24.0" Round Culvert** L= 43.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.00' / 9.52' S= 0.0112 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=6.8 cfs @ 12.10 hrs HW=11.42' TW=10.92' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.8 cfs @ 4.02 fps)

Pond 3P: PCB3



Summary for Pond 4P: PCB7

[57] Hint: Peaked at 10.95' (Flood elevation advised)

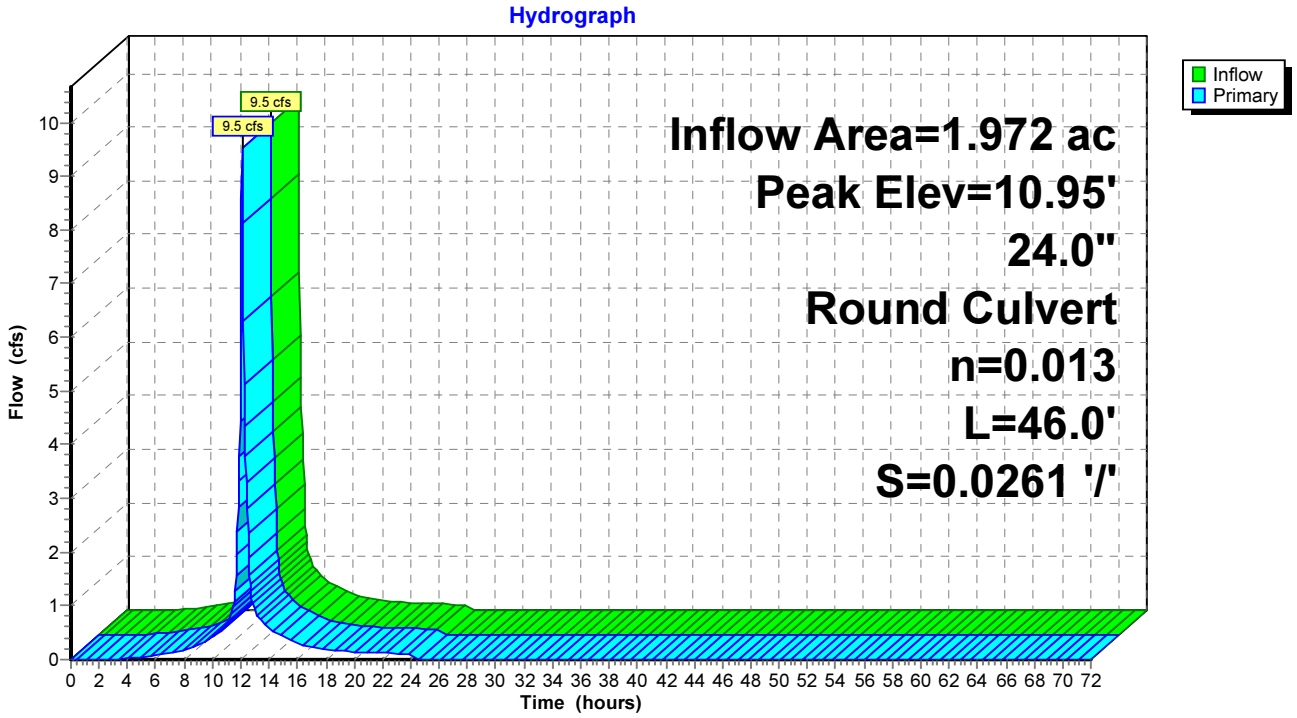
Inflow Area = 1.972 ac, 77.06% Impervious, Inflow Depth = 4.76" for 10 Year Storm event
Inflow = 9.5 cfs @ 12.10 hrs, Volume= 0.782 af
Outflow = 9.5 cfs @ 12.10 hrs, Volume= 0.782 af, Atten= 0%, Lag= 0.0 min
Primary = 9.5 cfs @ 12.10 hrs, Volume= 0.782 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.95' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.40'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.40' / 8.20' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.7 cfs @ 12.10 hrs HW=10.90' TW=10.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.7 cfs @ 4.22 fps)

Pond 4P: PCB7



Summary for Pond 5P: DMH 4B

[57] Hint: Peaked at 10.59' (Flood elevation advised)

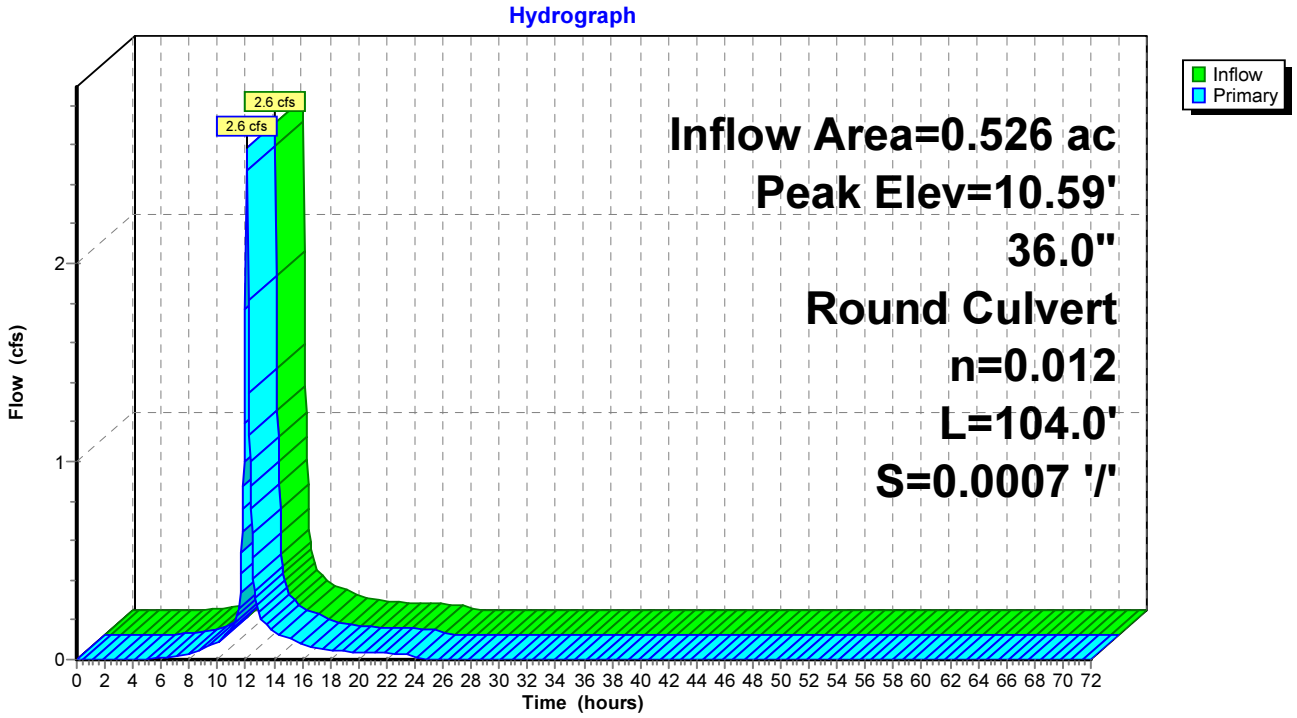
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 4.31" for 10 Year Storm event
Inflow = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af
Outflow = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.59' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.25'	**36.0" Round Culvert** L= 104.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.25' / 8.18' S= 0.0007 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=9.95' TW=10.21' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond 5P: DMH 4B



Summary for Pond 6P: PCB1

[57] Hint: Peaked at 14.86' (Flood elevation advised)

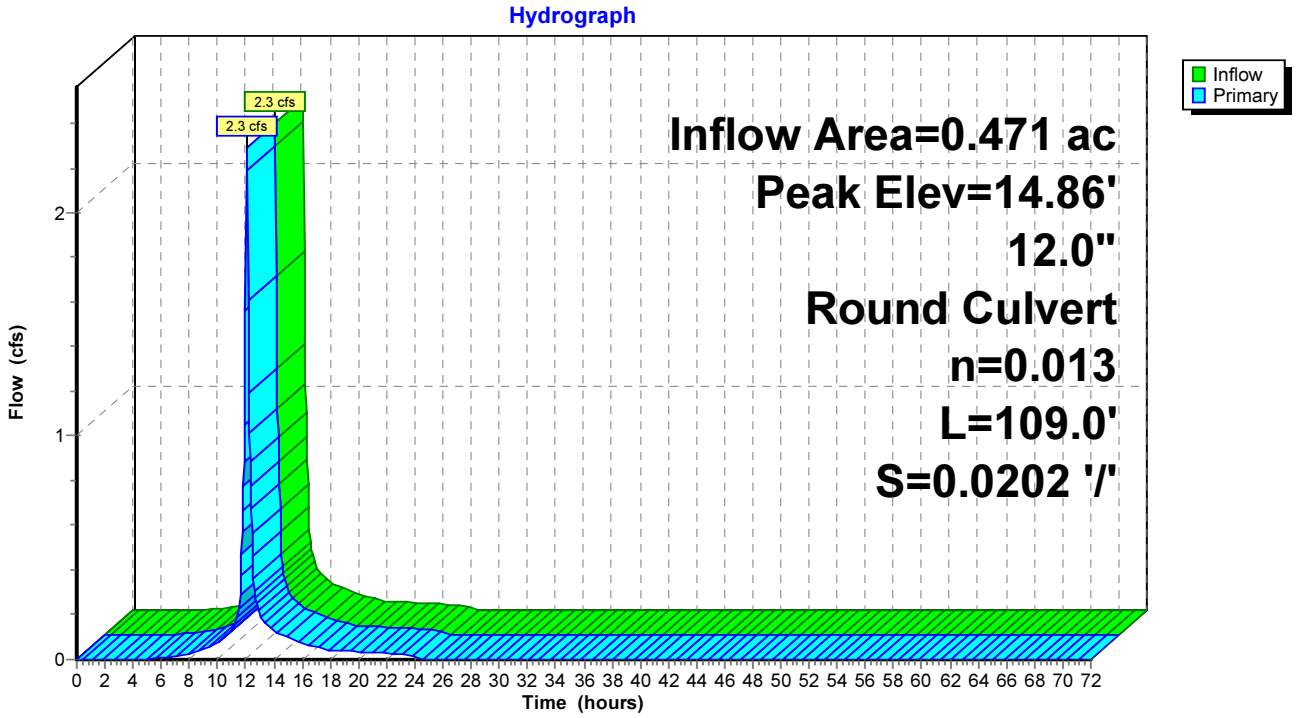
Inflow Area = 0.471 ac, 57.17% Impervious, Inflow Depth = 4.24" for 10 Year Storm event
Inflow = 2.3 cfs @ 12.07 hrs, Volume= 0.167 af
Outflow = 2.3 cfs @ 12.07 hrs, Volume= 0.167 af, Atten= 0%, Lag= 0.0 min
Primary = 2.3 cfs @ 12.07 hrs, Volume= 0.167 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.86' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 109.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 11.80' S= 0.0202 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.2 cfs @ 12.07 hrs HW=14.84' TW=12.76' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.2 cfs @ 3.12 fps)

Pond 6P: PCB1



Summary for Pond 7P: PCB2

[57] Hint: Peaked at 12.79' (Flood elevation advised)

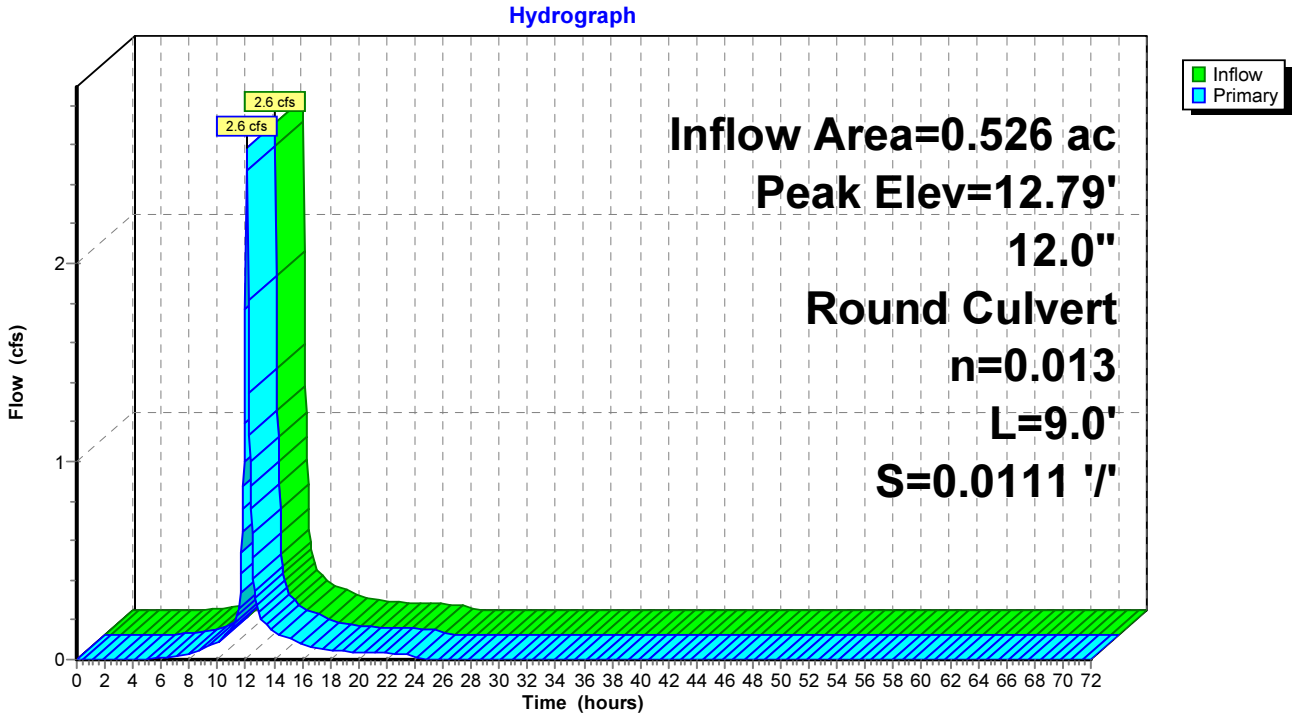
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 4.31" for 10 Year Storm event
Inflow = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af
Outflow = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 2.6 cfs @ 12.07 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.79' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.60' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.5 cfs @ 12.07 hrs HW=12.76' TW=9.95' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 2.5 cfs @ 3.70 fps)

Pond 7P: PCB2



Summary for Pond 9P: PCB4

[57] Hint: Peaked at 11.00' (Flood elevation advised)

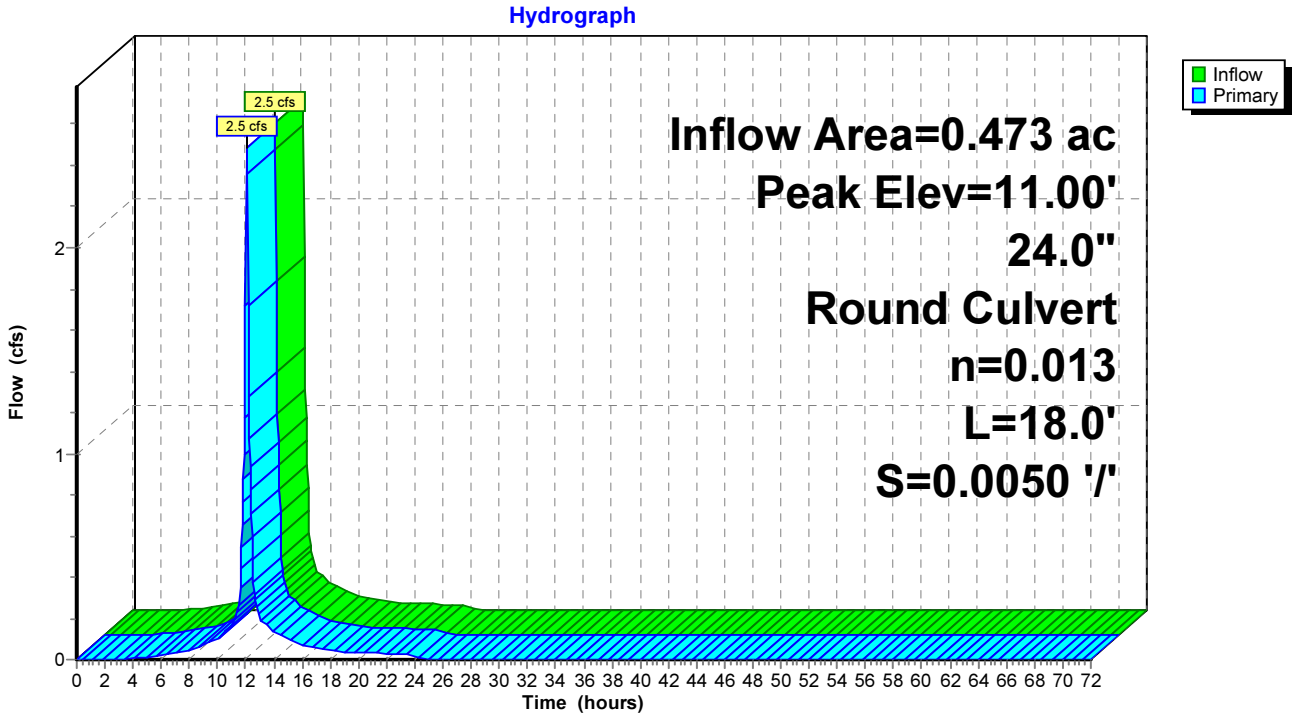
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 4.79" for 10 Year Storm event
Inflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af
Outflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.00' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**24.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.11' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.4 cfs @ 12.07 hrs HW=10.98' TW=10.12' (Dynamic Tailwater)
1=Culvert (Barrel Controls 2.4 cfs @ 3.12 fps)

Pond 9P: PCB4



Summary for Pond 10P: PCB5

[57] Hint: Peaked at 10.27' (Flood elevation advised)

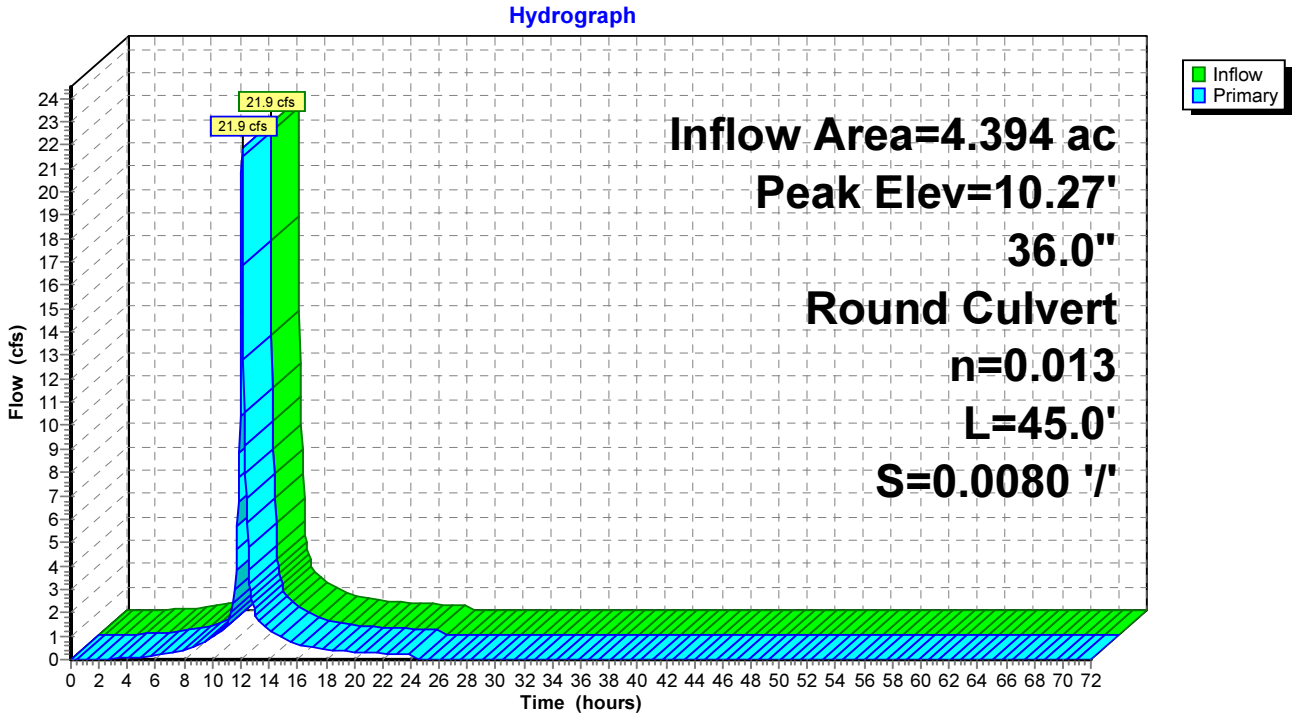
Inflow Area = 4.394 ac, 76.62% Impervious, Inflow Depth = 4.76" for 10 Year Storm event
Inflow = 21.9 cfs @ 12.08 hrs, Volume= 1.741 af
Outflow = 21.9 cfs @ 12.08 hrs, Volume= 1.741 af, Atten= 0%, Lag= 0.0 min
Primary = 21.9 cfs @ 12.08 hrs, Volume= 1.741 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.27' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.49' S= 0.0080 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=18.5 cfs @ 12.08 hrs HW=10.17' TW=9.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 18.5 cfs @ 4.36 fps)

Pond 10P: PCB5



Summary for Pond 12P: POCS2

[57] Hint: Peaked at 11.64' (Flood elevation advised)

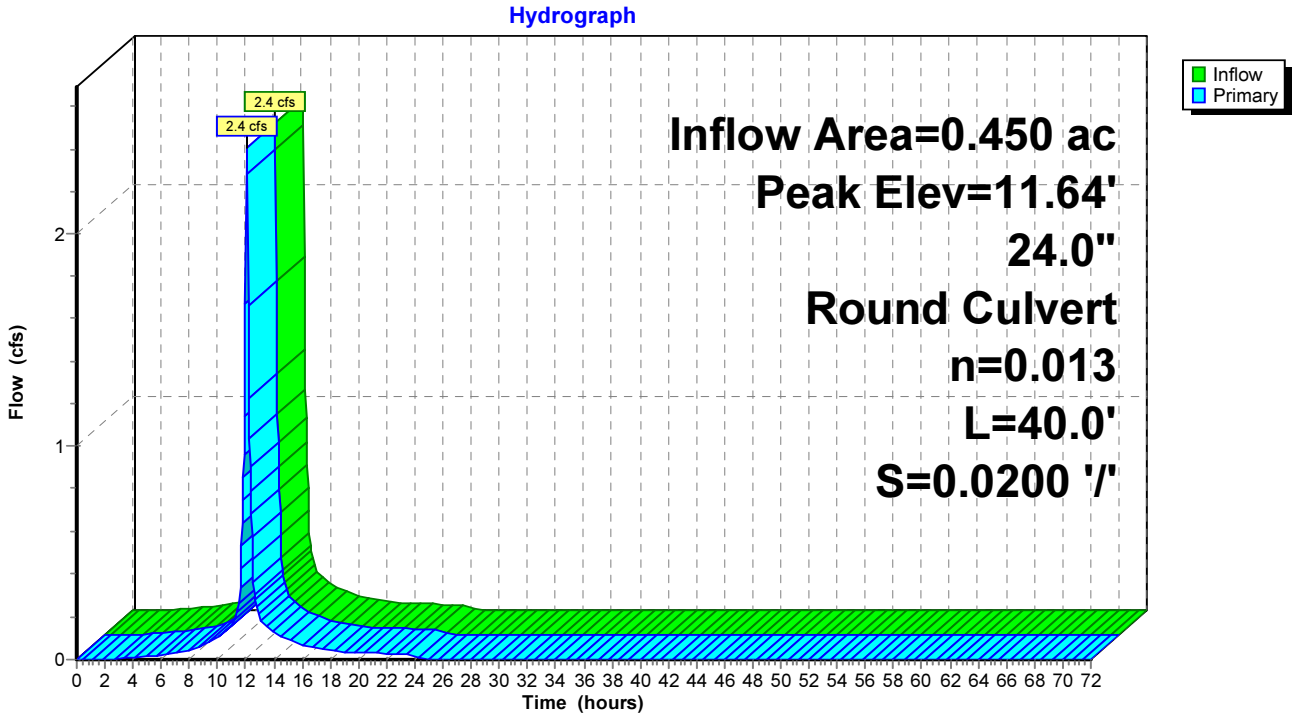
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 4.90" for 10 Year Storm event
Inflow = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af
Outflow = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.64' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.90'	**24.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.90' / 10.10' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.8 cfs @ 12.07 hrs HW=11.60' TW=11.32' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 2.70 fps)

Pond 12P: POCS2



Summary for Pond 14P: POCS1

[57] Hint: Peaked at 11.66' (Flood elevation advised)

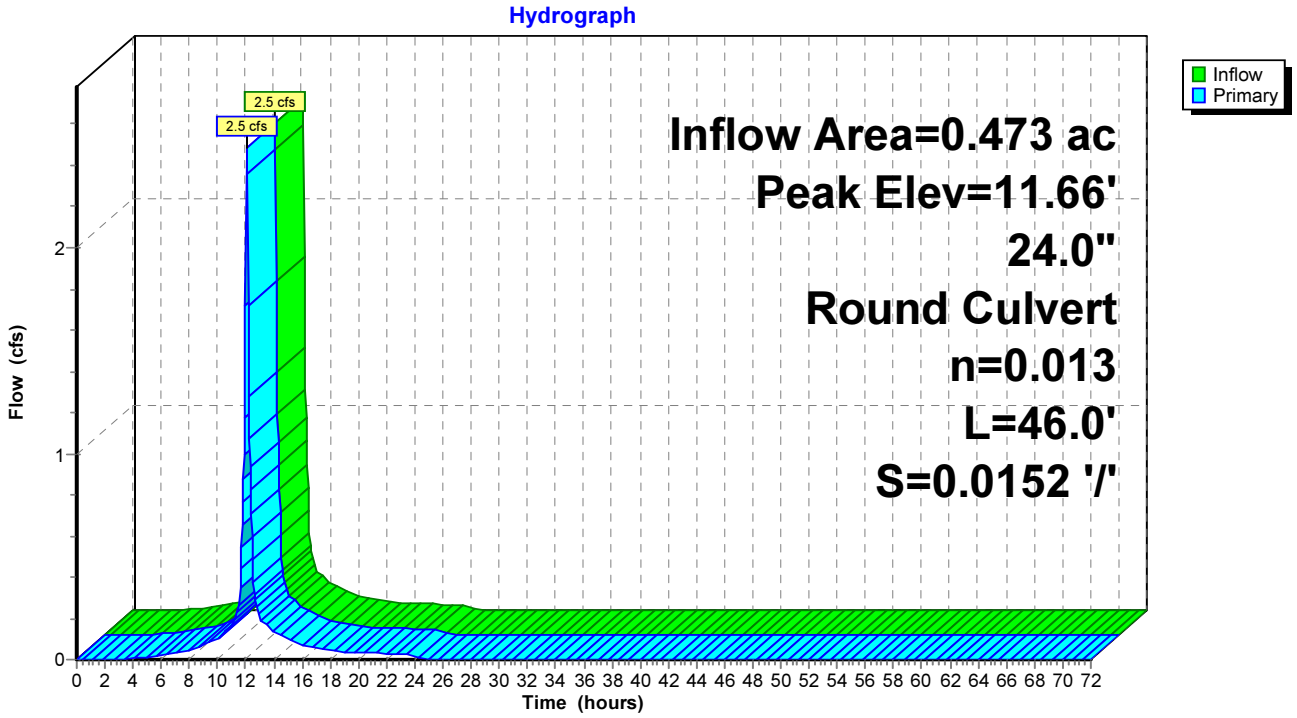
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 4.79" for 10 Year Storm event
Inflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af
Outflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.66' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.00'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.00' / 10.30' S= 0.0152 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.4 cfs @ 12.07 hrs HW=11.65' TW=10.98' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.4 cfs @ 3.99 fps)

Pond 14P: POCS1



Summary for Pond 15P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.42' (Flood elevation advised)

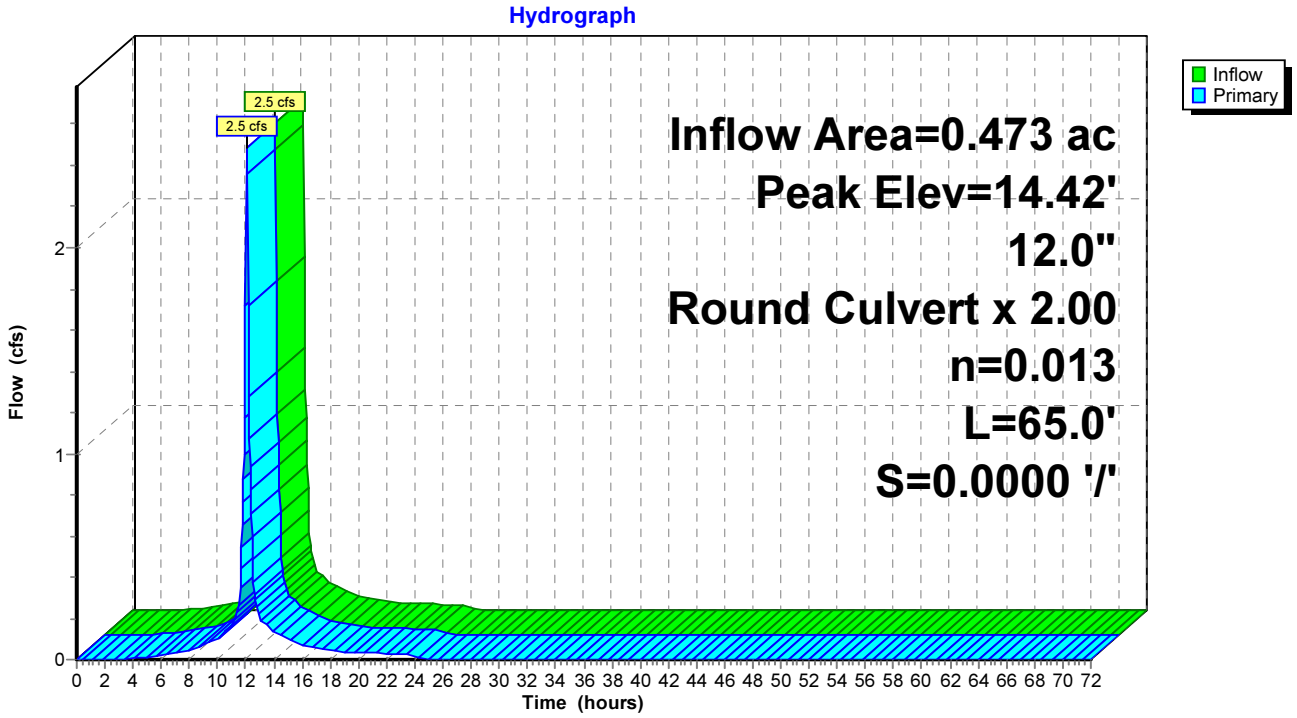
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 4.79" for 10 Year Storm event
Inflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af
Outflow = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min
Primary = 2.5 cfs @ 12.07 hrs, Volume= 0.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.42' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert X 2.00** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.4 cfs @ 12.07 hrs HW=14.40' TW=11.65' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 2.4 cfs @ 2.14 fps)

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond 16P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 13.92' (Flood elevation advised)

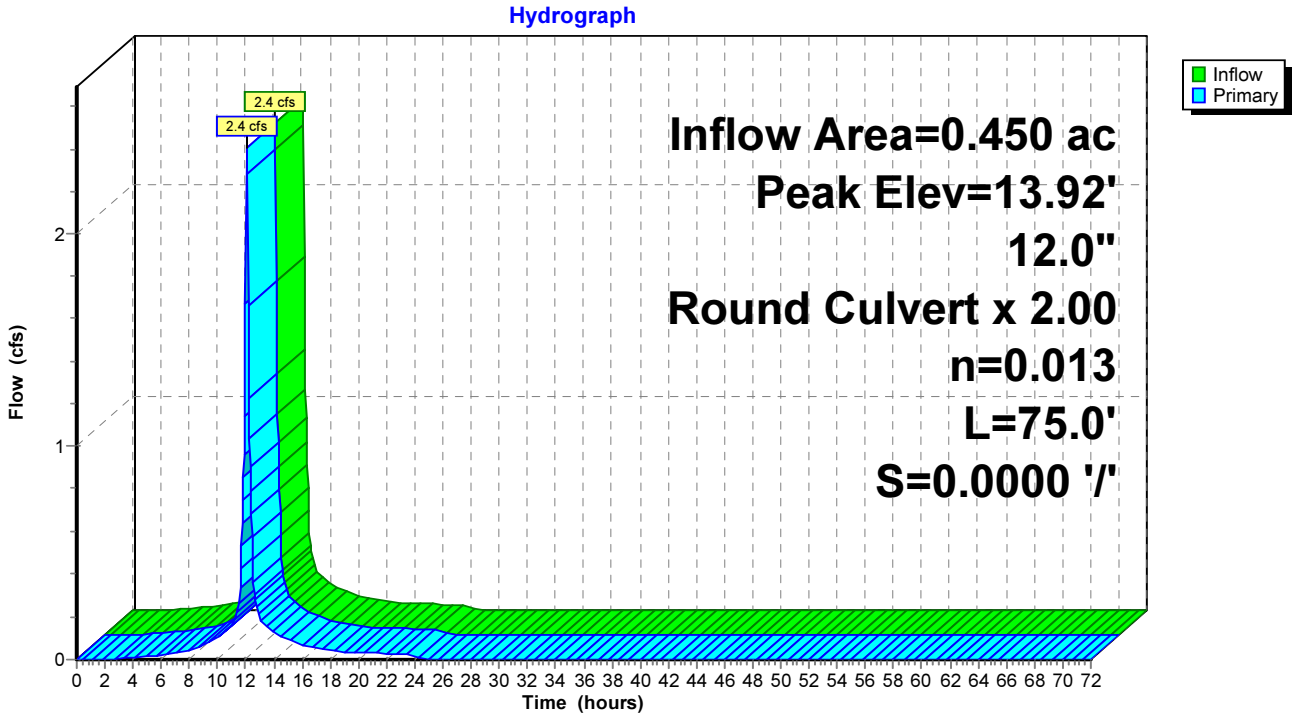
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 4.90" for 10 Year Storm event
Inflow = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af
Outflow = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af, Atten= 0%, Lag= 0.0 min
Primary = 2.4 cfs @ 12.07 hrs, Volume= 0.184 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.92' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.00'	**12.0" Round Culvert X 2.00** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.00' / 13.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.3 cfs @ 12.07 hrs HW=13.90' TW=11.60' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 2.3 cfs @ 2.06 fps)

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond CB 5D: CB 5D

[57] Hint: Peaked at 10.88' (Flood elevation advised)

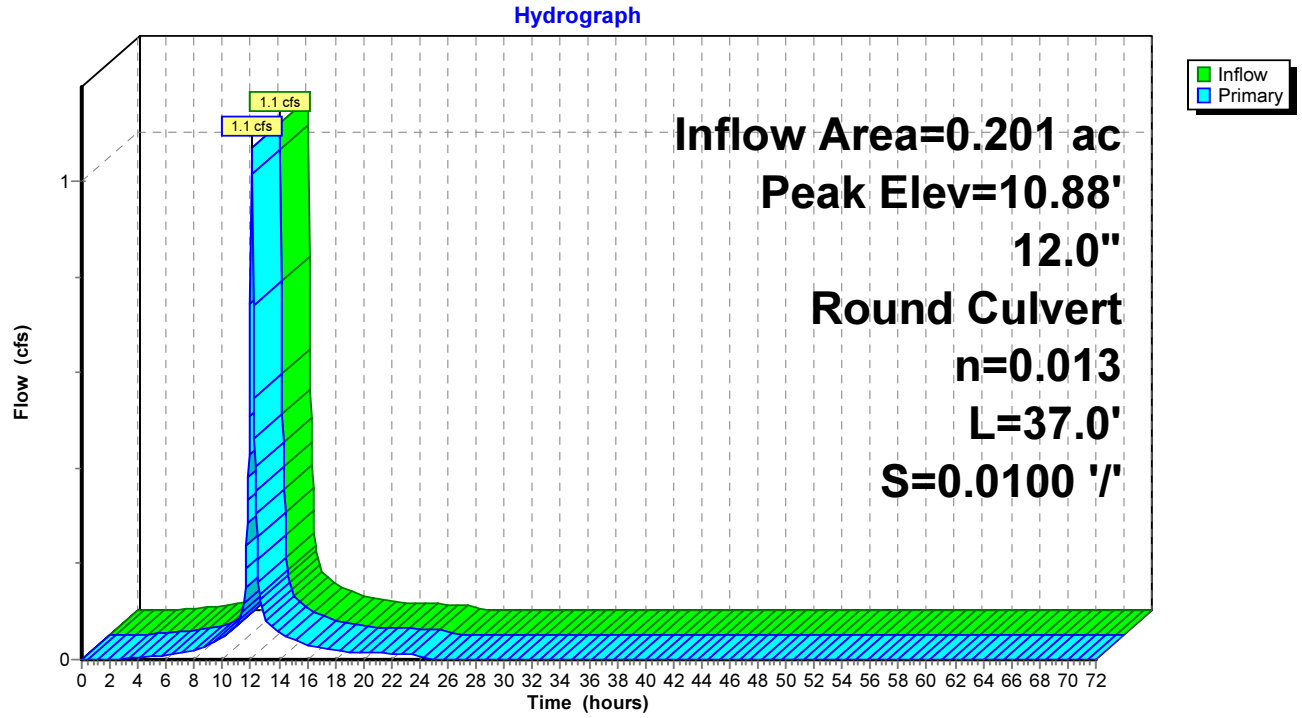
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 4.90" for 10 Year Storm event
Inflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af
Outflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.88' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.24'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.24' / 9.87' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.07 hrs HW=10.86' TW=10.57' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.0 cfs @ 2.65 fps)

Pond CB 5D: CB 5D



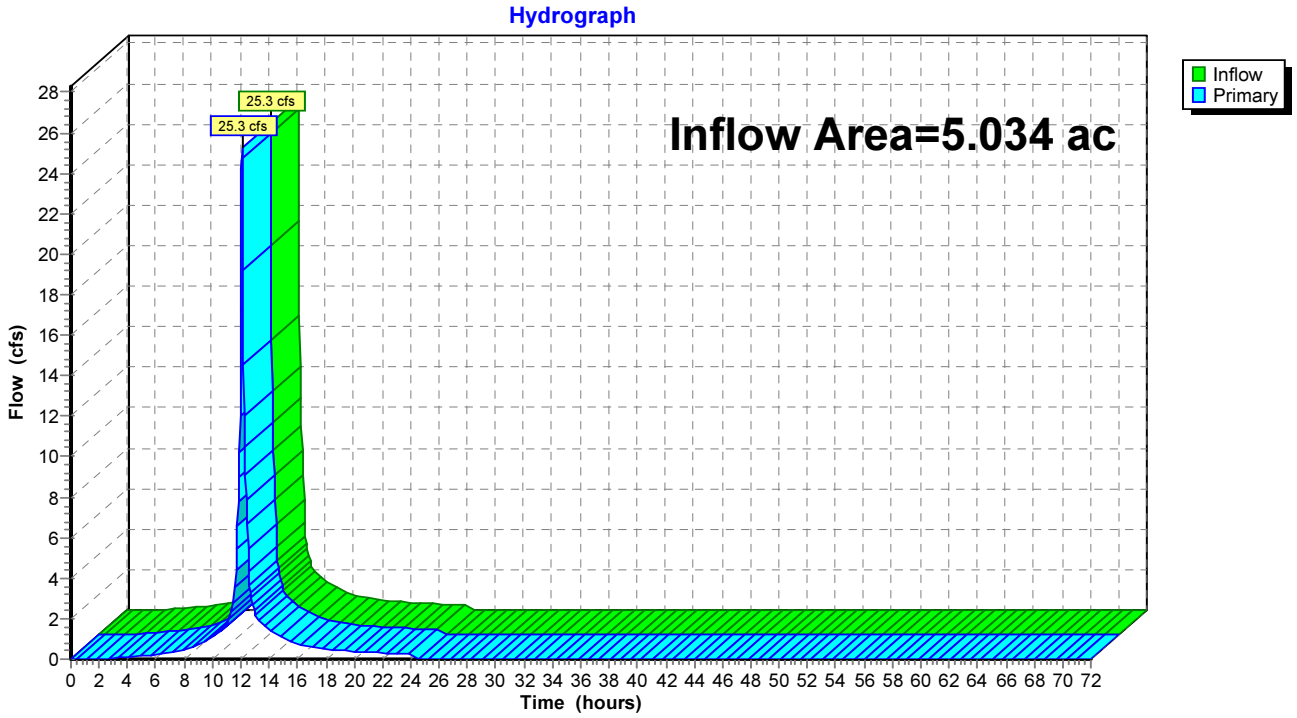
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.034 ac, 78.07% Impervious, Inflow Depth = 4.79" for 10 Year Storm event
Inflow = 25.3 cfs @ 12.08 hrs, Volume= 2.008 af
Primary = 25.3 cfs @ 12.08 hrs, Volume= 2.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH 4A

[57] Hint: Peaked at 10.48' (Flood elevation advised)
[80] Warning: Exceeded Pond 1P by 0.02' @ 12.10 hrs (2.7 cfs 0.011 af)
[80] Warning: Exceeded Pond DMH A6 by 0.10' @ 12.10 hrs (4.4 cfs 0.030 af)

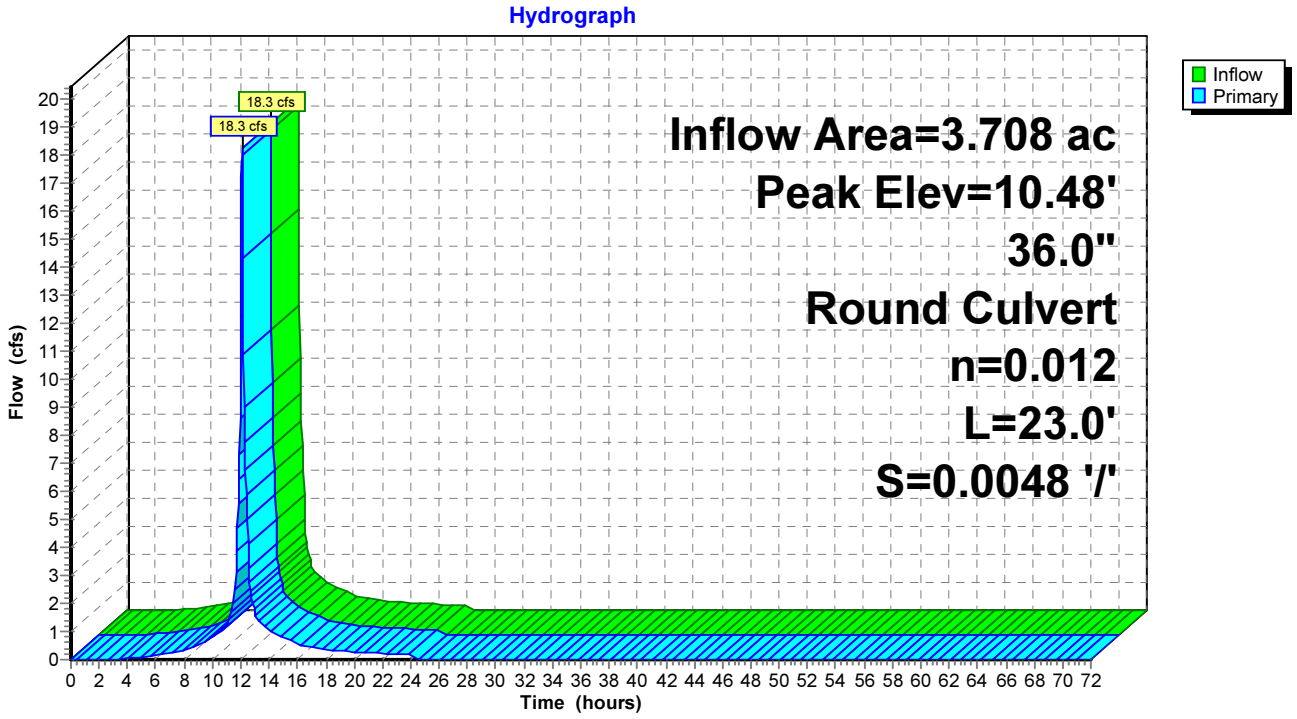
Inflow Area =	3.708 ac,	75.46% Impervious,	Inflow Depth =	4.72"	for 10 Year Storm event
Inflow =	18.3 cfs @	12.08 hrs,	Volume=	1.459 af	
Outflow =	18.3 cfs @	12.08 hrs,	Volume=	1.459 af,	Atten= 0%, Lag= 0.0 min
Primary =	18.3 cfs @	12.08 hrs,	Volume=	1.459 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.48' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 23.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.74' S= 0.0048 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=8.9 cfs @ 12.08 hrs HW=10.28' TW=10.18' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 8.9 cfs @ 1.98 fps)

Pond DMH 4A: DMH 4A



Summary for Pond DMH A6: DMH A6

[57] Hint: Peaked at 10.54' (Flood elevation advised)
[80] Warning: Exceeded Pond ENV 21 by 0.07' @ 12.15 hrs (2.3 cfs 0.010 af)

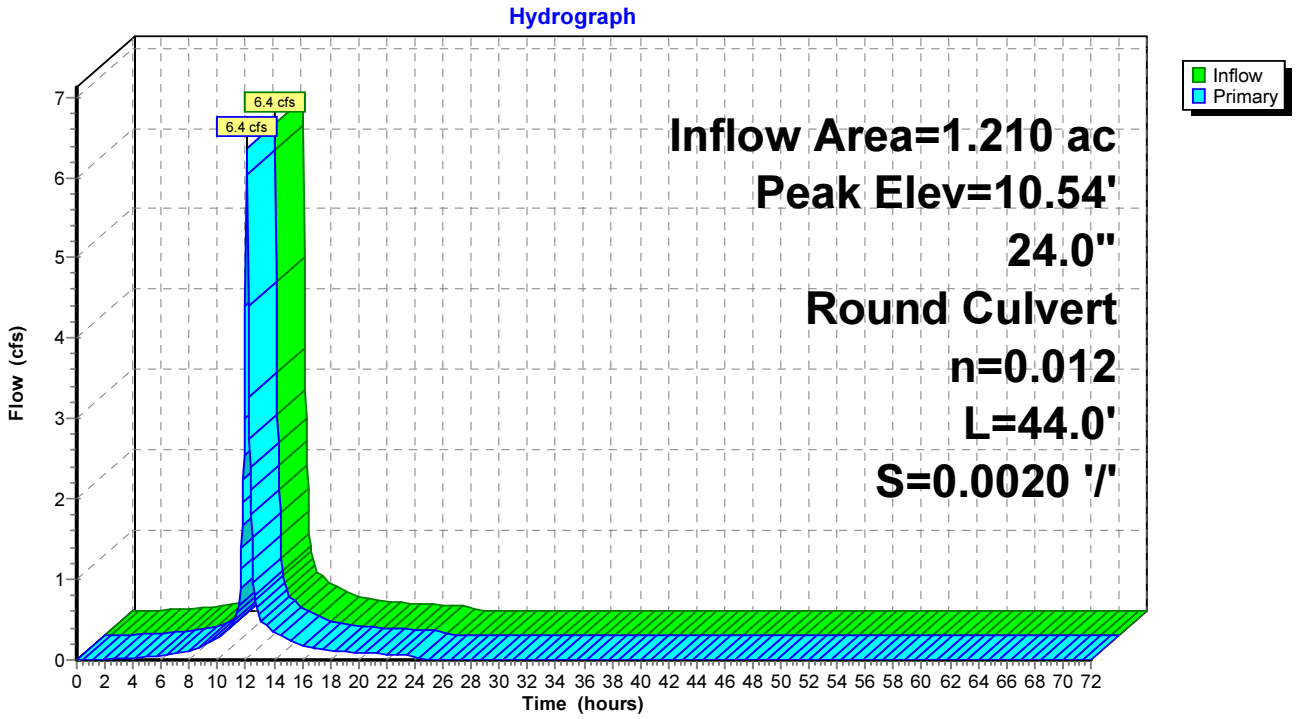
Inflow Area = 1.210 ac, 79.68% Impervious, Inflow Depth = 4.84" for 10 Year Storm event
Inflow = 6.4 cfs @ 12.07 hrs, Volume= 0.488 af
Outflow = 6.4 cfs @ 12.07 hrs, Volume= 0.488 af, Atten= 0%, Lag= 0.0 min
Primary = 6.4 cfs @ 12.07 hrs, Volume= 0.488 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.54' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.50'	**24.0" Round Culvert** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.50' / 8.41' S= 0.0020 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.14' TW=10.20' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond DMH A6: DMH A6



Summary for Pond ENV 21: ENV 21

[57] Hint: Peaked at 10.58' (Flood elevation advised)

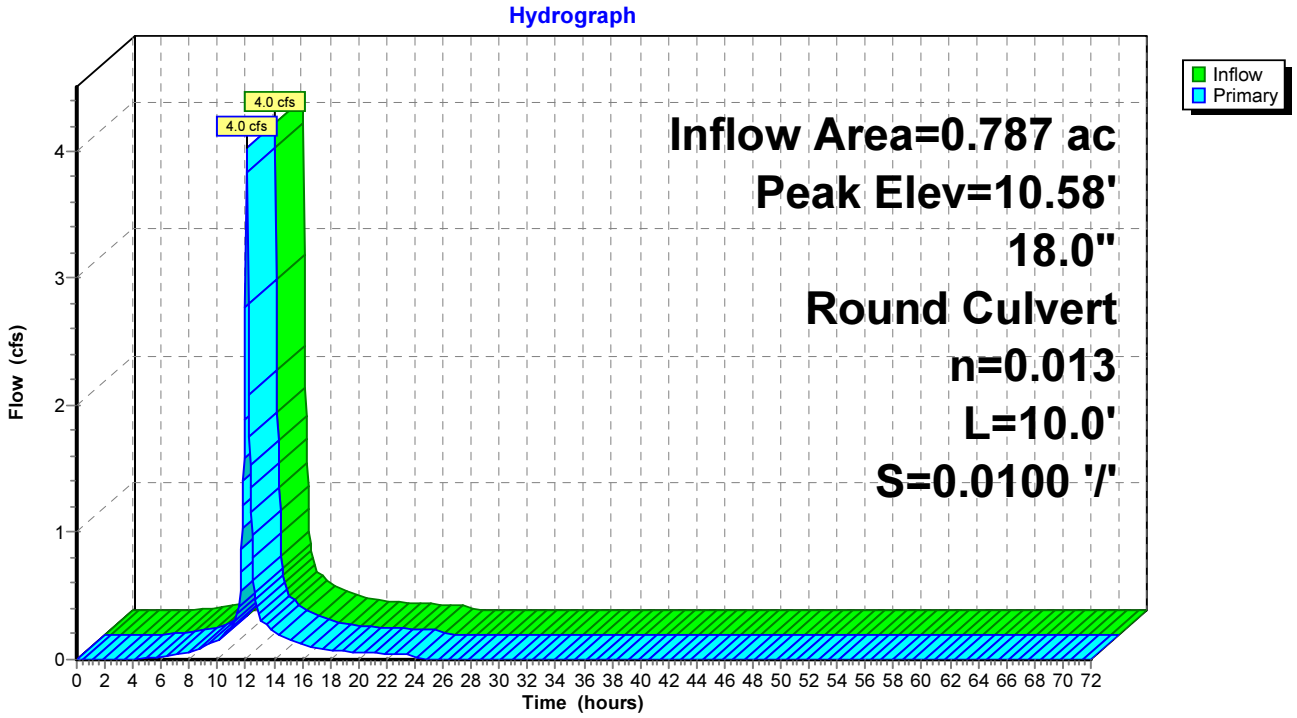
Inflow Area = 0.787 ac, 68.76% Impervious, Inflow Depth = 4.57" for 10 Year Storm event
Inflow = 4.0 cfs @ 12.07 hrs, Volume= 0.299 af
Outflow = 4.0 cfs @ 12.07 hrs, Volume= 0.299 af, Atten= 0%, Lag= 0.0 min
Primary = 4.0 cfs @ 12.07 hrs, Volume= 0.299 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.58' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	**18.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.00' / 8.90' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.7 cfs @ 12.07 hrs HW=10.20' TW=10.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.7 cfs @ 1.50 fps)

Pond ENV 21: ENV 21



Summary for Pond PCB-BH: PCB-BH

[57] Hint: Peaked at 13.60' (Flood elevation advised)

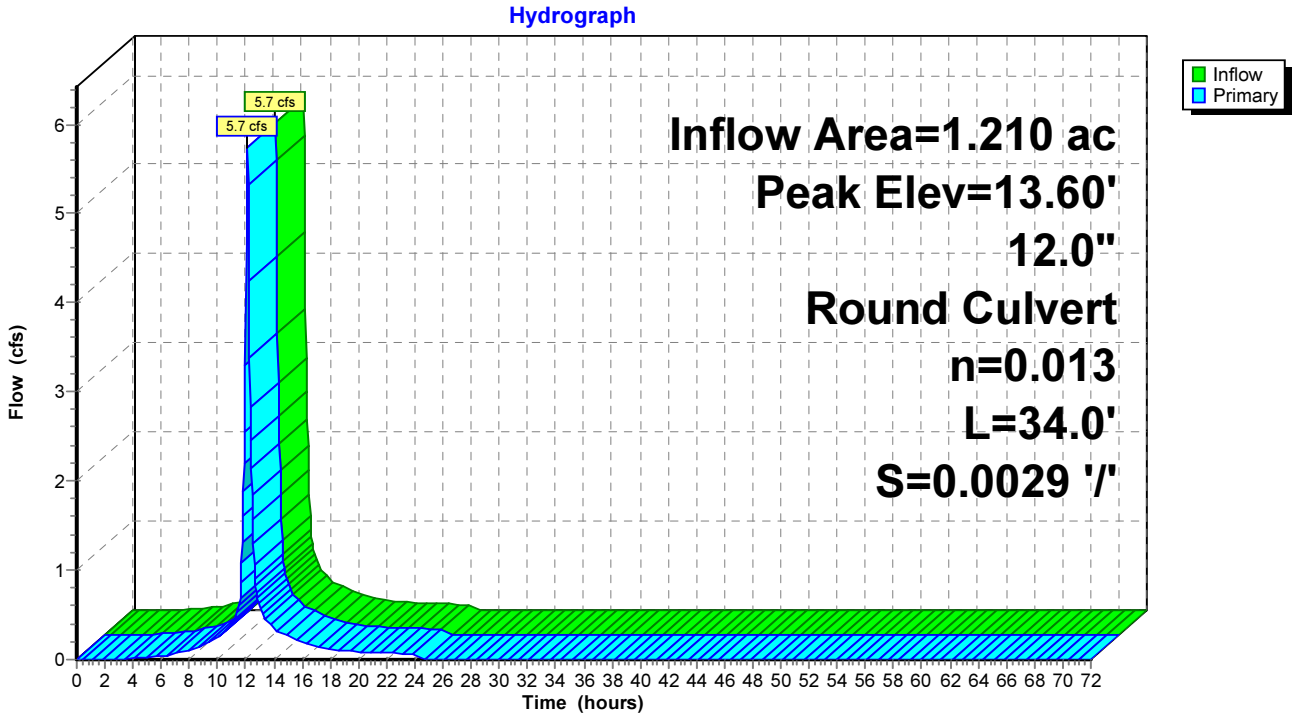
Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 4.73" for 10 Year Storm event
Inflow = 5.7 cfs @ 12.11 hrs, Volume= 0.477 af
Outflow = 5.7 cfs @ 12.11 hrs, Volume= 0.477 af, Atten= 0%, Lag= 0.0 min
Primary = 5.7 cfs @ 12.11 hrs, Volume= 0.477 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.60' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**12.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.10' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=5.4 cfs @ 12.11 hrs HW=13.49' TW=11.42' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 5.4 cfs @ 6.92 fps)

Pond PCB-BH: PCB-BH



Summary for Pond PDMH 1: PDMH 1

[57] Hint: Peaked at 10.58' (Flood elevation advised)

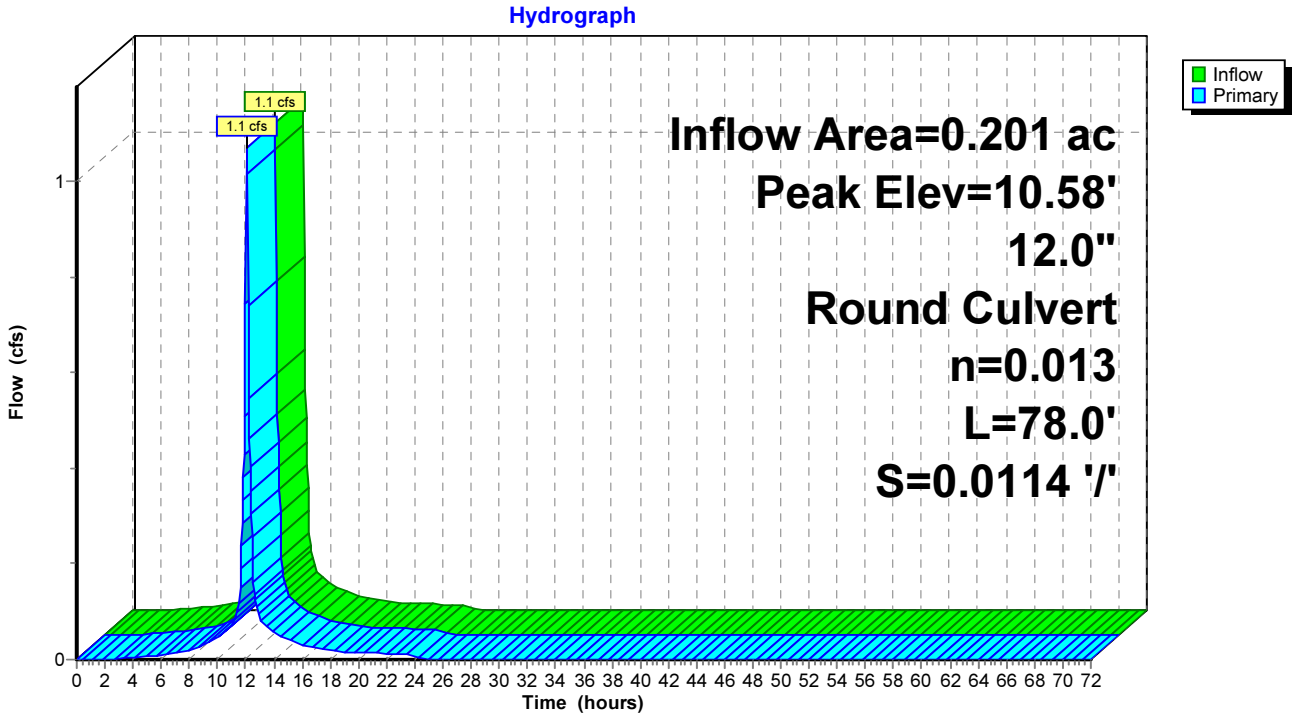
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 4.90" for 10 Year Storm event
Inflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af
Outflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.58' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.04'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.04' / 9.15' S= 0.0114 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.0 cfs @ 12.07 hrs HW=10.57' TW=9.71' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.0 cfs @ 3.47 fps)

Pond PDMH 1: PDMH 1



Summary for Pond PDMH 2: PDMH 2

[57] Hint: Peaked at 9.81' (Flood elevation advised)

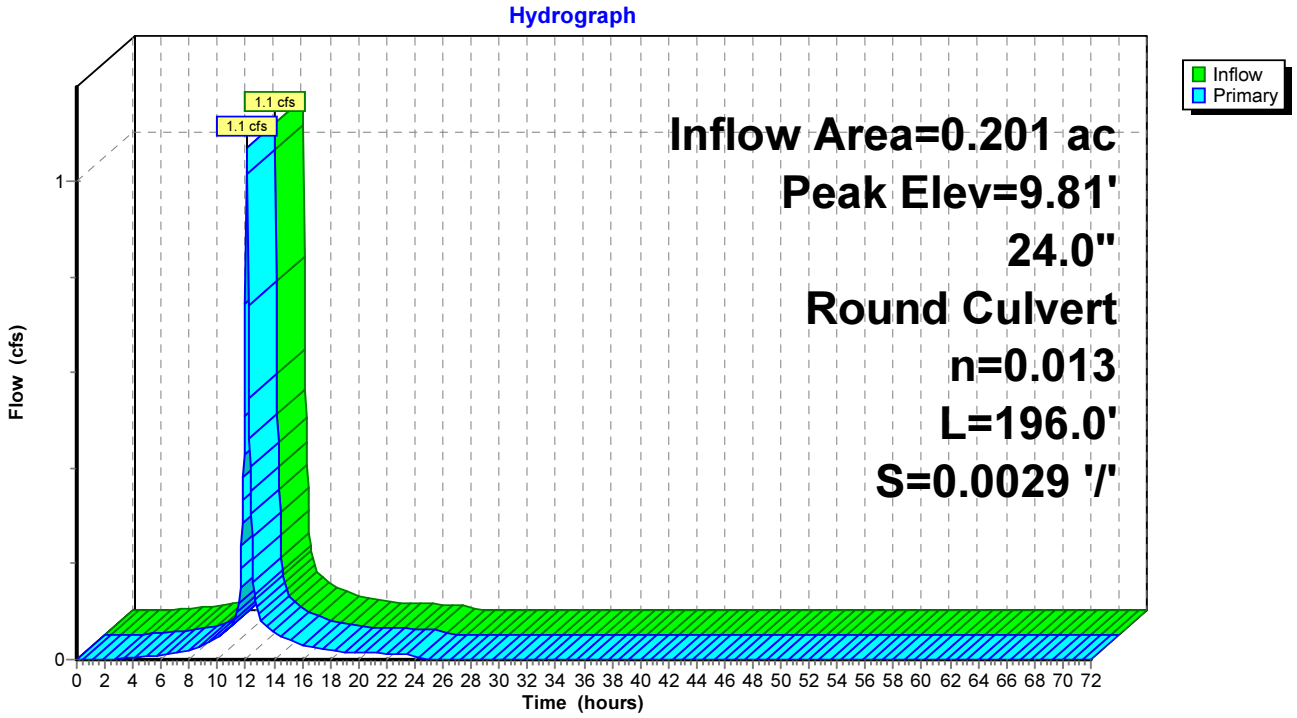
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 4.90" for 10 Year Storm event
Inflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af
Outflow = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.1 cfs @ 12.07 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.81' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.05'	**24.0" Round Culvert** L= 196.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.05' / 8.49' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.5 cfs @ 12.07 hrs HW=9.71' TW=9.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.5 cfs @ 0.87 fps)

Pond PDMH 2: PDMH 2



Summary for Pond PDMH 3: PDMH 3

[57] Hint: Peaked at 9.68' (Flood elevation advised)

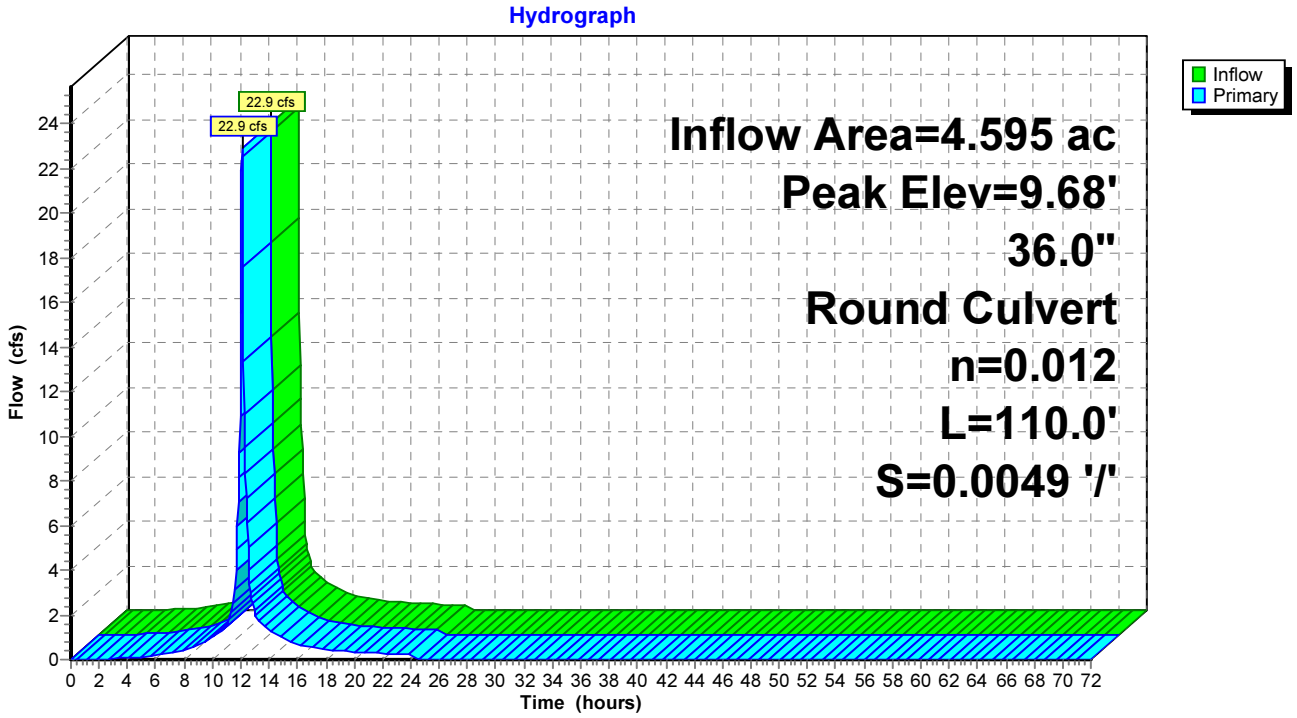
Inflow Area = 4.595 ac, 77.00% Impervious, Inflow Depth = 4.76" for 10 Year Storm event
Inflow = 22.9 cfs @ 12.08 hrs, Volume= 1.823 af
Outflow = 22.9 cfs @ 12.08 hrs, Volume= 1.823 af, Atten= 0%, Lag= 0.0 min
Primary = 22.9 cfs @ 12.08 hrs, Volume= 1.823 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.68' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.48'	**36.0" Round Culvert** L= 110.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.48' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=22.3 cfs @ 12.08 hrs HW=9.64' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 22.3 cfs @ 5.71 fps)

Pond PDMH 3: PDMH 3



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=7,157 sf 95.88% Impervious Runoff Depth=6.74"
Tc=5.0 min CN=97 Runoff=1.1 cfs 0.092 af

Subcatchment PS2a: Runoff Area=20,584 sf 77.98% Impervious Runoff Depth=6.27"
Tc=5.0 min CN=93 Runoff=3.2 cfs 0.247 af

Subcatchment PS2b: Runoff Area=11,747 sf 83.79% Impervious Runoff Depth=6.39"
Tc=5.0 min CN=94 Runoff=1.8 cfs 0.144 af

Subcatchment PS3a: Runoff Area=19,589 sf 82.66% Impervious Runoff Depth=6.39"
Tc=5.0 min CN=94 Runoff=3.1 cfs 0.239 af

Subcatchment PS3b: Runoff Area=40,960 sf 73.37% Impervious Runoff Depth=6.15"
Tc=5.0 min CN=92 Runoff=6.3 cfs 0.482 af

Subcatchment PS4: Runoff Area=12,006 sf 85.32% Impervious Runoff Depth=6.39"
Tc=5.0 min CN=94 Runoff=1.9 cfs 0.147 af

Subcatchment PS5: Runoff Area=34,260 sf 68.76% Impervious Runoff Depth=6.04"
Tc=5.0 min CN=91 Runoff=5.2 cfs 0.396 af

Subcatchment PS5A: Runoff Area=9,298 sf 93.79% Impervious Runoff Depth=6.74"
Tc=5.0 min CN=97 Runoff=1.5 cfs 0.120 af

Subcatchment PS5B: Runoff Area=13,605 sf 74.26% Impervious Runoff Depth=6.15"
Tc=5.0 min CN=92 Runoff=2.1 cfs 0.160 af

Subcatchment PS5C: PS5 Roof Runoff Area=18,430 sf 100.00% Impervious Runoff Depth=6.86"
Tc=5.0 min CN=98 Runoff=3.0 cfs 0.242 af

Subcatchment PS6: Runoff Area=20,527 sf 57.17% Impervious Runoff Depth=5.69"
Tc=5.0 min CN=88 Runoff=3.0 cfs 0.223 af

Subcatchment PS7: Runoff Area=8,740 sf 85.26% Impervious Runoff Depth=6.39"
Tc=5.0 min CN=94 Runoff=1.4 cfs 0.107 af

Subcatchment PS8: Runoff Area=2,398 sf 81.98% Impervious Runoff Depth=6.39"
Tc=5.0 min CN=94 Runoff=0.4 cfs 0.029 af

Reach 3R: Swale Avg. Flow Depth=0.70' Max Vel=1.96 fps Inflow=8.2 cfs 0.626 af
n=0.030 L=380.0' S=0.0050 '/' Capacity=16.9 cfs Outflow=7.5 cfs 0.626 af

Pond 1P: DMH A19 Peak Elev=11.14' Inflow=15.7 cfs 1.278 af
36.0" Round Culvert n=0.012 L=106.0' S=0.0028 '/' Outflow=15.7 cfs 1.278 af

Pond 3P: PCB3 Peak Elev=11.77' Inflow=10.4 cfs 0.865 af
24.0" Round Culvert n=0.013 L=43.0' S=0.0112 '/' Outflow=10.4 cfs 0.865 af

Pond 4P: PCB7 Peak Elev=11.37' Inflow=12.4 cfs 1.025 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0261 '/' Outflow=12.4 cfs 1.025 af

Pond 5P: DMH 4B Peak Elev=11.14' Inflow=3.4 cfs 0.253 af
36.0" Round Culvert n=0.012 L=104.0' S=0.0007 '/' Outflow=3.4 cfs 0.253 af

Pond 6P: PCB1 Peak Elev=15.13' Inflow=3.0 cfs 0.223 af
12.0" Round Culvert n=0.013 L=109.0' S=0.0202 '/' Outflow=3.0 cfs 0.223 af

Pond 7P: PCB2 Peak Elev=13.13' Inflow=3.4 cfs 0.253 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0111 '/' Outflow=3.4 cfs 0.253 af

Pond 9P: PCB4 Peak Elev=11.12' Inflow=3.2 cfs 0.247 af
24.0" Round Culvert n=0.013 L=18.0' S=0.0050 '/' Outflow=3.2 cfs 0.247 af

Pond 10P: PCB5 Peak Elev=10.73' Inflow=28.4 cfs 2.282 af
36.0" Round Culvert n=0.013 L=45.0' S=0.0080 '/' Outflow=28.4 cfs 2.282 af

Pond 12P: POCS2 Peak Elev=11.87' Inflow=3.1 cfs 0.239 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0200 '/' Outflow=3.1 cfs 0.239 af

Pond 14P: POCS1 Peak Elev=11.77' Inflow=3.2 cfs 0.247 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0152 '/' Outflow=3.2 cfs 0.247 af

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.57' Inflow=3.2 cfs 0.247 af
12.0" Round Culvert x 2.00 n=0.013 L=65.0' S=0.0000 '/' Outflow=3.2 cfs 0.247 af

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.07' Inflow=3.1 cfs 0.239 af
12.0" Round Culvert x 2.00 n=0.013 L=75.0' S=0.0000 '/' Outflow=3.1 cfs 0.239 af

Pond CB 5D: CB 5D Peak Elev=10.99' Inflow=1.4 cfs 0.107 af
12.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=1.4 cfs 0.107 af

Pond DMH 4: DP 1 Inflow=32.7 cfs 2.628 af
Primary=32.7 cfs 2.628 af

Pond DMH 4A: DMH 4A Peak Elev=11.03' Inflow=23.7 cfs 1.916 af
36.0" Round Culvert n=0.012 L=23.0' S=0.0048 '/' Outflow=23.7 cfs 1.916 af

Pond DMH A6: DMH A6 Peak Elev=11.11' Inflow=8.2 cfs 0.638 af
24.0" Round Culvert n=0.012 L=44.0' S=0.0020 '/' Outflow=8.2 cfs 0.638 af

Pond ENV 21: ENV 21 Peak Elev=11.19' Inflow=5.2 cfs 0.396 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=5.2 cfs 0.396 af

Pond PCB-BH: PCB-BH Peak Elev=15.47' Inflow=7.5 cfs 0.626 af
12.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=7.5 cfs 0.626 af

Pond PDMH 1: PDMH 1 Peak Elev=10.66' Inflow=1.4 cfs 0.107 af
12.0" Round Culvert n=0.013 L=78.0' S=0.0114 '/' Outflow=1.4 cfs 0.107 af

Pond PDMH 2: PDMH 2 Peak Elev=10.14' Inflow=1.4 cfs 0.107 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0029 '/' Outflow=1.4 cfs 0.107 af

Pond PDMH 3: PDMH 3 Peak Elev=10.08' Inflow=29.7 cfs 2.389 af
36.0" Round Culvert n=0.012 L=110.0' S=0.0049 '/' Outflow=29.7 cfs 2.389 af

Total Runoff Area = 5.034 ac Runoff Volume = 2.628 af Average Runoff Depth = 6.26"
21.93% Pervious = 1.104 ac 78.07% Impervious = 3.930 ac

Summary for Subcatchment PS1:

[49] Hint: Tc<2dt may require smaller dt

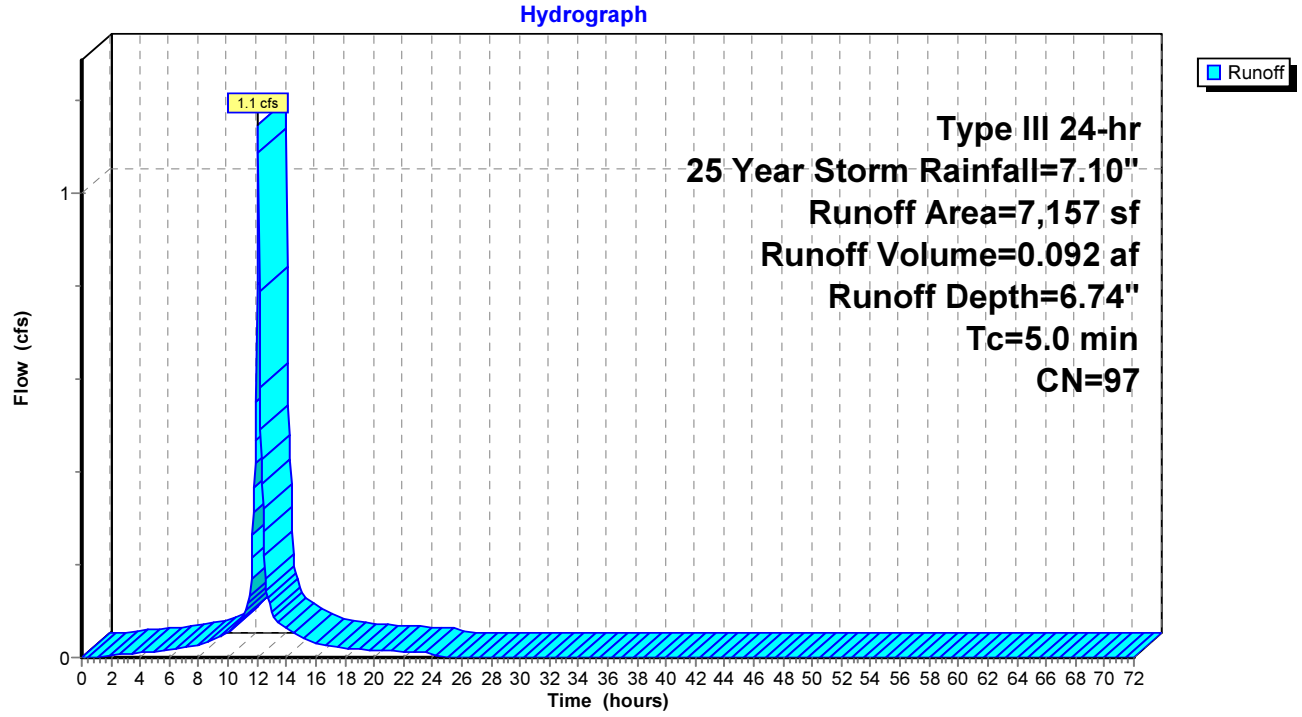
Runoff = 1.1 cfs @ 12.07 hrs, Volume= 0.092 af, Depth= 6.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	1,344	98	Paved parking, HSG C
*	544	98	Sidewalks, HSG C
	4,974	98	Roofs, HSG C
	295	74	>75% Grass cover, Good, HSG C
	7,157	97	Weighted Average
	295		4.12% Pervious Area
	6,862		95.88% Impervious Area

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

Subcatchment PS1:



Summary for Subcatchment PS2a:

[49] Hint: Tc<2dt may require smaller dt

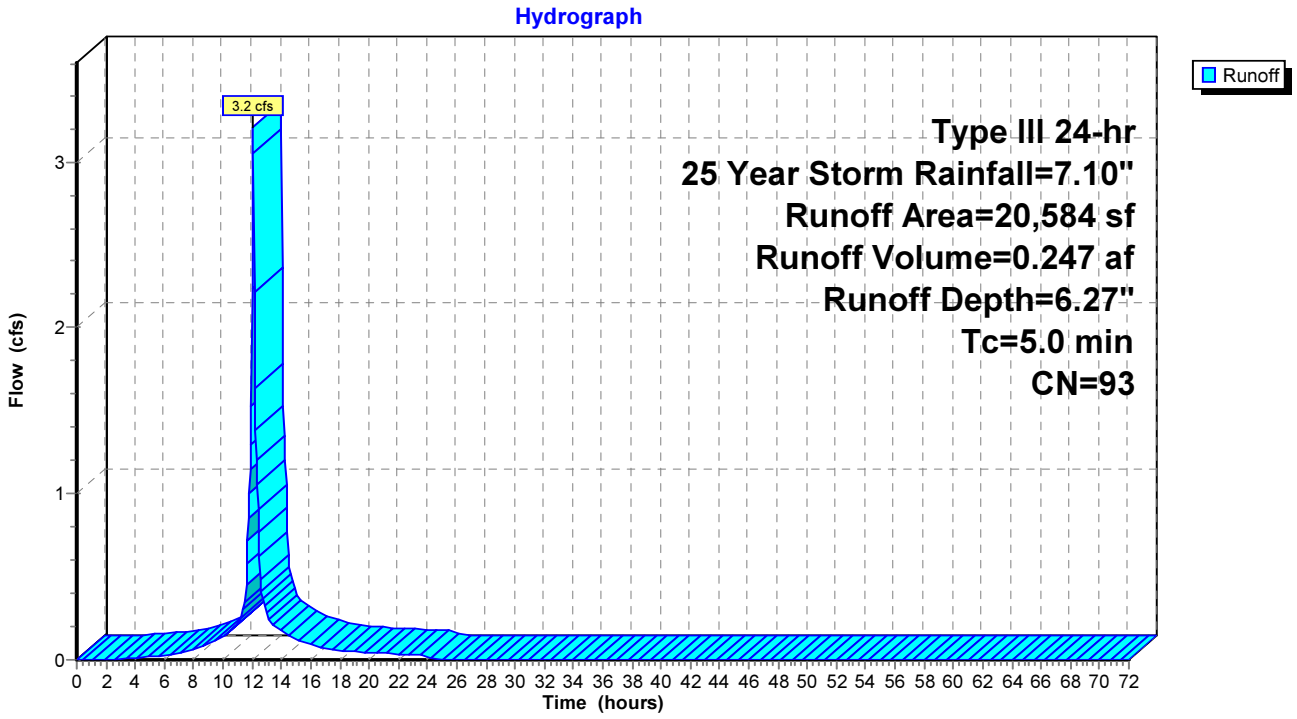
Runoff = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af, Depth= 6.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	15,319	98	Paved parking, HSG C
*	733	98	Sidewalks, HSG C
	4,532	74	>75% Grass cover, Good, HSG C
	20,584	93	Weighted Average
	4,532		22.02% Pervious Area
	16,052		77.98% Impervious Area

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

Subcatchment PS2a:



Summary for Subcatchment PS2b:

[49] Hint: Tc<2dt may require smaller dt

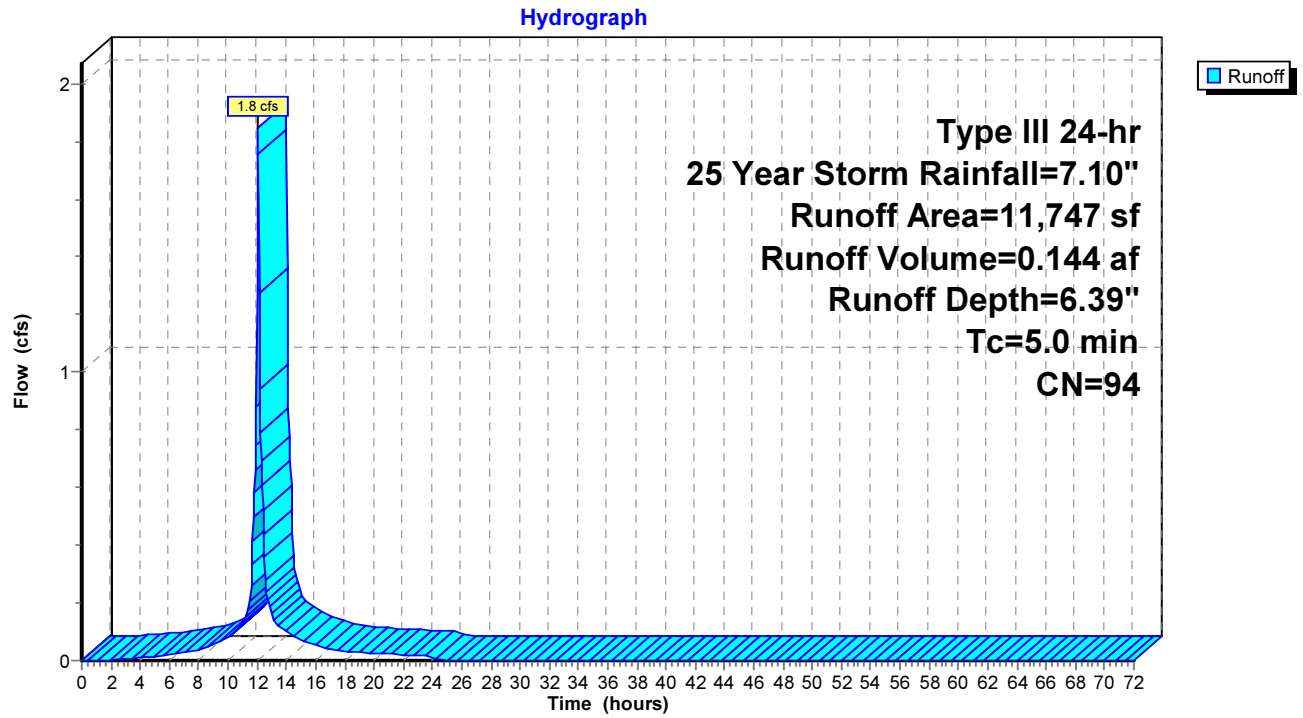
Runoff = 1.8 cfs @ 12.07 hrs, Volume= 0.144 af, Depth= 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
9,843	98	Roofs, HSG C
1,904	74	>75% Grass cover, Good, HSG C
11,747	94	Weighted Average
1,904		16.21% Pervious Area
9,843		83.79% Impervious Area

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

Subcatchment PS2b:



Summary for Subcatchment PS3a:

[49] Hint: Tc<2dt may require smaller dt

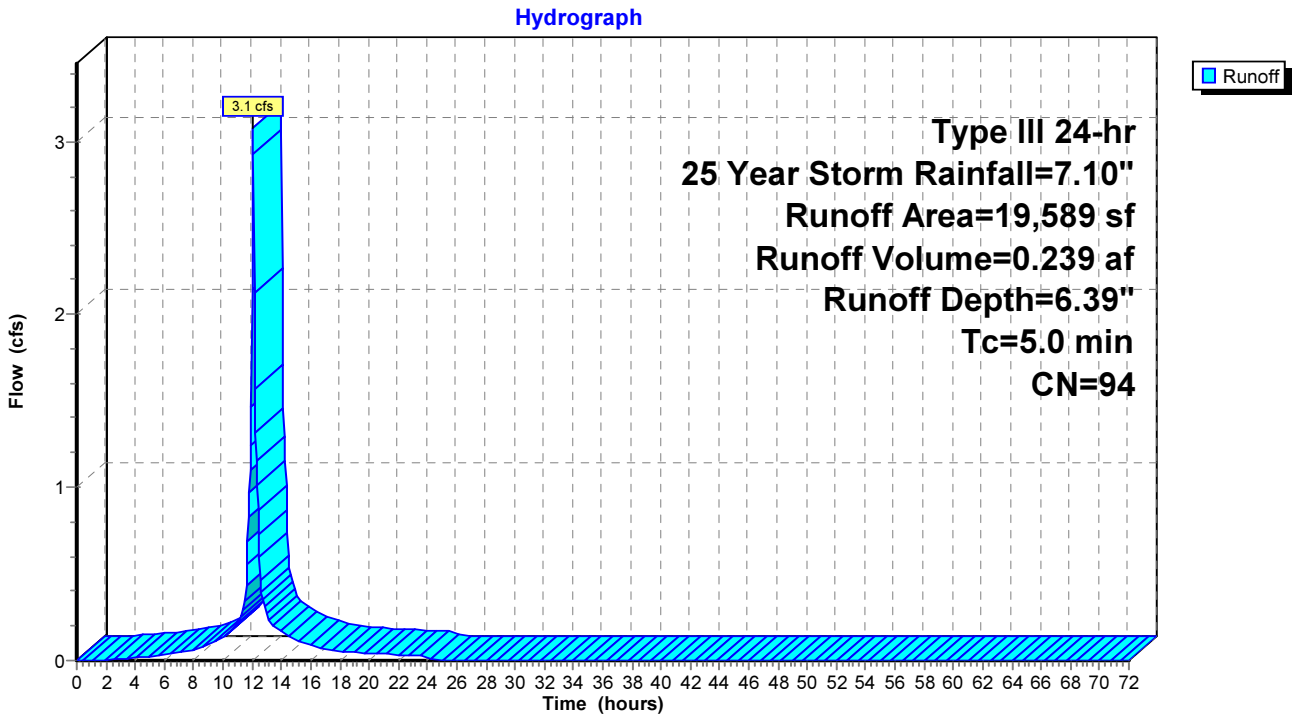
Runoff = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af, Depth= 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
16,192	98	Paved parking, HSG C
3,397	74	>75% Grass cover, Good, HSG C
19,589	94	Weighted Average
3,397		17.34% Pervious Area
16,192		82.66% Impervious Area

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

Subcatchment PS3a:



Summary for Subcatchment PS3b:

[49] Hint: Tc<2dt may require smaller dt

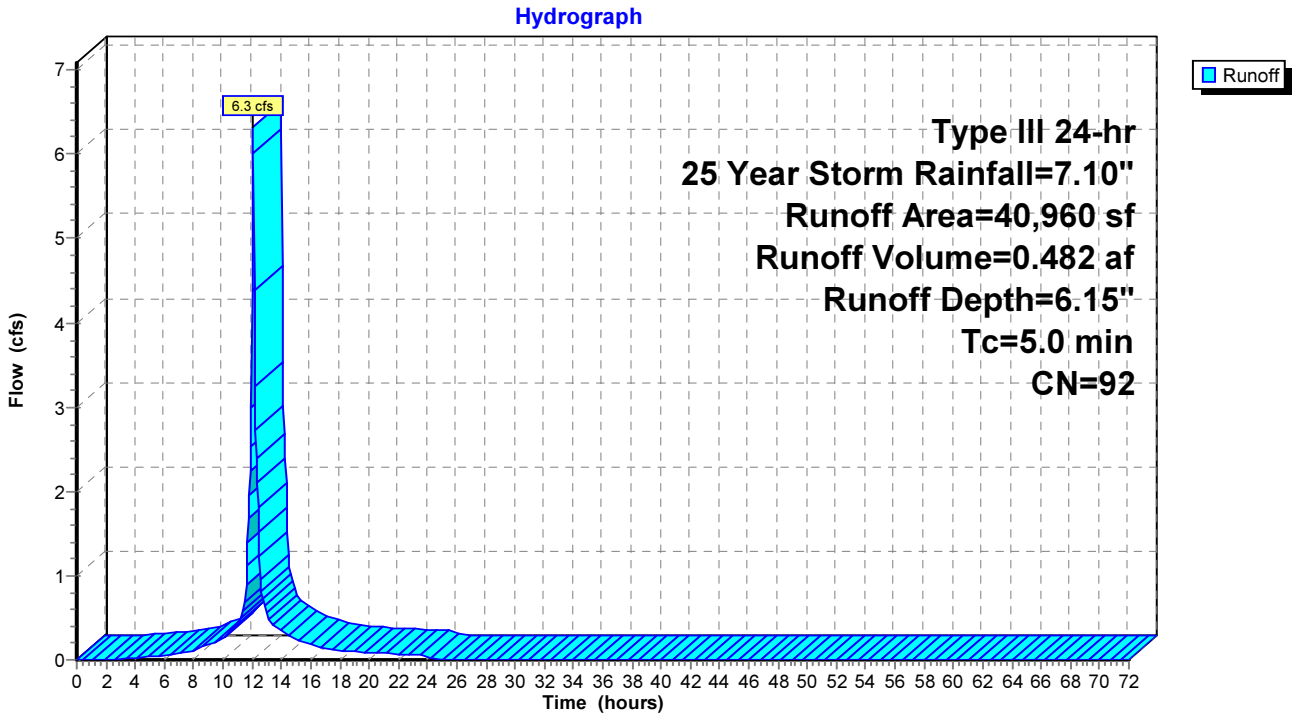
Runoff = 6.3 cfs @ 12.07 hrs, Volume= 0.482 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
24,825	98	Roofs, HSG C
10,906	74	>75% Grass cover, Good, HSG C
5,229	98	Paved parking, HSG C
40,960	92	Weighted Average
10,906		26.63% Pervious Area
30,054		73.37% Impervious Area

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

Subcatchment PS3b:



Summary for Subcatchment PS4:

[49] Hint: Tc<2dt may require smaller dt

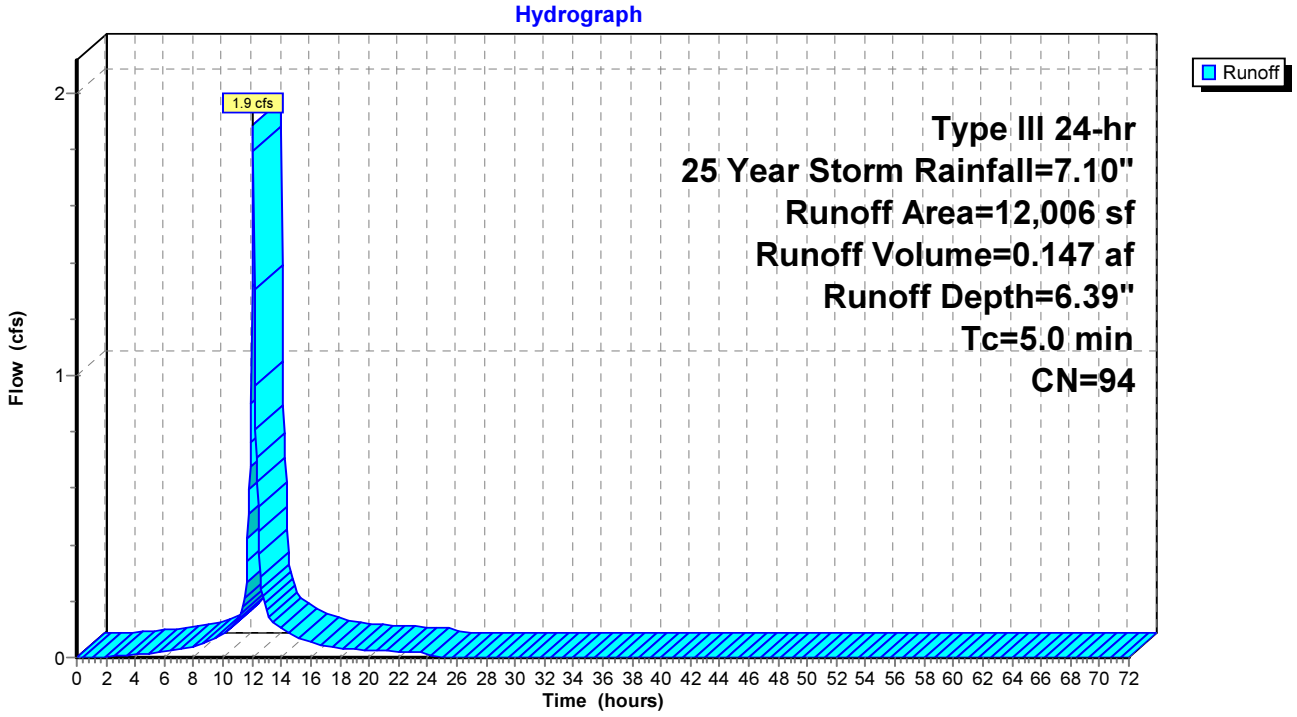
Runoff = 1.9 cfs @ 12.07 hrs, Volume= 0.147 af, Depth= 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	4,504	98	Paved parking, HSG C
*	2,085	98	Sidewalks, HSG C
	3,654	98	Roofs, HSG C
	1,763	74	>75% Grass cover, Good, HSG C
	12,006	94	Weighted Average
	1,763		14.68% Pervious Area
	10,243		85.32% Impervious Area

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

Subcatchment PS4:



Summary for Subcatchment PS5:

[49] Hint: Tc<2dt may require smaller dt

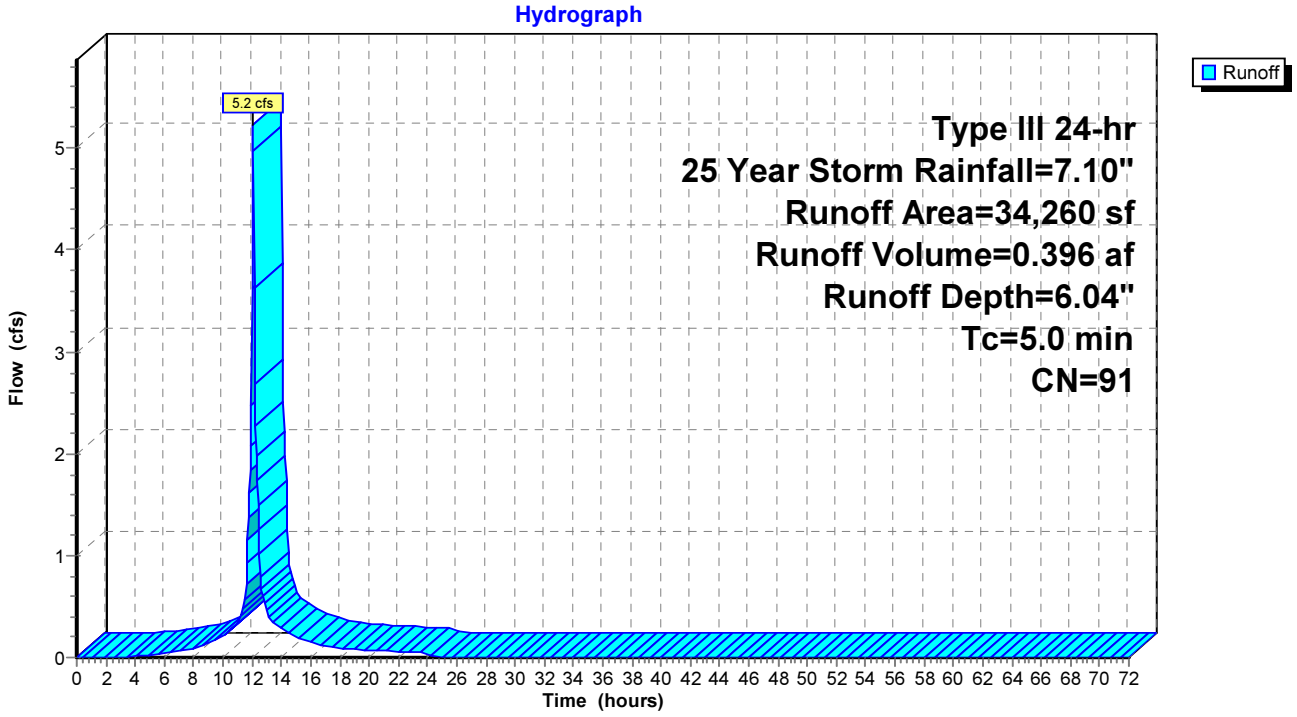
Runoff = 5.2 cfs @ 12.07 hrs, Volume= 0.396 af, Depth= 6.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	21,695	98	Paved parking, HSG C
*	310	98	Sidewalks, HSG C
	1,551	98	Roofs, HSG C
	10,704	74	>75% Grass cover, Good, HSG C
	34,260	91	Weighted Average
	10,704		31.24% Pervious Area
	23,556		68.76% Impervious Area

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

Subcatchment PS5:



Summary for Subcatchment PS5A:

[49] Hint: Tc<2dt may require smaller dt

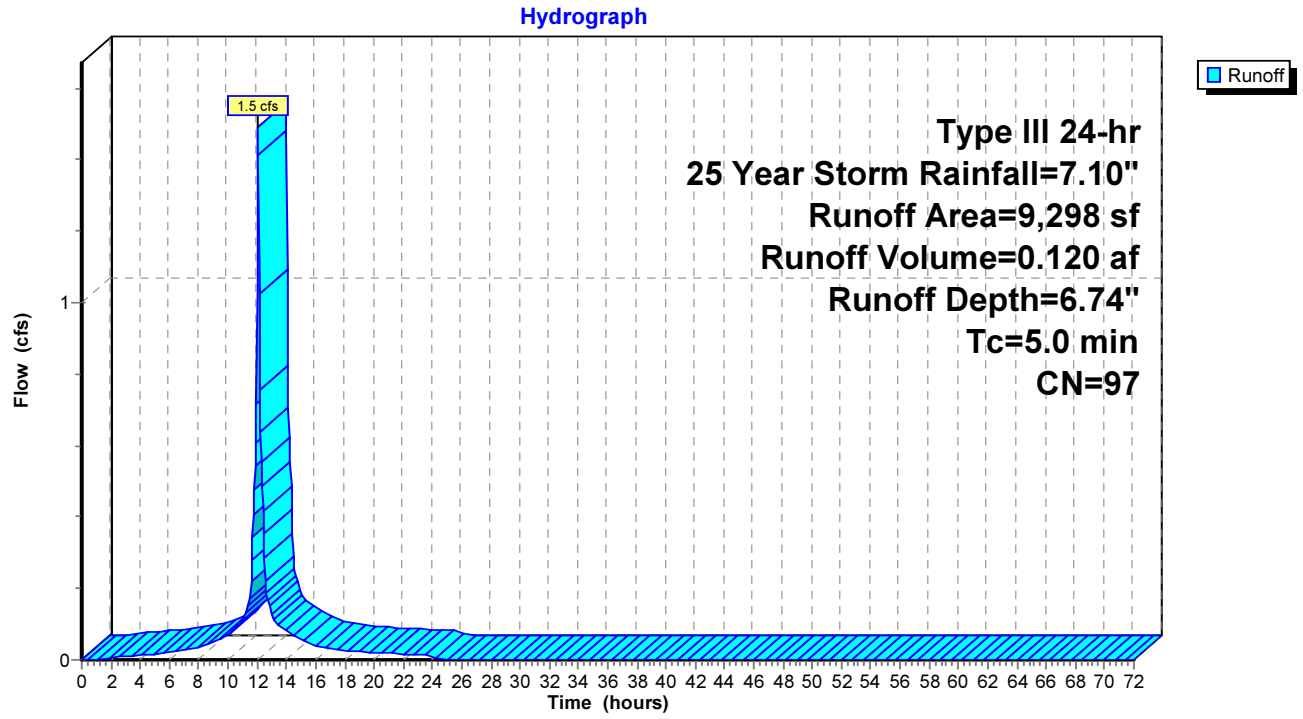
Runoff = 1.5 cfs @ 12.07 hrs, Volume= 0.120 af, Depth= 6.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	7,491	98	Paved parking, HSG C
*	1,230	98	Sidewalks, HSG C
	577	74	>75% Grass cover, Good, HSG C
	9,298	97	Weighted Average
	577		6.21% Pervious Area
	8,721		93.79% Impervious Area

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

Subcatchment PS5A:



Summary for Subcatchment PS5B:

[49] Hint: Tc<2dt may require smaller dt

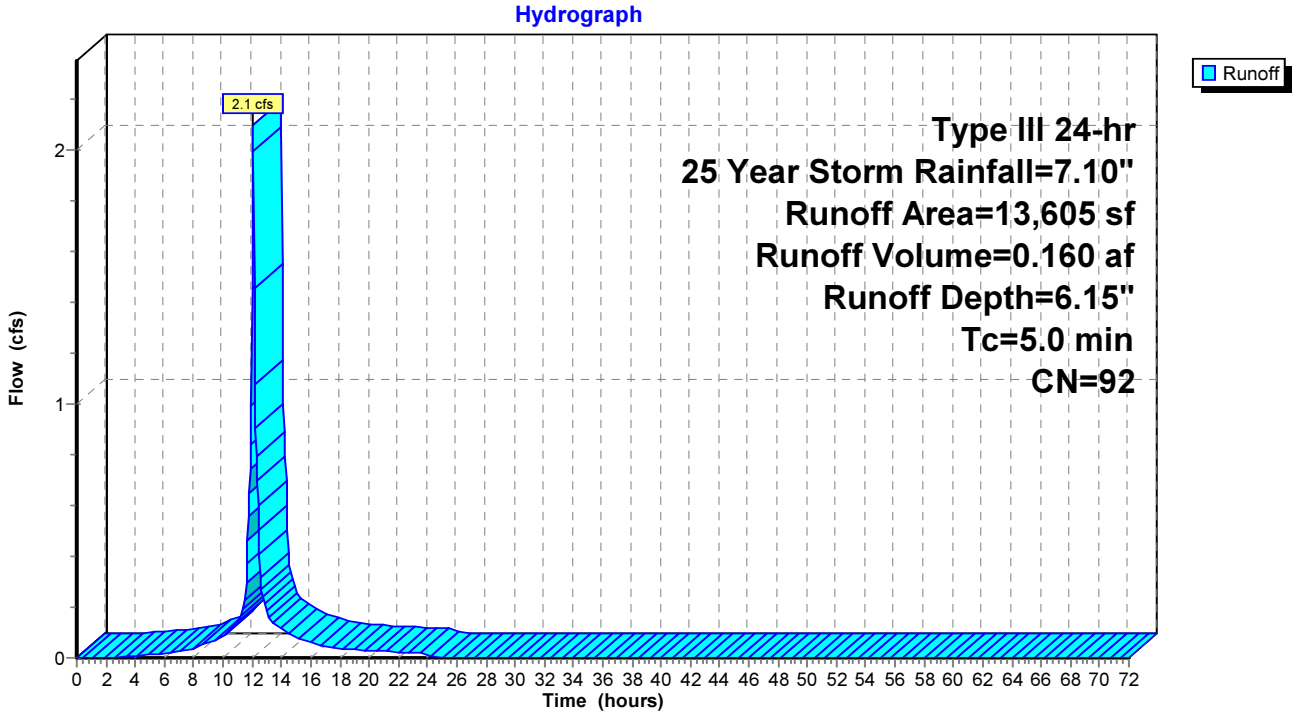
Runoff = 2.1 cfs @ 12.07 hrs, Volume= 0.160 af, Depth= 6.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	7,275	98	Paved parking, HSG C
*	2,828	98	Sidewalks, HSG C
	3,502	74	>75% Grass cover, Good, HSG C
	13,605	92	Weighted Average
	3,502		25.74% Pervious Area
	10,103		74.26% Impervious Area

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

Subcatchment PS5B:



Summary for Subcatchment PS5C: PS5 Roof

[49] Hint: Tc<2dt may require smaller dt

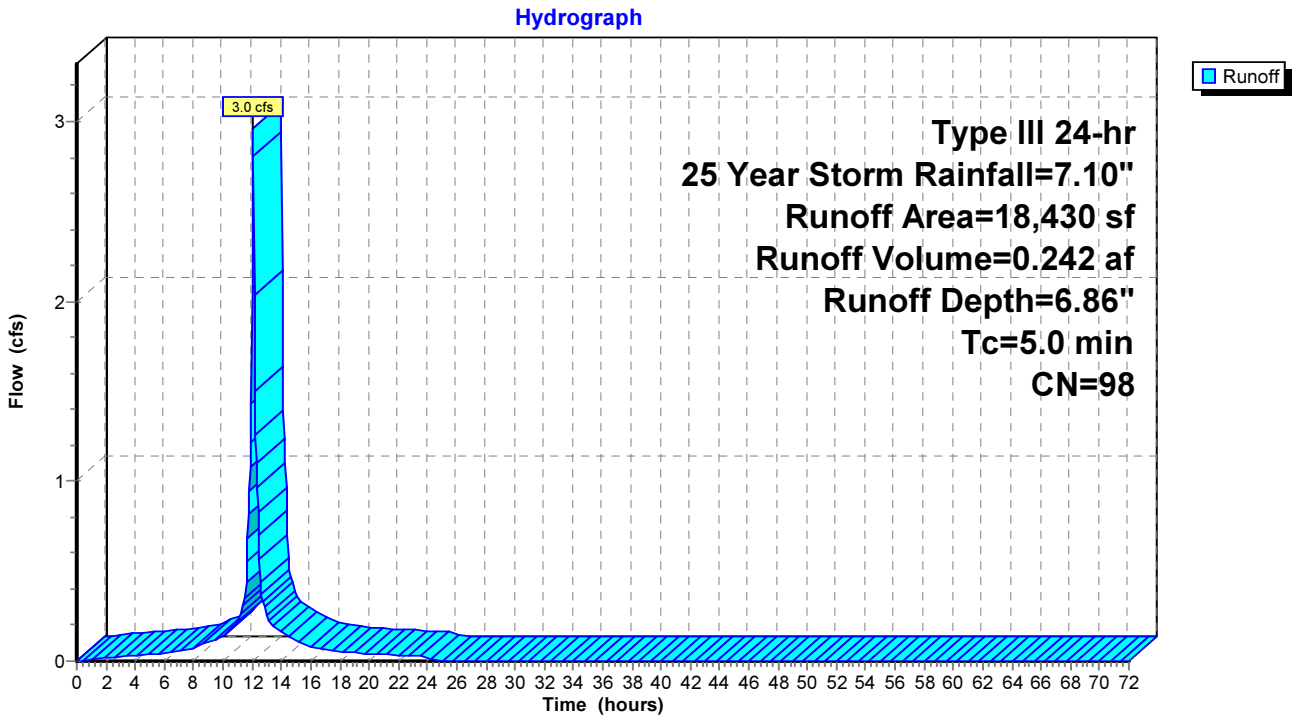
Runoff = 3.0 cfs @ 12.07 hrs, Volume= 0.242 af, Depth= 6.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
18,430	98	Roofs, HSG C
18,430		100.00% Impervious Area

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

Subcatchment PS5C: PS5 Roof



Summary for Subcatchment PS6:

[49] Hint: Tc<2dt may require smaller dt

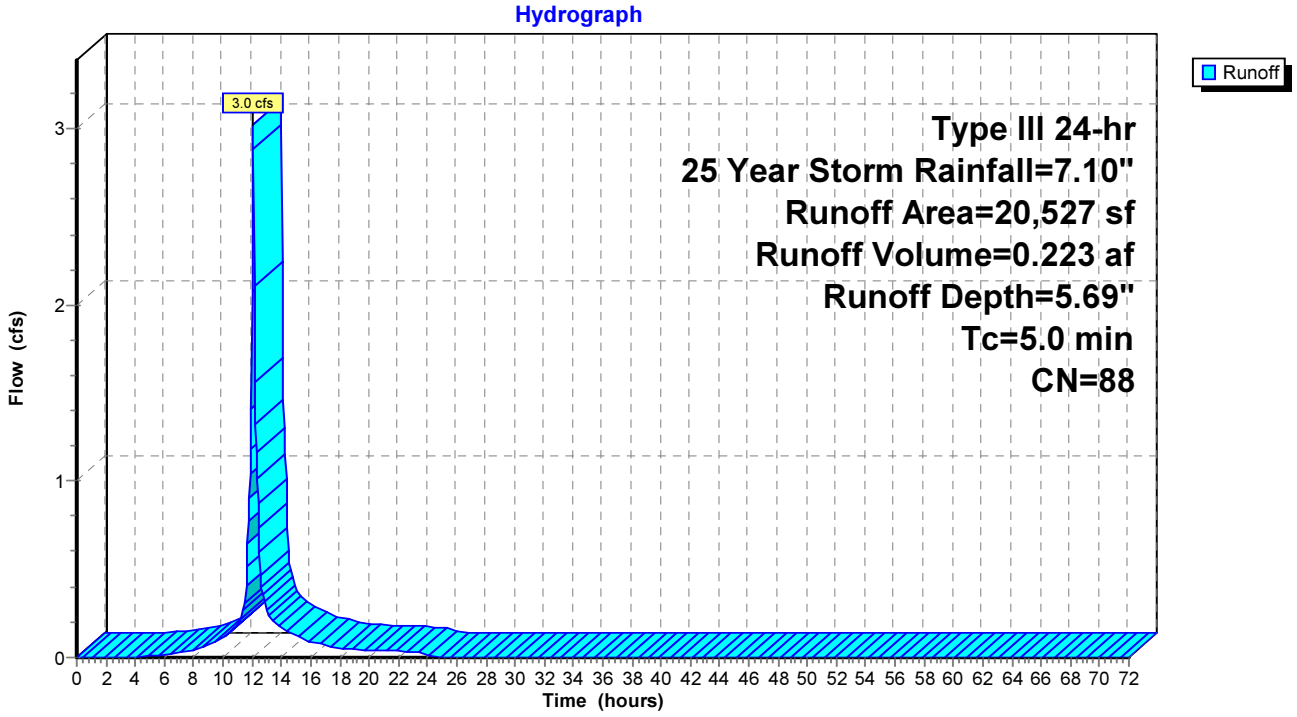
Runoff = 3.0 cfs @ 12.07 hrs, Volume= 0.223 af, Depth= 5.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	6,762	98	Paved parking, HSG C
*	2,312	98	Sidewalks, HSG C
	2,662	98	Roofs, HSG C
	8,791	74	>75% Grass cover, Good, HSG C
	20,527	88	Weighted Average
	8,791		42.83% Pervious Area
	11,736		57.17% Impervious Area

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

Subcatchment PS6:



Summary for Subcatchment PS7:

[49] Hint: Tc<2dt may require smaller dt

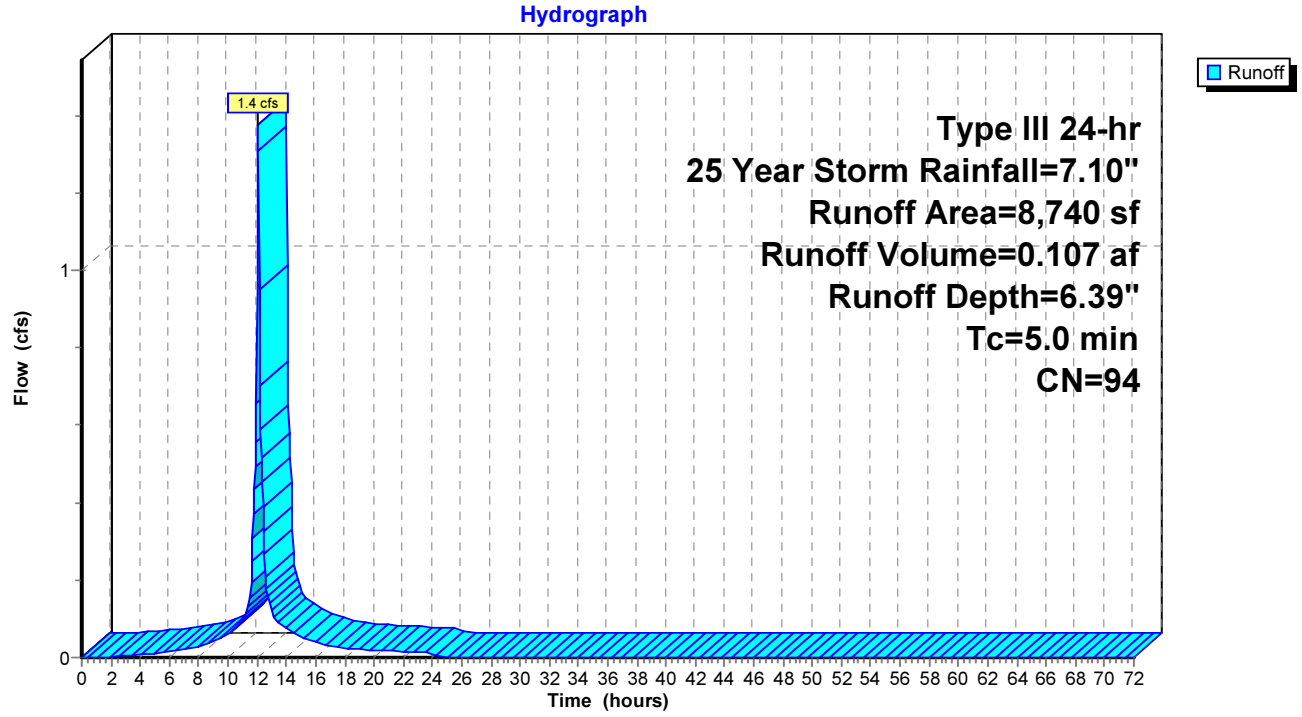
Runoff = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af, Depth= 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

	Area (sf)	CN	Description
	410	98	Paved parking, HSG C
*	4,272	98	Sidewalks, HSG C
	2,770	98	Roofs, HSG C
	1,288	74	>75% Grass cover, Good, HSG C
	8,740	94	Weighted Average
	1,288		14.74% Pervious Area
	7,452		85.26% Impervious Area

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

Subcatchment PS7:



Summary for Subcatchment PS8:

[49] Hint: Tc<2dt may require smaller dt

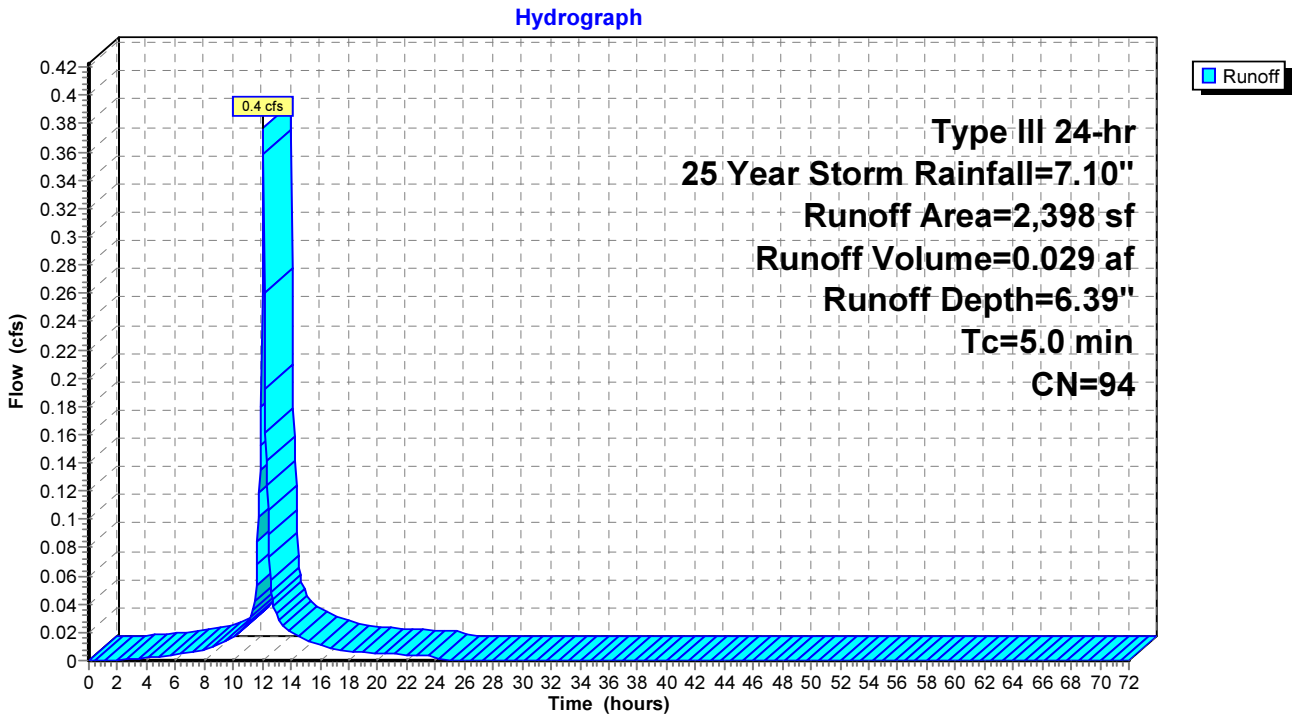
Runoff = 0.4 cfs @ 12.07 hrs, Volume= 0.029 af, Depth= 6.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
1,966	98	Paved parking, HSG C
432	74	>75% Grass cover, Good, HSG C
2,398	94	Weighted Average
432		18.02% Pervious Area
1,966		81.98% Impervious Area

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

Subcatchment PS8:



Summary for Reach 3R: Swale

Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 6.21" for 25 Year Storm event
Inflow = 8.2 cfs @ 12.07 hrs, Volume= 0.626 af
Outflow = 7.5 cfs @ 12.11 hrs, Volume= 0.626 af, Atten= 8%, Lag= 2.3 min

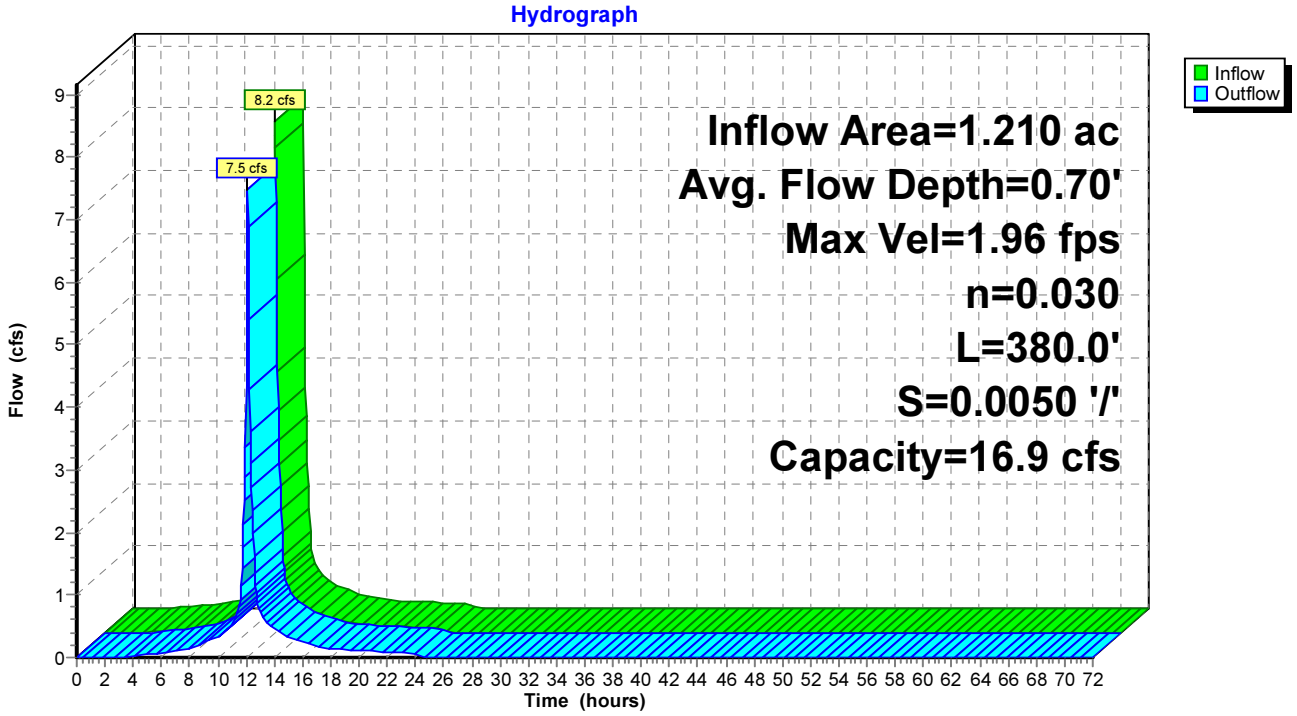
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.96 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 0.59 fps, Avg. Travel Time= 10.7 min

Peak Storage= 1,450 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.70'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 16.9 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 5.0 '/' Top Width= 12.00'
Length= 380.0' Slope= 0.0050 '/'
Inlet Invert= 17.15', Outlet Invert= 15.25'

‡

Reach 3R: Swale



Summary for Pond 1P: DMH A19

[57] Hint: Peaked at 11.14' (Flood elevation advised)
[80] Warning: Exceeded Pond 5P by 0.33' @ 12.10 hrs (15.1 cfs 0.337 af)

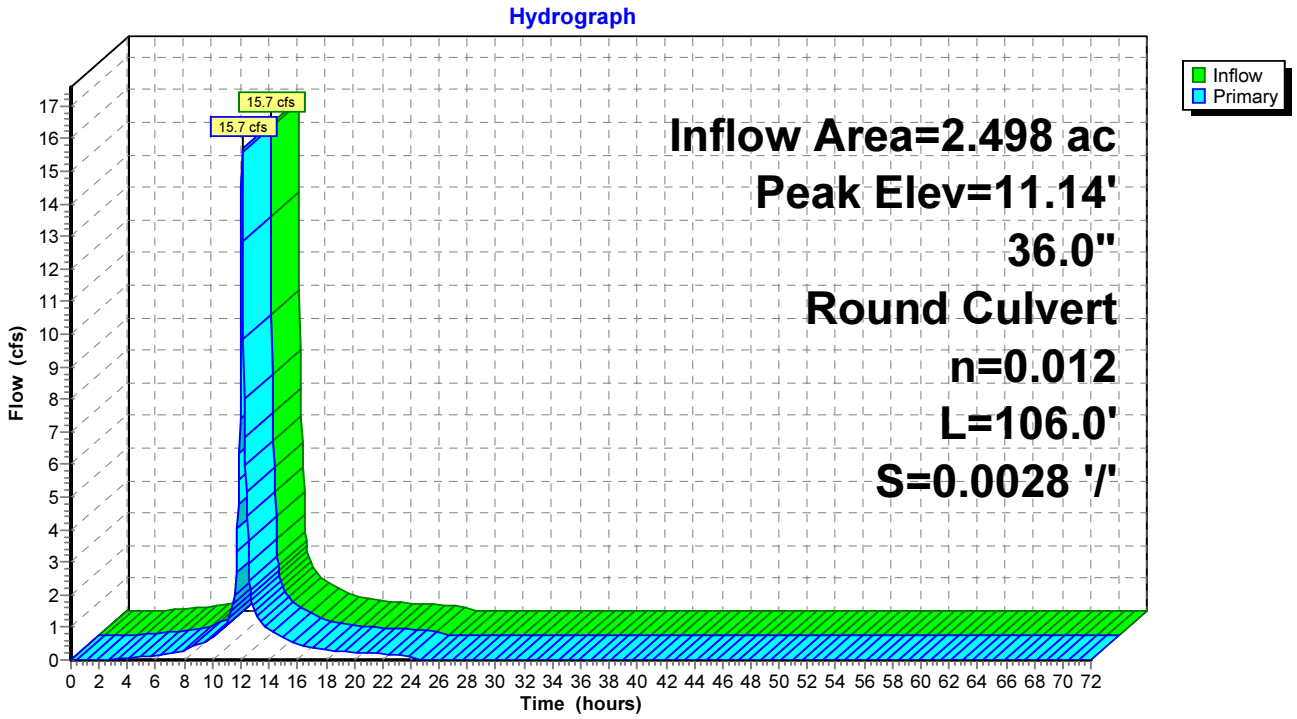
Inflow Area =	2.498 ac,	73.41% Impervious,	Inflow Depth =	6.14"	for 25 Year Storm event
Inflow =	15.7 cfs @	12.09 hrs,	Volume=	1.278 af	
Outflow =	15.7 cfs @	12.09 hrs,	Volume=	1.278 af,	Atten= 0%, Lag= 0.0 min
Primary =	15.7 cfs @	12.09 hrs,	Volume=	1.278 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.14' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.17'	**36.0" Round Culvert** L= 106.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.17' / 7.87' S= 0.0028 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=10.70' TW=10.79' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond 1P: DMH A19



Summary for Pond 3P: PCB3

[57] Hint: Peaked at 11.77' (Flood elevation advised)

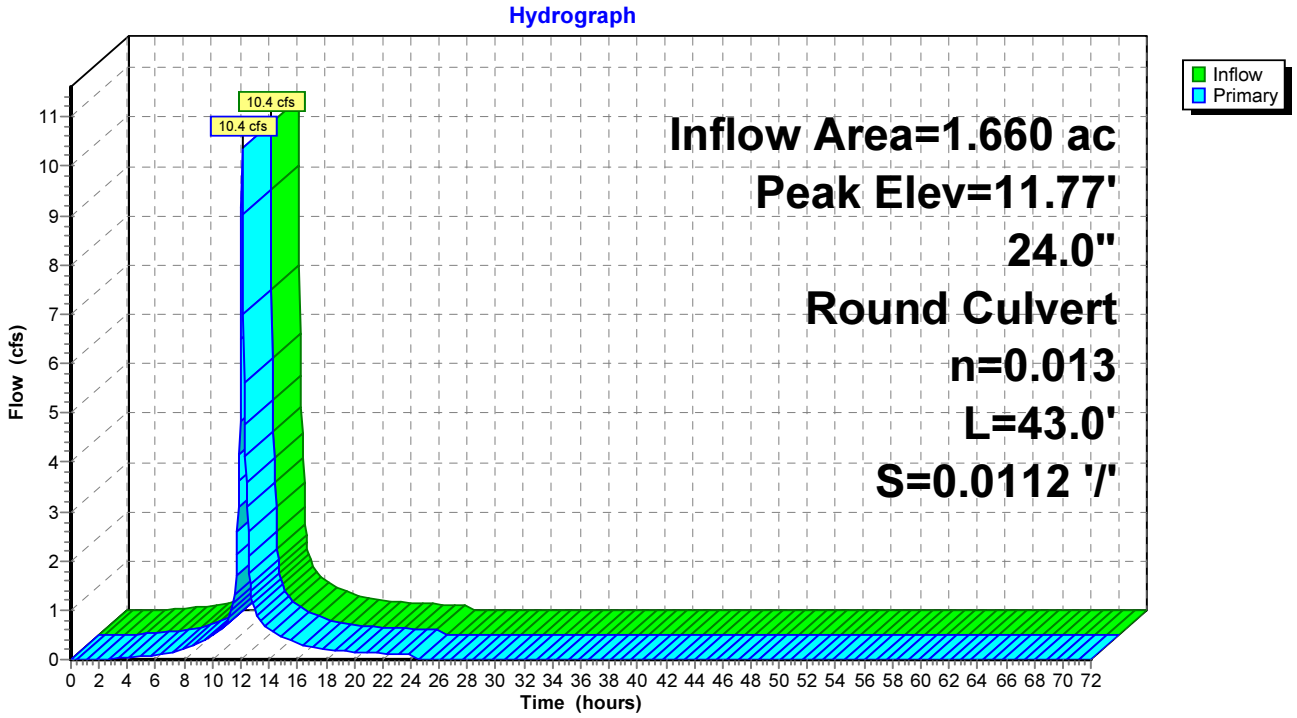
Inflow Area = 1.660 ac, 77.58% Impervious, Inflow Depth = 6.25" for 25 Year Storm event
Inflow = 10.4 cfs @ 12.10 hrs, Volume= 0.865 af
Outflow = 10.4 cfs @ 12.10 hrs, Volume= 0.865 af, Atten= 0%, Lag= 0.0 min
Primary = 10.4 cfs @ 12.10 hrs, Volume= 0.865 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.77' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.00'	**24.0" Round Culvert** L= 43.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.00' / 9.52' S= 0.0112 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.4 cfs @ 12.10 hrs HW=11.72' TW=11.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.4 cfs @ 3.91 fps)

Pond 3P: PCB3



Summary for Pond 4P: PCB7

[57] Hint: Peaked at 11.37' (Flood elevation advised)

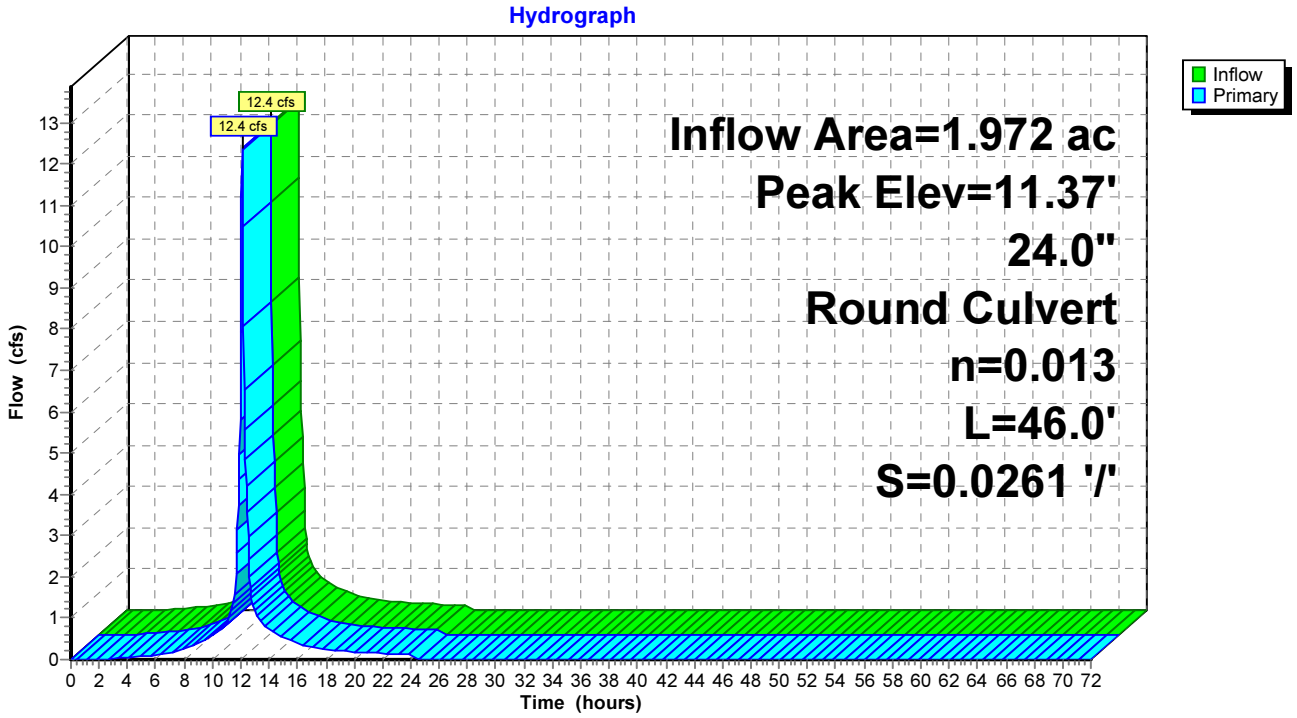
Inflow Area = 1.972 ac, 77.06% Impervious, Inflow Depth = 6.24" for 25 Year Storm event
Inflow = 12.4 cfs @ 12.09 hrs, Volume= 1.025 af
Outflow = 12.4 cfs @ 12.09 hrs, Volume= 1.025 af, Atten= 0%, Lag= 0.0 min
Primary = 12.4 cfs @ 12.09 hrs, Volume= 1.025 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.37' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.40'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.40' / 8.20' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.4 cfs @ 12.09 hrs HW=11.24' TW=10.73' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.4 cfs @ 4.08 fps)

Pond 4P: PCB7



Summary for Pond 5P: DMH 4B

[57] Hint: Peaked at 11.14' (Flood elevation advised)

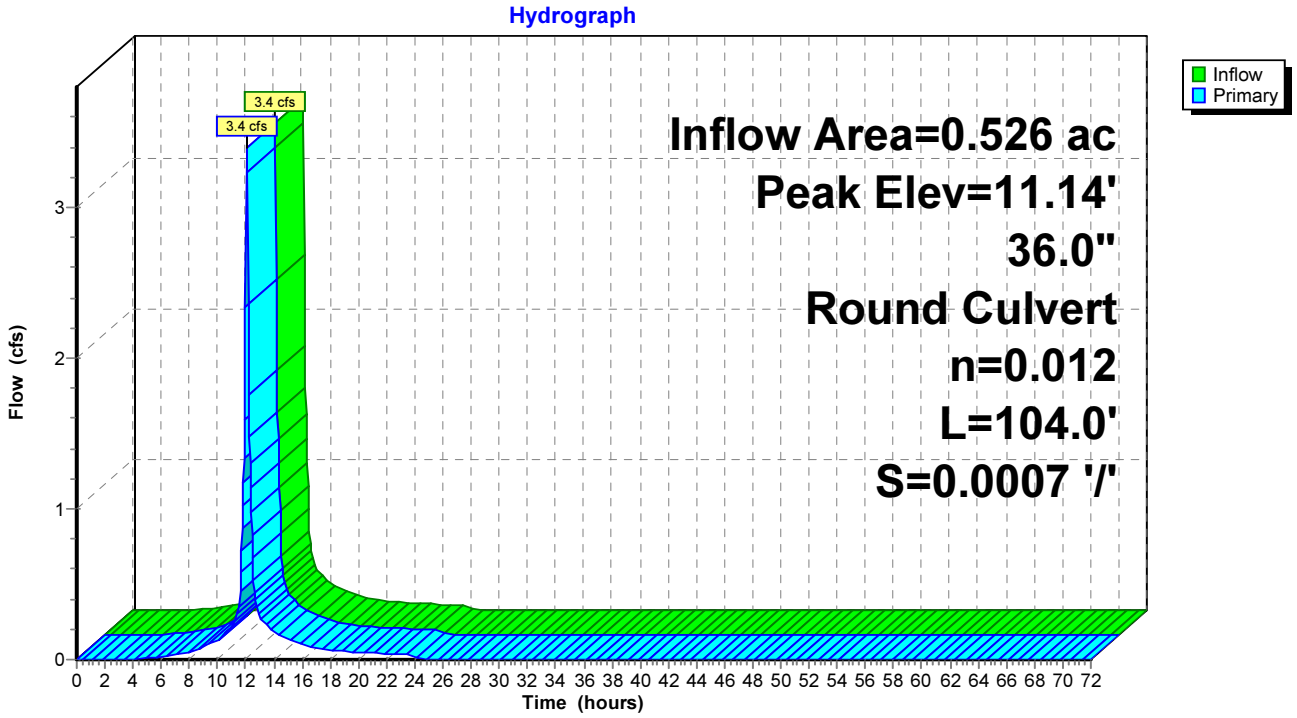
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 5.76" for 25 Year Storm event
Inflow = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af
Outflow = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.14' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.25'	**36.0" Round Culvert** L= 104.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.25' / 8.18' S= 0.0007 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.26' TW=10.58' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond 5P: DMH 4B



Summary for Pond 6P: PCB1

[57] Hint: Peaked at 15.13' (Flood elevation advised)

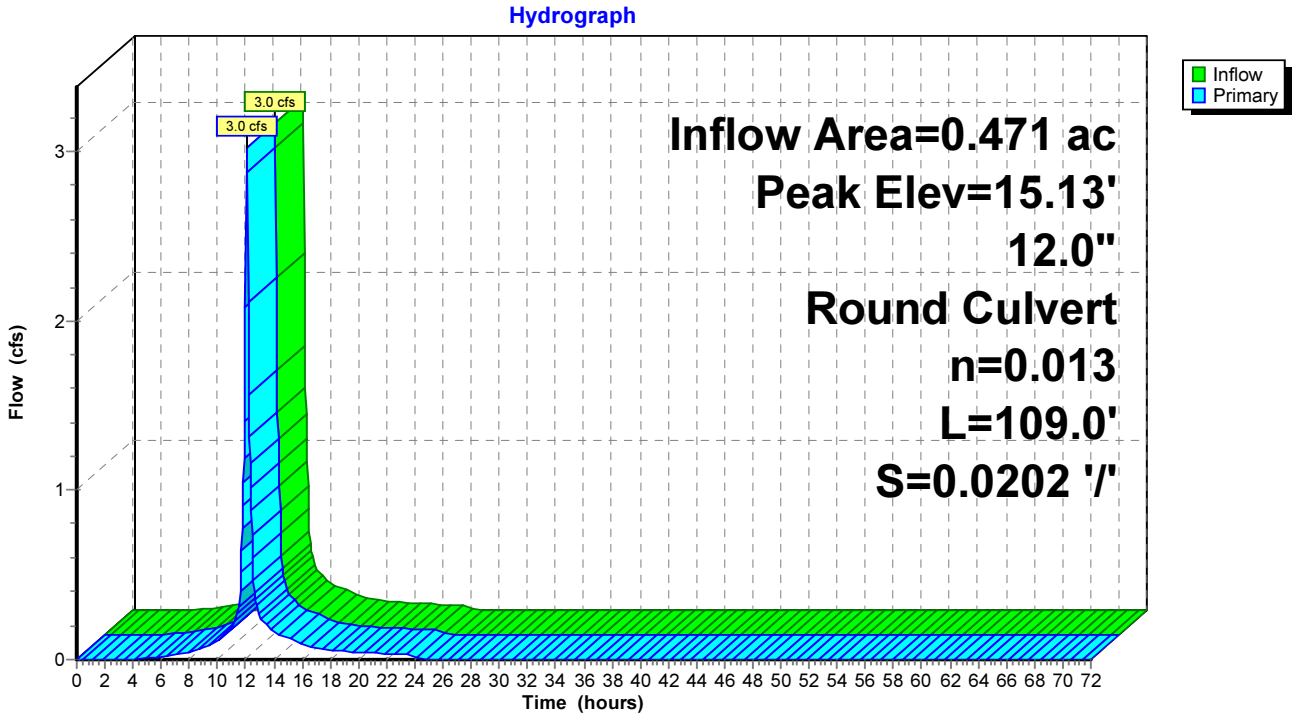
Inflow Area = 0.471 ac, 57.17% Impervious, Inflow Depth = 5.69" for 25 Year Storm event
Inflow = 3.0 cfs @ 12.07 hrs, Volume= 0.223 af
Outflow = 3.0 cfs @ 12.07 hrs, Volume= 0.223 af, Atten= 0%, Lag= 0.0 min
Primary = 3.0 cfs @ 12.07 hrs, Volume= 0.223 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.13' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 109.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 11.80' S= 0.0202 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.9 cfs @ 12.07 hrs HW=15.09' TW=13.08' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.9 cfs @ 3.71 fps)

Pond 6P: PCB1



Summary for Pond 7P: PCB2

[57] Hint: Peaked at 13.13' (Flood elevation advised)

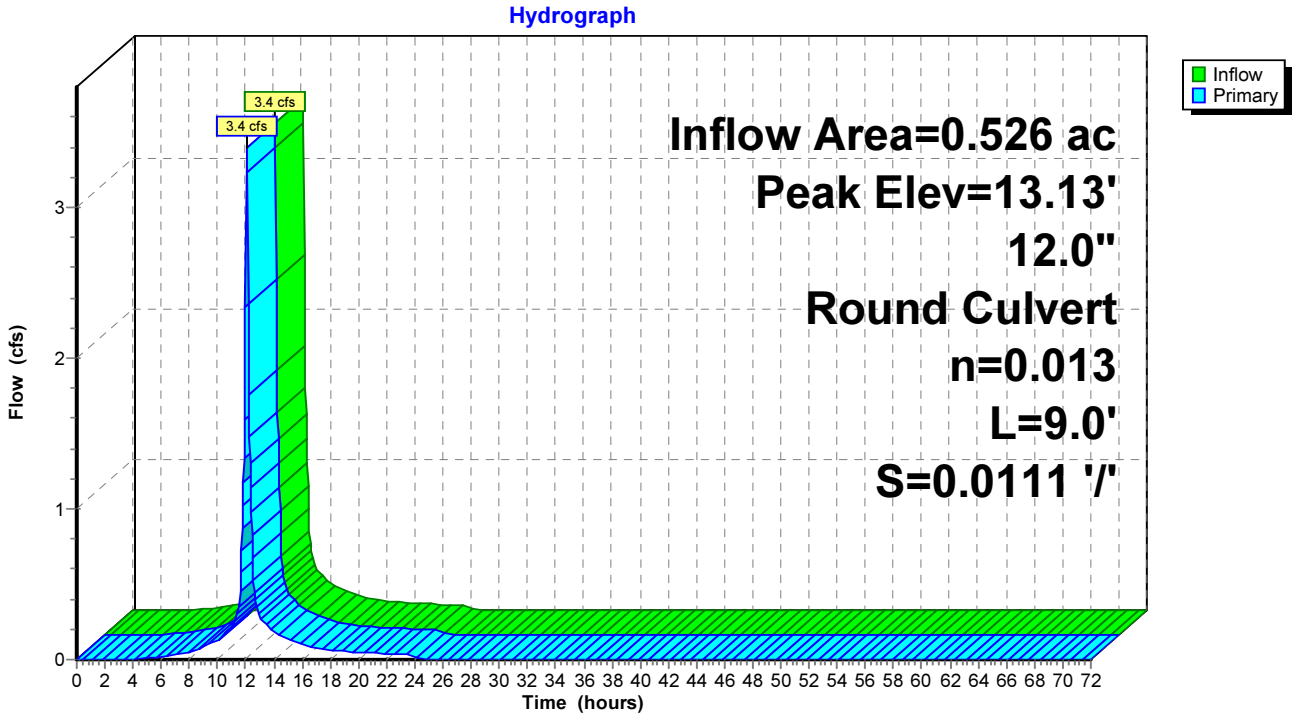
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 5.76" for 25 Year Storm event
Inflow = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af
Outflow = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min
Primary = 3.4 cfs @ 12.07 hrs, Volume= 0.253 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.13' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.60' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.3 cfs @ 12.07 hrs HW=13.08' TW=10.26' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.3 cfs @ 4.17 fps)

Pond 7P: PCB2



Summary for Pond 9P: PCB4

[57] Hint: Peaked at 11.12' (Flood elevation advised)

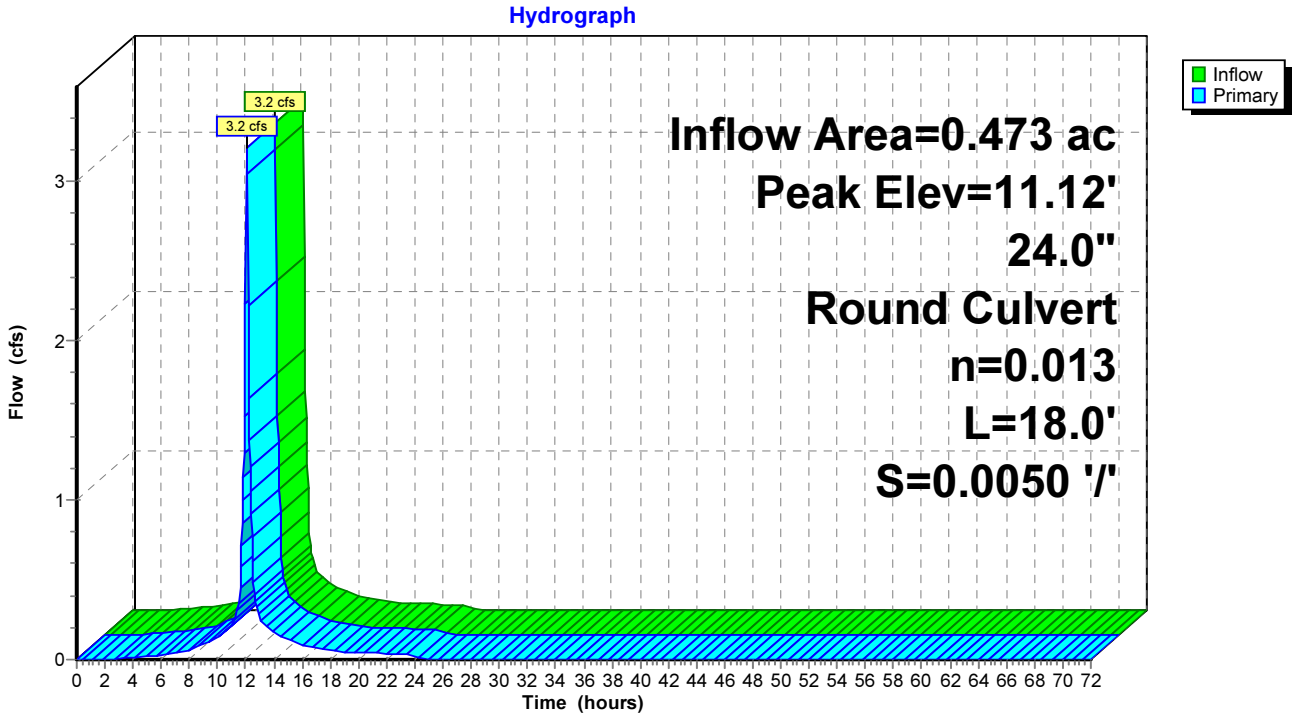
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 6.27" for 25 Year Storm event
Inflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af
Outflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
Primary = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.12' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**24.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.11' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.1 cfs @ 12.07 hrs HW=11.10' TW=10.54' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.1 cfs @ 3.33 fps)

Pond 9P: PCB4



Summary for Pond 10P: PCB5

[57] Hint: Peaked at 10.73' (Flood elevation advised)

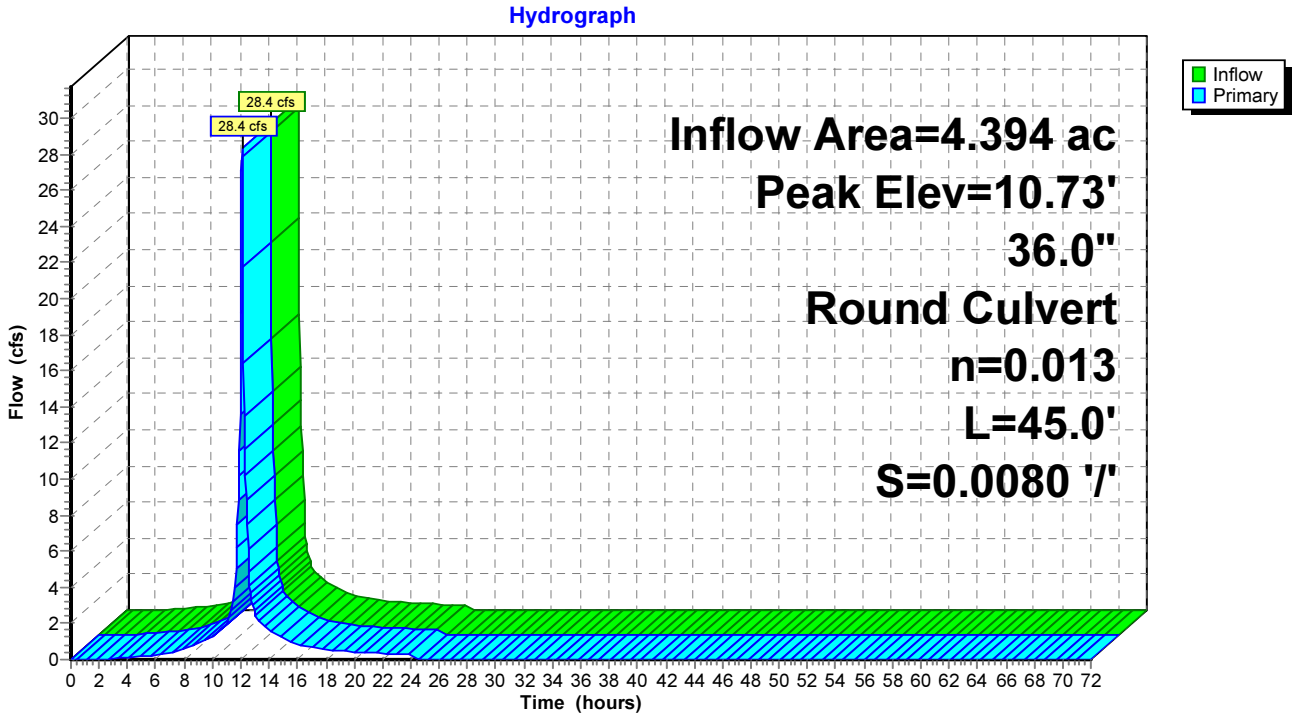
Inflow Area = 4.394 ac, 76.62% Impervious, Inflow Depth = 6.23" for 25 Year Storm event
Inflow = 28.4 cfs @ 12.08 hrs, Volume= 2.282 af
Outflow = 28.4 cfs @ 12.08 hrs, Volume= 2.282 af, Atten= 0%, Lag= 0.0 min
Primary = 28.4 cfs @ 12.08 hrs, Volume= 2.282 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.73' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.49' S= 0.0080 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=23.6 cfs @ 12.08 hrs HW=10.60' TW=10.03' (Dynamic Tailwater)
1=Culvert (Outlet Controls 23.6 cfs @ 4.55 fps)

Pond 10P: PCB5



Summary for Pond 12P: POCS2

[57] Hint: Peaked at 11.87' (Flood elevation advised)

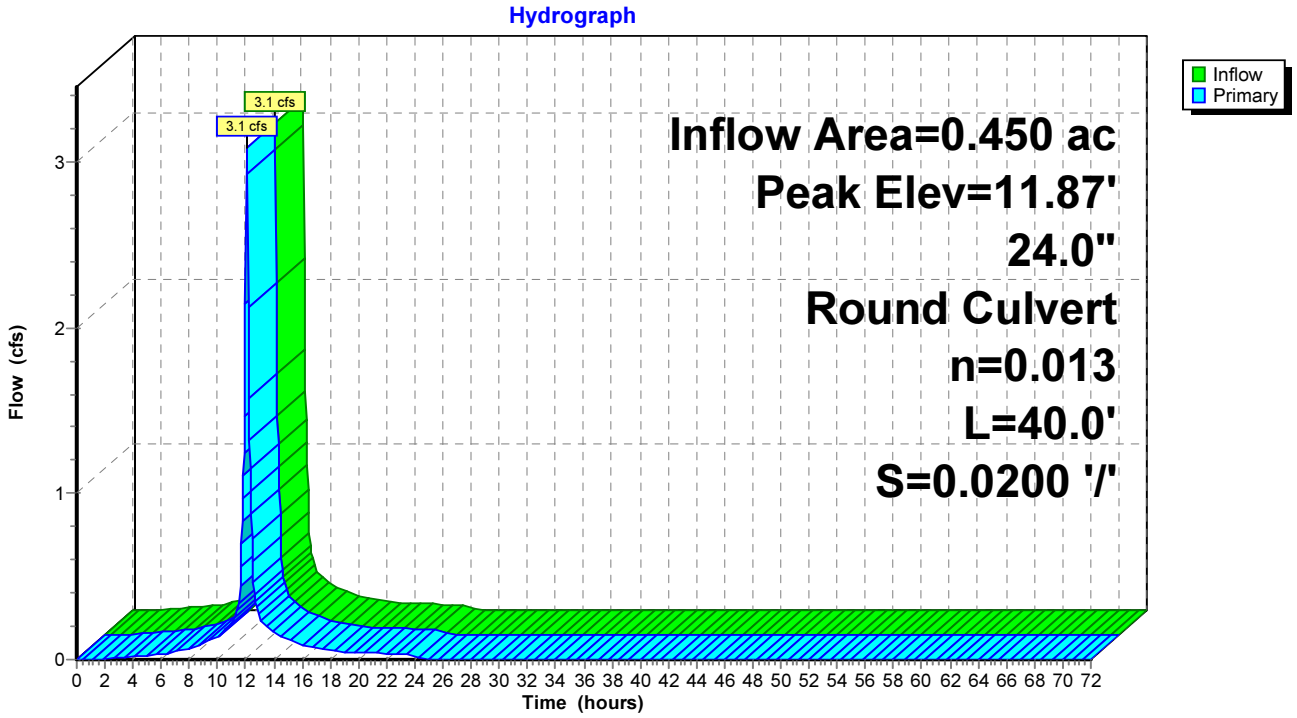
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 6.39" for 25 Year Storm event
Inflow = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af
Outflow = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.87' @ 12.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.90'	**24.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.90' / 10.10' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.8 cfs @ 12.07 hrs HW=11.75' TW=11.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.8 cfs @ 2.13 fps)

Pond 12P: POCS2



Summary for Pond 14P: POCS1

[57] Hint: Peaked at 11.77' (Flood elevation advised)

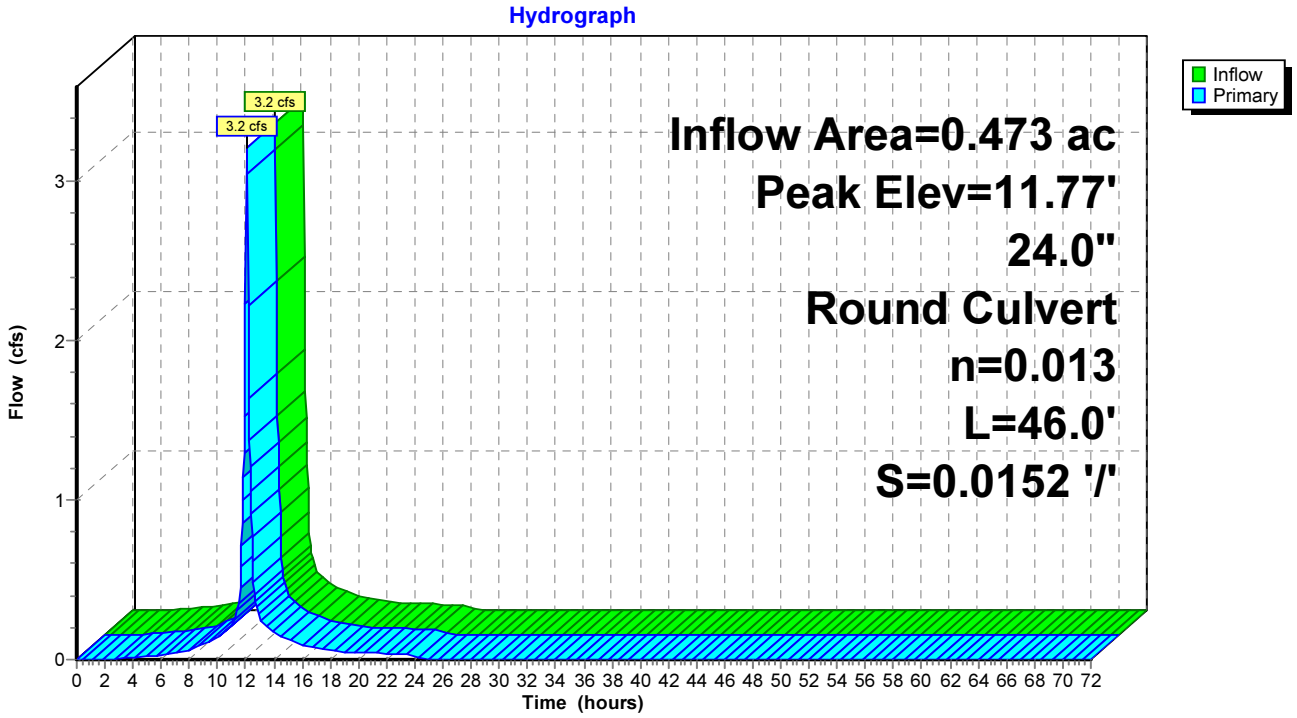
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 6.27" for 25 Year Storm event
Inflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af
Outflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
Primary = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.77' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.00'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.00' / 10.30' S= 0.0152 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.0 cfs @ 12.07 hrs HW=11.75' TW=11.10' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.0 cfs @ 4.09 fps)

Pond 14P: POCS1



Summary for Pond 15P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.57' (Flood elevation advised)

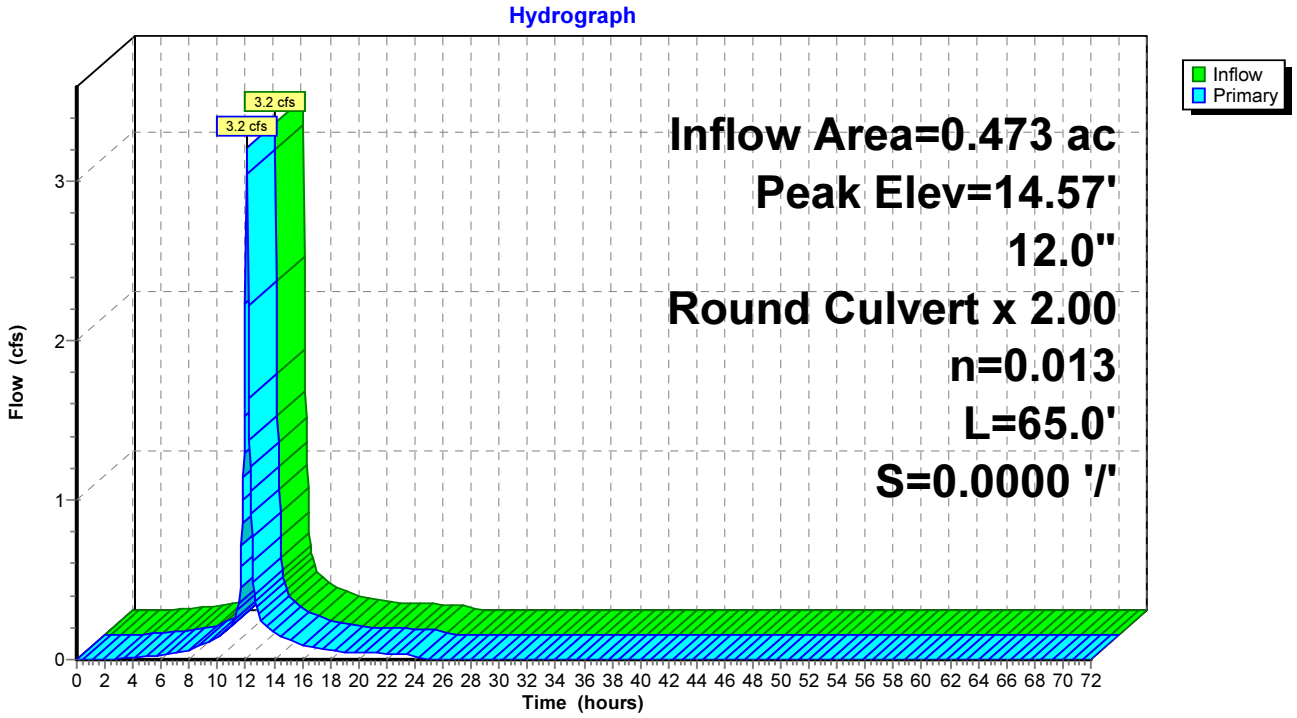
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 6.27" for 25 Year Storm event
Inflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af
Outflow = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min
Primary = 3.2 cfs @ 12.07 hrs, Volume= 0.247 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.57' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert X 2.00** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.1 cfs @ 12.07 hrs HW=14.55' TW=11.75' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.1 cfs @ 2.34 fps)

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond 16P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.07' (Flood elevation advised)

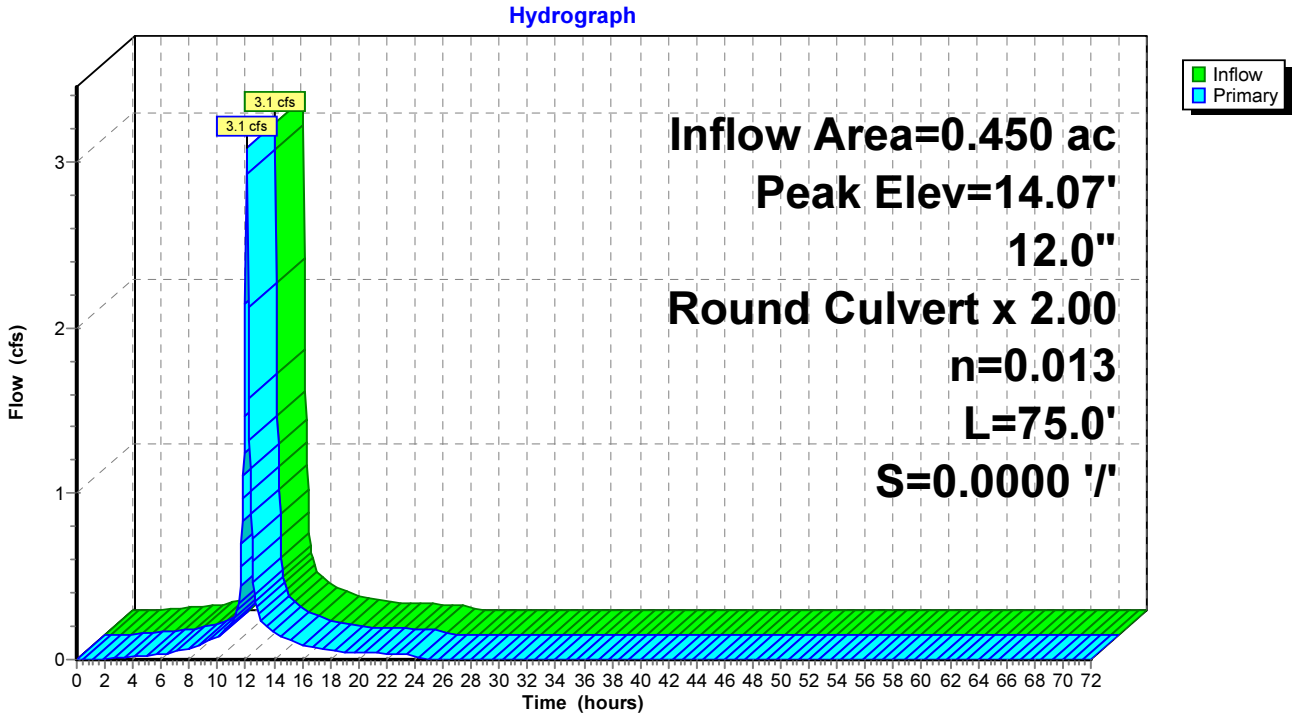
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 6.39" for 25 Year Storm event
Inflow = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af
Outflow = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min
Primary = 3.1 cfs @ 12.07 hrs, Volume= 0.239 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.07' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.00'	**12.0" Round Culvert X 2.00** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.00' / 13.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.0 cfs @ 12.07 hrs HW=14.04' TW=11.75' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.0 cfs @ 2.25 fps)

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond CB 5D: CB 5D

[57] Hint: Peaked at 10.99' (Flood elevation advised)

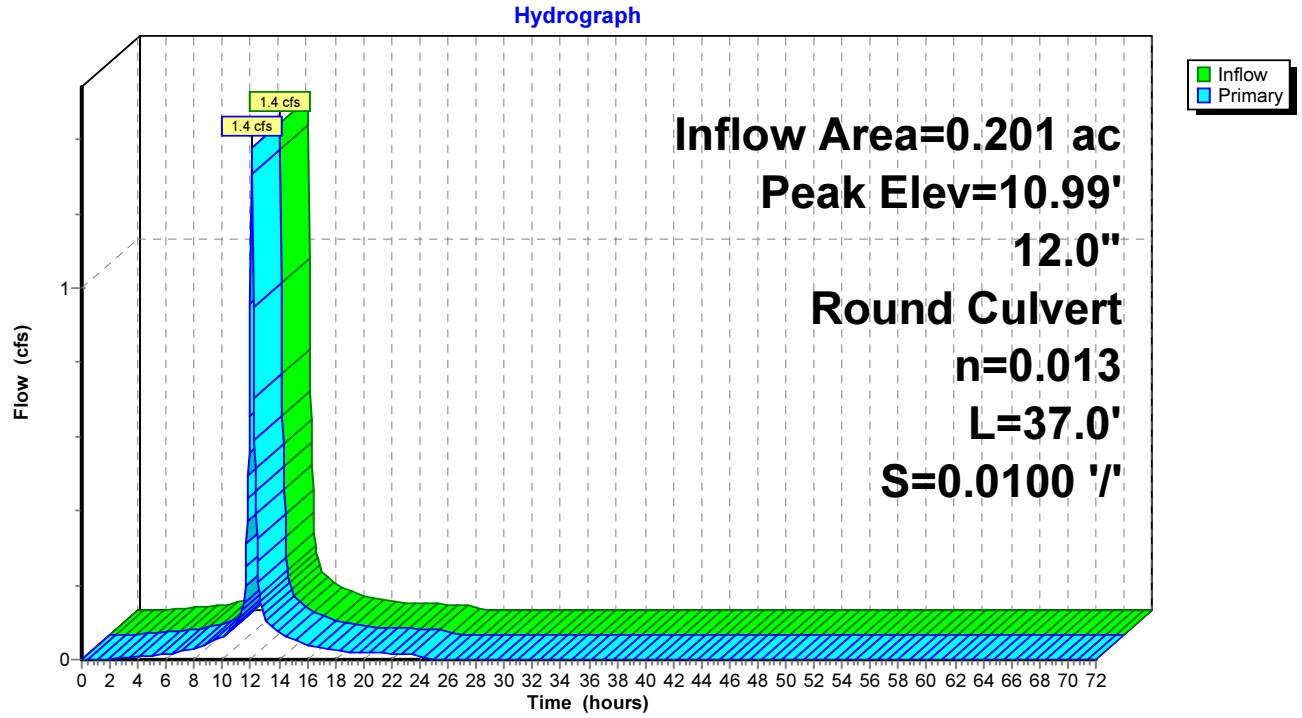
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 6.39" for 25 Year Storm event
Inflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.99' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.24'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.24' / 9.87' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.07 hrs HW=10.96' TW=10.65' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.2 cfs @ 2.77 fps)

Pond CB 5D: CB 5D



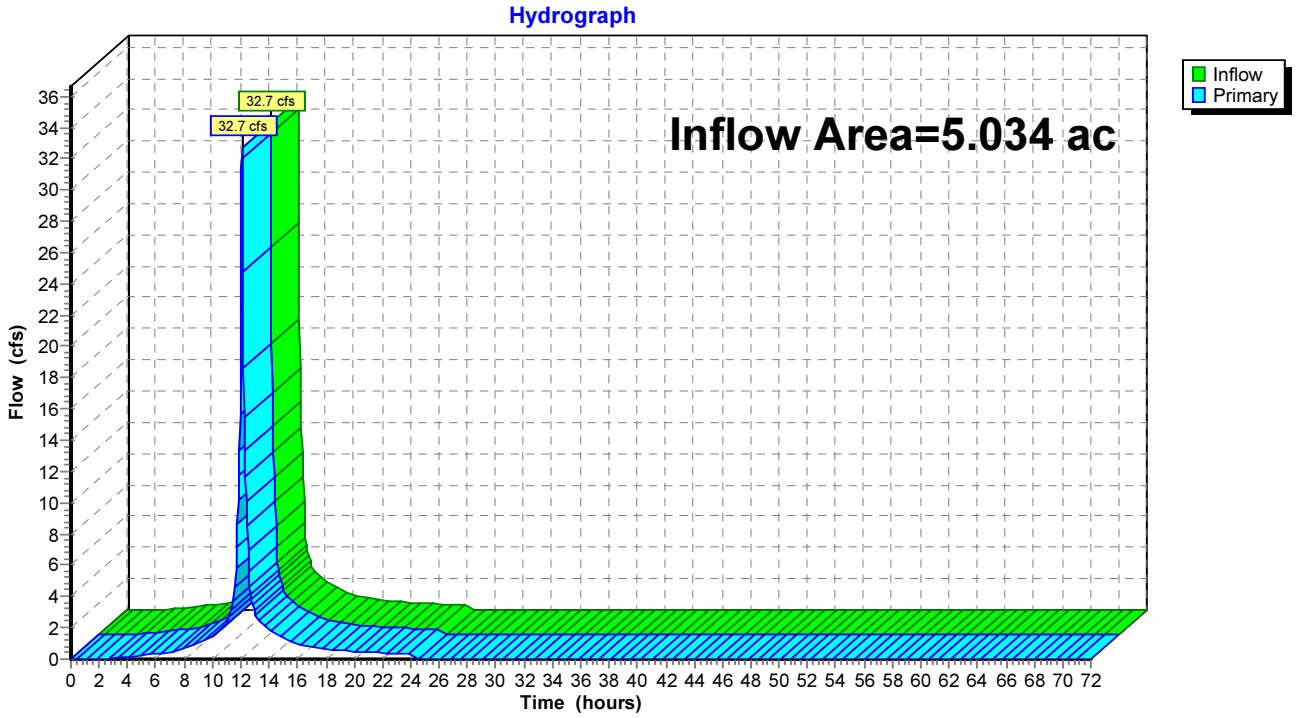
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.034 ac, 78.07% Impervious, Inflow Depth = 6.26" for 25 Year Storm event
Inflow = 32.7 cfs @ 12.08 hrs, Volume= 2.628 af
Primary = 32.7 cfs @ 12.08 hrs, Volume= 2.628 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH 4A

[57] Hint: Peaked at 11.03' (Flood elevation advised)
[80] Warning: Exceeded Pond 1P by 0.10' @ 12.10 hrs (9.3 cfs 0.053 af)
[80] Warning: Exceeded Pond DMH A6 by 0.17' @ 12.10 hrs (6.1 cfs 0.044 af)

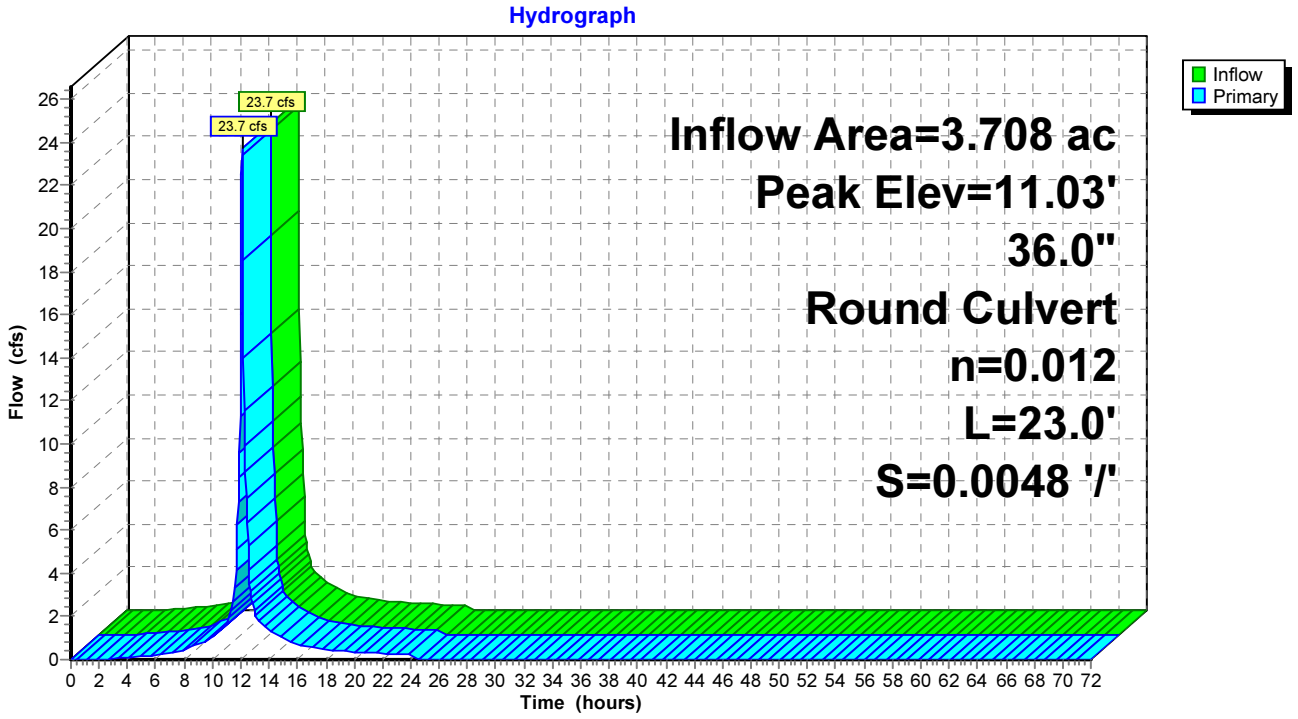
Inflow Area =	3.708 ac,	75.46% Impervious,	Inflow Depth =	6.20"	for 25 Year Storm event
Inflow =	23.7 cfs @	12.08 hrs,	Volume=	1.916 af	
Outflow =	23.7 cfs @	12.08 hrs,	Volume=	1.916 af,	Atten= 0%, Lag= 0.0 min
Primary =	23.7 cfs @	12.08 hrs,	Volume=	1.916 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.03' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 23.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.74' S= 0.0048 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=11.4 cfs @ 12.08 hrs HW=10.73' TW=10.61' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 11.4 cfs @ 1.64 fps)

Pond DMH 4A: DMH 4A



Summary for Pond DMH A6: DMH A6

[57] Hint: Peaked at 11.11' (Flood elevation advised)
[80] Warning: Exceeded Pond ENV 21 by 0.12' @ 12.15 hrs (3.0 cfs 0.016 af)

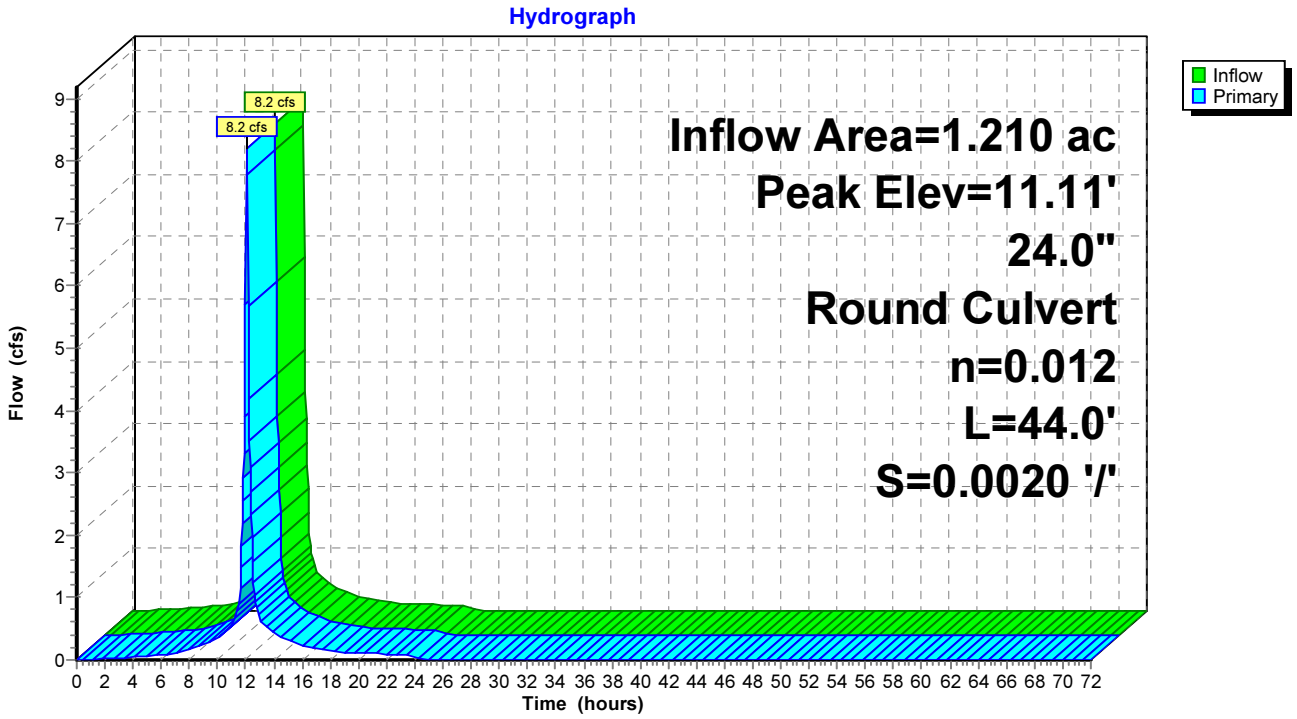
Inflow Area = 1.210 ac, 79.68% Impervious, Inflow Depth = 6.33" for 25 Year Storm event
Inflow = 8.2 cfs @ 12.07 hrs, Volume= 0.638 af
Outflow = 8.2 cfs @ 12.07 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min
Primary = 8.2 cfs @ 12.07 hrs, Volume= 0.638 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.11' @ 12.18 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.50'	**24.0" Round Culvert** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.50' / 8.41' S= 0.0020 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.51' TW=10.63' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond DMH A6: DMH A6



Summary for Pond ENV 21: ENV 21

[57] Hint: Peaked at 11.19' (Flood elevation advised)

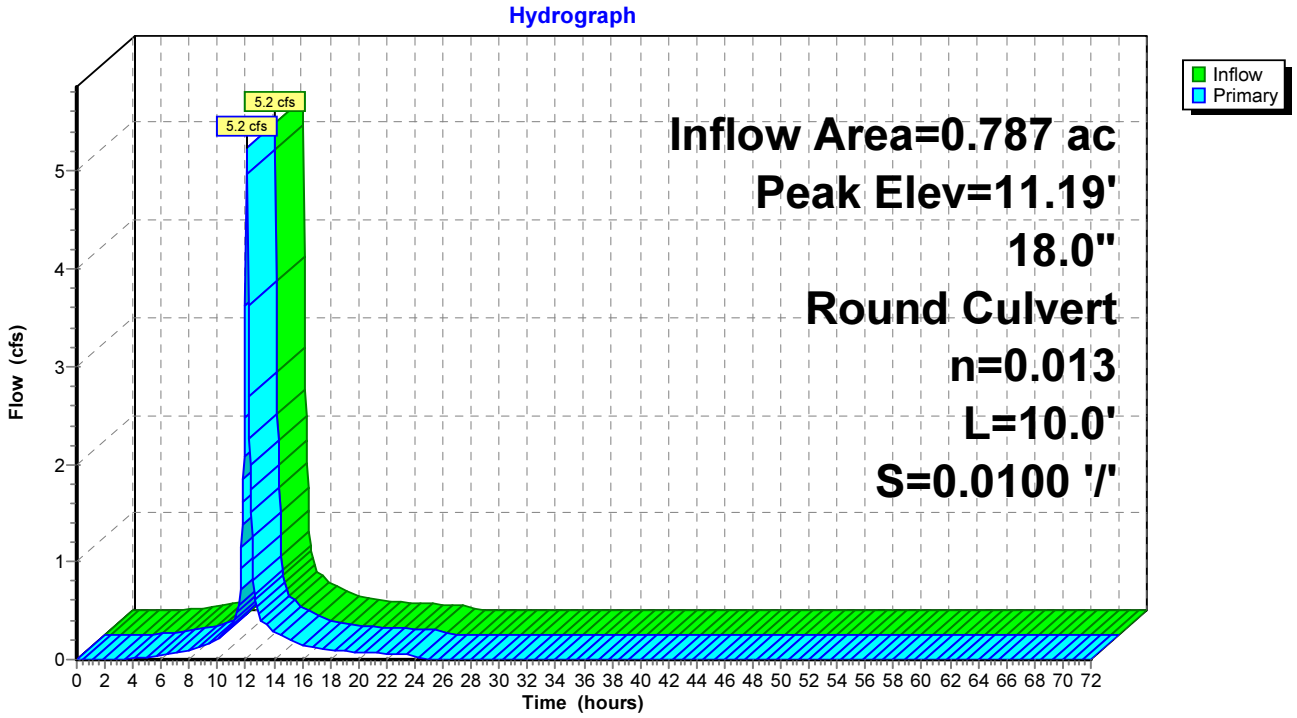
Inflow Area = 0.787 ac, 68.76% Impervious, Inflow Depth = 6.04" for 25 Year Storm event
Inflow = 5.2 cfs @ 12.07 hrs, Volume= 0.396 af
Outflow = 5.2 cfs @ 12.07 hrs, Volume= 0.396 af, Atten= 0%, Lag= 0.0 min
Primary = 5.2 cfs @ 12.07 hrs, Volume= 0.396 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.19' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	**18.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.00' / 8.90' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.3 cfs @ 12.07 hrs HW=10.53' TW=10.51' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.3 cfs @ 0.71 fps)

Pond ENV 21: ENV 21



Summary for Pond PCB-BH: PCB-BH

[57] Hint: Peaked at 15.47' (Flood elevation advised)
[61] Hint: Exceeded Reach 3R outlet invert by 0.12' @ 12.10 hrs

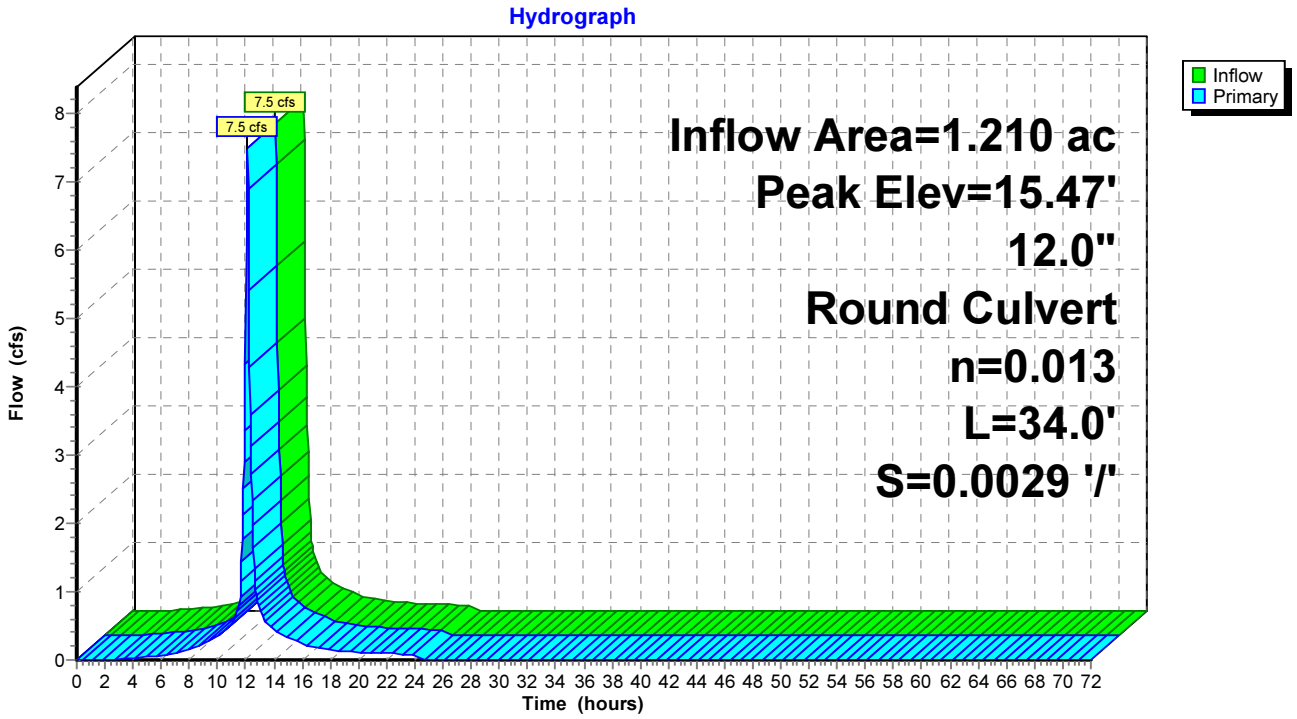
Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 6.21" for 25 Year Storm event
Inflow = 7.5 cfs @ 12.11 hrs, Volume= 0.626 af
Outflow = 7.5 cfs @ 12.11 hrs, Volume= 0.626 af, Atten= 0%, Lag= 0.0 min
Primary = 7.5 cfs @ 12.11 hrs, Volume= 0.626 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.47' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**12.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.10' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=7.1 cfs @ 12.11 hrs HW=15.31' TW=11.74' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 7.1 cfs @ 9.10 fps)

Pond PCB-BH: PCB-BH



Summary for Pond PDMH 1: PDMH 1

[57] Hint: Peaked at 10.66' (Flood elevation advised)

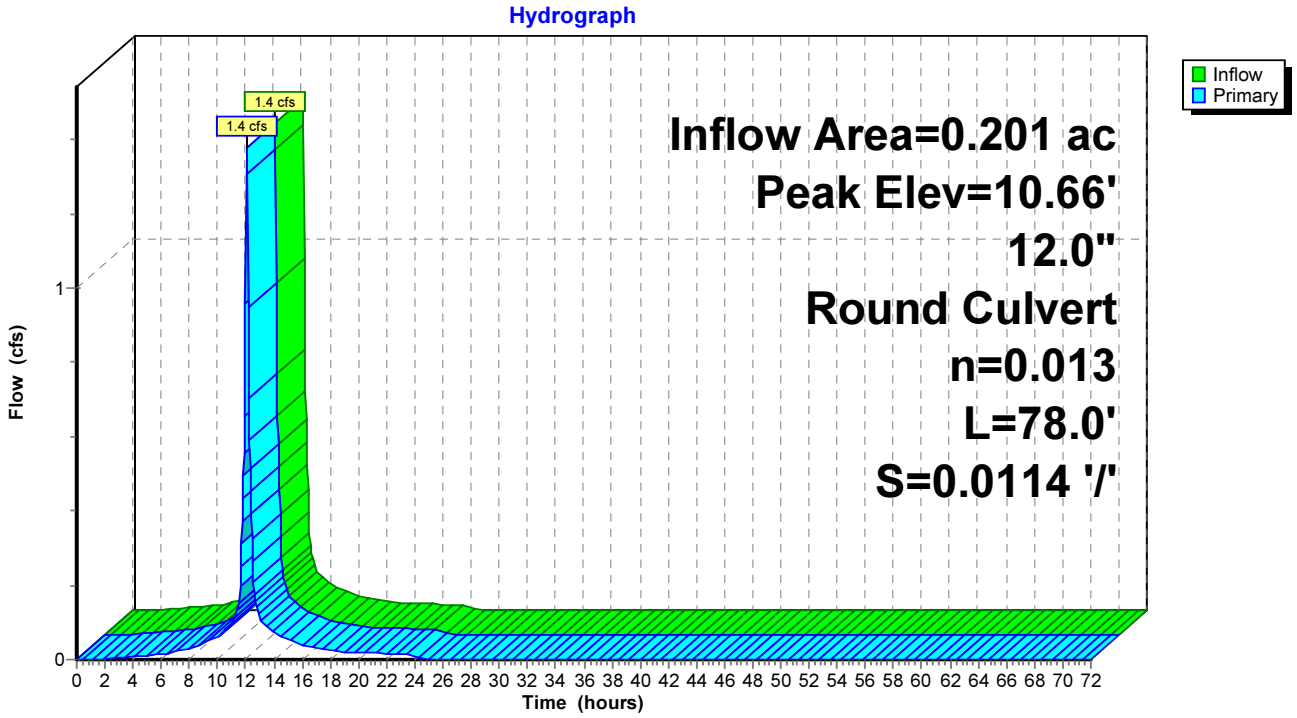
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 6.39" for 25 Year Storm event
Inflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.66' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.04'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.04' / 9.15' S= 0.0114 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.2 cfs @ 12.07 hrs HW=10.65' TW=9.93' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.2 cfs @ 3.36 fps)

Pond PDMH 1: PDMH 1



Summary for Pond PDMH 2: PDMH 2

[57] Hint: Peaked at 10.14' (Flood elevation advised)

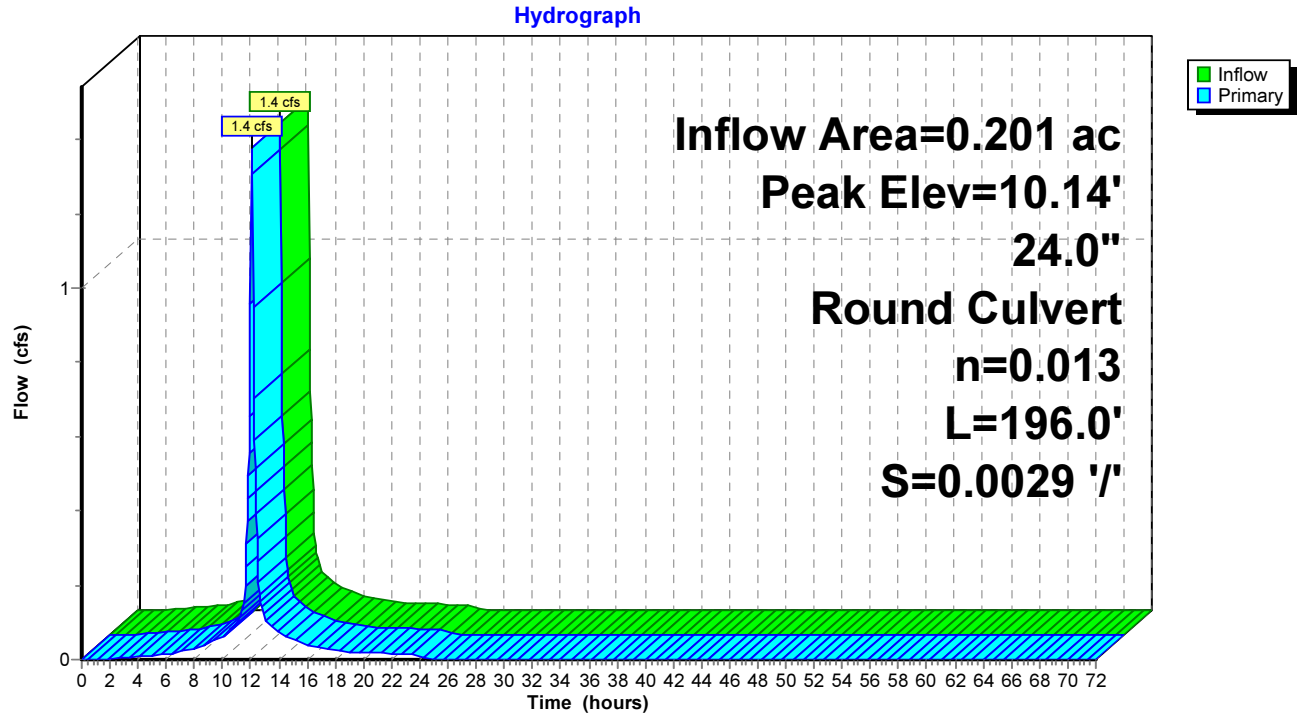
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 6.39" for 25 Year Storm event
Inflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af
Outflow = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.4 cfs @ 12.07 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.14' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.05'	**24.0" Round Culvert** L= 196.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.05' / 8.49' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=9.93' TW=10.03' (Dynamic Tailwater)
↑**1=Culvert** (Controls 0.0 cfs)

Pond PDMH 2: PDMH 2



Summary for Pond PDMH 3: PDMH 3

[57] Hint: Peaked at 10.08' (Flood elevation advised)
[80] Warning: Exceeded Pond PDMH 2 by 0.19' @ 12.05 hrs (1.6 cfs 0.007 af)

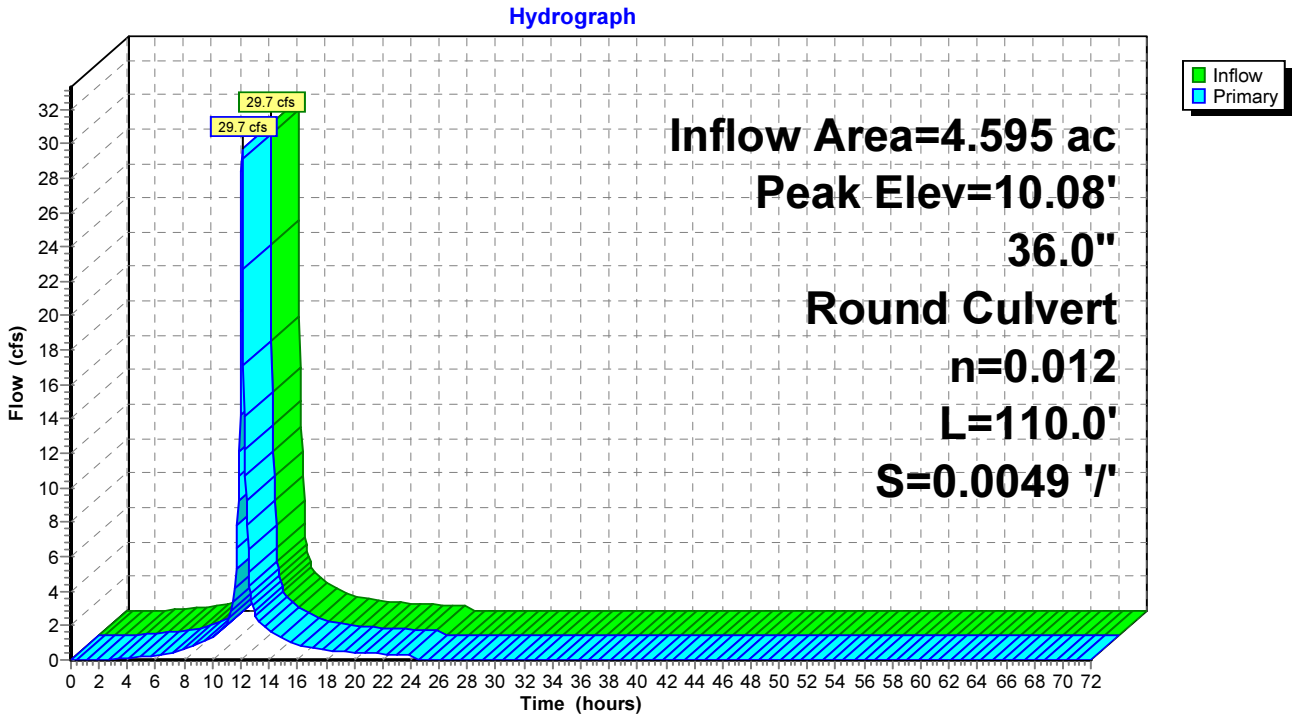
Inflow Area =	4.595 ac, 77.00% Impervious, Inflow Depth =	6.24"	for	25 Year Storm event
Inflow =	29.7 cfs @ 12.08 hrs, Volume=	2.389 af		
Outflow =	29.7 cfs @ 12.08 hrs, Volume=	2.389 af, Atten= 0%, Lag= 0.0 min		
Primary =	29.7 cfs @ 12.08 hrs, Volume=	2.389 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.08' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.48'	**36.0" Round Culvert** L= 110.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.48' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=28.9 cfs @ 12.08 hrs HW=10.03' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 28.9 cfs @ 6.06 fps)

Pond PDMH 3: PDMH 3



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PS1: Runoff Area=7,157 sf 95.88% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=97 Runoff=1.4 cfs 0.111 af

Subcatchment PS2a: Runoff Area=20,584 sf 77.98% Impervious Runoff Depth=7.66"
Tc=5.0 min CN=93 Runoff=3.9 cfs 0.302 af

Subcatchment PS2b: Runoff Area=11,747 sf 83.79% Impervious Runoff Depth=7.78"
Tc=5.0 min CN=94 Runoff=2.2 cfs 0.175 af

Subcatchment PS3a: Runoff Area=19,589 sf 82.66% Impervious Runoff Depth=7.78"
Tc=5.0 min CN=94 Runoff=3.7 cfs 0.292 af

Subcatchment PS3b: Runoff Area=40,960 sf 73.37% Impervious Runoff Depth=7.54"
Tc=5.0 min CN=92 Runoff=7.7 cfs 0.591 af

Subcatchment PS4: Runoff Area=12,006 sf 85.32% Impervious Runoff Depth=7.78"
Tc=5.0 min CN=94 Runoff=2.3 cfs 0.179 af

Subcatchment PS5: Runoff Area=34,260 sf 68.76% Impervious Runoff Depth=7.42"
Tc=5.0 min CN=91 Runoff=6.4 cfs 0.486 af

Subcatchment PS5A: Runoff Area=9,298 sf 93.79% Impervious Runoff Depth=8.14"
Tc=5.0 min CN=97 Runoff=1.8 cfs 0.145 af

Subcatchment PS5B: Runoff Area=13,605 sf 74.26% Impervious Runoff Depth=7.54"
Tc=5.0 min CN=92 Runoff=2.5 cfs 0.196 af

Subcatchment PS5C: PS5 Roof Runoff Area=18,430 sf 100.00% Impervious Runoff Depth=8.26"
Tc=5.0 min CN=98 Runoff=3.6 cfs 0.291 af

Subcatchment PS6: Runoff Area=20,527 sf 57.17% Impervious Runoff Depth=7.06"
Tc=5.0 min CN=88 Runoff=3.7 cfs 0.277 af

Subcatchment PS7: Runoff Area=8,740 sf 85.26% Impervious Runoff Depth=7.78"
Tc=5.0 min CN=94 Runoff=1.7 cfs 0.130 af

Subcatchment PS8: Runoff Area=2,398 sf 81.98% Impervious Runoff Depth=7.78"
Tc=5.0 min CN=94 Runoff=0.5 cfs 0.036 af

Reach 3R: Swale Avg. Flow Depth=0.76' Max Vel=2.06 fps Inflow=9.9 cfs 0.766 af
n=0.030 L=380.0' S=0.0050 '/' Capacity=16.9 cfs Outflow=9.1 cfs 0.766 af

Pond 1P: DMH A19 Peak Elev=11.92' Inflow=19.1 cfs 1.566 af
36.0" Round Culvert n=0.012 L=106.0' S=0.0028 '/' Outflow=19.1 cfs 1.566 af

Pond 3P: PCB3 Peak Elev=12.37' Inflow=12.6 cfs 1.057 af
24.0" Round Culvert n=0.013 L=43.0' S=0.0112 '/' Outflow=12.6 cfs 1.057 af

Pond 4P: PCB7 Peak Elev=12.22' Inflow=15.0 cfs 1.253 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0261 '/' Outflow=15.0 cfs 1.253 af

Pond 5P: DMH 4B Peak Elev=11.92' Inflow=4.2 cfs 0.313 af
36.0" Round Culvert n=0.012 L=104.0' S=0.0007 '/' Outflow=4.2 cfs 0.313 af

Pond 6P: PCB1 Peak Elev=15.45' Inflow=3.7 cfs 0.277 af
12.0" Round Culvert n=0.013 L=109.0' S=0.0202 '/' Outflow=3.7 cfs 0.277 af

Pond 7P: PCB2 Peak Elev=13.38' Inflow=4.2 cfs 0.313 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0111 '/' Outflow=4.2 cfs 0.313 af

Pond 9P: PCB4 Peak Elev=11.44' Inflow=3.9 cfs 0.302 af
24.0" Round Culvert n=0.013 L=18.0' S=0.0050 '/' Outflow=3.9 cfs 0.302 af

Pond 10P: PCB5 Peak Elev=11.36' Inflow=34.4 cfs 2.790 af
36.0" Round Culvert n=0.013 L=45.0' S=0.0080 '/' Outflow=34.4 cfs 2.790 af

Pond 12P: POCS2 Peak Elev=12.38' Inflow=3.7 cfs 0.292 af
24.0" Round Culvert n=0.013 L=40.0' S=0.0200 '/' Outflow=3.7 cfs 0.292 af

Pond 14P: POCS1 Peak Elev=11.86' Inflow=3.9 cfs 0.302 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0152 '/' Outflow=3.9 cfs 0.302 af

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.75' Inflow=3.9 cfs 0.302 af
12.0" Round Culvert x 2.00 n=0.013 L=65.0' S=0.0000 '/' Outflow=3.9 cfs 0.302 af

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN Peak Elev=14.24' Inflow=3.7 cfs 0.292 af
12.0" Round Culvert x 2.00 n=0.013 L=75.0' S=0.0000 '/' Outflow=3.7 cfs 0.292 af

Pond CB 5D: CB 5D Peak Elev=11.08' Inflow=1.7 cfs 0.130 af
12.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=1.7 cfs 0.130 af

Pond DMH 4: DP 1 Inflow=39.6 cfs 3.210 af
Primary=39.6 cfs 3.210 af

Pond DMH 4A: DMH 4A Peak Elev=11.79' Inflow=28.8 cfs 2.344 af
36.0" Round Culvert n=0.012 L=23.0' S=0.0048 '/' Outflow=28.8 cfs 2.344 af

Pond DMH A6: DMH A6 Peak Elev=11.91' Inflow=9.9 cfs 0.777 af
24.0" Round Culvert n=0.012 L=44.0' S=0.0020 '/' Outflow=9.9 cfs 0.777 af

Pond ENV 21: ENV 21 Peak Elev=12.02' Inflow=6.4 cfs 0.486 af
18.0" Round Culvert n=0.013 L=10.0' S=0.0100 '/' Outflow=6.4 cfs 0.486 af

Pond PCB-BH: PCB-BH Peak Elev=17.60' Inflow=9.1 cfs 0.766 af
12.0" Round Culvert n=0.013 L=34.0' S=0.0029 '/' Outflow=9.1 cfs 0.766 af

Pond PDMH 1: PDMH 1 Peak Elev=10.79' Inflow=1.7 cfs 0.130 af
12.0" Round Culvert n=0.013 L=78.0' S=0.0114 '/' Outflow=1.7 cfs 0.130 af

Pond PDMH 2: PDMH 2 Peak Elev=10.49' Inflow=1.7 cfs 0.130 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0029 '/' Outflow=1.7 cfs 0.130 af

Pond PDMH 3: PDMH 3 Peak Elev=10.46' Inflow=36.0 cfs 2.920 af
36.0" Round Culvert n=0.012 L=110.0' S=0.0049 '/' Outflow=36.0 cfs 2.920 af

Total Runoff Area = 5.034 ac Runoff Volume = 3.210 af Average Runoff Depth = 7.65"
21.93% Pervious = 1.104 ac 78.07% Impervious = 3.930 ac

Summary for Subcatchment PS1:

[49] Hint: Tc<2dt may require smaller dt

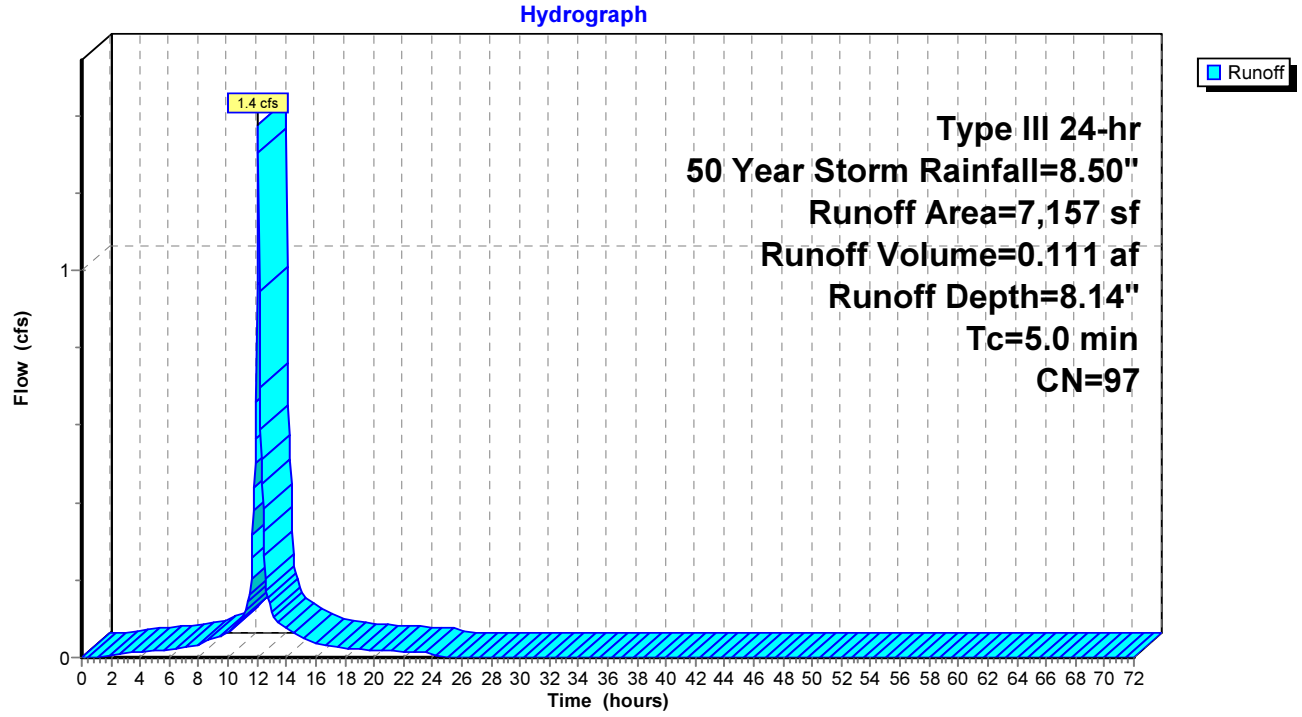
Runoff = 1.4 cfs @ 12.07 hrs, Volume= 0.111 af, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	1,344	98	Paved parking, HSG C
*	544	98	Sidewalks, HSG C
	4,974	98	Roofs, HSG C
	295	74	>75% Grass cover, Good, HSG C
	7,157	97	Weighted Average
	295		4.12% Pervious Area
	6,862		95.88% Impervious Area

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

Subcatchment PS1:



Summary for Subcatchment PS2a:

[49] Hint: Tc<2dt may require smaller dt

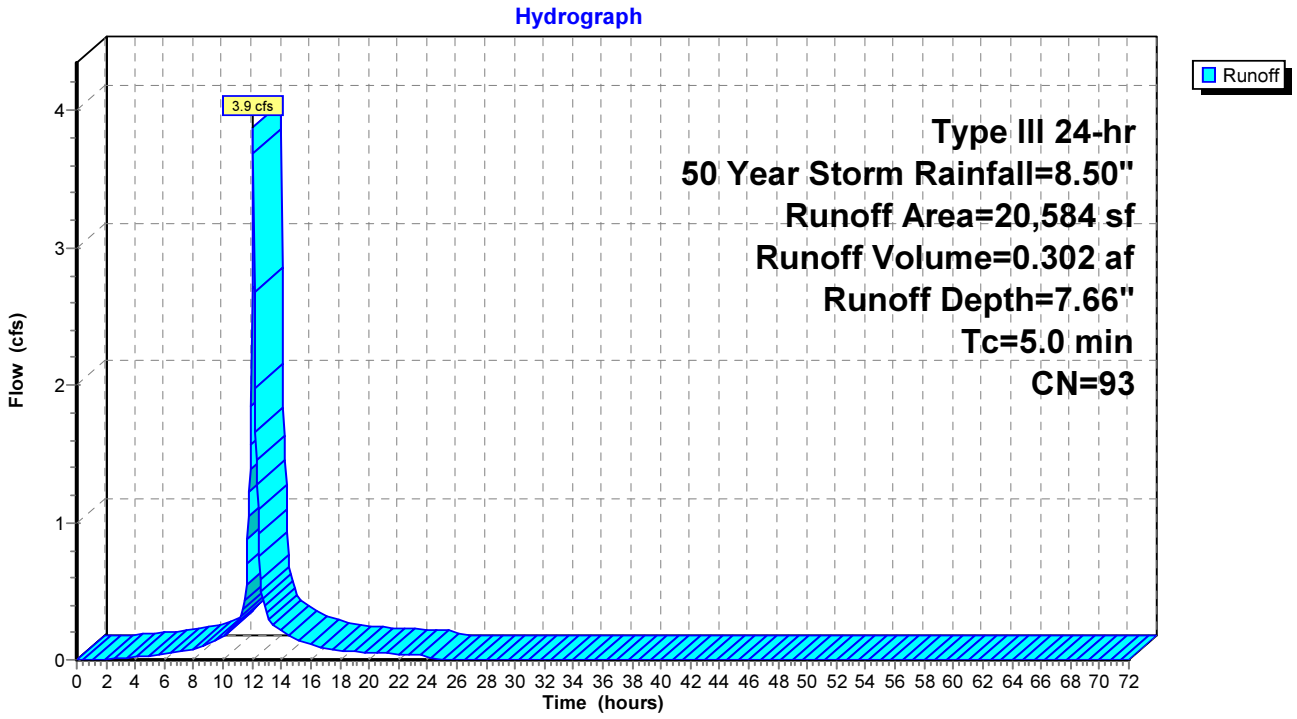
Runoff = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af, Depth= 7.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	15,319	98	Paved parking, HSG C
*	733	98	Sidewalks, HSG C
	4,532	74	>75% Grass cover, Good, HSG C
	20,584	93	Weighted Average
	4,532		22.02% Pervious Area
	16,052		77.98% Impervious Area

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

Subcatchment PS2a:



Summary for Subcatchment PS2b:

[49] Hint: Tc<2dt may require smaller dt

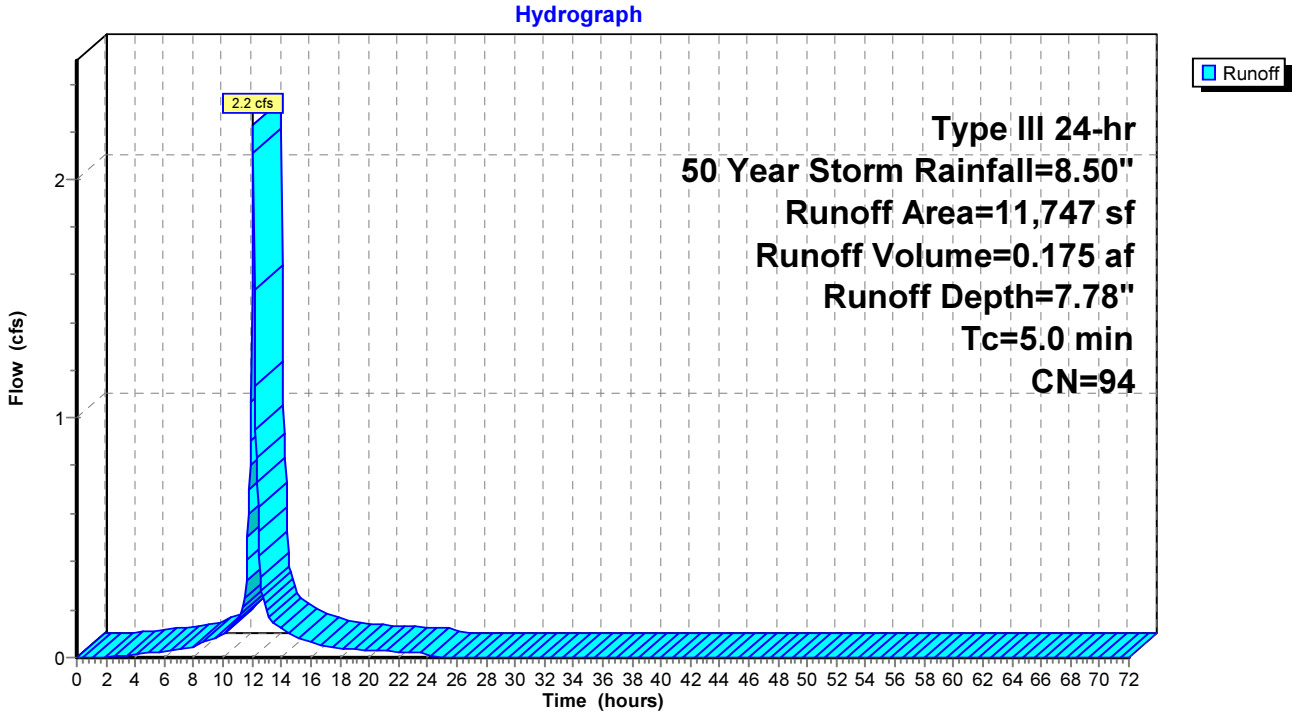
Runoff = 2.2 cfs @ 12.07 hrs, Volume= 0.175 af, Depth= 7.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
9,843	98	Roofs, HSG C
1,904	74	>75% Grass cover, Good, HSG C
11,747	94	Weighted Average
1,904		16.21% Pervious Area
9,843		83.79% Impervious Area

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

Subcatchment PS2b:



Summary for Subcatchment PS3a:

[49] Hint: Tc<2dt may require smaller dt

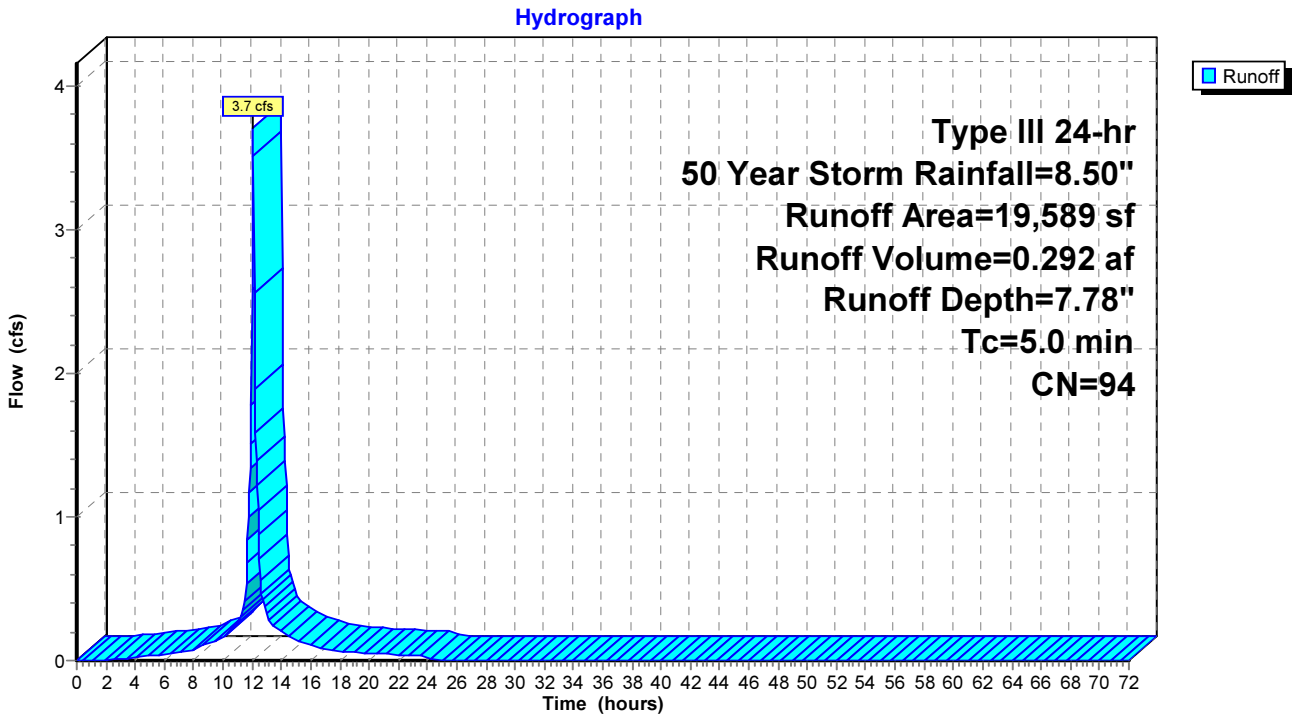
Runoff = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af, Depth= 7.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
16,192	98	Paved parking, HSG C
3,397	74	>75% Grass cover, Good, HSG C
19,589	94	Weighted Average
3,397		17.34% Pervious Area
16,192		82.66% Impervious Area

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

Subcatchment PS3a:



Summary for Subcatchment PS3b:

[49] Hint: Tc<2dt may require smaller dt

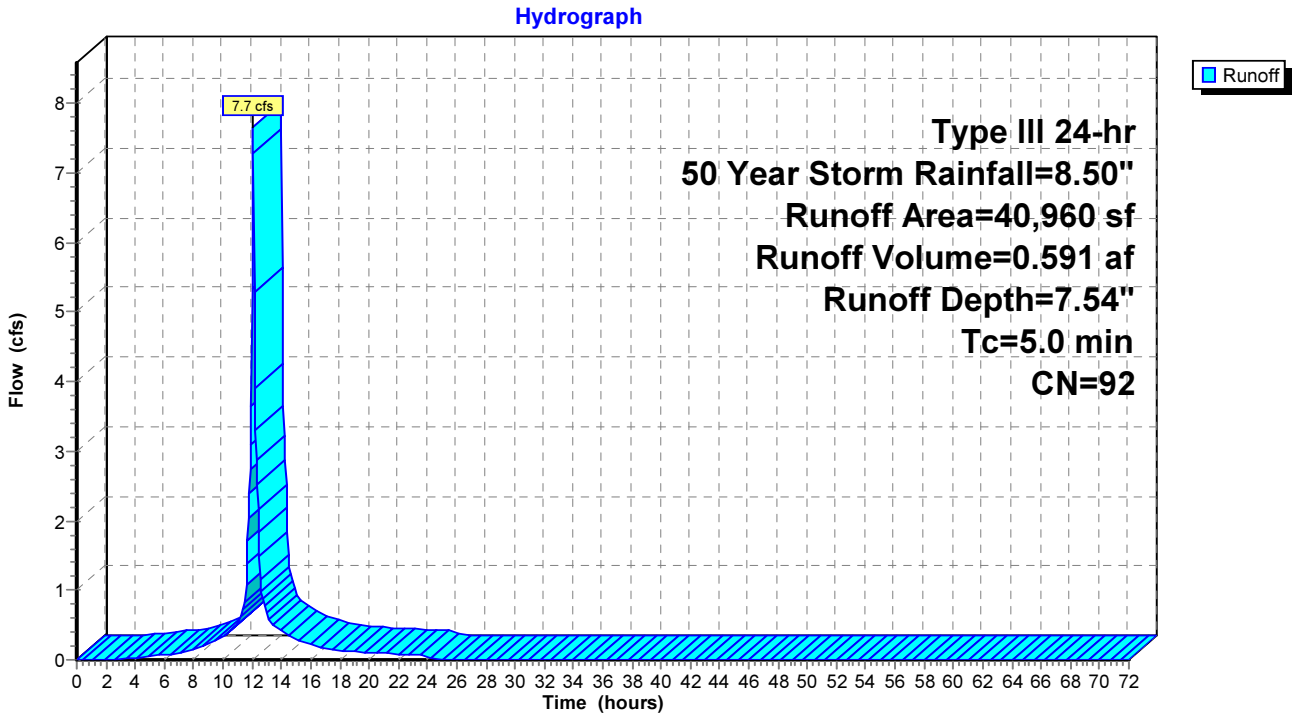
Runoff = 7.7 cfs @ 12.07 hrs, Volume= 0.591 af, Depth= 7.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
24,825	98	Roofs, HSG C
10,906	74	>75% Grass cover, Good, HSG C
5,229	98	Paved parking, HSG C
40,960	92	Weighted Average
10,906		26.63% Pervious Area
30,054		73.37% Impervious Area

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

Subcatchment PS3b:



Summary for Subcatchment PS4:

[49] Hint: Tc<2dt may require smaller dt

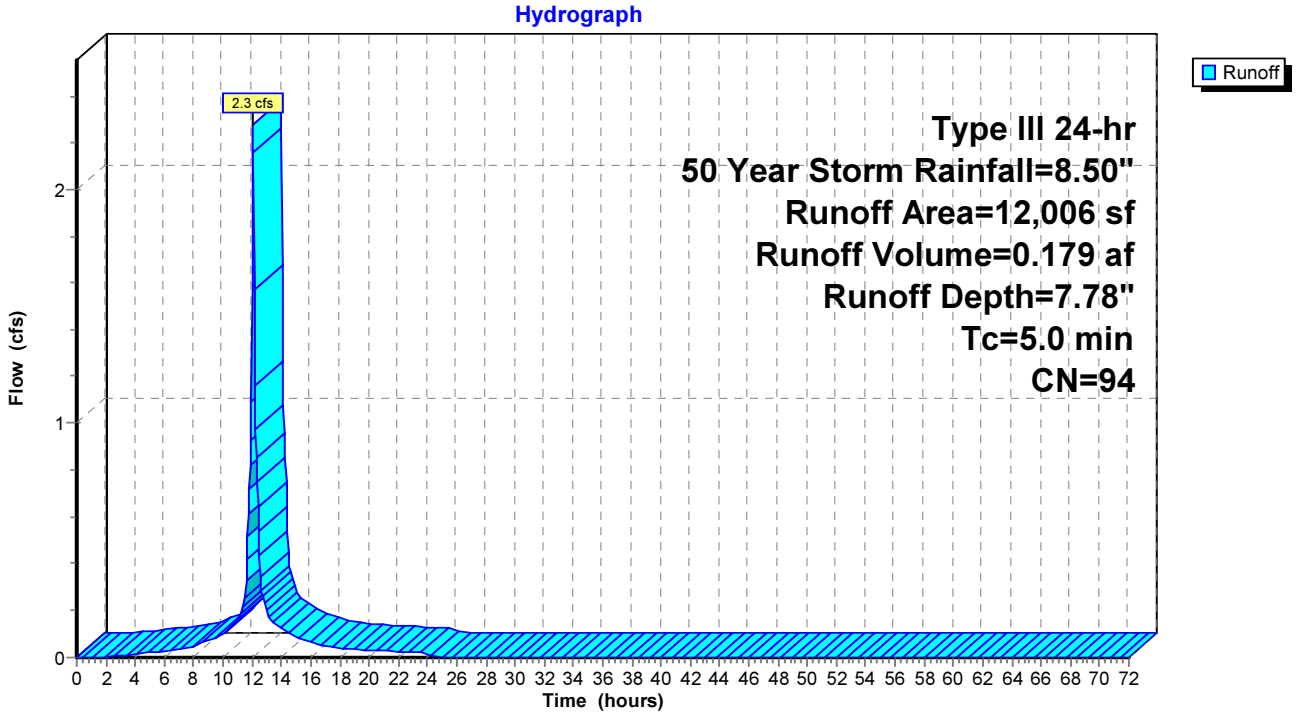
Runoff = 2.3 cfs @ 12.07 hrs, Volume= 0.179 af, Depth= 7.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	4,504	98	Paved parking, HSG C
*	2,085	98	Sidewalks, HSG C
	3,654	98	Roofs, HSG C
	1,763	74	>75% Grass cover, Good, HSG C
	12,006	94	Weighted Average
	1,763		14.68% Pervious Area
	10,243		85.32% Impervious Area

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

Subcatchment PS4:



Summary for Subcatchment PS5:

[49] Hint: Tc<2dt may require smaller dt

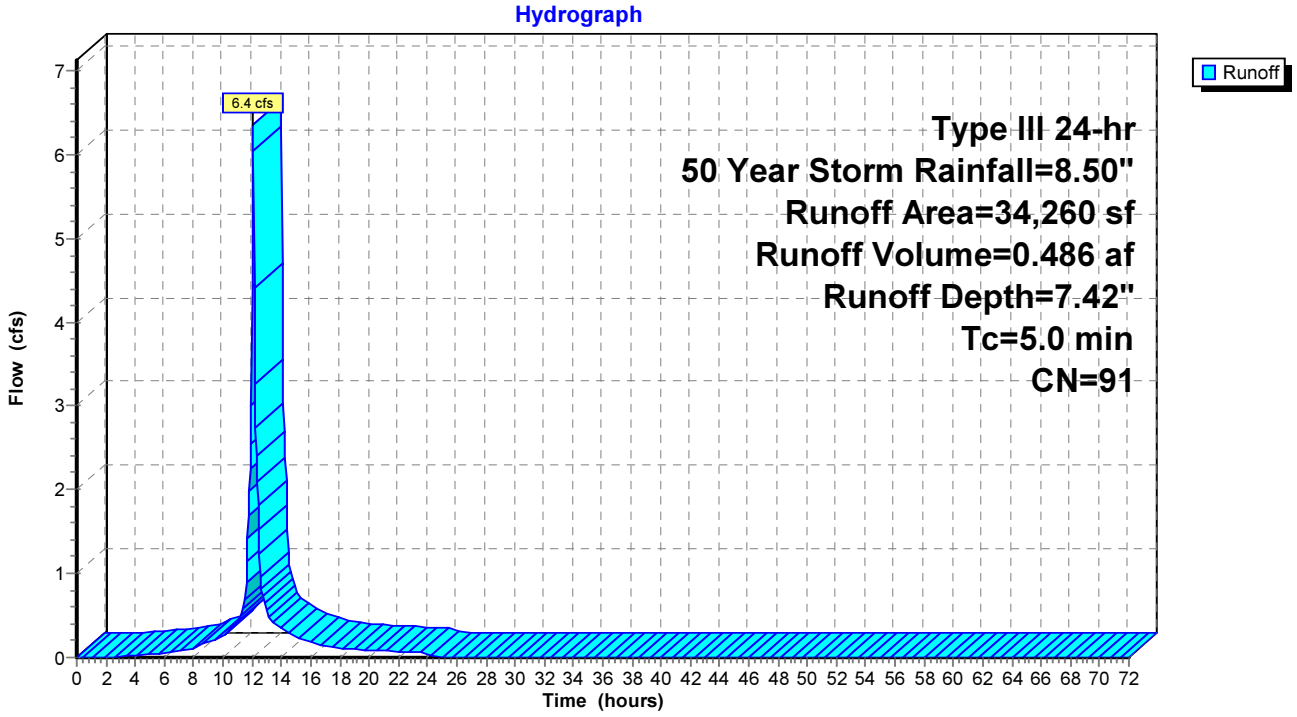
Runoff = 6.4 cfs @ 12.07 hrs, Volume= 0.486 af, Depth= 7.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	21,695	98	Paved parking, HSG C
*	310	98	Sidewalks, HSG C
	1,551	98	Roofs, HSG C
	10,704	74	>75% Grass cover, Good, HSG C
	34,260	91	Weighted Average
	10,704		31.24% Pervious Area
	23,556		68.76% Impervious Area

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

Subcatchment PS5:



Summary for Subcatchment PS5A:

[49] Hint: Tc<2dt may require smaller dt

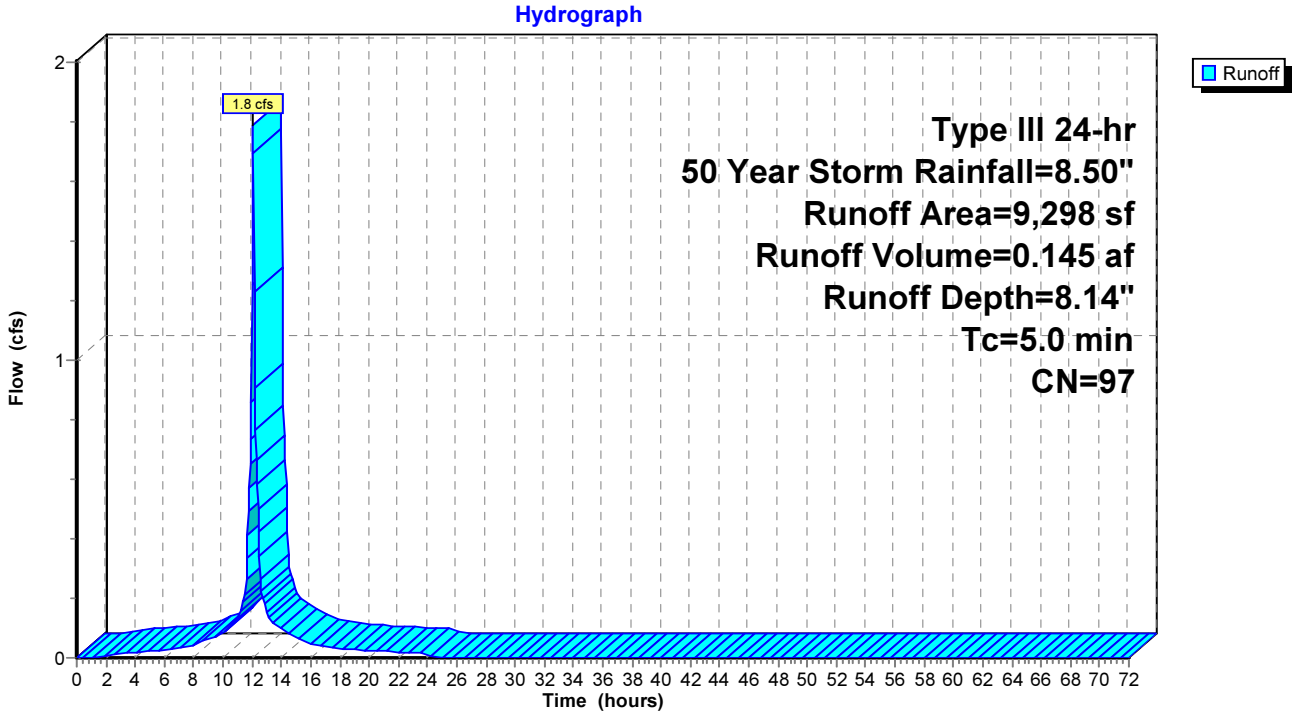
Runoff = 1.8 cfs @ 12.07 hrs, Volume= 0.145 af, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	7,491	98	Paved parking, HSG C
*	1,230	98	Sidewalks, HSG C
	577	74	>75% Grass cover, Good, HSG C
	9,298	97	Weighted Average
	577		6.21% Pervious Area
	8,721		93.79% Impervious Area

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

Subcatchment PS5A:



Summary for Subcatchment PS5B:

[49] Hint: Tc<2dt may require smaller dt

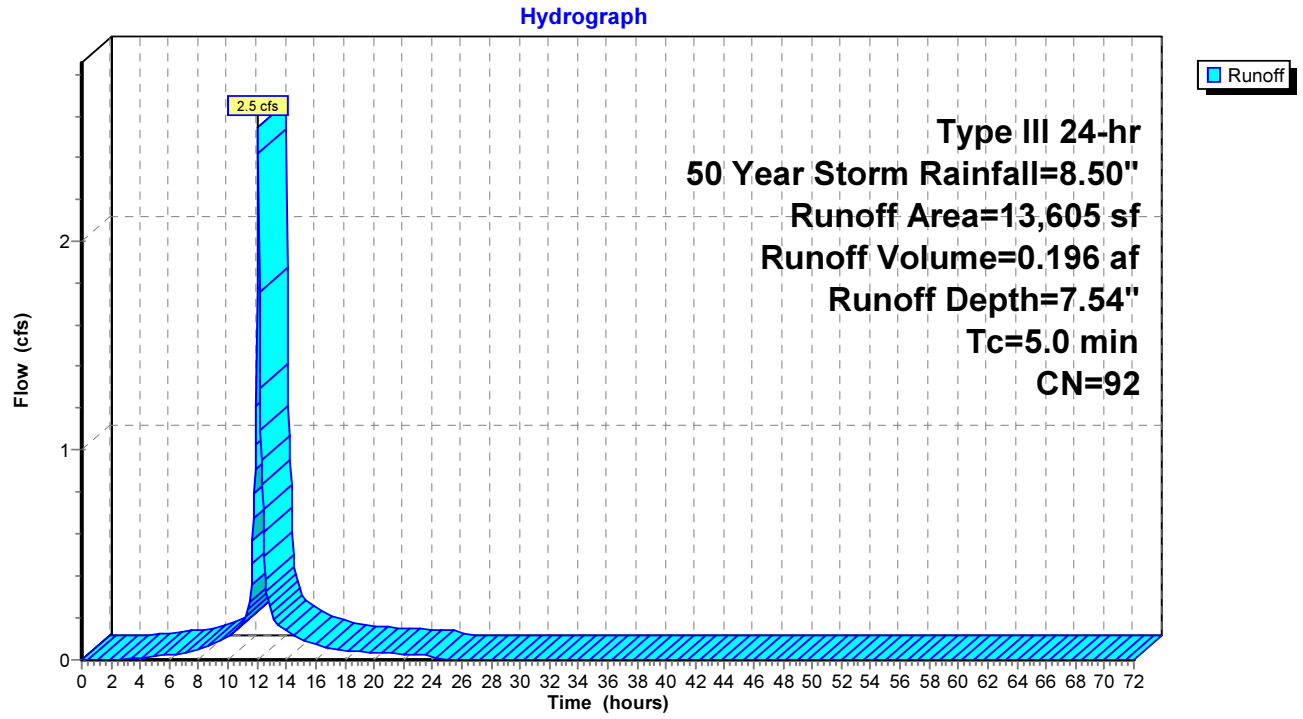
Runoff = 2.5 cfs @ 12.07 hrs, Volume= 0.196 af, Depth= 7.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	7,275	98	Paved parking, HSG C
*	2,828	98	Sidewalks, HSG C
	3,502	74	>75% Grass cover, Good, HSG C
	13,605	92	Weighted Average
	3,502		25.74% Pervious Area
	10,103		74.26% Impervious Area

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

Subcatchment PS5B:



Summary for Subcatchment PS5C: PS5 Roof

[49] Hint: Tc<2dt may require smaller dt

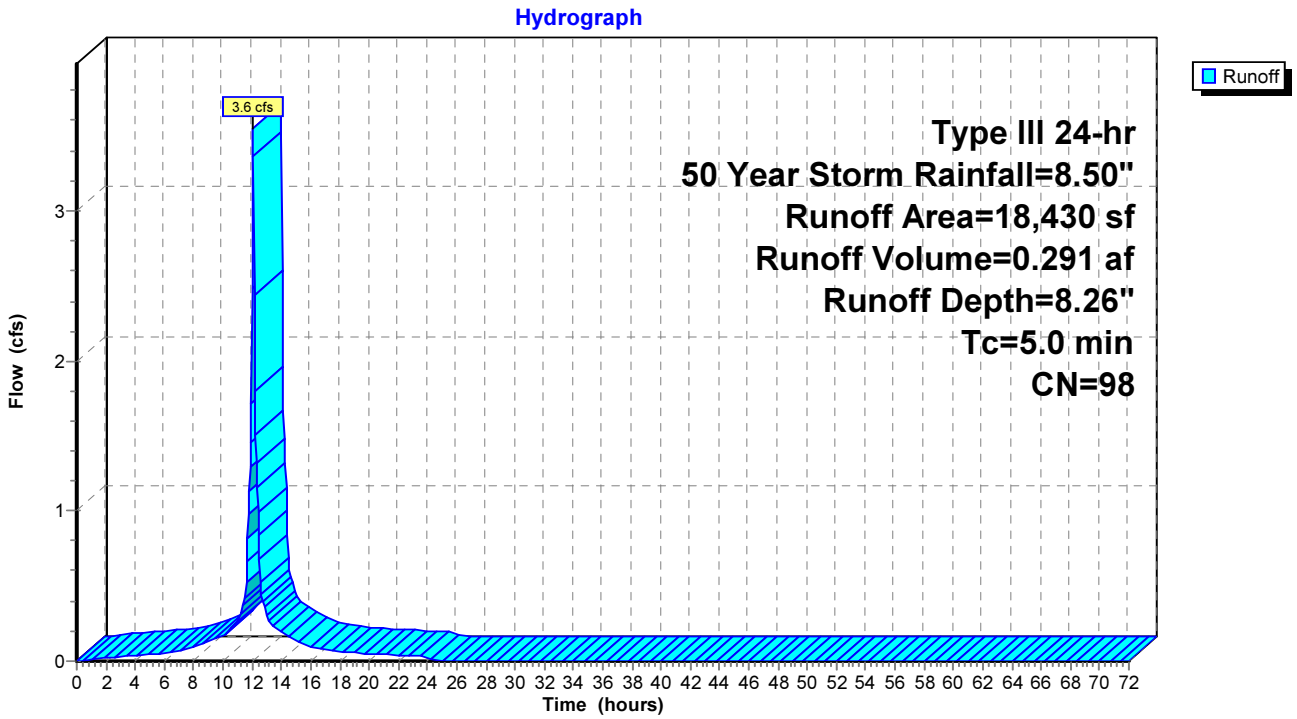
Runoff = 3.6 cfs @ 12.07 hrs, Volume= 0.291 af, Depth= 8.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
18,430	98	Roofs, HSG C
18,430		100.00% Impervious Area

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

Subcatchment PS5C: PS5 Roof



Summary for Subcatchment PS6:

[49] Hint: Tc<2dt may require smaller dt

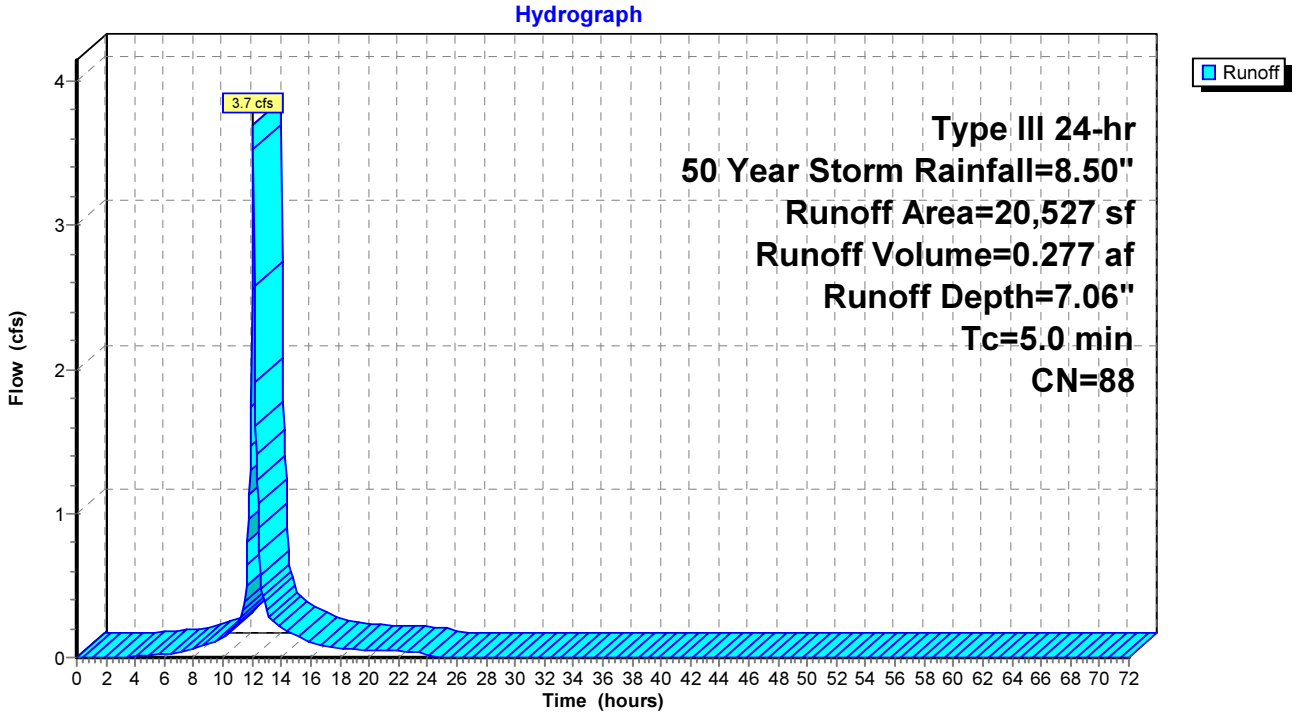
Runoff = 3.7 cfs @ 12.07 hrs, Volume= 0.277 af, Depth= 7.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	6,762	98	Paved parking, HSG C
*	2,312	98	Sidewalks, HSG C
	2,662	98	Roofs, HSG C
	8,791	74	>75% Grass cover, Good, HSG C
	20,527	88	Weighted Average
	8,791		42.83% Pervious Area
	11,736		57.17% Impervious Area

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

Subcatchment PS6:



Summary for Subcatchment PS7:

[49] Hint: Tc<2dt may require smaller dt

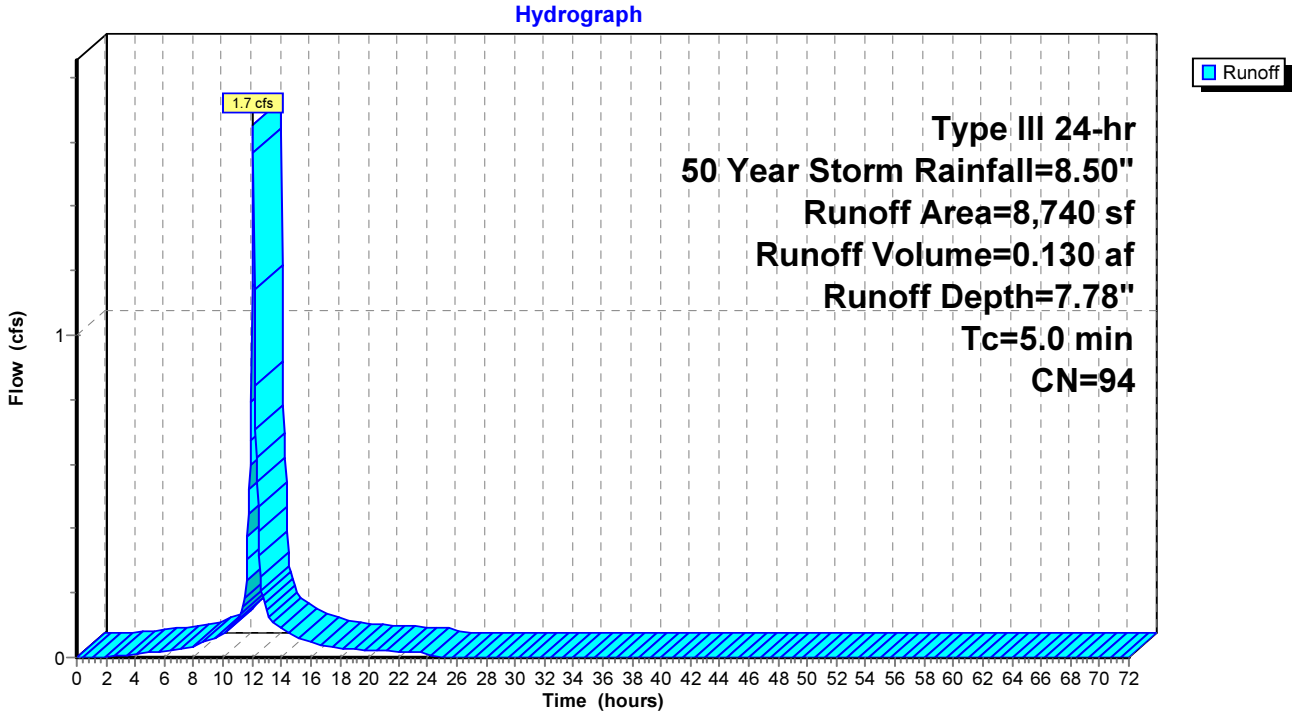
Runoff = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af, Depth= 7.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

	Area (sf)	CN	Description
	410	98	Paved parking, HSG C
*	4,272	98	Sidewalks, HSG C
	2,770	98	Roofs, HSG C
	1,288	74	>75% Grass cover, Good, HSG C
	8,740	94	Weighted Average
	1,288		14.74% Pervious Area
	7,452		85.26% Impervious Area

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

Subcatchment PS7:



Summary for Subcatchment PS8:

[49] Hint: Tc<2dt may require smaller dt

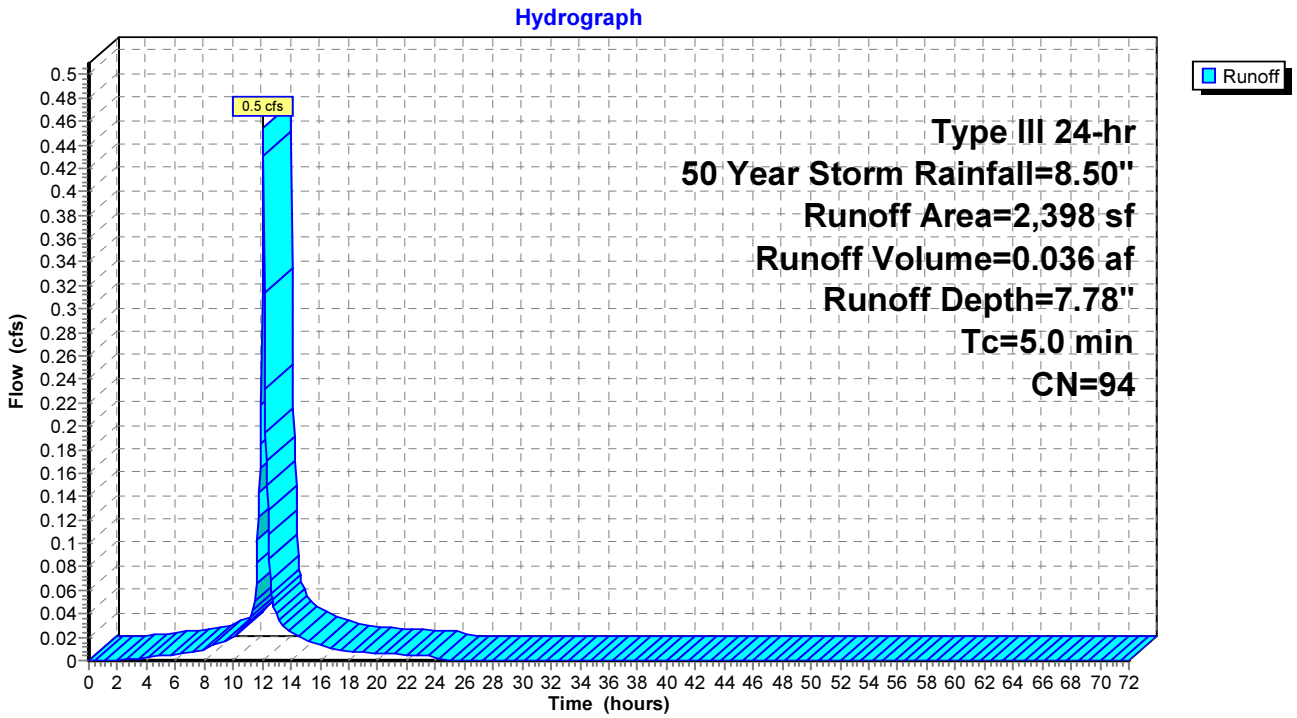
Runoff = 0.5 cfs @ 12.07 hrs, Volume= 0.036 af, Depth= 7.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
1,966	98	Paved parking, HSG C
432	74	>75% Grass cover, Good, HSG C
2,398	94	Weighted Average
432		18.02% Pervious Area
1,966		81.98% Impervious Area

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

Subcatchment PS8:



Summary for Reach 3R: Swale

Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 7.59" for 50 Year Storm event
Inflow = 9.9 cfs @ 12.07 hrs, Volume= 0.766 af
Outflow = 9.1 cfs @ 12.11 hrs, Volume= 0.766 af, Atten= 8%, Lag= 2.3 min

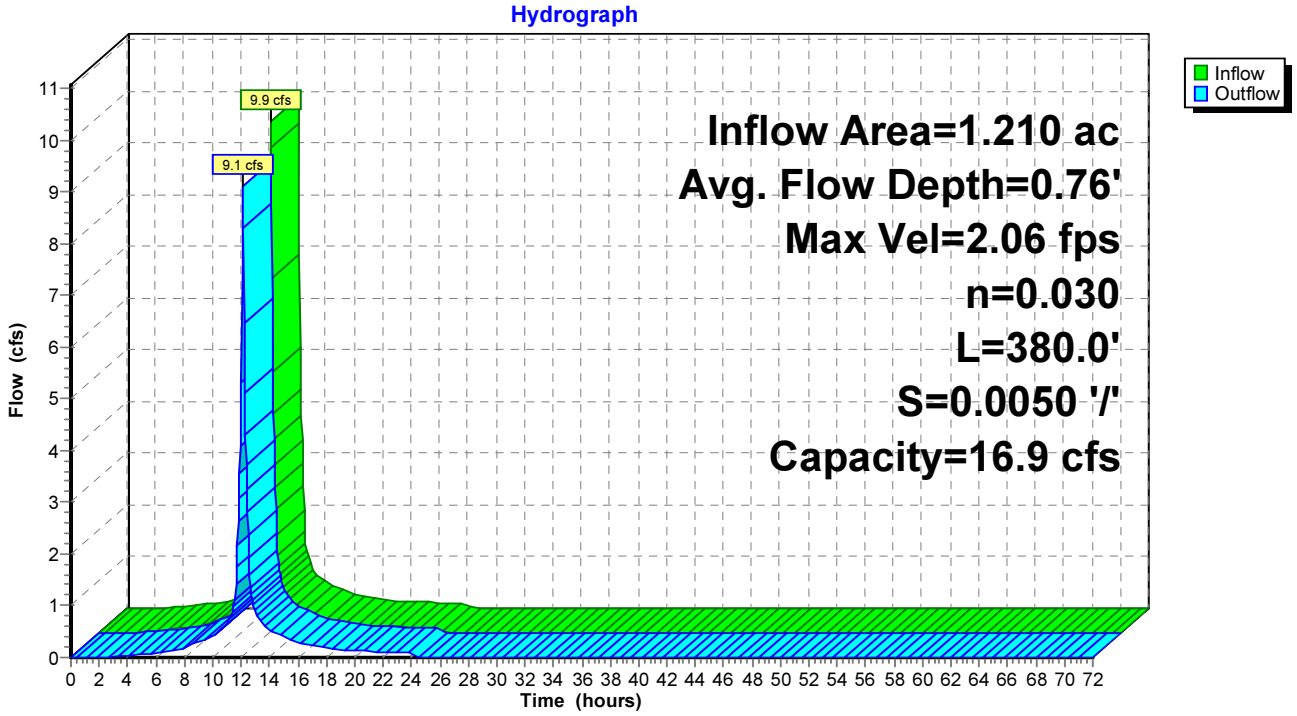
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.06 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.63 fps, Avg. Travel Time= 10.1 min

Peak Storage= 1,678 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.76'
Bank-Full Depth= 1.00' Flow Area= 7.0 sf, Capacity= 16.9 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 5.0 '/' Top Width= 12.00'
Length= 380.0' Slope= 0.0050 '/'
Inlet Invert= 17.15', Outlet Invert= 15.25'

‡

Reach 3R: Swale



Summary for Pond 1P: DMH A19

[57] Hint: Peaked at 11.92' (Flood elevation advised)
[80] Warning: Exceeded Pond 5P by 0.48' @ 12.15 hrs (23.6 cfs 0.484 af)

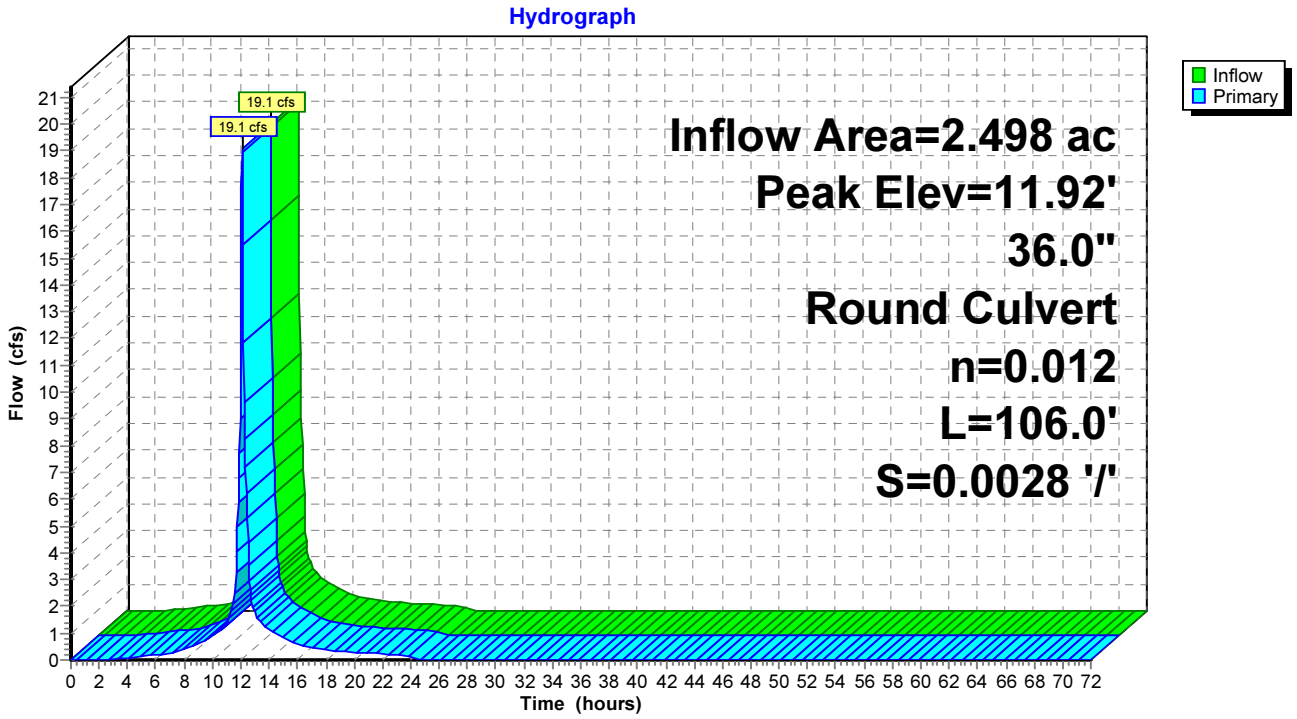
Inflow Area =	2.498 ac,	73.41% Impervious,	Inflow Depth =	7.52"	for 50 Year Storm event
Inflow =	19.1 cfs @	12.09 hrs,	Volume=	1.566 af	
Outflow =	19.1 cfs @	12.09 hrs,	Volume=	1.566 af,	Atten= 0%, Lag= 0.0 min
Primary =	19.1 cfs @	12.09 hrs,	Volume=	1.566 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.92' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.17'	**36.0" Round Culvert** L= 106.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.17' / 7.87' S= 0.0028 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.09 hrs HW=11.07' TW=11.31' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond 1P: DMH A19



Summary for Pond 3P: PCB3

[57] Hint: Peaked at 12.37' (Flood elevation advised)
[80] Warning: Exceeded Pond 12P by 0.10' @ 12.15 hrs (2.8 cfs 0.031 af)

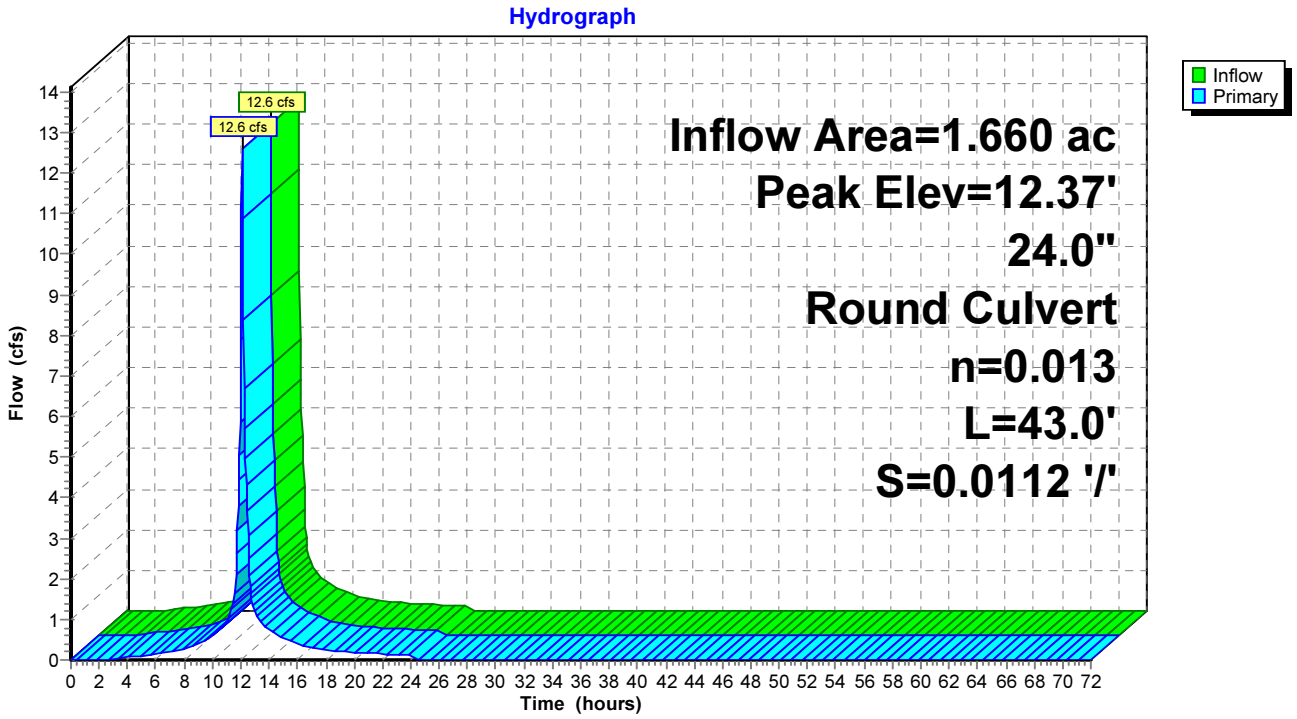
Inflow Area =	1.660 ac,	77.58% Impervious,	Inflow Depth =	7.64"	for 50 Year Storm event
Inflow =	12.6 cfs @	12.10 hrs,	Volume=	1.057 af	
Outflow =	12.6 cfs @	12.10 hrs,	Volume=	1.057 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.6 cfs @	12.10 hrs,	Volume=	1.057 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.37' @ 12.28 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.00'	**24.0" Round Culvert** L= 43.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.00' / 9.52' S= 0.0112 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=8.3 cfs @ 12.10 hrs HW=12.01' TW=11.69' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.3 cfs @ 3.28 fps)

Pond 3P: PCB3



Summary for Pond 4P: PCB7

[57] Hint: Peaked at 12.22' (Flood elevation advised)

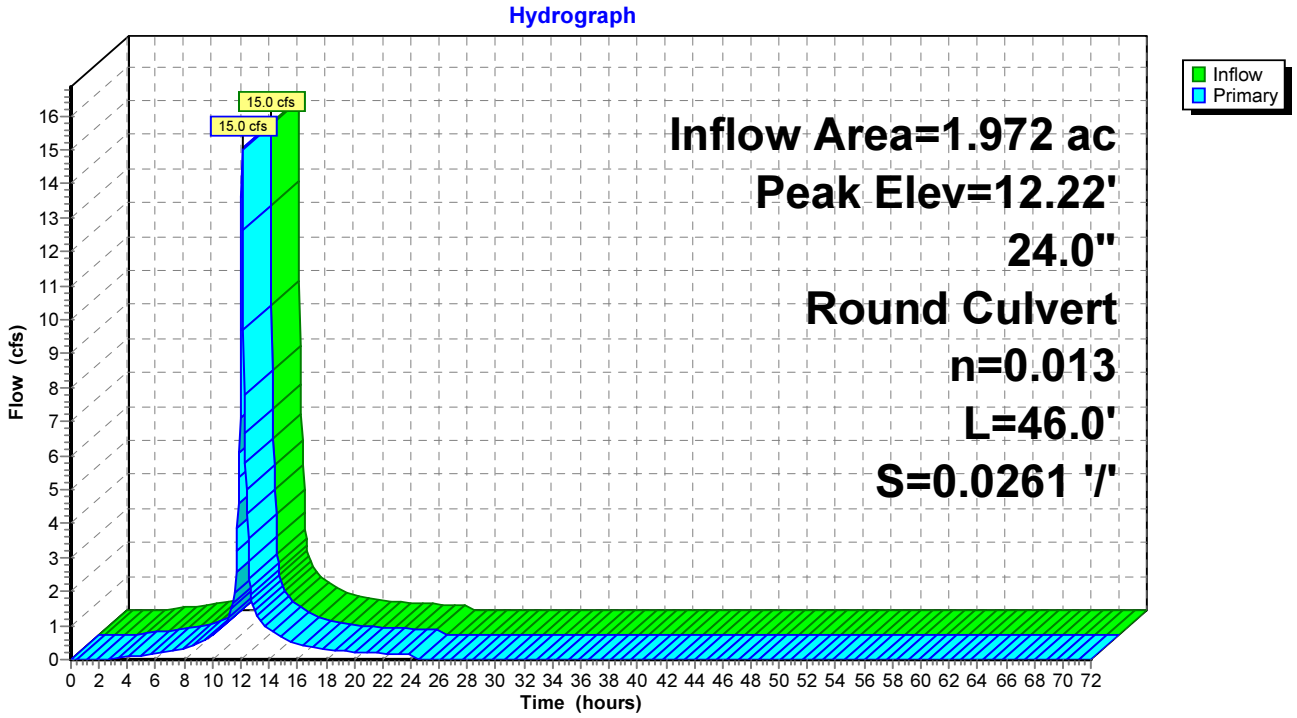
Inflow Area = 1.972 ac, 77.06% Impervious, Inflow Depth = 7.63" for 50 Year Storm event
Inflow = 15.0 cfs @ 12.09 hrs, Volume= 1.253 af
Outflow = 15.0 cfs @ 12.09 hrs, Volume= 1.253 af, Atten= 0%, Lag= 0.0 min
Primary = 15.0 cfs @ 12.09 hrs, Volume= 1.253 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.22' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.40'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.40' / 8.20' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=11.2 cfs @ 12.09 hrs HW=11.66' TW=11.11' (Dynamic Tailwater)
1=Culvert (Inlet Controls 11.2 cfs @ 3.55 fps)

Pond 4P: PCB7



Summary for Pond 5P: DMH 4B

[57] Hint: Peaked at 11.92' (Flood elevation advised)

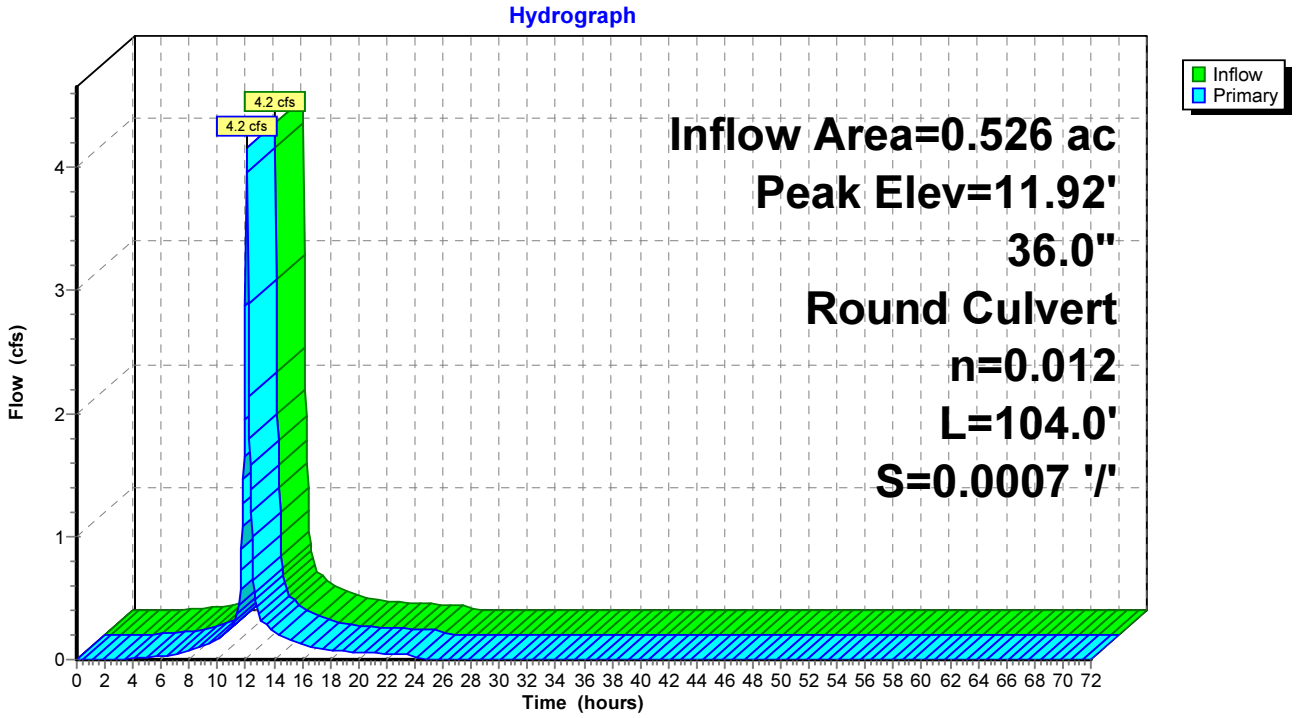
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 7.13" for 50 Year Storm event
Inflow = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af
Outflow = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min
Primary = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.92' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.25'	**36.0" Round Culvert** L= 104.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.25' / 8.18' S= 0.0007 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.53' TW=10.91' (Dynamic Tailwater)
↳**1=Culvert** (Controls 0.0 cfs)

Pond 5P: DMH 4B



Summary for Pond 6P: PCB1

[57] Hint: Peaked at 15.45' (Flood elevation advised)

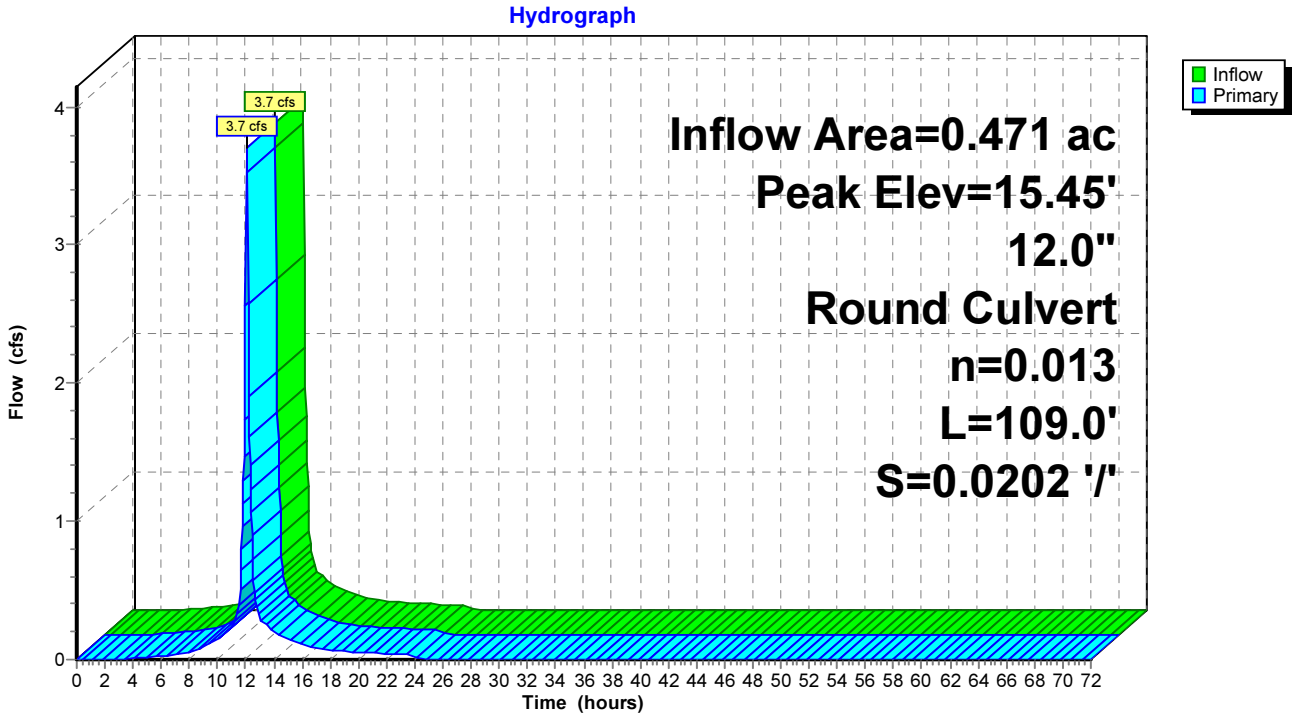
Inflow Area = 0.471 ac, 57.17% Impervious, Inflow Depth = 7.06" for 50 Year Storm event
Inflow = 3.7 cfs @ 12.07 hrs, Volume= 0.277 af
Outflow = 3.7 cfs @ 12.07 hrs, Volume= 0.277 af, Atten= 0%, Lag= 0.0 min
Primary = 3.7 cfs @ 12.07 hrs, Volume= 0.277 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 15.45' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	14.00'	**12.0" Round Culvert** L= 109.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 14.00' / 11.80' S= 0.0202 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.6 cfs @ 12.07 hrs HW=15.39' TW=13.32' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 3.6 cfs @ 4.54 fps)

Pond 6P: PCB1



Summary for Pond 7P: PCB2

[57] Hint: Peaked at 13.38' (Flood elevation advised)

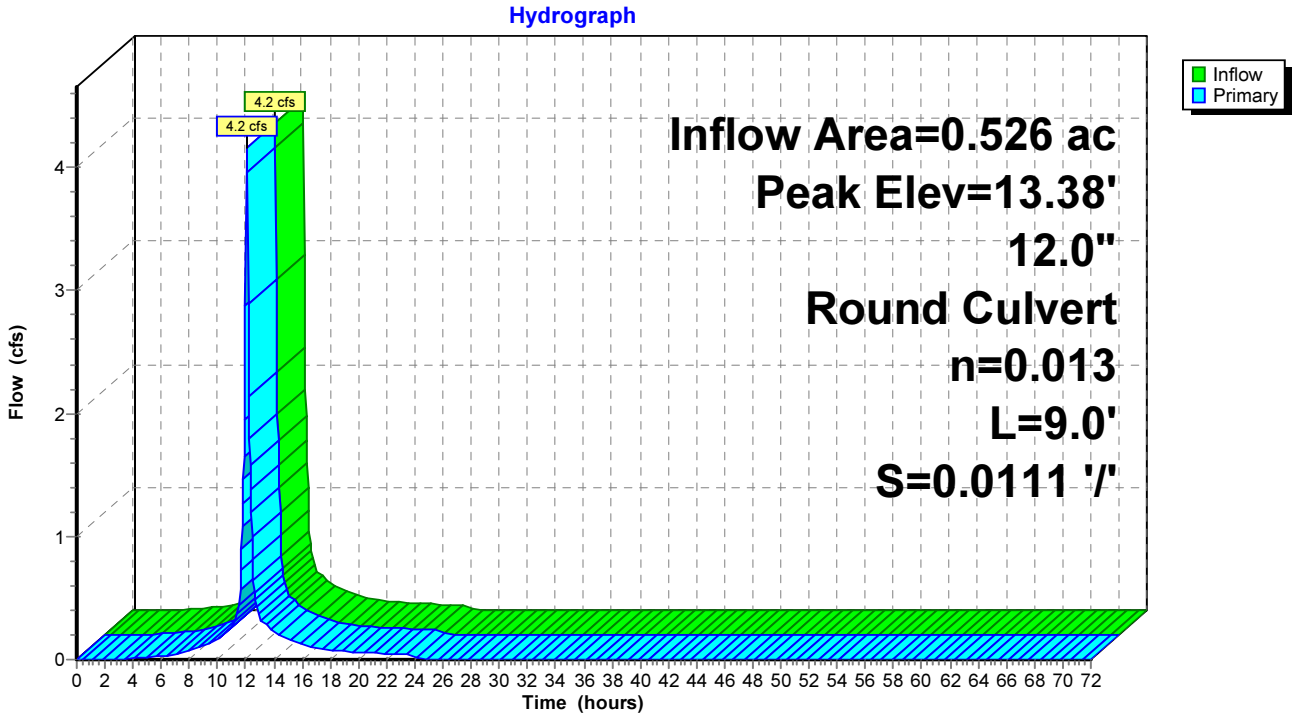
Inflow Area = 0.526 ac, 59.77% Impervious, Inflow Depth = 7.13" for 50 Year Storm event
Inflow = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af
Outflow = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min
Primary = 4.2 cfs @ 12.07 hrs, Volume= 0.313 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 13.38' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.70'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.70' / 11.60' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.0 cfs @ 12.07 hrs HW=13.32' TW=10.53' (Dynamic Tailwater)
1=Culvert (Inlet Controls 4.0 cfs @ 5.11 fps)

Pond 7P: PCB2



Summary for Pond 9P: PCB4

[57] Hint: Peaked at 11.44' (Flood elevation advised)

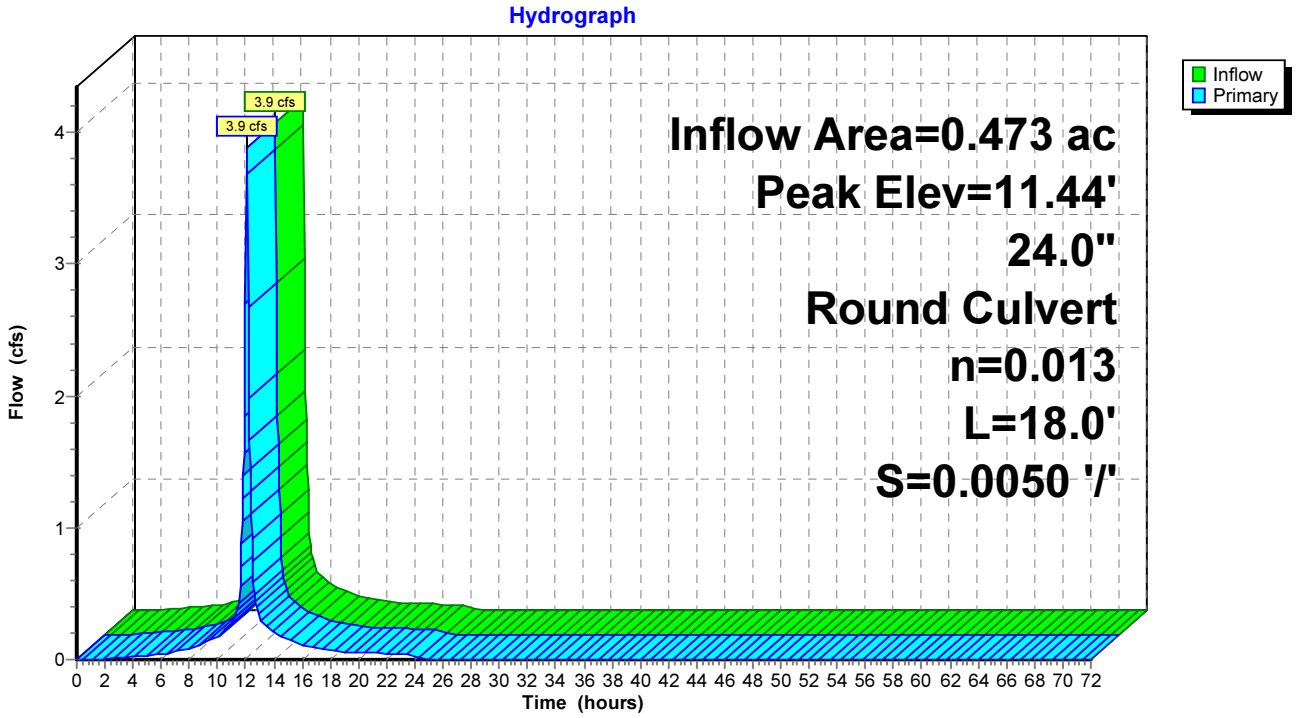
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 7.66" for 50 Year Storm event
Inflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af
Outflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.44' @ 12.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**24.0" Round Culvert** L= 18.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.11' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.8 cfs @ 12.07 hrs HW=11.20' TW=11.00' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.8 cfs @ 2.65 fps)

Pond 9P: PCB4



Summary for Pond 10P: PCB5

[57] Hint: Peaked at 11.36' (Flood elevation advised)
[80] Warning: Exceeded Pond 9P by 0.16' @ 12.10 hrs (3.1 cfs 0.013 af)

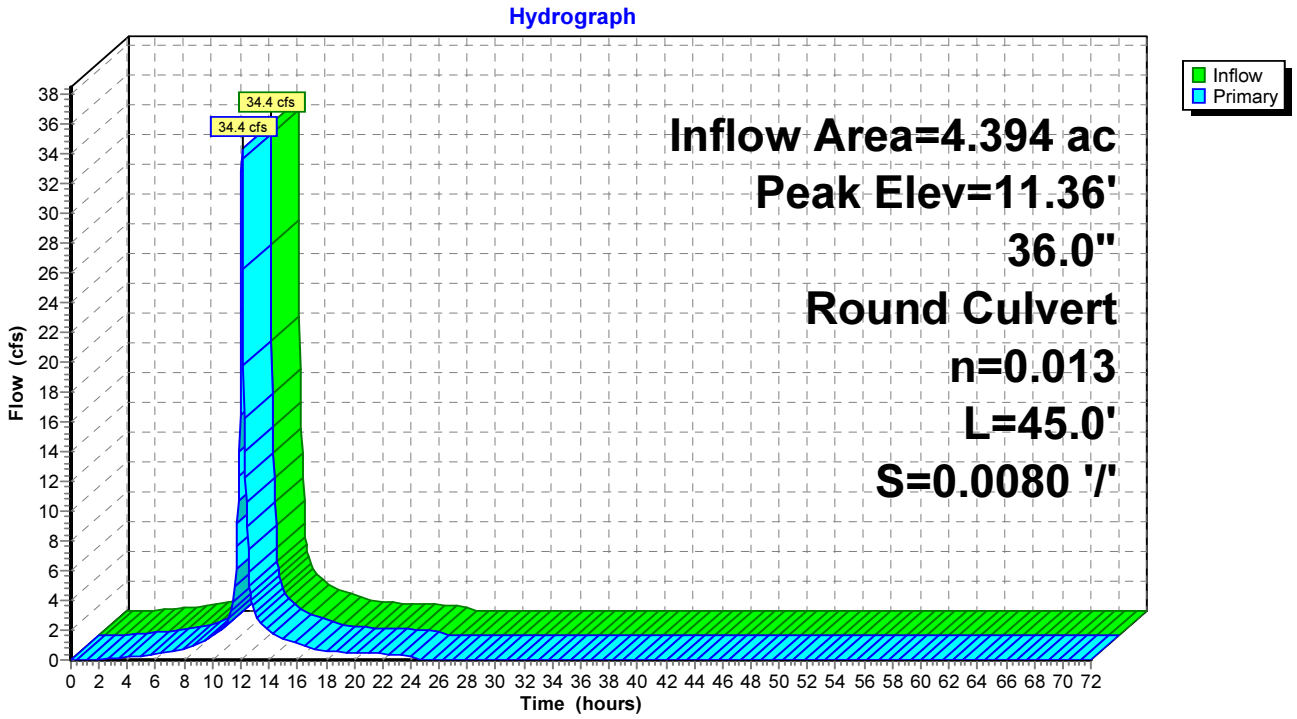
Inflow Area =	4.394 ac, 76.62% Impervious, Inflow Depth =	7.62"	for	50 Year Storm event	
Inflow =	34.4 cfs @	12.08 hrs, Volume=	2.790 af		
Outflow =	34.4 cfs @	12.08 hrs, Volume=	2.790 af,	Atten= 0%,	Lag= 0.0 min
Primary =	34.4 cfs @	12.08 hrs, Volume=	2.790 af		

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.36' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.49' S= 0.0080 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=28.9 cfs @ 12.08 hrs HW=11.11' TW=10.40' (Dynamic Tailwater)
1=Culvert (Inlet Controls 28.9 cfs @ 4.08 fps)

Pond 10P: PCB5



Summary for Pond 12P: POCS2

[57] Hint: Peaked at 12.38' (Flood elevation advised)

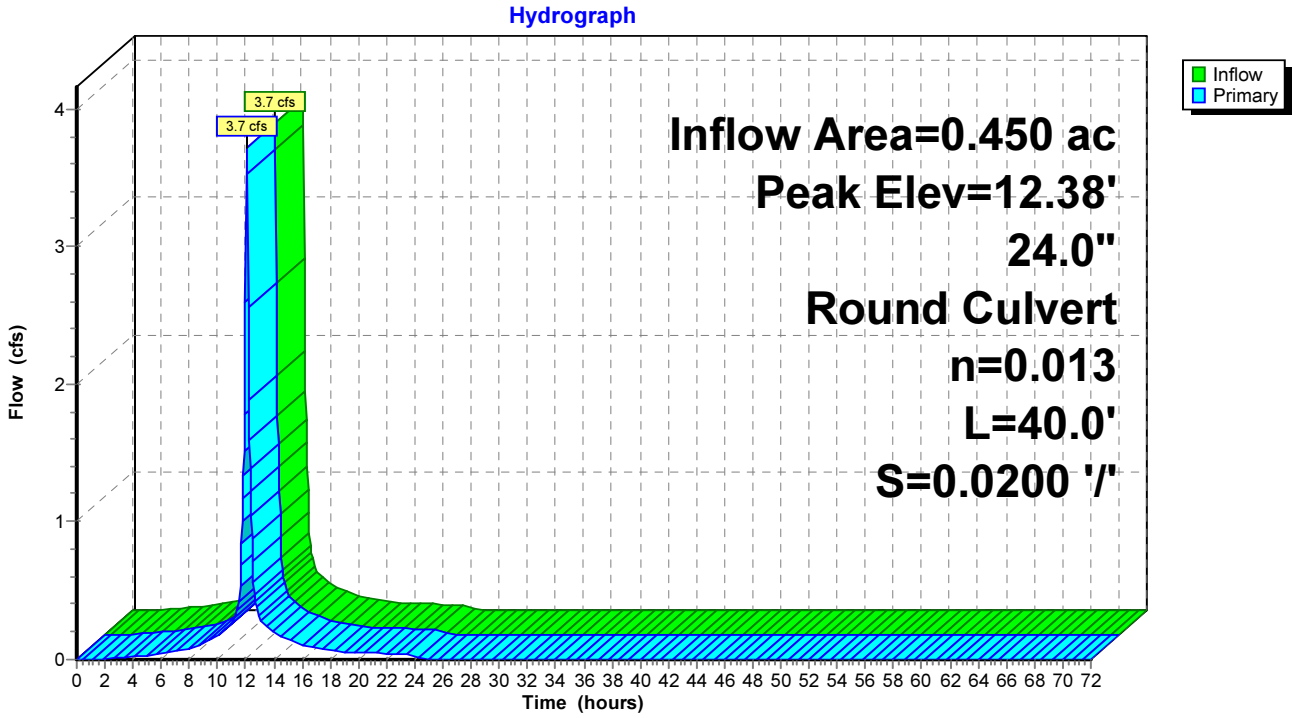
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 7.78" for 50 Year Storm event
Inflow = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af
Outflow = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min
Primary = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.38' @ 12.33 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.90'	**24.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.90' / 10.10' S= 0.0200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.4 cfs @ 12.07 hrs HW=11.91' TW=11.85' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.4 cfs @ 1.29 fps)

Pond 12P: POCS2



Summary for Pond 14P: POCS1

[57] Hint: Peaked at 11.86' (Flood elevation advised)

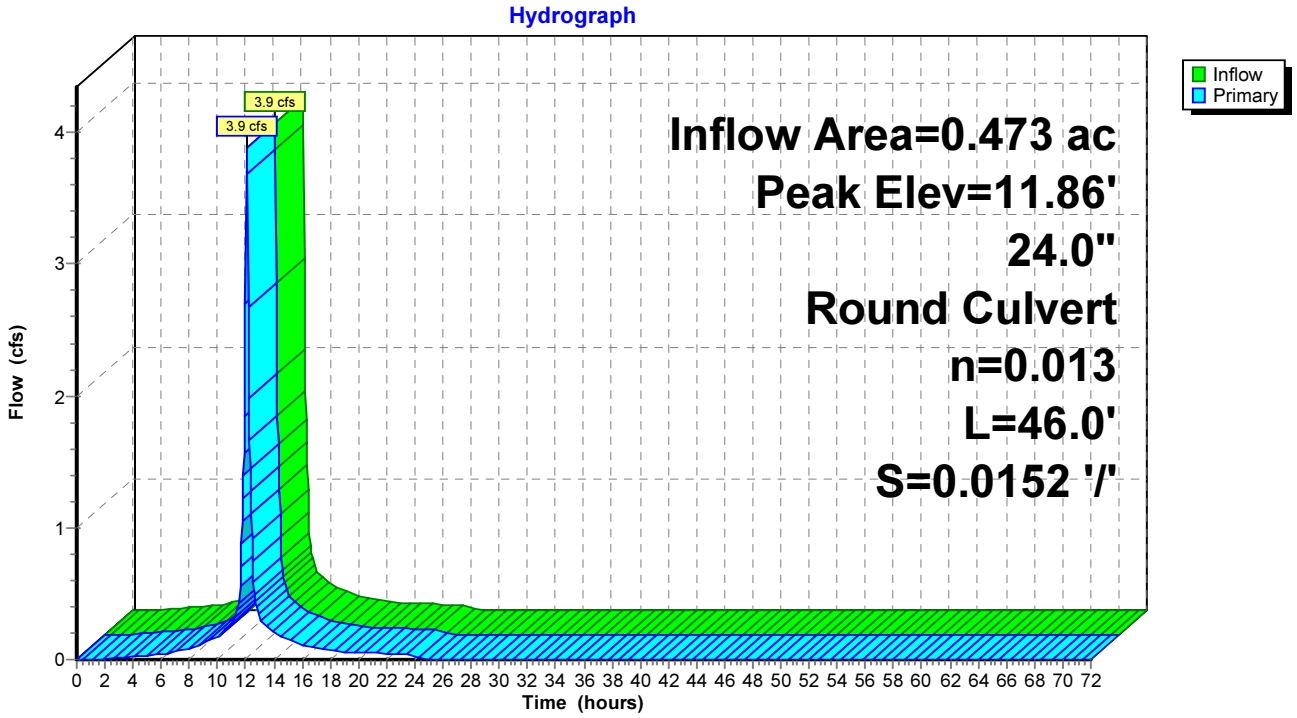
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 7.66" for 50 Year Storm event
Inflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af
Outflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.86' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	11.00'	**24.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 11.00' / 10.30' S= 0.0152 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.5 cfs @ 12.07 hrs HW=11.84' TW=11.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.5 cfs @ 4.15 fps)

Pond 14P: POCS1



Summary for Pond 15P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.75' (Flood elevation advised)

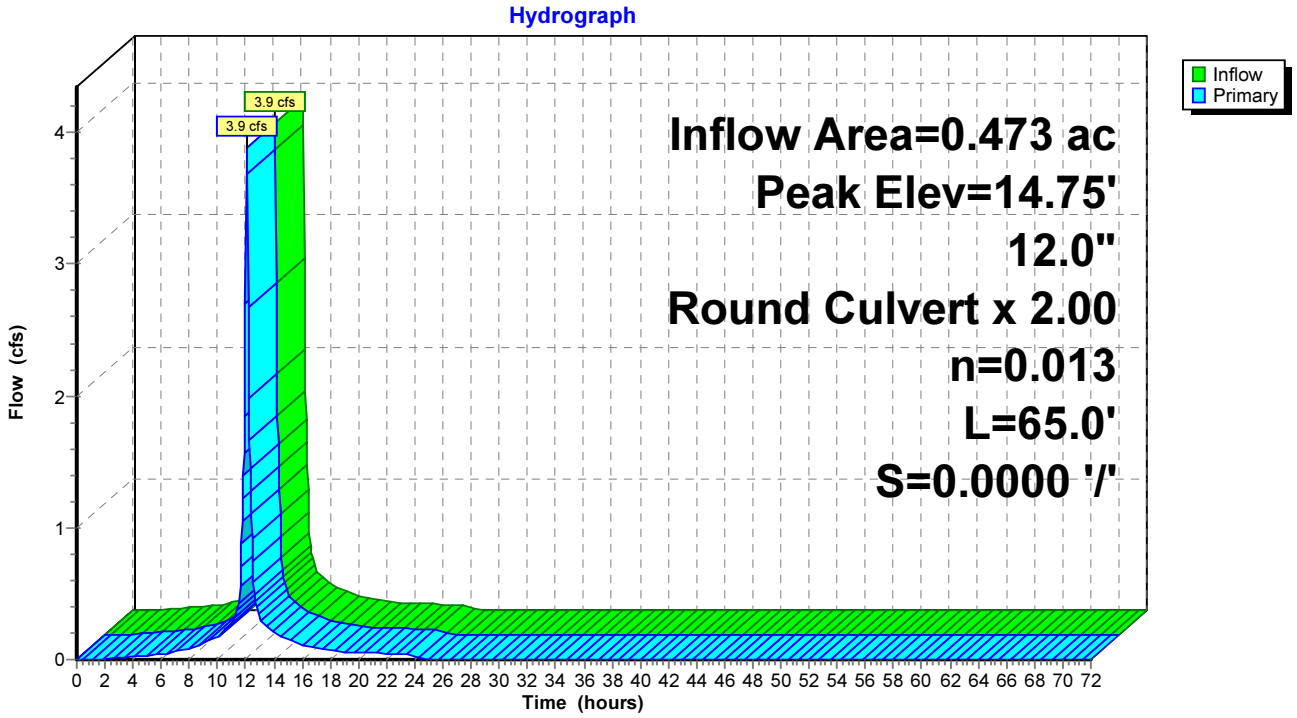
Inflow Area = 0.473 ac, 77.98% Impervious, Inflow Depth = 7.66" for 50 Year Storm event
Inflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af
Outflow = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 3.9 cfs @ 12.07 hrs, Volume= 0.302 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.75' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.50'	**12.0" Round Culvert X 2.00** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.50' / 13.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.7 cfs @ 12.07 hrs HW=14.71' TW=11.84' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 3.7 cfs @ 2.50 fps)

Pond 15P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond 16P: 2 - 12" PERFORATED UNDERDRAIN

[57] Hint: Peaked at 14.24' (Flood elevation advised)

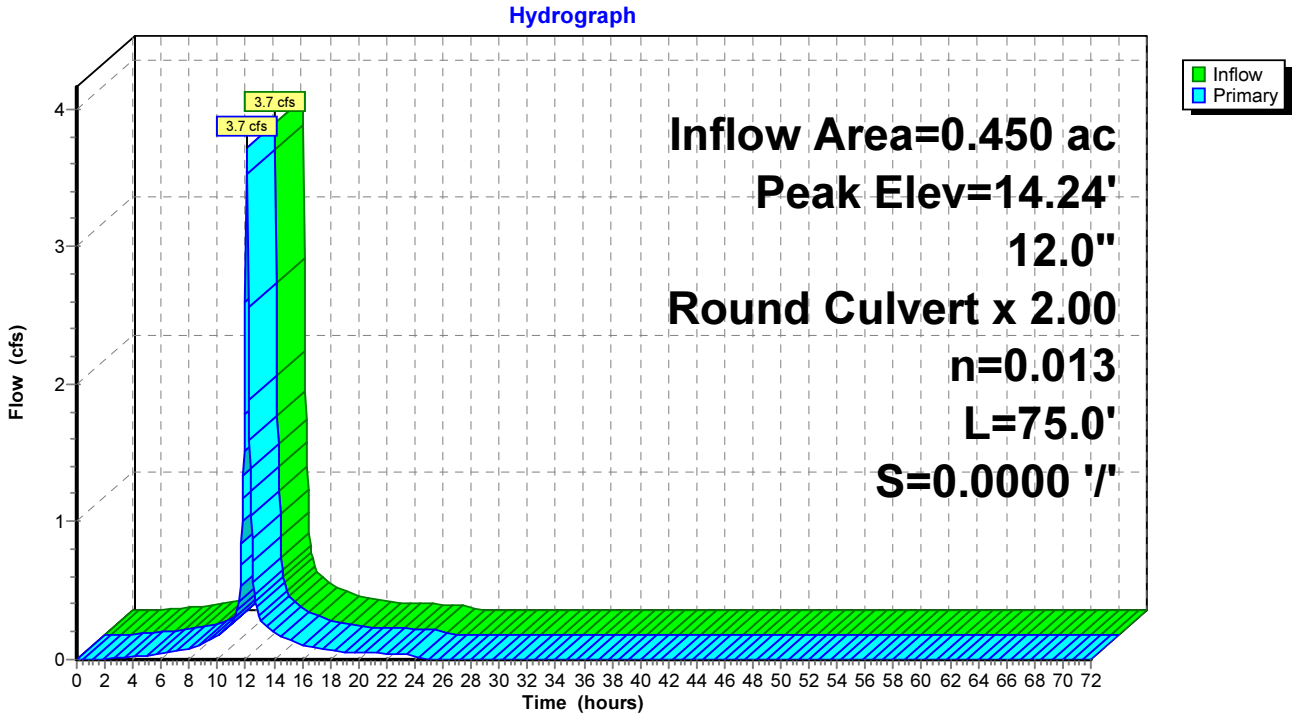
Inflow Area = 0.450 ac, 82.66% Impervious, Inflow Depth = 7.78" for 50 Year Storm event
Inflow = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af
Outflow = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min
Primary = 3.7 cfs @ 12.07 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 14.24' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	13.00'	**12.0" Round Culvert X 2.00** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 13.00' / 13.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.6 cfs @ 12.07 hrs HW=14.20' TW=11.91' (Dynamic Tailwater)
1=Culvert (Barrel Controls 3.6 cfs @ 2.40 fps)

Pond 16P: 2 - 12" PERFORATED UNDERDRAIN



Summary for Pond CB 5D: CB 5D

[57] Hint: Peaked at 11.08' (Flood elevation advised)

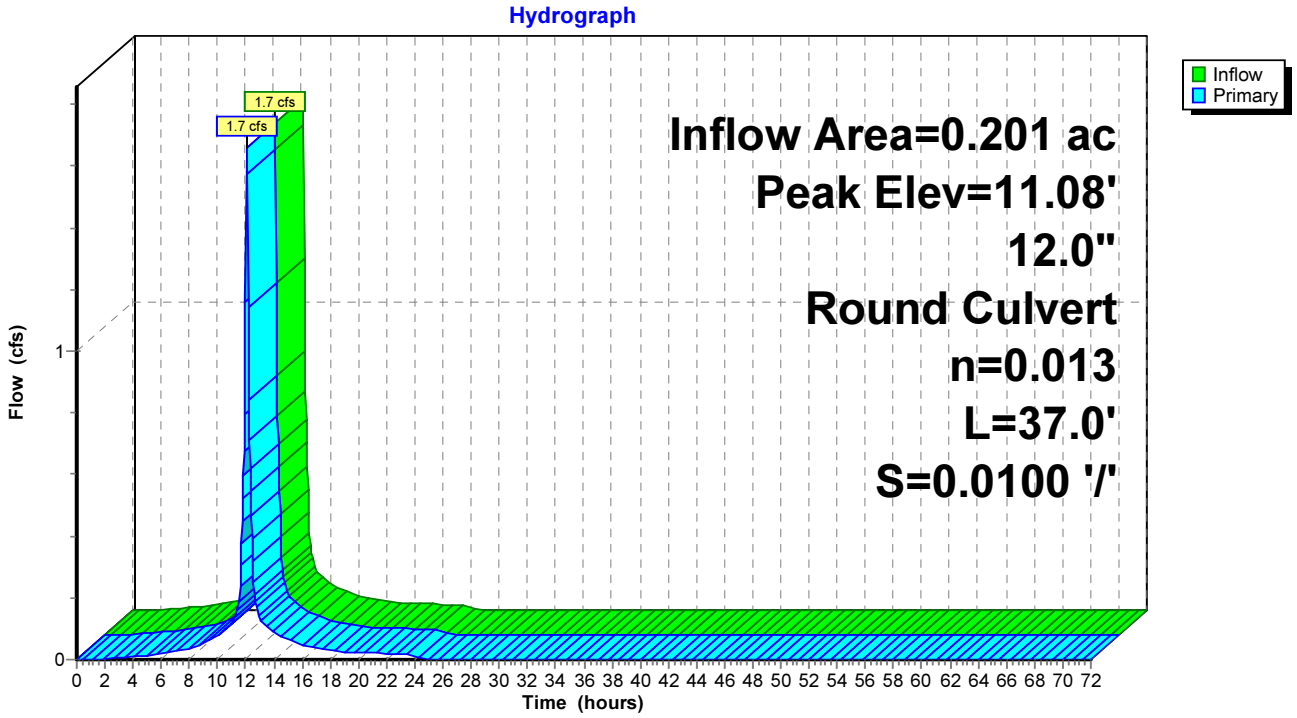
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 7.78" for 50 Year Storm event
Inflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.08' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.24'	**12.0" Round Culvert** L= 37.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.24' / 9.87' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.4 cfs @ 12.07 hrs HW=11.05' TW=10.74' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 1.4 cfs @ 2.83 fps)

Pond CB 5D: CB 5D



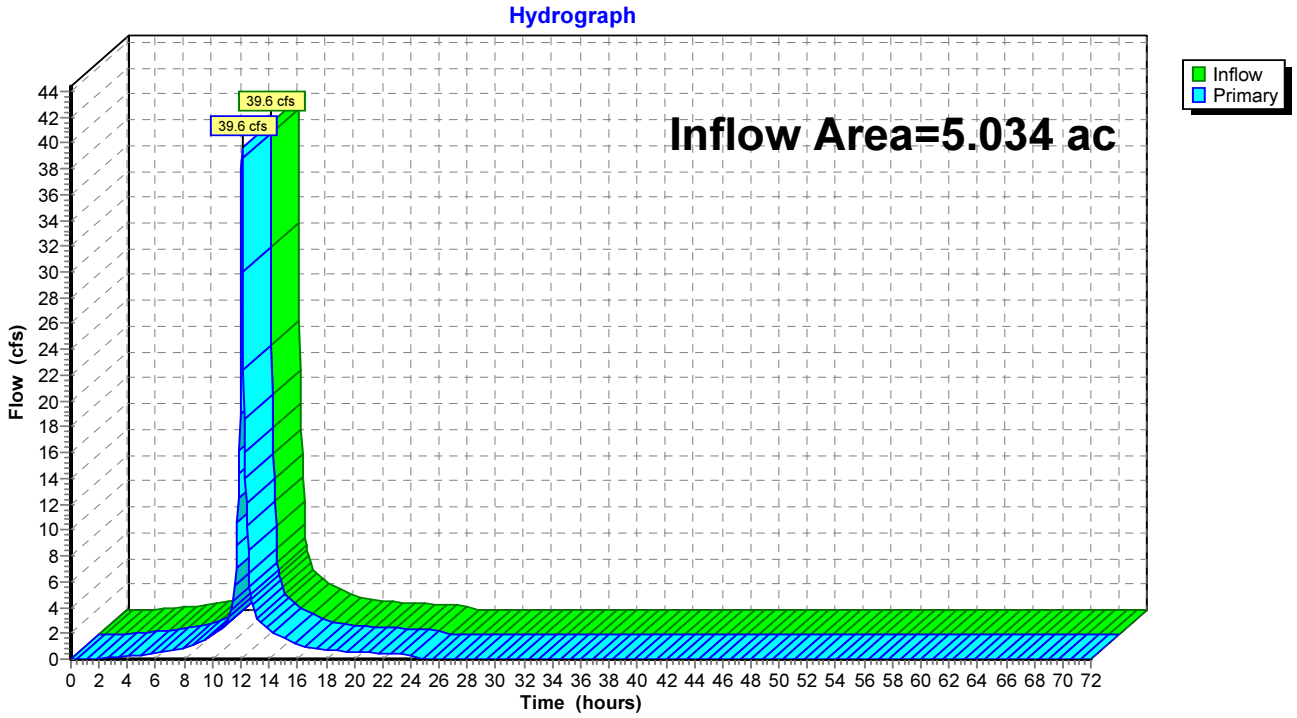
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.034 ac, 78.07% Impervious, Inflow Depth = 7.65" for 50 Year Storm event
Inflow = 39.6 cfs @ 12.08 hrs, Volume= 3.210 af
Primary = 39.6 cfs @ 12.08 hrs, Volume= 3.210 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH 4A

[57] Hint: Peaked at 11.79' (Flood elevation advised)
[80] Warning: Exceeded Pond 1P by 0.28' @ 12.10 hrs (18.0 cfs 0.160 af)
[80] Warning: Exceeded Pond DMH A6 by 0.24' @ 12.10 hrs (7.4 cfs 0.083 af)

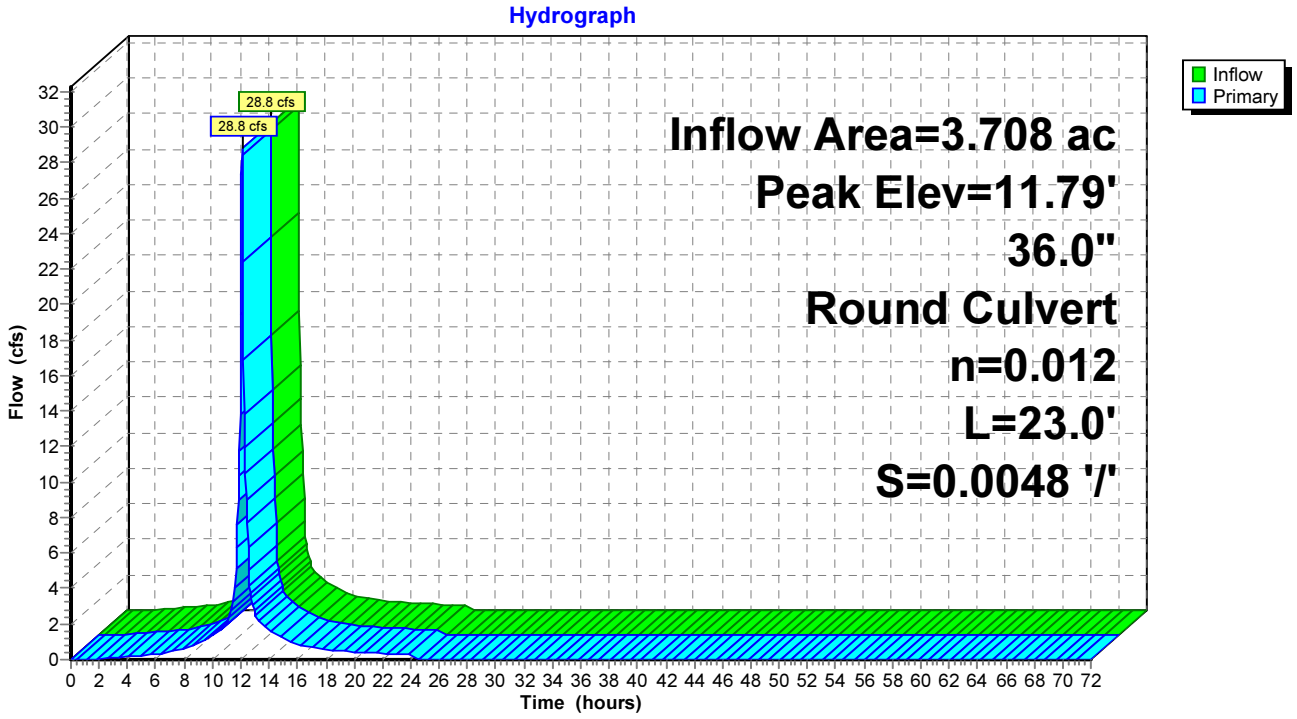
Inflow Area = 3.708 ac, 75.46% Impervious, Inflow Depth = 7.58" for 50 Year Storm event
Inflow = 28.8 cfs @ 12.08 hrs, Volume= 2.344 af
Outflow = 28.8 cfs @ 12.08 hrs, Volume= 2.344 af, Atten= 0%, Lag= 0.0 min
Primary = 28.8 cfs @ 12.08 hrs, Volume= 2.344 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.79' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.85'	**36.0" Round Culvert** L= 23.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.85' / 7.74' S= 0.0048 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=10.2 cfs @ 12.08 hrs HW=11.23' TW=11.14' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 10.2 cfs @ 1.44 fps)

Pond DMH 4A: DMH 4A



Summary for Pond DMH A6: DMH A6

[57] Hint: Peaked at 11.91' (Flood elevation advised)
[80] Warning: Exceeded Pond ENV 21 by 0.18' @ 12.15 hrs (3.6 cfs 0.029 af)

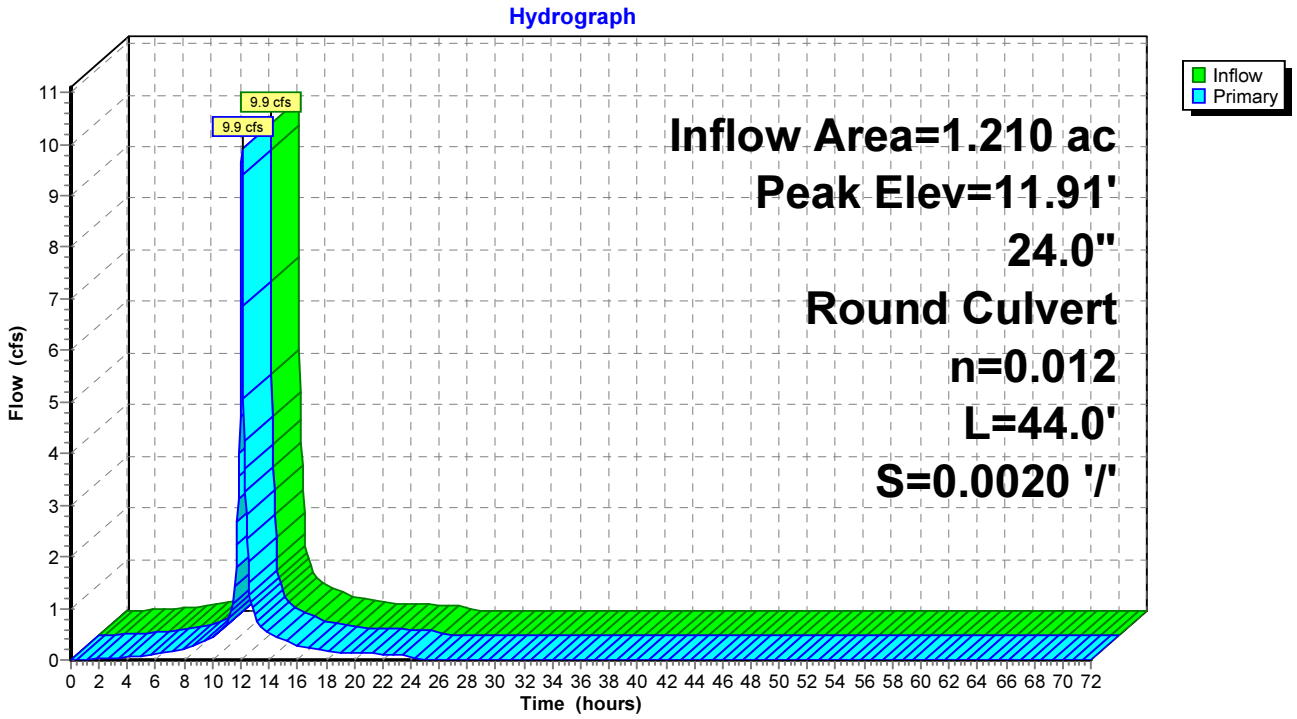
Inflow Area = 1.210 ac, 79.68% Impervious, Inflow Depth = 7.71" for 50 Year Storm event
Inflow = 9.9 cfs @ 12.07 hrs, Volume= 0.777 af
Outflow = 9.9 cfs @ 12.07 hrs, Volume= 0.777 af, Atten= 0%, Lag= 0.0 min
Primary = 9.9 cfs @ 12.07 hrs, Volume= 0.777 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.91' @ 12.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	8.50'	**24.0" Round Culvert** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 8.50' / 8.41' S= 0.0020 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.91' TW=11.08' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond DMH A6: DMH A6



Summary for Pond ENV 21: ENV 21

[57] Hint: Peaked at 12.02' (Flood elevation advised)

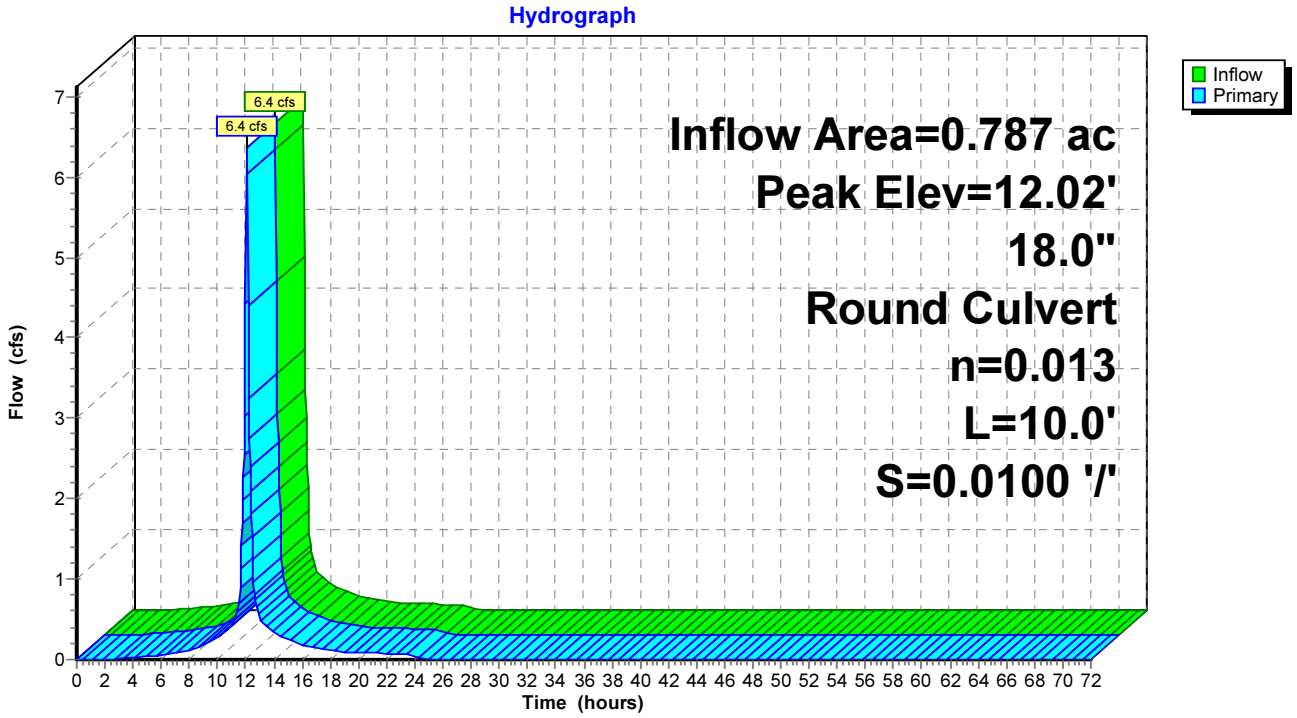
Inflow Area = 0.787 ac, 68.76% Impervious, Inflow Depth = 7.42" for 50 Year Storm event
Inflow = 6.4 cfs @ 12.07 hrs, Volume= 0.486 af
Outflow = 6.4 cfs @ 12.07 hrs, Volume= 0.486 af, Atten= 0%, Lag= 0.0 min
Primary = 6.4 cfs @ 12.07 hrs, Volume= 0.486 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 12.02' @ 12.24 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.00'	**18.0" Round Culvert** L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.00' / 8.90' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.0 cfs @ 12.07 hrs HW=10.96' TW=10.91' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.0 cfs @ 1.12 fps)

Pond ENV 21: ENV 21



Summary for Pond PCB-BH: PCB-BH

[57] Hint: Peaked at 17.60' (Flood elevation advised)
[62] Hint: Exceeded Reach 3R OUTLET depth by 1.49' @ 12.10 hrs

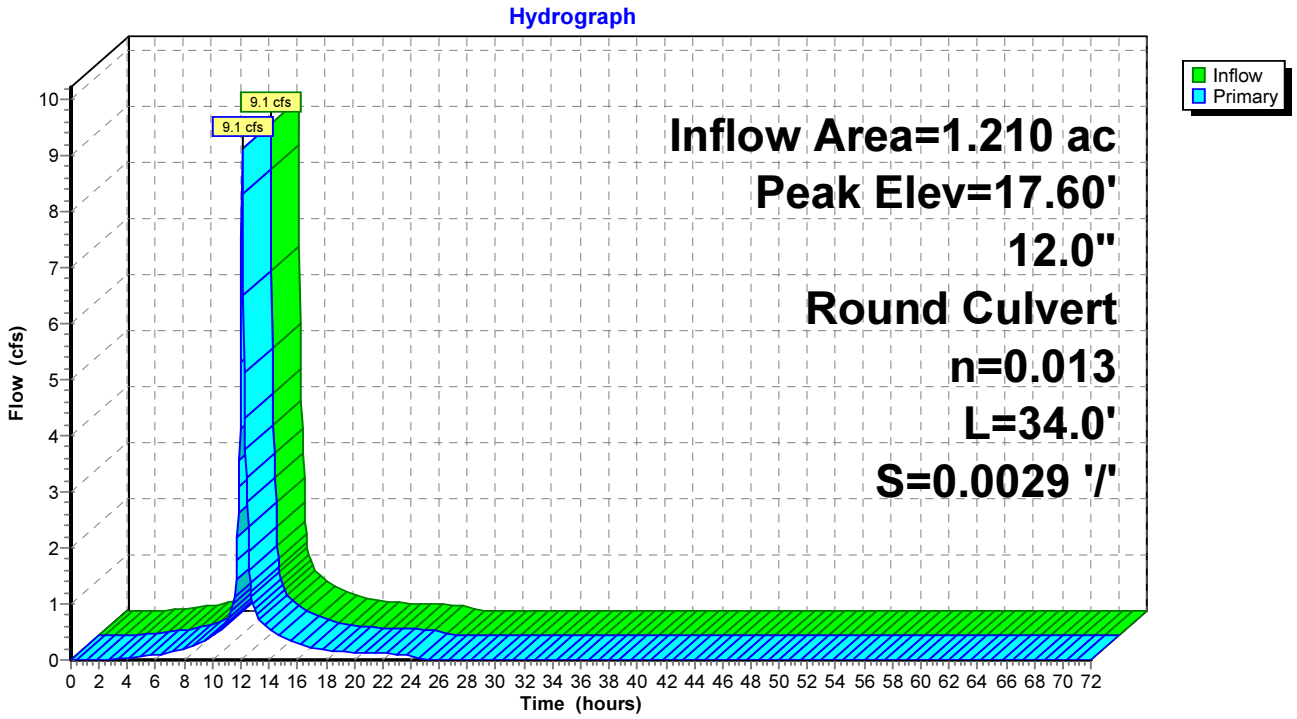
Inflow Area = 1.210 ac, 75.70% Impervious, Inflow Depth = 7.59" for 50 Year Storm event
Inflow = 9.1 cfs @ 12.11 hrs, Volume= 0.766 af
Outflow = 9.1 cfs @ 12.11 hrs, Volume= 0.766 af, Atten= 0%, Lag= 0.0 min
Primary = 9.1 cfs @ 12.11 hrs, Volume= 0.766 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 17.60' @ 12.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.20'	**12.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.20' / 10.10' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=8.7 cfs @ 12.11 hrs HW=17.39' TW=12.06' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.7 cfs @ 11.11 fps)

Pond PCB-BH: PCB-BH



Summary for Pond PDMH 1: PDMH 1

[57] Hint: Peaked at 10.79' (Flood elevation advised)

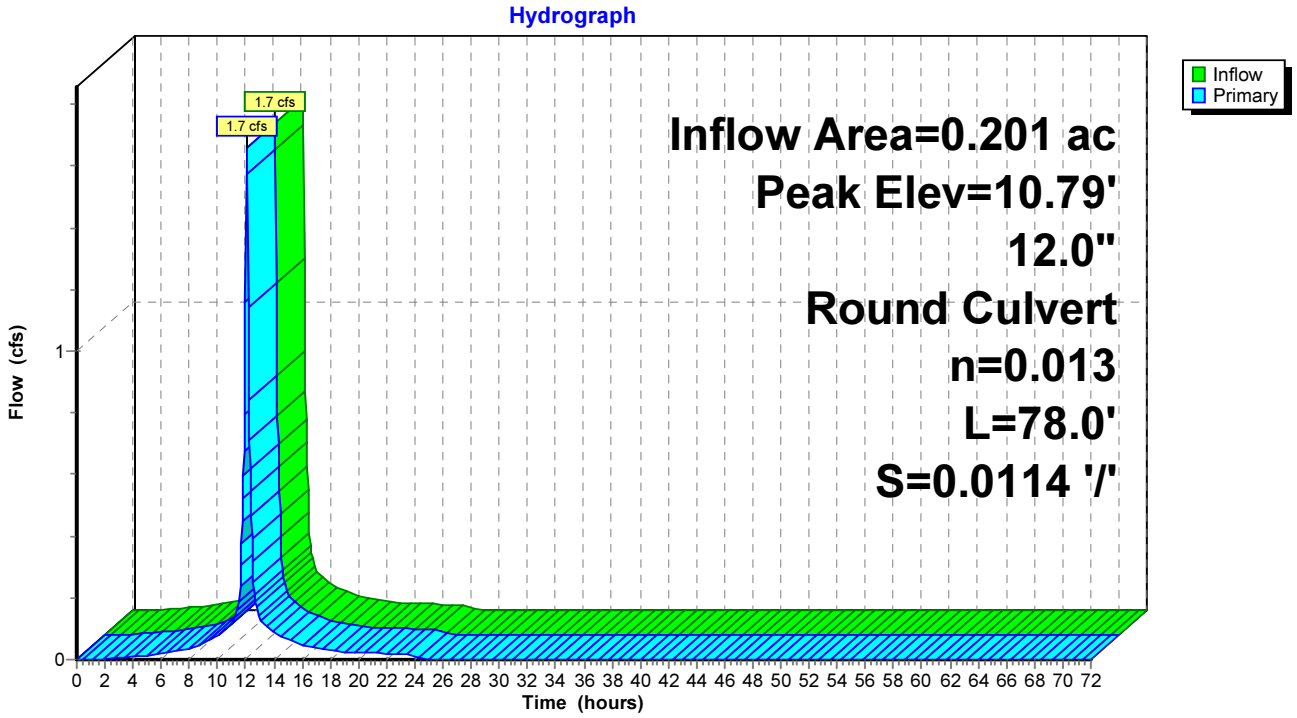
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 7.78" for 50 Year Storm event
Inflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.79' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	10.04'	**12.0" Round Culvert** L= 78.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 10.04' / 9.15' S= 0.0114 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.3 cfs @ 12.07 hrs HW=10.74' TW=10.17' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 1.3 cfs @ 3.10 fps)

Pond PDMH 1: PDMH 1



Summary for Pond PDMH 2: PDMH 2

[57] Hint: Peaked at 10.49' (Flood elevation advised)

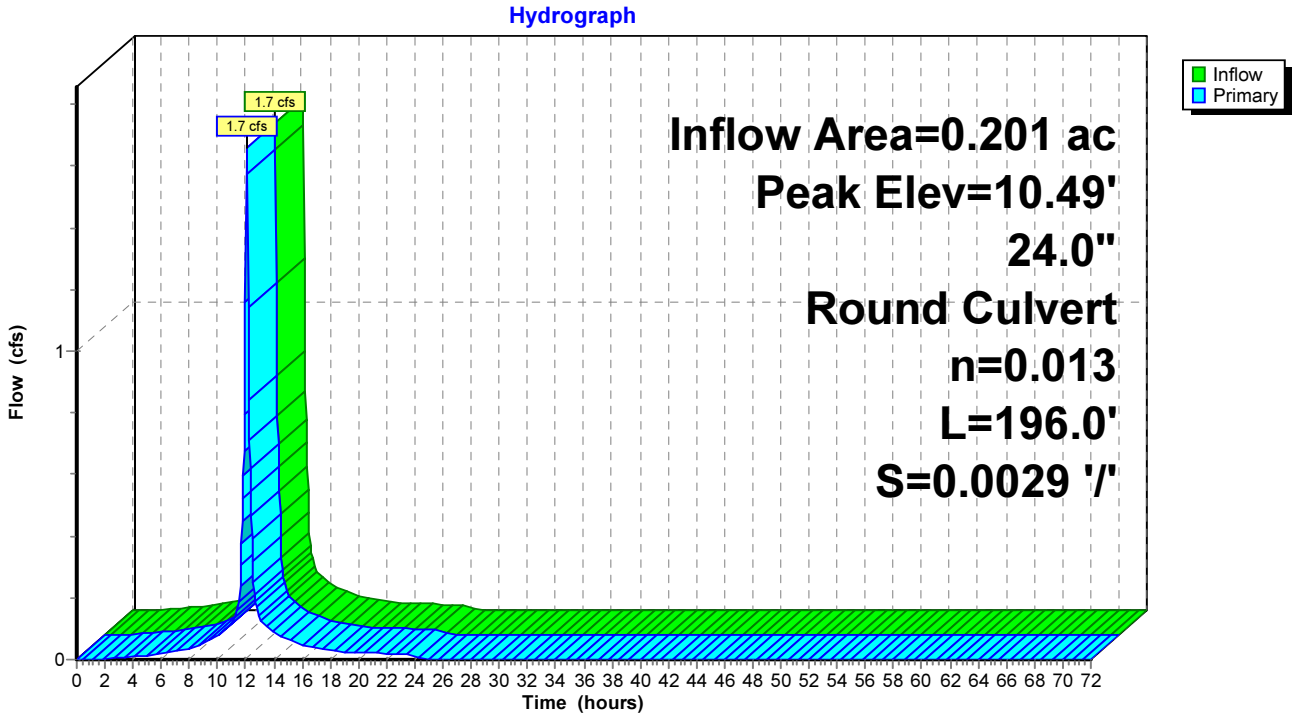
Inflow Area = 0.201 ac, 85.26% Impervious, Inflow Depth = 7.78" for 50 Year Storm event
Inflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af
Outflow = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.7 cfs @ 12.07 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.49' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	9.05'	**24.0" Round Culvert** L= 196.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.05' / 8.49' S= 0.0029 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=0.0 cfs @ 12.07 hrs HW=10.17' TW=10.39' (Dynamic Tailwater)
1=Culvert (Controls 0.0 cfs)

Pond PDMH 2: PDMH 2



Summary for Pond PDMH 3: PDMH 3

[57] Hint: Peaked at 10.46' (Flood elevation advised)
[80] Warning: Exceeded Pond PDMH 2 by 0.38' @ 12.05 hrs (3.8 cfs 0.018 af)

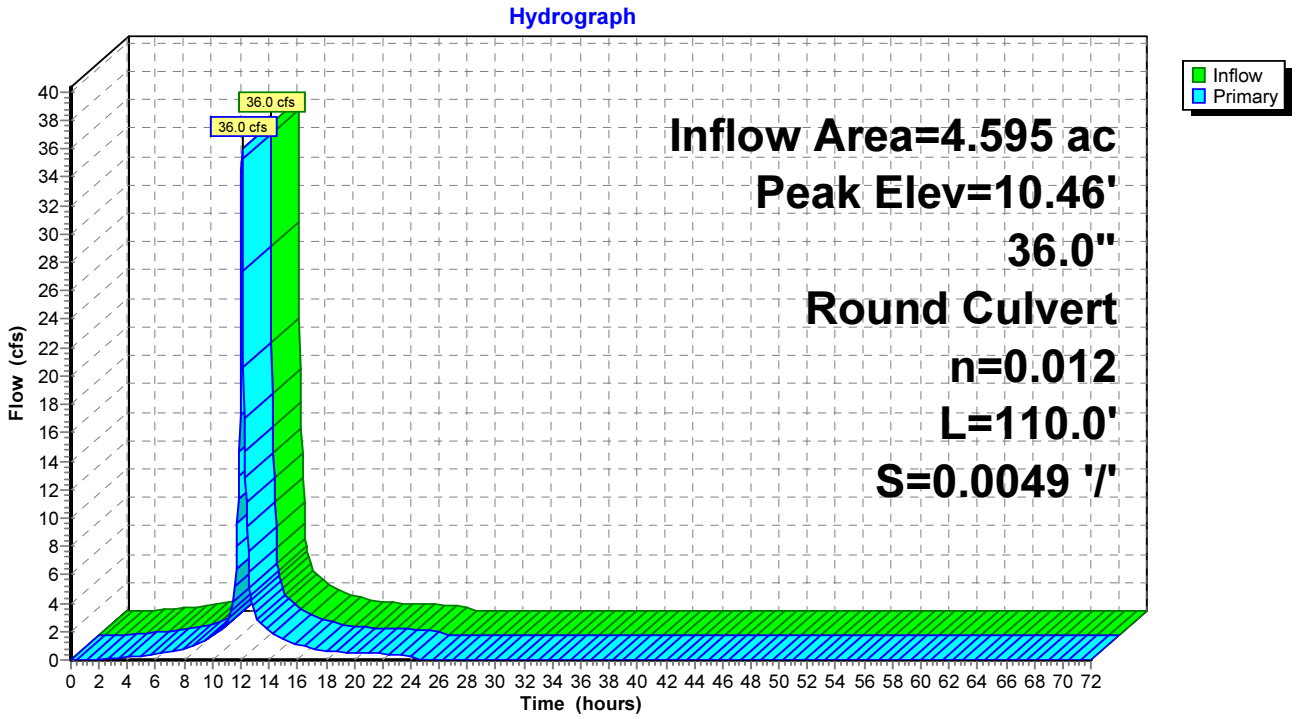
Inflow Area =	4.595 ac,	77.00% Impervious,	Inflow Depth =	7.63"	for 50 Year Storm event
Inflow =	36.0 cfs @	12.08 hrs,	Volume=	2.920 af	
Outflow =	36.0 cfs @	12.08 hrs,	Volume=	2.920 af,	Atten= 0%, Lag= 0.0 min
Primary =	36.0 cfs @	12.08 hrs,	Volume=	2.920 af	

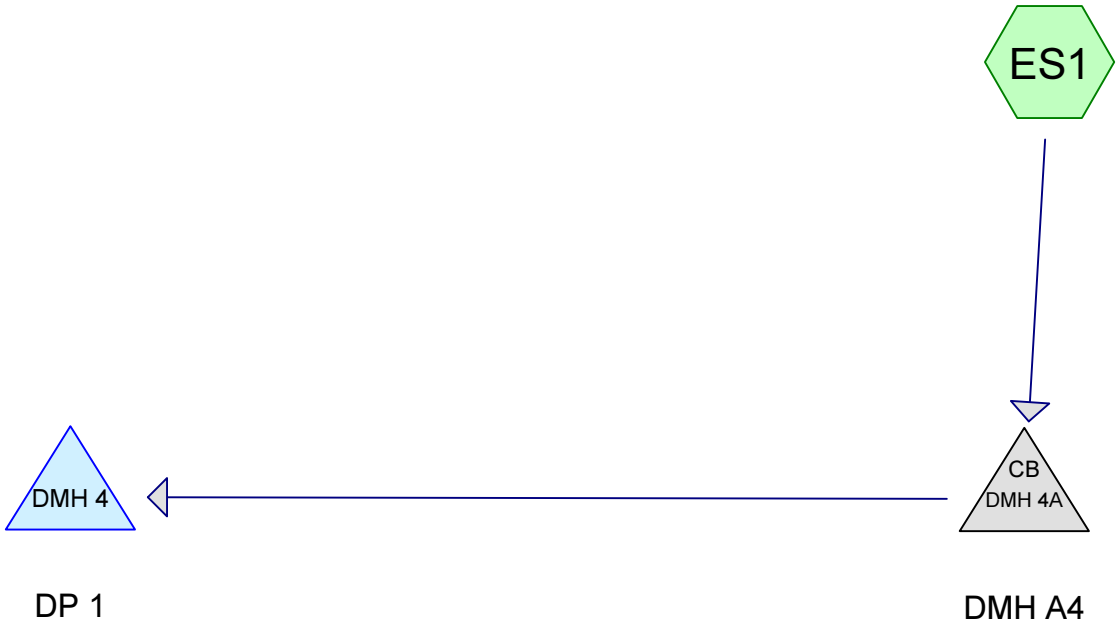
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.46' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.48'	**36.0" Round Culvert** L= 110.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.48' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=35.0 cfs @ 12.08 hrs HW=10.39' TW=0.00' (Dynamic Tailwater)
↳**1=Culvert** (Barrel Controls 35.0 cfs @ 6.34 fps)

Pond PDMH 3: PDMH 3





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by Ambit Engineering, Inc., Printed 3/19/2018

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.533	96	Gravel surface, HSG C (ES1)
3.502	98	Paved parking, HSG C (ES1)
5.035	**97**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
5.035	HSG C	ES1
0.000	HSG D	
0.000	Other	
5.035		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.533	0.000	0.000	1.533	Gravel surface	ES1
0.000	0.000	3.502	0.000	0.000	3.502	Paved parking	ES1
0.000	**0.000**	**5.035**	**0.000**	**0.000**	**5.035**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	ES1	0.00	0.00	120.0	0.0050	0.012	12.0	0.0	0.0
2	ES1	0.00	0.00	195.0	0.0100	0.012	12.0	0.0	0.0
3	DMH 4A	7.87	6.94	190.0	0.0049	0.012	36.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=219,330 sf 69.55% Impervious Runoff Depth=3.34"
Flow Length=569' Tc=5.0 min CN=97 Runoff=18.0 cfs 1.403 af

Pond DMH 4: DP 1 Inflow=18.0 cfs 1.403 af
Primary=18.0 cfs 1.403 af

Pond DMH 4A: DMH A4 Peak Elev=9.71' Inflow=18.0 cfs 1.403 af
36.0" Round Culvert n=0.012 L=190.0' S=0.0049 '/' Outflow=18.0 cfs 1.403 af

Total Runoff Area = 5.035 ac Runoff Volume = 1.403 af Average Runoff Depth = 3.34"
30.45% Pervious = 1.533 ac 69.55% Impervious = 3.502 ac

Summary for Subcatchment ES1:

[49] Hint: Tc<2dt may require smaller dt

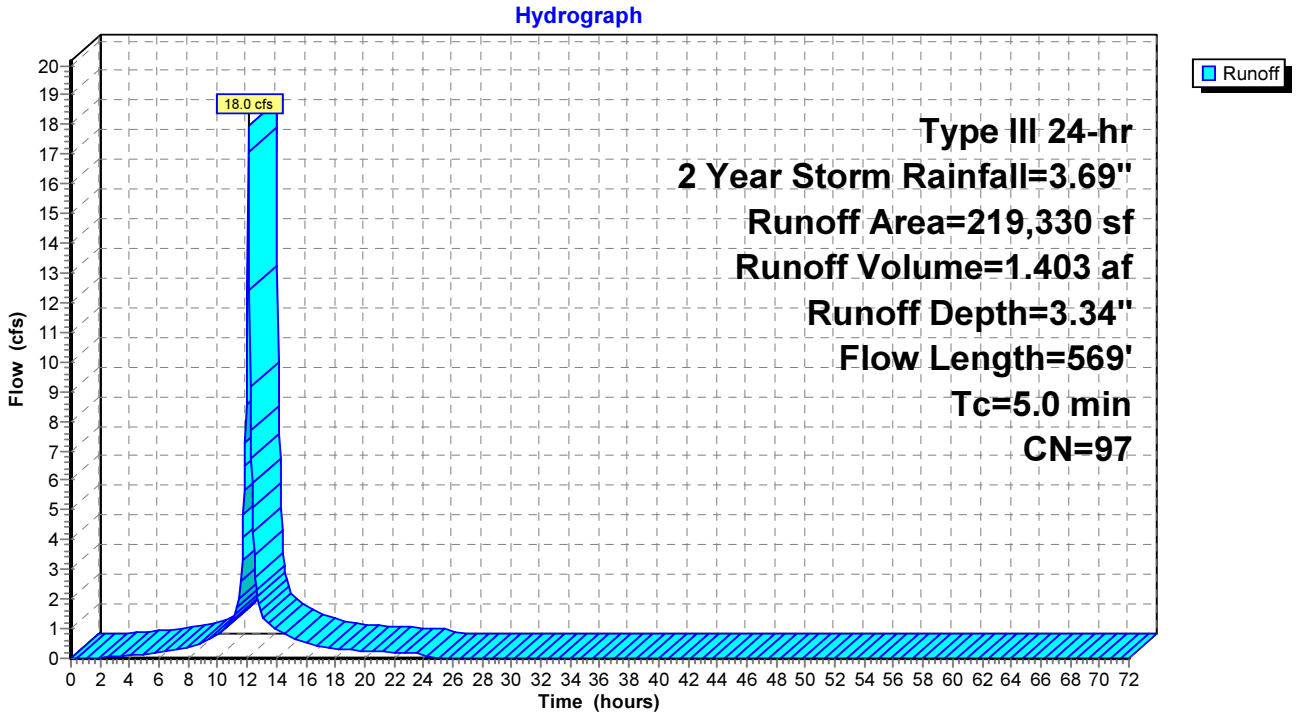
Runoff = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af, Depth= 3.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Rainfall=3.69"

Area (sf)	CN	Description
66,786	96	Gravel surface, HSG C
152,544	98	Paved parking, HSG C
219,330	97	Weighted Average
66,786		30.45% Pervious Area
152,544		69.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	254	0.0276	3.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	120	0.0050	3.47	2.73	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.7	195	0.0100	4.91	3.86	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.6	569	Total, Increased to minimum Tc = 5.0 min			

Subcatchment ES1:



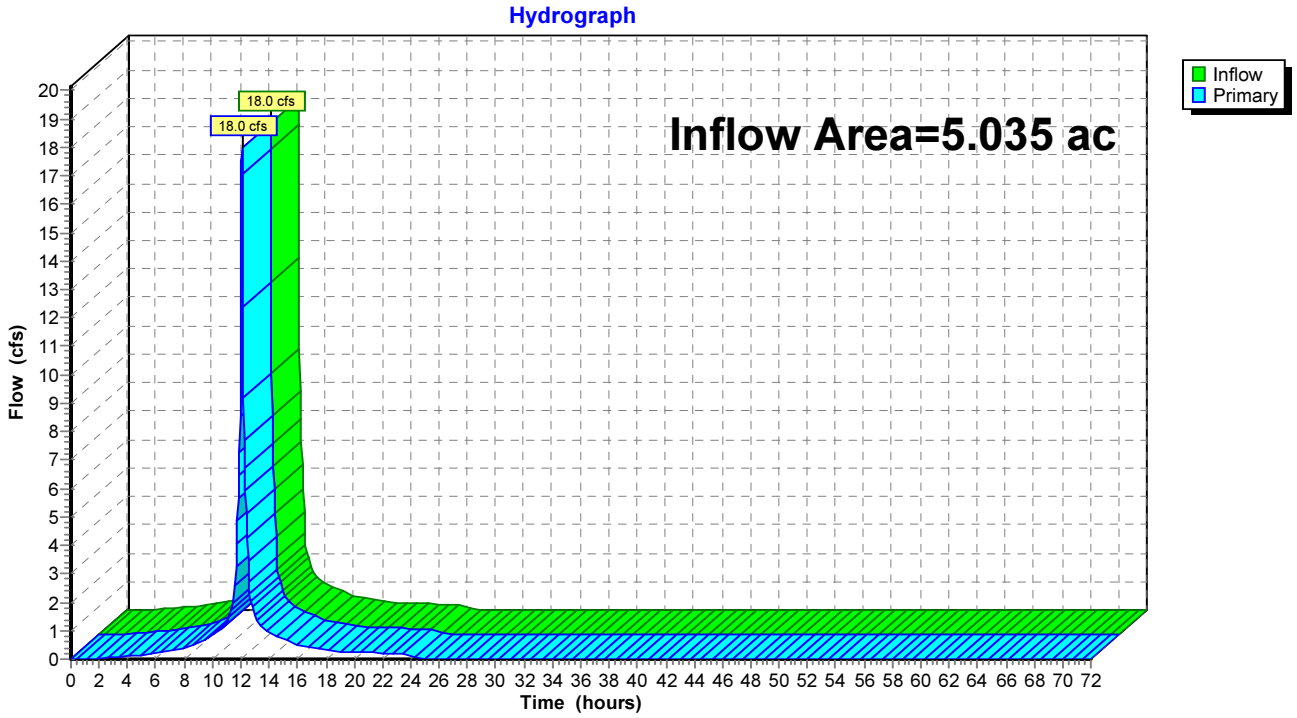
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 3.34" for 2 Year Storm event
Inflow = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af
Primary = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH A4

[57] Hint: Peaked at 9.71' (Flood elevation advised)

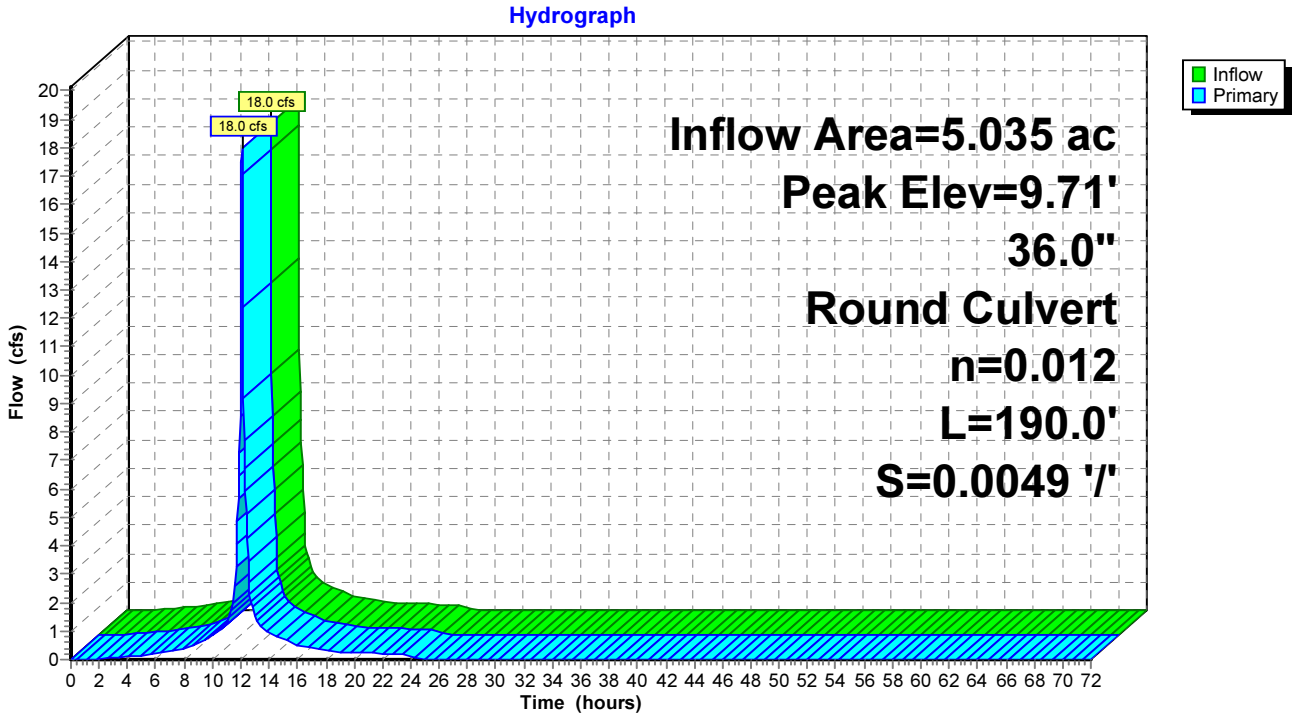
Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 3.34" for 2 Year Storm event
Inflow = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af
Outflow = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af, Atten= 0%, Lag= 0.0 min
Primary = 18.0 cfs @ 12.07 hrs, Volume= 1.403 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 9.71' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.87'	**36.0" Round Culvert** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.87' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=17.3 cfs @ 12.07 hrs HW=9.67' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 17.3 cfs @ 5.64 fps)

Pond DMH 4A: DMH A4



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=219,330 sf 69.55% Impervious Runoff Depth=5.25"
Flow Length=569' Tc=5.0 min CN=97 Runoff=27.6 cfs 2.201 af

Pond DMH 4: DP 1 Inflow=27.6 cfs 2.201 af
Primary=27.6 cfs 2.201 af

Pond DMH 4A: DMH A4 Peak Elev=10.27' Inflow=27.6 cfs 2.201 af
36.0" Round Culvert n=0.012 L=190.0' S=0.0049 '/' Outflow=27.6 cfs 2.201 af

Total Runoff Area = 5.035 ac Runoff Volume = 2.201 af Average Runoff Depth = 5.25"
30.45% Pervious = 1.533 ac 69.55% Impervious = 3.502 ac

Summary for Subcatchment ES1:

[49] Hint: Tc<2dt may require smaller dt

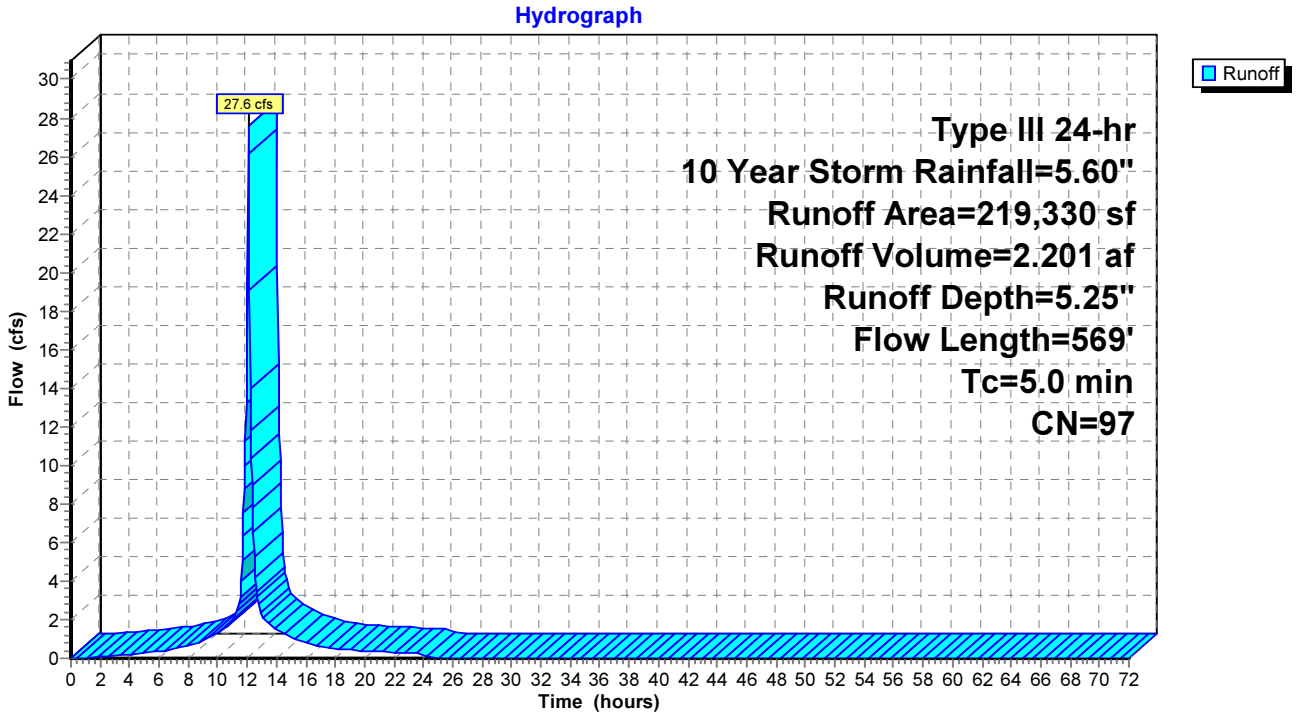
Runoff = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af, Depth= 5.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Rainfall=5.60"

Area (sf)	CN	Description
66,786	96	Gravel surface, HSG C
152,544	98	Paved parking, HSG C
219,330	97	Weighted Average
66,786		30.45% Pervious Area
152,544		69.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	254	0.0276	3.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	120	0.0050	3.47	2.73	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.7	195	0.0100	4.91	3.86	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.6	569	Total, Increased to minimum Tc = 5.0 min			

Subcatchment ES1:



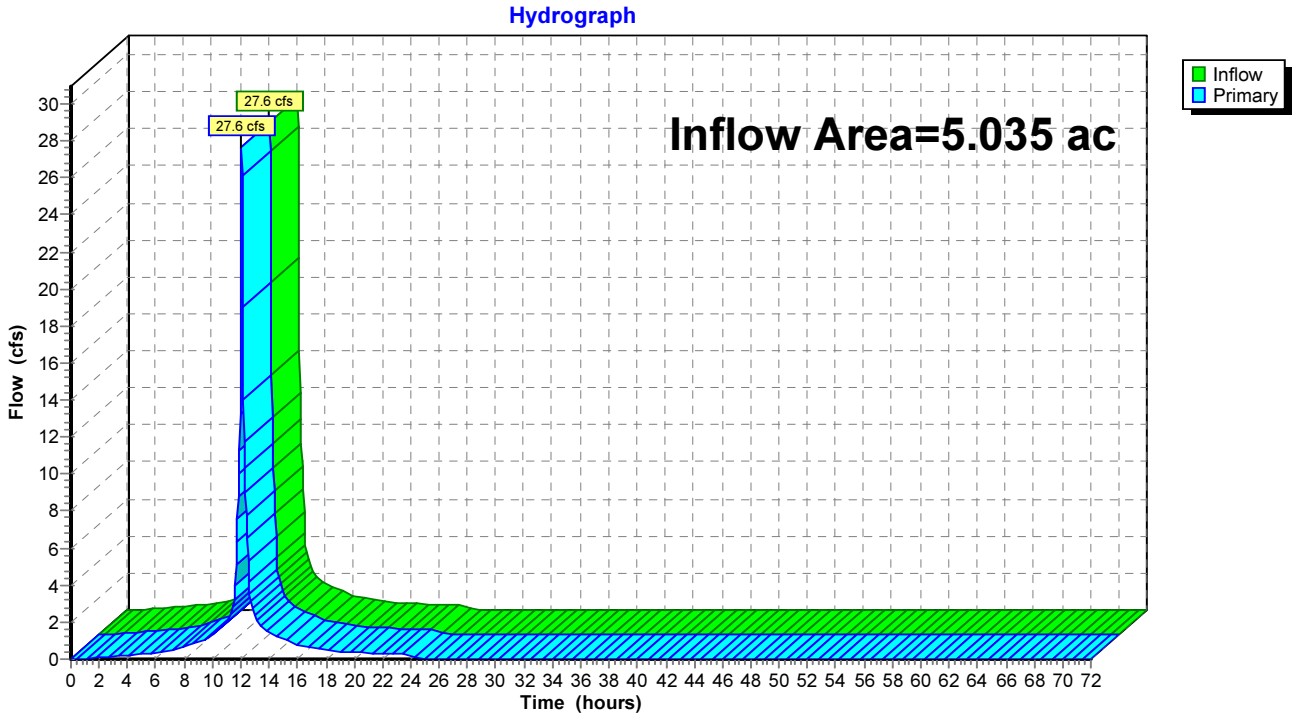
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 5.25" for 10 Year Storm event
Inflow = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af
Primary = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH A4

[57] Hint: Peaked at 10.27' (Flood elevation advised)

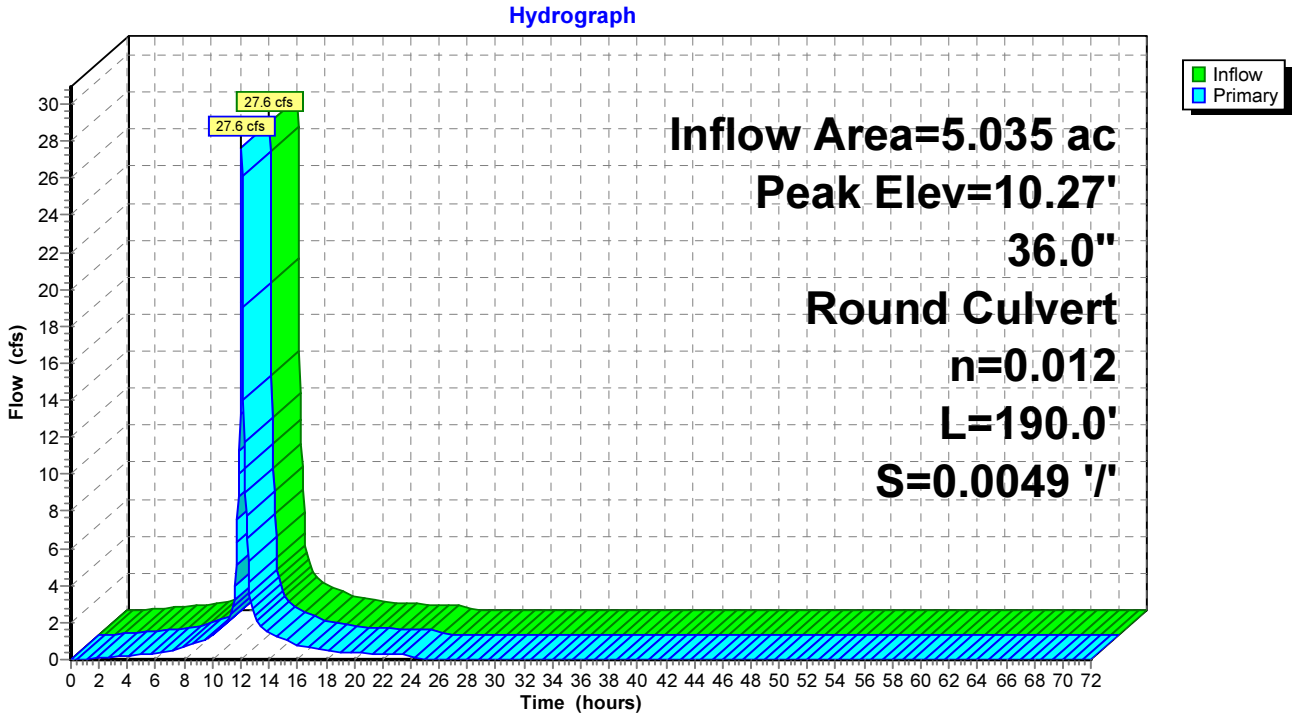
Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 5.25" for 10 Year Storm event
Inflow = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af
Outflow = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af, Atten= 0%, Lag= 0.0 min
Primary = 27.6 cfs @ 12.07 hrs, Volume= 2.201 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.27' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.87'	**36.0" Round Culvert** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.87' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=26.6 cfs @ 12.07 hrs HW=10.21' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 26.6 cfs @ 6.20 fps)

Pond DMH 4A: DMH A4



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=219,330 sf 69.55% Impervious Runoff Depth=6.74"
Flow Length=569' Tc=5.0 min CN=97 Runoff=35.2 cfs 2.829 af

Pond DMH 4: DP 1 Inflow=35.2 cfs 2.829 af
Primary=35.2 cfs 2.829 af

Pond DMH 4A: DMH A4 Peak Elev=10.70' Inflow=35.2 cfs 2.829 af
36.0" Round Culvert n=0.012 L=190.0' S=0.0049 '/' Outflow=35.2 cfs 2.829 af

Total Runoff Area = 5.035 ac Runoff Volume = 2.829 af Average Runoff Depth = 6.74"
30.45% Pervious = 1.533 ac 69.55% Impervious = 3.502 ac

Summary for Subcatchment ES1:

[49] Hint: Tc<2dt may require smaller dt

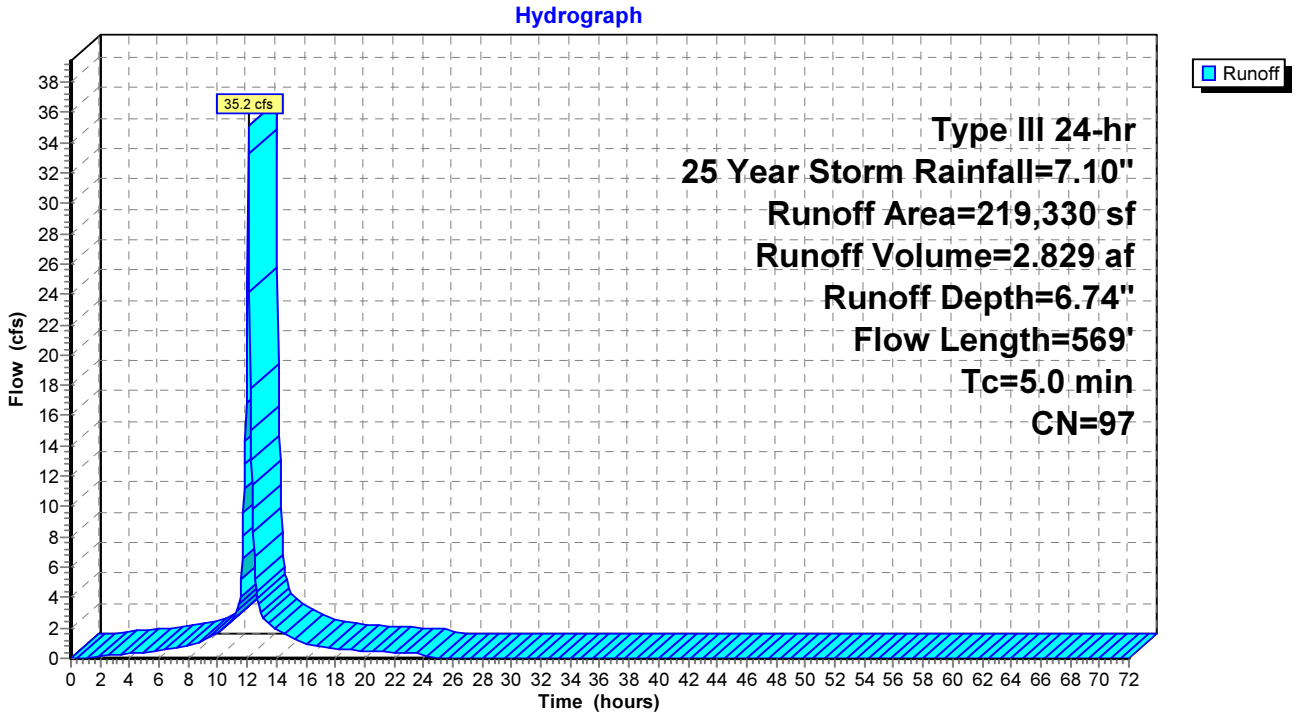
Runoff = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af, Depth= 6.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Rainfall=7.10"

Area (sf)	CN	Description
66,786	96	Gravel surface, HSG C
152,544	98	Paved parking, HSG C
219,330	97	Weighted Average
66,786		30.45% Pervious Area
152,544		69.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	254	0.0276	3.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	120	0.0050	3.47	2.73	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.7	195	0.0100	4.91	3.86	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.6	569	Total, Increased to minimum Tc = 5.0 min			

Subcatchment ES1:



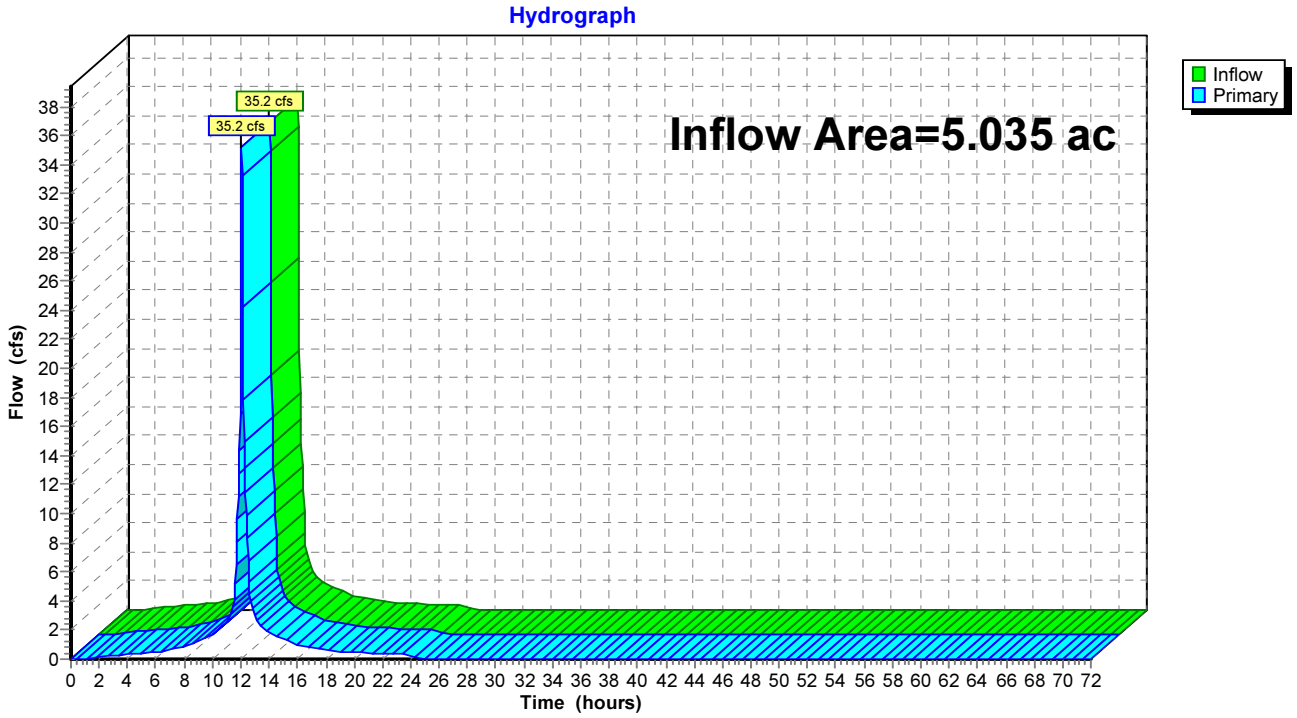
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 6.74" for 25 Year Storm event
Inflow = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af
Primary = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH A4

[57] Hint: Peaked at 10.70' (Flood elevation advised)

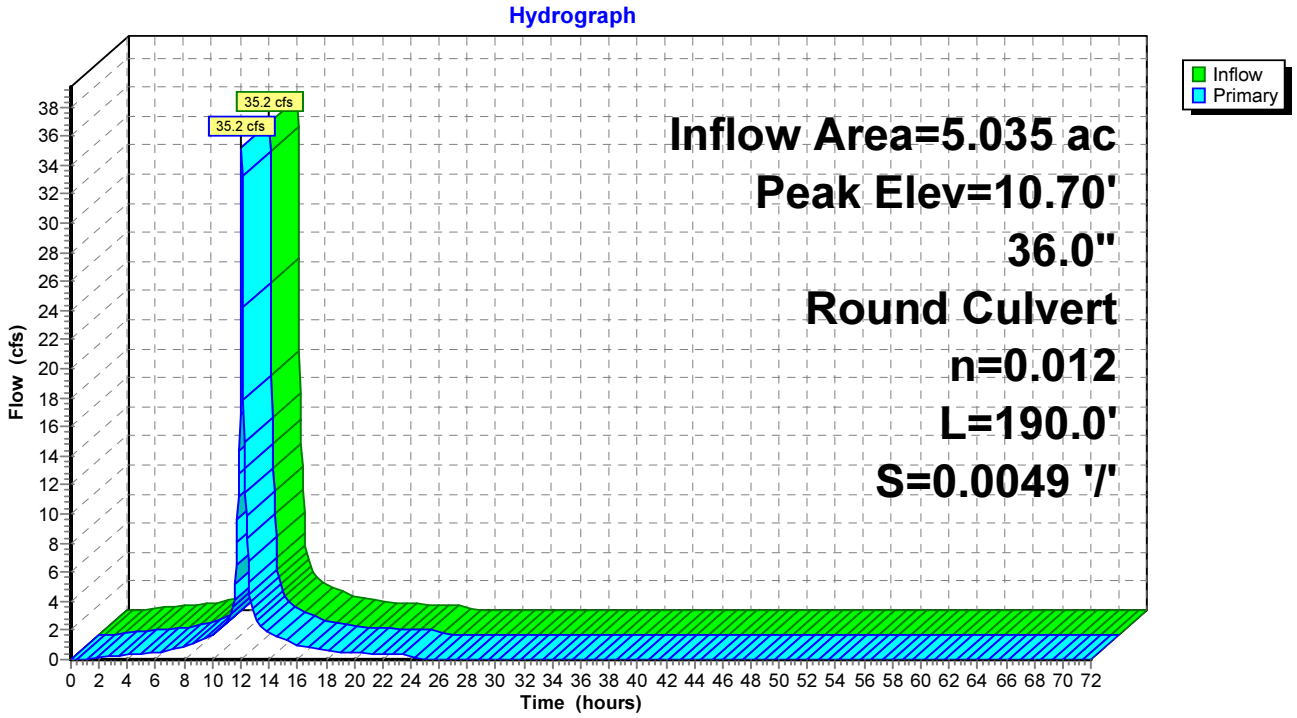
Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 6.74" for 25 Year Storm event
Inflow = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af
Outflow = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af, Atten= 0%, Lag= 0.0 min
Primary = 35.2 cfs @ 12.07 hrs, Volume= 2.829 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 10.70' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.87'	**36.0" Round Culvert** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.87' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

Primary OutFlow Max=33.9 cfs @ 12.07 hrs HW=10.62' TW=0.00' (Dynamic Tailwater)
1=Culvert (Barrel Controls 33.9 cfs @ 6.53 fps)

Pond DMH 4A: DMH A4



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment ES1: Runoff Area=219,330 sf 69.55% Impervious Runoff Depth=8.14"
Flow Length=569' Tc=5.0 min CN=97 Runoff=42.2 cfs 3.415 af

Pond DMH 4: DP 1 Inflow=42.2 cfs 3.415 af
Primary=42.2 cfs 3.415 af

Pond DMH 4A: DMH A4 Peak Elev=11.12' Inflow=42.2 cfs 3.415 af
36.0" Round Culvert n=0.012 L=190.0' S=0.0049 '/' Outflow=42.2 cfs 3.415 af

Total Runoff Area = 5.035 ac Runoff Volume = 3.415 af Average Runoff Depth = 8.14"
30.45% Pervious = 1.533 ac 69.55% Impervious = 3.502 ac

Summary for Subcatchment ES1:

[49] Hint: Tc<2dt may require smaller dt

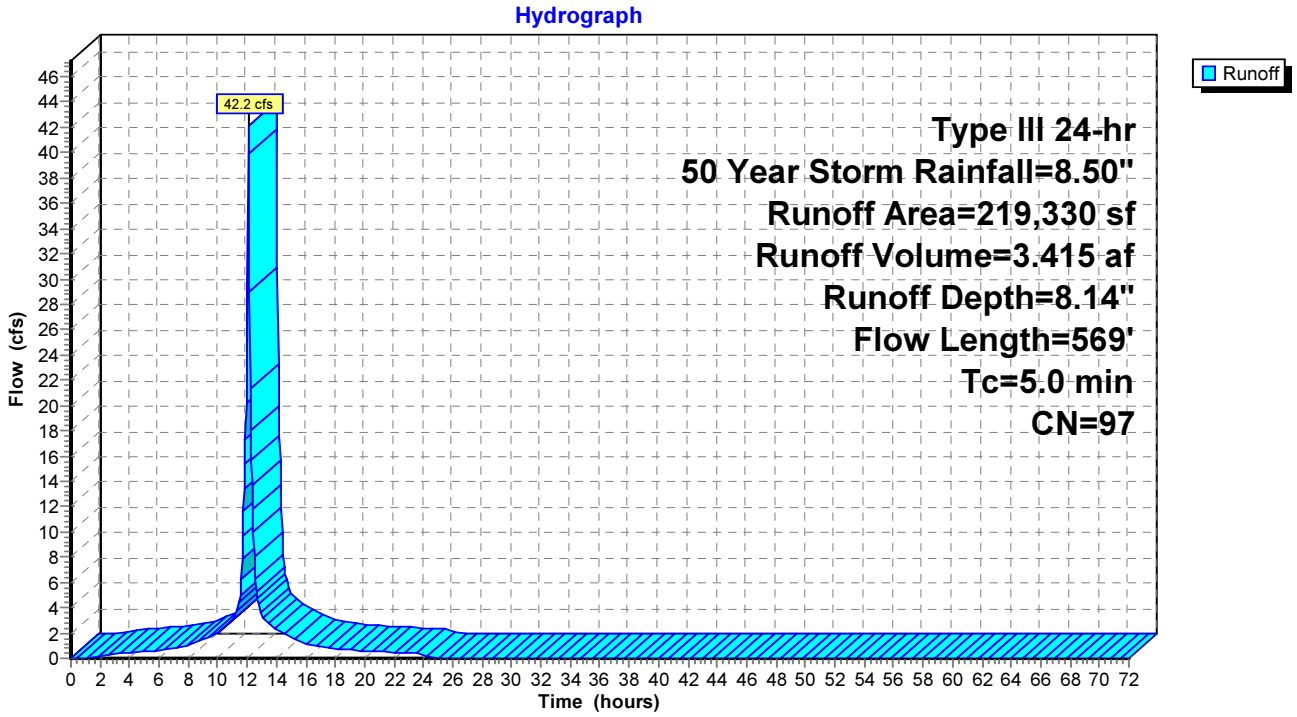
Runoff = 42.2 cfs @ 12.07 hrs, Volume= 3.415 af, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Year Storm Rainfall=8.50"

Area (sf)	CN	Description
66,786	96	Gravel surface, HSG C
152,544	98	Paved parking, HSG C
219,330	97	Weighted Average
66,786		30.45% Pervious Area
152,544		69.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	254	0.0276	3.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	120	0.0050	3.47	2.73	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
0.7	195	0.0100	4.91	3.86	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012 Concrete pipe, finished
2.6	569	Total, Increased to minimum Tc = 5.0 min			

Subcatchment ES1:



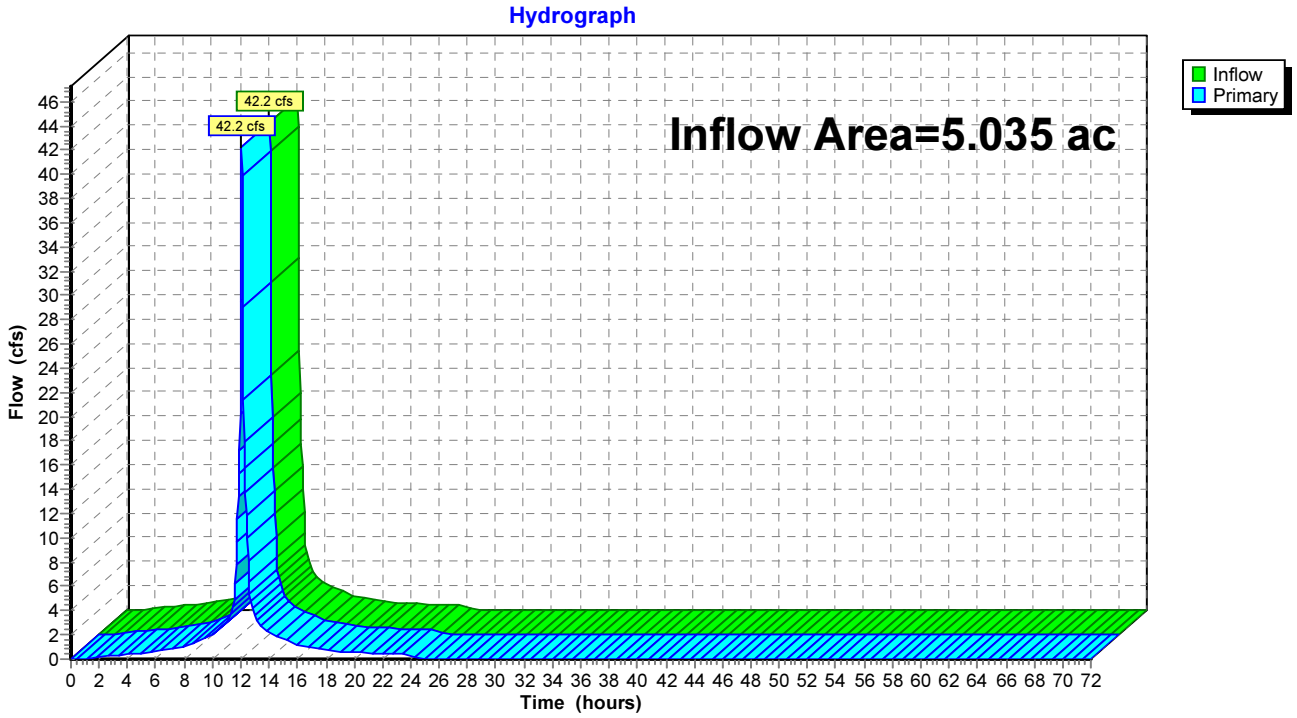
Summary for Pond DMH 4: DP 1

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

Inflow Area = 5.035 ac, 69.55% Impervious, Inflow Depth = 8.14" for 50 Year Storm event
Inflow = 42.2 cfs @ 12.07 hrs, Volume= 3.415 af
Primary = 42.2 cfs @ 12.07 hrs, Volume= 3.415 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Pond DMH 4: DP 1



Summary for Pond DMH 4A: DMH A4

[57] Hint: Peaked at 11.12' (Flood elevation advised)

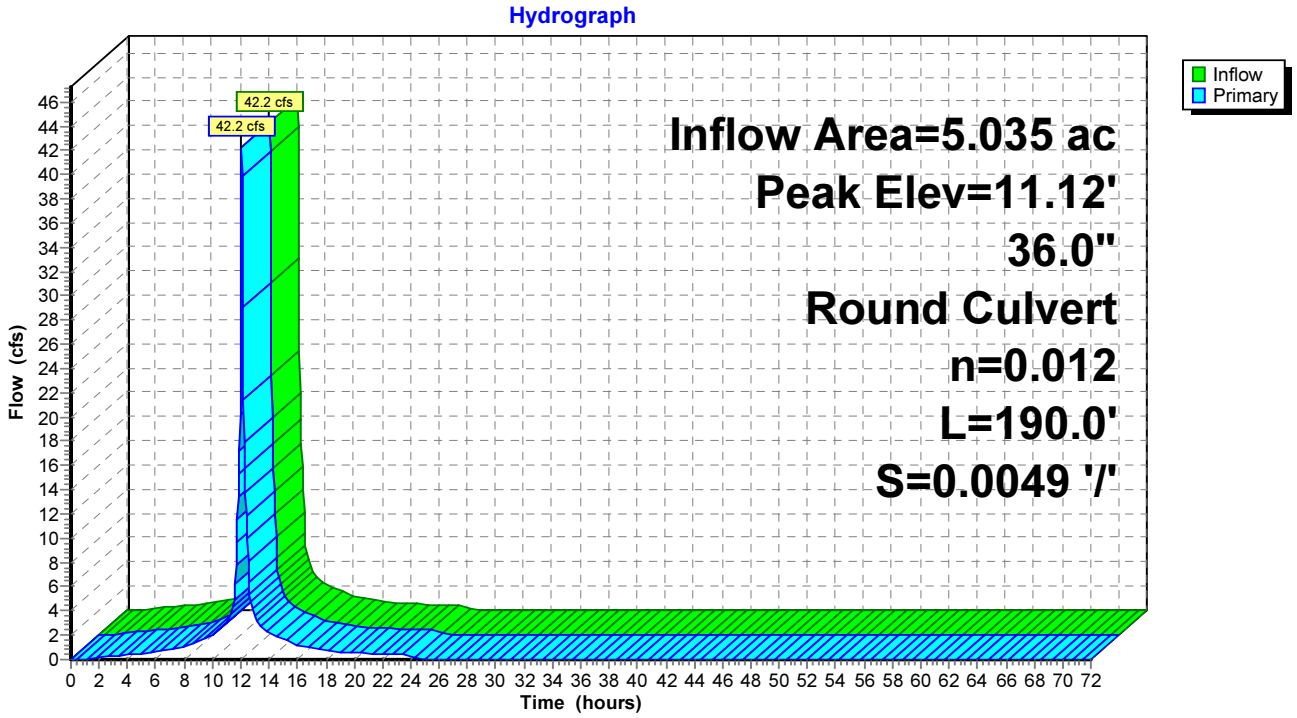
Inflow Area =	5.035 ac, 69.55% Impervious,	Inflow Depth =	8.14"	for 50 Year Storm event
Inflow =	42.2 cfs @ 12.07 hrs,	Volume=	3.415 af	
Outflow =	42.2 cfs @ 12.07 hrs,	Volume=	3.415 af,	Atten= 0%, Lag= 0.0 min
Primary =	42.2 cfs @ 12.07 hrs,	Volume=	3.415 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 11.12' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	7.87'	**36.0" Round Culvert** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 7.87' / 6.94' S= 0.0049 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 7.07 sf

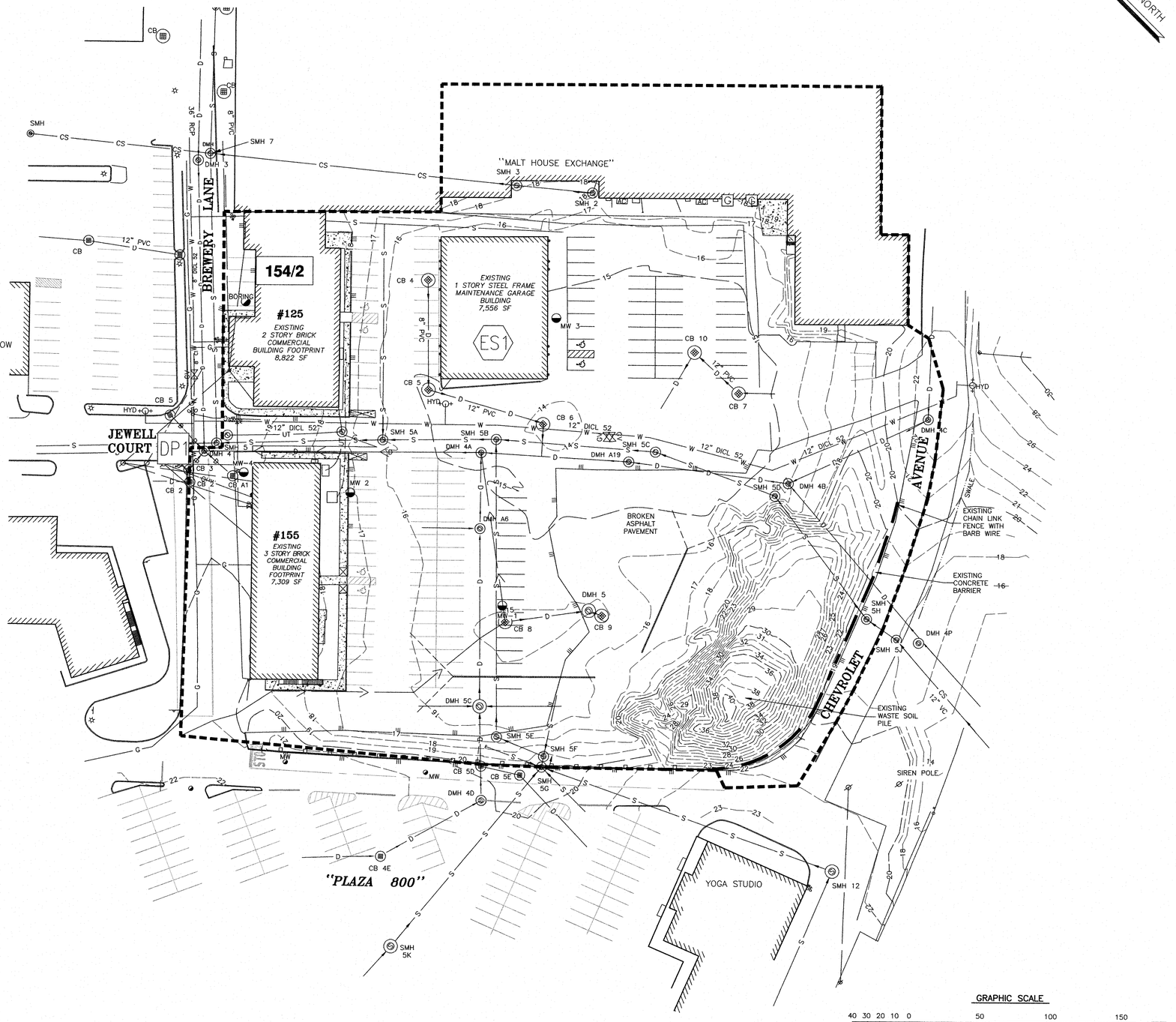
Primary OutFlow Max=40.7 cfs @ 12.07 hrs HW=11.03' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 40.7 cfs @ 6.79 fps)

Pond DMH 4A: DMH A4



LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
		SUBCATCHMENT LINE
ES1	PS1	SUBCATCHMENT NUMBER
1234 WOODS	1234 WOODS	AREA IN SQUARE FEET DESCRIPTION OF COVER
1	1	POND (DESIGN MODEL)
DP1	DP1	REACH (DESIGN MODEL)
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
		CATCH BASIN
		DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
		Tc PATH
SF	SF	SHEET FLOW
SCF	SCF	SHALLOW CONCENTRATED FLOW
CHANNEL	CHANNEL	CHANNEL FLOW
HSG	HSG	HYDROLGIC SOIL GROUP



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) THIS PLAN IS FOR RUNOFF ANALYSIS ONLY AND SHALL BE USED ONLY AS A GUIDE FOR CONSTRUCTION.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

CHINBURG PROPERTIES
145 BREWERY LANE
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	2/12/18

REVISIONS

JOSEPH L. MULLEDY No. 11202 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE -
2/12/18

SCALE: 1" = 40' FEBRUARY 2018

EXISTING DRAINAGE PLAN

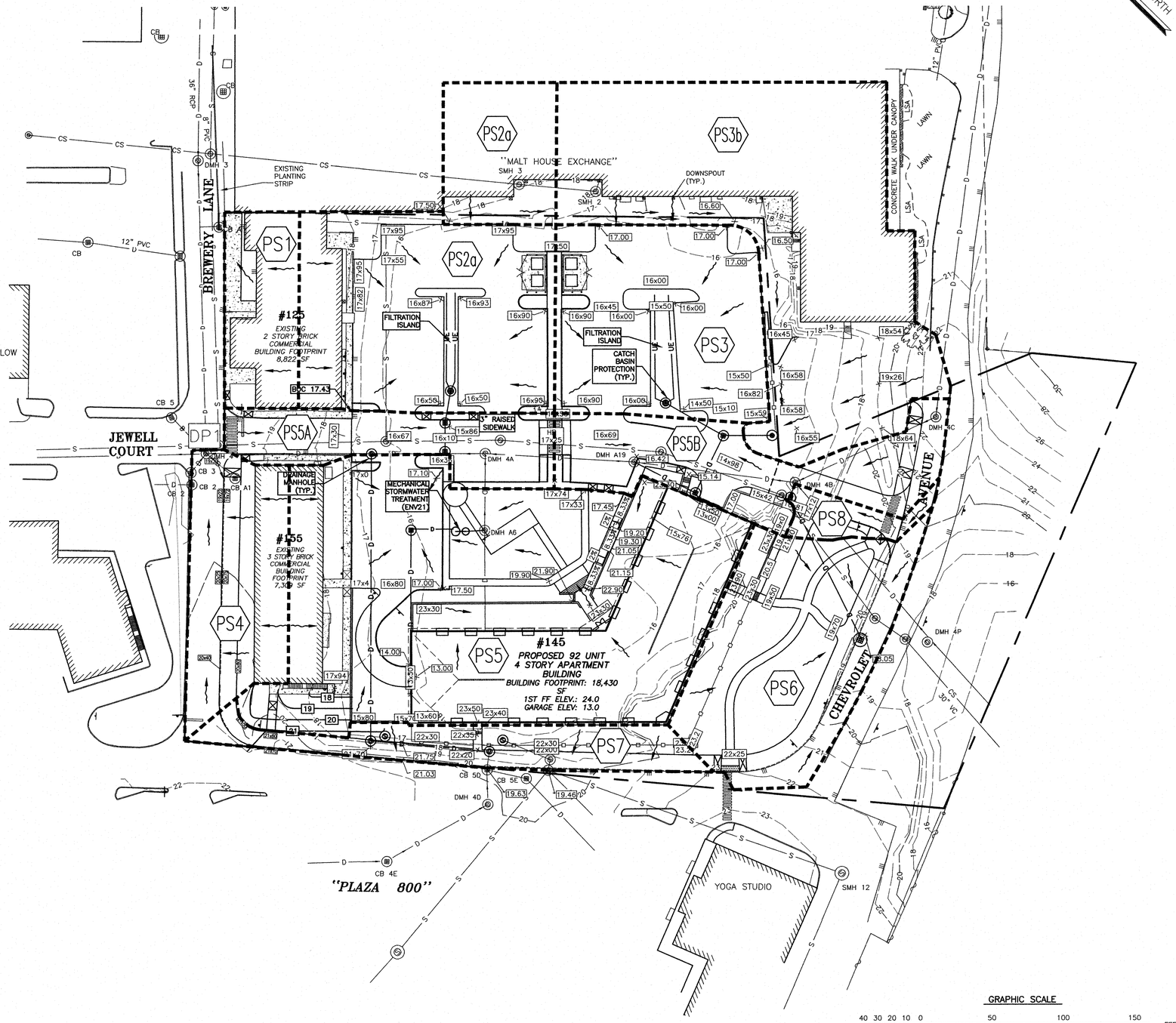
W1

FB168, PG 11

830.01

LEGEND

EXISTING	PROPOSED	
— — —	— — —	PROPERTY LINE
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
		SUBCATCHMENT LINE
ES1	PS1	SUBCATCHMENT NUMBER
1234	1234	AREA IN SQUARE FEET
WOODS	WOODS	DESCRIPTION OF COVER
1	1	POND (DESIGN MODEL)
DP1	DP1	REACH (DESIGN MODEL)
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
		CATCH BASIN
		DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
		Tc PATH
SF	SF	SHEET FLOW
SCF	SCF	SHALLOW CONCENTRATED FLOW
CHANNEL	CHANNEL	CHANNEL FLOW
HSG	HSG	HYDROLGIC SOIL GROUP



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

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200 Griffin Road – Unit 3
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4) SPEED HUMPS SHALL BE INSTALLED IN A MANNER THAT WILL INSURE THE FREE FLOW OF STORMWATER BETWEEN THE HUMP AND THE CURB LINE.

5) EXISTING DRAINAGE INVERTS CAN BE SEEN ON SHEET EXISTING UTILITIES PLAN – C3.

CHINBURG PROPERTIES
145 BREWERY LANE
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	AREA EDITS, FLOW ARROWS ADDED	3/20/18
0	ISSUED FOR COMMENT	2/12/18

REVISIONS

STATE OF NEW HAMPSHIRE – JOSEPH A. MULLEDY No. 11502 LICENSED PROFESSIONAL ENGINEER
3/20/18

SCALE: 1" = 40' FEBRUARY 2018

PROPOSED DRAINAGE PLAN — **W2**

FB168, PG 11 — 830.01

J:\JOBS\JN800s\JN830s\JN830\2017 Site Plans Chinburg\Plans & Specs\Site\830.01SITE02.dwg, W2

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	No
State	New Hampshire
Location	
Longitude	70.770 degrees West
Latitude	43.069 degrees North
Elevation	0 feet
Date/Time	Tue, 17 Apr 2018 15:07:43 -0400

Inches of Rain - 24 HR Event

2 YR = 3.21 x 15% = 3.69

10 YR = 4.87 x 15% = 5.60

25 YR = 6.17 x 15% = 7.10

50 Yr = 7.39 x 15% = 8.50

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.49	0.66	0.81	1.00	**1yr**	0.70	0.98	1.14	1.57	2.01	2.66	2.92	**1yr**	2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.61	0.83	1.02	1.21	**2yr**	0.88	1.18	1.40	1.87	2.40	3.21	3.57	**2yr**	2.84	3.43	3.94	4.68	5.33	**2yr**
5yr	0.37	0.58	0.71	0.98	1.25	1.50	**5yr**	1.08	1.47	1.73	2.32	2.96	4.07	4.58	**5yr**	3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.42	0.65	0.80	1.12	1.45	1.76	**10yr**	1.25	1.72	2.04	2.72	3.47	4.87	5.53	**10yr**	4.31	5.32	6.08	7.11	7.98	**10yr**
25yr	0.50	0.76	0.94	1.35	1.77	2.19	**25yr**	1.53	2.14	2.53	3.38	4.28	6.17	7.10	**25yr**	5.46	6.83	7.80	9.02	10.05	**25yr**
50yr	0.56	0.86	1.07	1.54	2.07	2.58	**50yr**	1.78	2.52	2.98	3.99	5.02	7.39	8.58	**50yr**	6.54	8.25	9.42	10.81	11.98	**50yr**
100yr	0.64	0.97	1.22	1.76	2.41	3.04	**100yr**	2.08	2.97	3.51	4.70	5.89	8.85	10.38	**100yr**	7.84	9.98	11.38	12.96	14.28	**100yr**
200yr	0.73	1.10	1.40	2.02	2.82	3.59	**200yr**	2.43	3.51	4.14	5.55	6.91	10.61	12.55	**200yr**	9.39	12.07	13.75	15.55	17.03	**200yr**
500yr	0.88	1.30	1.68	2.44	3.47	4.47	**500yr**	2.99	4.37	5.14	6.90	8.55	13.49	16.15	**500yr**	11.93	15.53	17.67	19.78	21.50	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.92	1.33	1.68	2.23	2.50	**1yr**	1.98	2.40	2.86	3.17	3.89	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.06	3.45	**2yr**	2.71	3.32	3.82	4.55	5.08	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.79	4.19	**5yr**	3.35	4.03	4.72	5.54	6.24	**5yr**
10yr	0.39	0.59	0.73	1.03	1.32	1.60	**10yr**	1.14	1.56	1.81	2.39	3.06	4.37	4.87	**10yr**	3.87	4.68	5.45	6.42	7.20	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.76	3.54	4.71	5.90	**25yr**	4.17	5.68	6.66	7.80	8.69	**25yr**
50yr	0.48	0.73	0.91	1.31	1.77	2.17	**50yr**	1.52	2.12	2.35	3.08	3.94	5.32	6.82	**50yr**	4.71	6.56	7.74	9.06	10.03	**50yr**
100yr	0.54	0.81	1.01	1.47	2.01	2.47	**100yr**	1.74	2.41	2.63	3.42	4.36	5.98	7.87	**100yr**	5.29	7.57	9.00	10.53	11.58	**100yr**
200yr	0.59	0.89	1.13	1.63	2.28	2.82	**200yr**	1.97	2.75	2.93	3.79	4.80	6.70	9.09	**200yr**	5.93	8.74	10.46	12.25	13.39	**200yr**
500yr	0.69	1.02	1.31	1.91	2.71	3.37	**500yr**	2.34	3.29	3.41	4.33	5.47	7.79	10.98	**500yr**	6.89	10.56	12.75	14.99	16.21	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.21	2.99	3.16	**1yr**	2.64	3.04	3.58	4.38	5.05	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.51	3.43	3.70	**2yr**	3.03	3.56	4.09	4.84	5.63	**2yr**
5yr	0.40	0.62	0.76	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.53	3.25	4.34	4.96	**5yr**	3.84	4.77	5.38	6.37	7.15	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.97	**10yr**	1.39	1.93	2.28	3.10	3.95	5.34	6.19	**10yr**	4.72	5.96	6.81	7.83	8.74	**10yr**
25yr	0.57	0.87	1.09	1.55	2.04	2.56	**25yr**	1.76	2.51	2.95	4.07	5.14	7.79	8.33	**25yr**	6.90	8.01	9.13	10.33	11.40	**25yr**
50yr	0.67	1.02	1.27	1.82	2.45	3.12	**50yr**	2.12	3.05	3.59	4.99	6.30	9.76	10.44	**50yr**	8.64	10.03	11.41	12.71	13.95	**50yr**
100yr	0.79	1.19	1.49	2.15	2.95	3.80	**100yr**	2.55	3.72	4.37	6.15	7.74	12.22	13.07	**100yr**	10.81	12.57	14.25	15.67	17.07	**100yr**
200yr	0.92	1.39	1.76	2.54	3.55	4.64	**200yr**	3.06	4.54	5.33	7.57	9.50	15.33	16.40	**200yr**	13.57	15.77	17.84	19.31	20.90	**200yr**
500yr	1.14	1.70	2.19	3.18	4.52	6.02	**500yr**	3.90	5.88	6.91	10.00	12.50	20.72	22.13	**500yr**	18.34	21.28	24.00	25.46	27.31	**500yr**