STORMWATER ANALYSIS

FOR

BLOCK 102 LOTS 3, 4, 5 & 6
ATLANTIC CITY
ATLANTIC COUNTY, NEW JERSEY

PREPARED BY:

ARTHUR PONZIO CO.

JON J. BARNHART
NEW JERSEY LICENSE #GE43483

Existing Site Conditions

The subject site is a 6.39 acre parcel made up of a combination of gravel, grassy areas, and remains of asphalt paving. The parcel is bordered on two sides by New Hampshire Avenue to the west and Caspian Avenue to the south, with a municipal sea wall and pedestrian walkway between the parcel and *Absecon Inlet*.

Proposed Site Conditions

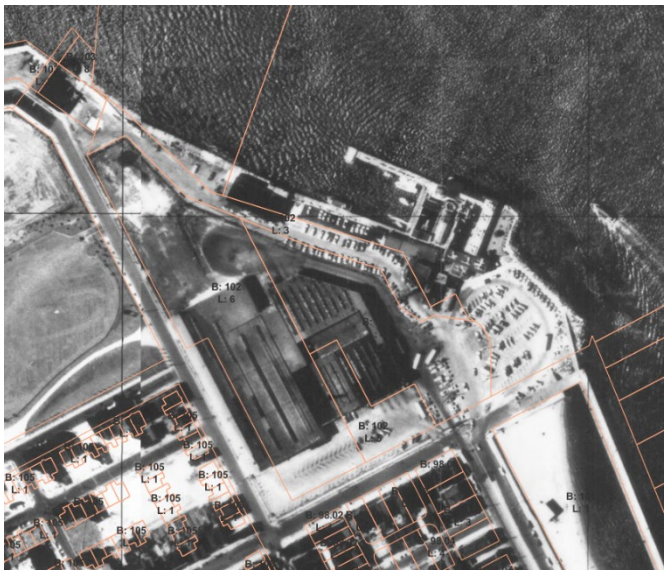
The site surface conditions will be as follows:

Total Development Area = 6.39 Acres +/-

Total Impervious Coverage: 4.67 Acres

Expressed as a Percentage = 73%

Project Narrative:



1977 Bureau of Tidelands Aerial Photograph

The project site is located in the City of Atlantic City, adjacent to the *Atlantic Ocean*. The entire parcel, comprised of Lots 4, 5 & 6 in Block 102, is 278,496 square feet, or 6.4 acres. The site has historically been used as parking to support adjacent businesses, and currently contains a 115,193.4 square foot gravel and asphalt area that has is used by the community for parking. A concrete and steel sheet pile sea wall is situated along the waterfront lot, Lot 3, which is owned by the City of Atlantic City.

The proposed development consists of 180 residential units spread across four, four-story, mid-rise buildings, along with a clubhouse facility. The site will be developed with driveways, parking areas, pedestrian walkways and open landscaped areas typical of multi-family residential development. The proposed impervious surfaces will cover 73% of the site and will result in a net decrease in "regulated motor vehicle surface" compared to the pre-developed condition, thereby eliminating the need to meet the stormwater quality standards. Furthermore, because the proposed stormwater management system discharges to the *Atlantic* Ocean, the project does not address storm water recharge or quantity due to its adjacency to the Atlantic Ocean, as well as its elevation which places it within a tidal flood hazard area. Additionally, the elevation of the project site places it within a tidal flood hazard area

The proposed stormwater control method for this project is to develop a stormwater management solution that addresses the required New Jersey Department of Environmental Protection (NJDEP) policies and safely discharges all site stormwater into *Absecon Inlet* via a proposed outfall.

All stormwater runoff generated by the proposed development will be directed into the new stormwater management system.

The enclosed plans and calculations demonstrate the project's compliance with various standards and requirements.

Policy Compliance:

N.J.A.C. 7:8 Subchapter 5 is titled *Design and Performance Standards for Stormwater Management Measures*. Section 7:8-5.1 of the subchapter indicates the intent of this section to be defined as,

> *"establishing design and performance standards for stormwater management measures for major development intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge in receiving water bodies."*

It is these three considerations that must be met in complying with the criteria set for stormwater in the state of New Jersey. The following is a list of the applicable policy sections, with a discussion of how this project intends to meet those policies.

§7:8-5.2 - Stormwater management measures for major development

Under the definition of "Major Development" in §7:8-1.2, the project qualifies as "major development. As described below, this project will meet all pertinent regulations under this section.

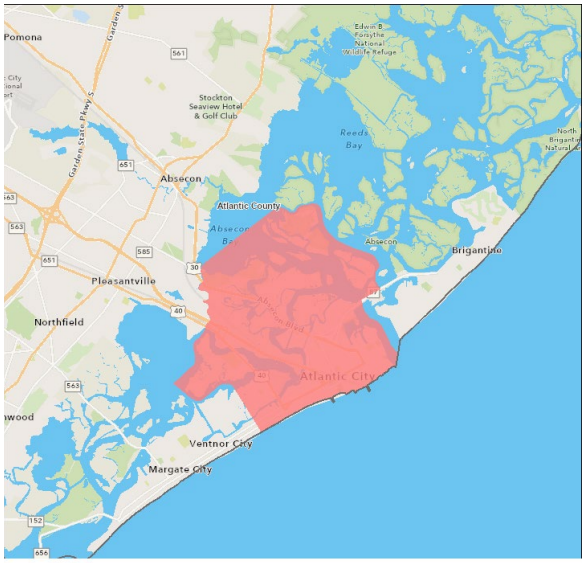
§7:8-5.3 - Green infrastructure standards

Green infrastructure standards are strategies intended to meet the stormwater quality, quantity and recharge requirements. As has been demonstrated, the project is not required to meet the stormwater quality, quantity or recharge standards and therefore the implementation of green infrastructure strategies is not proposed for this project.

§7:8-5.4 - Groundwater recharge standards

Per §7:8-5.4(b)2., "The groundwater recharge requirement does not apply to projects within the 'urban redevelopment area." The map to the right, from NJ-GeoWeb, indicates that the project is in the Urban Center on the NJ State Development and Redevelopment plan.

Due to the project being located in an area designated as an Urban Redevelopment Area, groundwater recharge requirements do not apply to this project. For this reason the requirements of this section are satisfied.



Designated Centers of the NJ State Development and Redevelopment Plan

Urban Center

§7:8-5.5 - Stormwater runoff quality standards

As stipulated in §7:8-5.5, "Stormwtaer runoff quality standards are applicable when the major development results in an increase of one-quarter acre or more of regulated motor vehicle surface."

A review of the existing site conditions shows that a large portion of the site has been used for public parking. Utilizing current survey information and the 2012 NJDEP Infrared Aerial imagery, it was determined that the pre-construction regulated motor vehicle surface area was 115,193.4 square feet (2.64 acres). The proposed regulated motor vehicle surface area is 112,299.6 square feet (2.58 acres), which results in a net decrease of 2,893.8 square feet (0.07 acres) of regulated motor vehicle surface.

As demonstrated above, the proposed project is not required to address stormwater quality standards and therefore the requirements under this section are satisfied.

§7:8-5.6 – Stormwater runoff quantity standards

This section addresses the stormwater regulations concerning the quantity of stormwater runoff to ensure there is no negative downstream impact from the proposed stormwater conveyance system.

The proposed development discharges all stormwater to the *Atlantic Ocean* through a new outfall through the municipal bulkhead. As stated in §7:8-5.6(b)4,

> *"No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water control structure."*

Based on the above, the requirements of this section are satisfied.

Conclusion

As discussed above, the proposed project meets specific criteria set out in N.J.A.C. 7:8 that obviate the need for addressing the stormwater recharge, quality, and quantity standards.

- The project is not required to meet the groundwater recharge standards in §7:8-5.4 due to the project's location in an "urban redevelopment area."
- The project is not required to meet the stormwater qualify standards in §7:8-5.5 due to the net decrease in regulated motor vehicle surface area.
- The project is not required to meet the stormwater quantity standards in §7:8-5.6 because it is proposed that stormwater generated by the proposed development will discharge to the *Atlantic Ocean* through a new stormwater outfall.

SOILS REPORT FOR STORM WATER

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

June 17, 2024

Kushner
30 Columbia Turnpike, Floor 3
Florham Park, New Jersey 07932

Attn: Mr. Himanshu Tripathi
Vice President – Development and Construction

Re: Stormwater Management Testing Services
Caspian Pointe
Atlantic City, Atlantic County, New Jersey

Dear Hams:

Geo-Technology Associates, Inc. (GTA) was requested by Kushner (Client) to perform test pits and preliminary in-situ infiltration testing for the planning and design of stormwater management (SWM) facilities related to a residential development to be constructed in Atlantic City, Atlantic County, New Jersey. The site is located at the northern quadrant of North New Hampshire Avenue and Caspian Avenue and is identified as Lots 4, 5, 6 in Block 102 on the Atlantic City tax map. At the time of investigation, the site was a vacant lot.

GTA was provided with a concept plan prepared by Minno Wasko Architects and Planners titled "Caspian Pointe" dated April 3, 2024 and an "Alta Survey" prepared by Arthur Ponzio Co. dated August 11, 2022. The plans indicate the site boundaries, existing site features and topography, and the layout of the proposed site improvements. Based on the provided plan, the proposed development consists of four 4-story residential buildings, a clubhouse building, a pool, and associated parking lots. Based on conversations with the client, we understand that the SWM facilities will include potential infiltration areas, bioswales, and porous pavement sections. The concept plan was marked up by Arthur Ponzio Co. to show the requested locations of 20 test pit excavations throughout the proposed development.

GTA supervised and observed the excavation of 20 test pits and performed in-situ infiltration testing at the requested locations. The test pits were excavated on May 6 through May 8, 2024 by J.A. Neary Excavating using a Case CX580 backhoe and extended to depths ranging from approximately 5 to 12 feet below the existing ground surface. In-situ infiltration testing was performed adjacent to each of the test pits using a double-ring infiltrometer. The exploration locations and infiltration test depths were selected by Arhtur Ponzio Co. and located in the field by GTA using the a hand-held GPS and site features as reference. The approximate locations of the explorations performed for this study are

shown on the attached Test Pit Location Plan. Detailed descriptions of the subsurface conditions encountered in the test pits are indicated on the Logs of Test Pits, which are also attached. The ground surface elevations indicated on the logs were obtained by interpolating between contours shown on the topographic plan provided to us and should be considered approximate.

An approximately 2 to 4-inch-thick layer of topsoil was encountered in 9 out of 20 test pits performed for this study, averaging approximately 3 inches, and 2 to 6 inches of gravel was encountered at the surface in 7 of the 20 test pits. The remaining test pits, TP-1, TP-3, TP-10, and TP-20 encountered an approximately 2- to 3-inch-thick layer of asphalt at the surface. Below the surficial materials, all explorations encountered existing fill materials that extended to depths ranging from about 2½ to 9 feet below the ground surface. The fill generally consisted of silty sands, poorly-graded sands, lean clays with varying amounts of sand and contained gravel, asphalt, brick, concrete, and wood fragments. Concrete slabs, buried asphalt layers, wooded beams, abandoned pipes, and brick walls were also encountered within the existing fill encountered in our explorations. The natural soils below the fill and surface materials consisted predominantly of poorly-graded sands with varying amounts of silt and gravel (SP, SP-SM) and silty sands (SM) occasionally interlayered with lean clays with sand (CL).

Groundwater was encountered in 19 out of 20 test pits performed for this study at depths ranging from about 3 feet to 10 feet below existing grades. Long-term groundwater readings were not obtained because the test pits were backfilled upon completion for safety considerations. Soil mottling indicative of the seasonal high water table (SHWT) was not observed above these depths. Tidal variations in groundwater levels should be anticipated at this site due to its proximity to the ocean.

Laboratory testing performed for this study included grain-size distribution analyses as well as natural moisture content determinations. Detailed results of the laboratory testing performed for this study are included in Appendix C. The results of the laboratory tests are summarized in the following table:

SUMMARY OF LABORATORY TEST RESULTS

Test Pit Location	Depth (ft.)	USCS Classification [USDA Classification]	NMC (%)	Fines (%)
TP-1	2½	Silty SAND with gravel (SM) [Sandy Loam]	11.1	19.5
TP-5	4½	Poorly-graded SAND with silt (SP-SM) [Loamy Sand]	20.9	9.9
TP-8	4	Silty SAND (SM) [Sandy Loam]	5.8	27.8
TP-11	4½	Silty SAND with gravel (SM) [Sandy Loam]	15.2	16.4
TP-15	2	Silty SAND (SM) [Sandy Loam]	13.4	31.2
TP-18	4	Silty SAND (SM) [Sandy Loam]	18.1	19.3

Note: NMC=Natural Moisture Content, Fines=Percentage of material passing the #200 sieve.

Preliminary In-situ infiltration testing was performed adjacent to each of the test pits in general accordance with Chapter 12 of the NJDEP Stormwater Best Management Practices Manual (chapter 12). The results of the infiltration tests are summarized in the following table. Please note that

additional testing will be required to satisfy the requirements presented in Chapter 12 when basin designs are more complete.

SUMMARY OF INFILTRATION TEST RESULTS

Test Pit Location	Depth (ft.)	USCS Classification [USDA Classification]	Measured Infiltration Rate (in/hr)
TP-1	2½	FILL – silty sand [Sandy Loam]	2
TP-2	2	FILL – silty sand with gravel [Sandy Loam]	9
TP-3	3	FILL – silty sand with gravel [Sandy Loam]	2
TP-4	4	Poorly-graded SAND with silt (SP-SM) [Loamy Sand]	20
TP-5	4½	Silty SAND (SM) [Sandy Loam]	2
TP-6	4	Poorly-graded SAND with silt (SP-SM) [Loamy Sand]	18
TP-7	4½	FILL – poorly-graded sand with silt (SP) [Loamy Sand]	15
TP-8	4	FILL – silty sand (SM) [Sandy Loam]	6
TP-9	5	FILL – silty sand (SM) [Sandy Loam]	36
TP-10	3½	Poorly-graded SAND with silt (SP-SM) [Loamy Sand]	24
TP-11	4½	FILL – silty sand with gravel (SM) [Sandy Loam]	1
TP-12	4	Poorly-graded SAND (SP) [Sand]	30
TP-13	4	Poorly-graded SAND with silt (SP-SM) [Loamy Sand]	30
TP-14	5½	Silty SAND with gravel (SM) [Sandy Loam]	3
TP-15	2	FILL – silty sand (SM) [Sandy Loam]	0
TP-16	1	FILL – silty sand (SM) [Sandy Loam]	2
TP-17	1½	FILL – silty gravel with sand (GM) [Sandy Loam]	3
TP-18	4	FILL – silty sand (SM) [Sandy Loam]	0
TP-19	1	FILL – silty sand with gravel (SM) [Sandy Loam]	24
TP-20	4	Poorly-graded SAND (SP) [Sand]	36

Note: A factor of safety of at least 2 should be applied to the measured infiltration rates for design purposes.

The primary conditions that affect the capacity of soil to infiltrate water are the soil gradation and density properties and the presence of hydraulically restrictive layers such as silt or clay (fines), or groundwater, each of which would restrict the flow of water into the underlying aquifer. The

subsurface soils at the site predominantly consisted of sands with varying fines content (SP, SP-SM, SM) occasionally interlayered with lean clay with sand soils (CL). Based on the results of the preliminary infiltration testing performed for this study, the measured infiltration rates ranged between 0 (zero) to 36 inches per hour.

LIMITATIONS

This letter, including all supporting test pit logs, field data, and other documents prepared by GTA in connection with this project have been prepared for the exclusive use of Kushner pursuant to the agreement between GTA and the Client. All terms and conditions set forth in the Agreement and the General Provisions attached thereto are incorporated herein by reference. No warranty, express or implied, is made herein. Use and reproduction of this letter by any other person without the expressed written permission of GTA and the Client is unauthorized and such use is at the sole risk of the user. Test pits indicate soil conditions only at specific locations and times and only at the depths penetrated. They do not necessarily reflect strata or variations that may exist between the exploration locations.

GTA is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data without the expressed written authorization of Geo-Technology Associates, Inc.

This letter and the attached logs are instruments of service. The subject matter of this report is limited to the facts and matters stated herein. Absence of a reference to any other conditions or subject matter shall not be construed by the reader to imply approval by the writer.

GTA appreciates the opportunity to have been of assistance to you on this project. Please contact our office at (732) 271-9301 if you have questions or require additional information. Please note that, unless you make other arrangements, GTA will discard all soil samples obtained from the explorations 60 days after the date of this report.

Sincerely,

GEO-TECHNOLOGY ASSOCIATES, INC.

Kyle T. Plaza, P.E.
Associate

Robert Dykstra, P.E.
Vice President

Attachments:

Site Map
Test Pit Location Plan
Logs of Test Pits (20 pages)
Particle Size Distribution Reports (6 pages)

Note: Site boundary is approximate.

SITE LOCATION MAP

14 Worlds Fair Drive, Suite A
Somerset, New Jersey 08873
(732) 271-9301
fax (732) 271-9306

GEO-TECHNOLOGY ASSOCIATES, INC.

CASPIAN POINTE

Atlantic City,
Atlantic County, New Jersey

Prepared For: Kushner

SOURCE: Google Maps		
SCALE: NTS	DATE: MAY 2024	PROJECT #: 31240977

Figure 1

*Base plan prepared by Minno Wasko Architects and Planners titled "Conceptual Plans" dated April 3, 2024.

LEGEND:

TP-X Indicates the numbers and approximate locations of test pits performed for this study.

TEST PIT LOCATION PLAN

14 Worlds Fair Drive, Suite A
Somerset, New Jersey 08873
(732) 271-9301
fax (732) 271-9306

GEO-TECHNOLOGY ASSOCIATES, INC.

CASPIAN POINTE

Atlantic City,
Atlantic County, New Jersey

Prepared For: Kushner

DESIGN BY: *	DRAWN BY: AFS	REVIEWED BY: KTP
SCALE: NTS	DATE: JUNE 2024	PROJECT#: 31240977

Figure 2

LOG OF TEST PIT NO. TP-1

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **4 Ft.**
GROUND SURFACE ELEVATION: **5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
4.8	0			2 In. of Asphalt	
				FILL - Black (10YR 2/1), moist, silty sand with gravel [Sandy Loam per USDA]	
	3			- Dark gray-brown (10YR 4/2), gravel grades out at 2-1/2 Ft.	- Infiltration rate = 2 in/hr at 2-1/2 Ft. - NMC = 11.1%
					▼ = Moderate water seepage at 4 Ft.
0.0				- Dark gray-brown (10YR 4/2) and dark brown (10YR 3/3), with asphalt fragments at 4-1/2 Ft.	
				Test pit complete at 5 Ft. due to water seepage.	
	6				
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-1

LOG OF TEST PIT NO. TP-2

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **4 Ft.**
GROUND SURFACE ELEVATION: **4.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
4.3	0			3 In. of Topsoil	
				FILL - Black (10YR 2/1), moist, silty sand with gravel, asphalt, and wood fragments [Sandy Loam per USDA]	
	3			- Dark yellow-brown (10YR 4/6), moist, silty sand [Sandy Loam per USDA]	- Infiltration rate = 9 in/hr at 2 Ft.
0.5		SP-SM		Gray (10YR 5/1), moist to wet, Poorly-graded SAND with silt [Loamy Sand per USDA]	▼ - Slight water seepage at 4 Ft. - Sidewall collapse at 4 Ft.
	6				
-2.5				Test pit complete at 7 Ft. due to sidewall collapse.	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-2

LOG OF TEST PIT NO. TP-3

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **4 Ft.**
GROUND SURFACE ELEVATION: **4 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
3.8	0			3 In. of Asphalt	
				FILL - Black (10YR 2/1), moist, silty sand with gravel and asphalt fragments [Loamy Sand per USDA]	
				- Dark yellow-brown (10YR 4/6), wet, silty sand with gravel [Sandy Loam per USDA]	
	3			- with wood fragments, gravel grades out at 3 Ft.	- Infiltration rate = 2 in/hr at 3 Ft.
0.0		SP		Gray (10YR 5/1), wet, Poorly-graded SAND with silt [Loamy Sand per USDA]	▼ = Slight water seepage at 4 Ft.
	6				
-4.0				Test pit complete at 8 Ft. due to sidewall collapse.	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-3

LOG OF TEST PIT NO. TP-4

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **7 Ft.**
GROUND SURFACE ELEVATION: **7.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	DESCRIPTION	REMARKS
7.3	0		3 In. of Gravel	
			FILL - Dark brown (10YR 3/3), moist, silty sand [Sandy Loam per USDA]	- Brick wall encountered on northern end of test pit.
			- with a concrete slab (6 In. thick) at 1 Ft.	- Hard excavating at 1 Ft.
5.0	3	SP-SM	Gray (10YR 5/1), moist, Poorly-graded SAND with silt [Loamy Sand per USDA]	- Infiltration rate = 20 in/hr at 4 Ft.
	6		- Brown (10YR 5/3), wet at 5-1/2 Ft.	
0.5		SP	Gray (10YR 5/1), wet, Poorly-graded SAND [Sand per USDA]	▼ Rapid water seepage at 7 Ft.
0.0			Test pit complete at 7-1/2 Ft. due to water seepage	
	9			
	12			
	15			
	18			

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-4

LOG OF TEST PIT NO. TP-5

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **7.5 Ft.**
GROUND SURFACE ELEVATION: **7.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.3	0			3 In. of Topsoil	
				FILL - Dark brown (10YR 3/3), moist, silty sand [Sandy Loam per USDA]	
				- with an asphalt layer (3 In. in thickness) at 2 Ft.	
	3			- Dark yellow-brown (10YR 4/6), moist, silty sand with gravel at 2-1/2 Ft. [Sandy Loam per USDA]	
3.0		SM		Gray (10YR 5/1), wet, Silty SAND [Sandy Loam per USDA]	- Infiltration rate = 2 in/hr at 4-1/2 Ft.
2.5		SP-SM		Gray (10YR 5/1), wet, Poorly-graded SAND with silt [Loamy Sand per USDA]	- NMC = 20.9%
	6				▼ Moderate water seepage at 7-1/2 Ft.
-1.5	9			Test pit complete at 9 Ft. due to water seepage	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-5

LOG OF TEST PIT NO. TP-6

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **6.5 Ft.**
GROUND SURFACE ELEVATION: **7.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.3	0			3 In. of Topsoil	
				FILL - Gray-brown (10YR 5/2), moist, poorly-graded sand with silt [Loamy Sand per USDA]	
	3			- with asphalt layer (3 In. in thickness) at 3 Ft.	
4.0		SP-SM		Gray (10YR 5/1), moist, Poorly-graded SAND with silt [Loamy Sand per USDA]	
3.0		SP		Gray (10YR 5/1), moist, Poorly-graded SAND [Sand per USDA]	- Infiltration rate = 18 in/hr at 4 Ft.
	6			- Gray-brown (10YR 5/2), wet at 5 Ft.	▼ = Moderate water seepage at 6-1/2 Ft.
-0.5				Test pit complete at 8 Ft. due to water seepage	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

GEO-TECHNOLOGY ASSOCIATES, INC.
14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-6

LOG OF TEST PIT NO. TP-7

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **6 Ft.**
GROUND SURFACE ELEVATION: **6 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
5.8	0			3 In. of Topsoil	
				FILL - Dark gray-brown (10YR 4/2), moist, silty sand [Sandy Loam per USDA]	
	3			- Gray-brown (10YR 5/2), moist, poorly-graded sand with silt at 2 Ft. [Loamy Sand per USDA]	- Infiltration rate = 15 in/hr at 4-1/2 Ft.
	6			- with wooden beams at 6 Ft.	▼ - Slight water seepage at 6 Ft.
-0.5				Test pit complete at 6-1/2 Ft. due to sidewall collapse.	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-7

LOG OF TEST PIT NO. TP-8

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **N/E**
GROUND SURFACE ELEVATION: **9 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
8.7	0			4 In. of Topsoil	
				FILL - Dark yellow-brown (10Yr 4/6), moist, silty gravel with sand [Gravelly Sand per USDA]	
				- Brown (10YR 5/3), moist, poorly-graded sand with sand at 1 Ft. [Loamy Sand per USDA]	
				- Very dark gray (10YR 3/1) and brown (10YR 4/3), moist, lean clay with sand and tiny roots at 2 Ft. [Clay per USDA]	
	3			- with an asphalt layer (3 In. in thickness at 3 Ft.)	- Brick wall encountered on northern end of test pit at 3 Ft.
				- Dark brown((10YR 3/3), moist, silty sand with gravel and asphalt fragments at 3-1/2 Ft. [Sandy Loam per USDA]	
				- Gray-brown (10YR 5/2), moist, Poorly graded SAND with silt at 4 Ft. [Loamy Sand per USDA]	- Infiltration rate = 6 in/hr at 4 Ft. - NMC = 5.8%
	6			- with an asphalt layer at 6 Ft.	- Perched water seepage at 6 Ft.
2.0				Test pit terminated at 7 Ft. due to refusal on unknown object.	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-8

LOG OF TEST PIT NO. TP-9

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **7.5 Ft.**
GROUND SURFACE ELEVATION: **9 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
8.8	0			3 In. of Topsoil	
				FILL - Dark yellow-brown (10YR 4/6), moist, silty gravel with sand [Gravelly Sand per USDA]	
				- Brown (10YR 5/3), moist, poorly-graded sand with silt at 1 Ft. [Loamy Sand per USDA]	
				- Dark brown (10YR 3/3), moist, silty sand at 2 Ft. [Sandy Loam per USDA]	
				- with brick and concrete fragments at 2-1/2 Ft.	
	3			- with an asphalt layer (3 In. in thickness at 3 Ft.)	- Concrete wall encountered on northeastern portion of test pit at 3 Ft.
					- Hard excavating at 3 Ft.
3.0	6	SP-SM		Gray (10YR 5/1), moist, Poorly-graded SAND with silt [Loamy Sand per USDA]	- Infiltration rate = 36 in/hr at 5 Ft.
1.5		SM		Brown (10YR 5/3), wet, Silty SAND with gravel [Sandy Loam per USDA]	▼ Moderate water seepage at 7-1/2 Ft.
1.0				Test pit terminated at 8 Ft. due to water seepage.	
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-9

LOG OF TEST PIT NO. TP-10

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/6/2024**
DATE COMPLETED: **5/6/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **5.5 Ft.**
GROUND SURFACE ELEVATION: **8.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
8.3	0			3 In. of Asphalt	
				FILL - Dark brown (10YR 3/3), moist, silty sand with concrete fragments [Sandy Loam per USDA]	
	3			- with asphalt layer (3 In. in thickness) and bricks at 2-1/2 Ft. - with an abandoned pipe at 3 Ft.	- Hard excavating at 3 Ft.
5.0		SP		- Gray (10YR 5/1), moist, Poorly-graded SAND with silt [Loamy Sand per USDA]	- Infiltration rate = 24 in/hr at 3-1/2 Ft.
3.0	6			Test pit complete at 5-1/2 Ft. due to water seepage	▼ Rapid water seepage at 5-1/2 Ft.
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-10

LOG OF TEST PIT NO. TP-11

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **6.5 Ft.**
GROUND SURFACE ELEVATION: **8 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.8	0			2 In. of Gravel FILL - Dark gray-brown (10YR 4/2), moist, silty sand with gravel [Sandy Loam per USDA]	
	3			- Dark gray (10YR 4/1), with brick fragments at 2-1/2 Ft.	
				- with an asphalt layer (3 In. in thickness) at 4 Ft. - Black (10YR 2/1), moist, with asphalt fragments at 4-1/2 Ft. - Gray-brown (10YR 5/2), moist, poorly-graded sand at 5 Ft.	- Hard excavating at 4 Ft. - Infiltration rate = 1 in/hr at 4-1/2 Ft. - NMC = 15.2%
	6			- with abandoned pipes at 6 Ft.	- Slight water seepage at 6 Ft.
-1.0	9			Test pit complete at 9 Ft. due to sidewall collapse.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-11

LOG OF TEST PIT NO. TP-12

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **6.5 Ft.**
GROUND SURFACE ELEVATION: **8.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
8.3	0			2 In. of Gravel	
				FILL - Brown (10YR 5/2), moist, silty sand with gravel [Sandy Loam per USDA]	
				- Very dark gray (10YR 3/1), moist, lean clay with sand and tiny roots at 1-1/2 Ft. [Clay per USDA]	- Infiltration rate = 0 in/hr at 1-1/2 Ft.
	3			- Black (10YR 2/1), moist, silty sand with gravel at 2-1/2 Ft. [Sandy Loam per USDA]	
				- with an asphalt layer (3 In. in thickness) and wood beams at 3-1/2 Ft.	- Hard excavating at 3-1/2 Ft.
4.5		SP		Gray (10YR 5/1), moist, Poorly-graded SAND [Sand per USDA]	- Infiltration rate = 30 in/hr at 4 Ft.
	6				▼ Slight water seepage at 6-1/2 Ft.
	9				
-1.5				Test pit complete at 10 Ft.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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14 Worlds Fair Drive, Suite A
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LOG OF TEST PIT NO. TP-12

LOG OF TEST PIT NO. TP-13

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **9.5 Ft.**
GROUND SURFACE ELEVATION: **9.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	DESCRIPTION	REMARKS
9.3	0		3 In. of Topsoil	
			FILL - Dark yellow-brown (10Yr 4/6), moist, silty sand and a concrete slab (3 In. in thickness) [Sandy Loam per USDA]	
	3		- Dark gray-brown (10YR 4/2), moist, poorly-graded sand with silt and gravel at 2 Ft. [Loamy Sand per USDA]	
5.5		SP-SM	Gray (10YR 5/1), wet, Poorly-graded SAND with silt [Loamy Sand per USDA]	- Hard excavating at 3-1/2 Ft. - Infiltration rate = 30 in/hr at 4 Ft.
	6		- Brown (10YR 5/3), wet, with gravel at 6-1/2 Ft.	
	9			Slight water seepage at 9-1/2 Ft.
-0.5			Test pit complete at 10 Ft.	
	12			
	15			
	18			

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-13

LOG OF TEST PIT NO. TP-14

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **9 Ft.**
GROUND SURFACE ELEVATION: **9.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
	0				
9.0				6 In. of Gravel	
				FILL - Gray-brown (10YR 5/2), moist, poorly-graded sand with silt [Loamy Sand per USDA]	
				- Very dark gray (10YR 3/1), moist, lean clay with sand and tiny roots at 2 Ft. [Clay per USDA]	- Infiltration rate = 0 in/hr at 2 Ft.
	3			- with a concrete slab (4 In. in thickness) at 4 Ft.	
6.0		SP-SM		Gray (10YR 5/1), wet, Poorly-graded SAND with silt [Loamy Sand per USDA]	
4.5		SM		Dark yellow-brown (10YR 4/6), moist, Silty SAND with gravel [Sandy Loam per USDA]	- Infiltration rate = 3 in/hr at 5-1/2 Ft.
	6				
2.0		CL		Very dark gray, wet, Lean CLAY with sand [Clay per USDA]	
	9				▼ Slight water seepage at 9 Ft.
0.0				Test pit complete at 9-1/2 Ft. due to sidewall collapse.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-14

LOG OF TEST PIT NO. TP-15

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **9.5 Ft.**
GROUND SURFACE ELEVATION: **8 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.8	0			2 In. of Topsoil	
				FILL - Dark yellow-brown (10YR 4/6), moist, silty sand with gravel [Sandy Loam per USDA]	
				- gravel grades out at 2 Ft.	- Infiltration rate = 0 in/hr at 2 Ft. - NMC = 13.4%
	3			- Very dark brown (10YR 3/3) at 3 Ft.	
3.5		SP		Gray (10YR 5/1), moist, Poorly-graded SAND [Sand per USDA]	
2.0	6	SP-SM		Brown (10YR 5/3), moist, Poorly-graded SAND with silt and gravel [Loamy Sand per USDA]	
1.0		SP		Gray (10YR 5/1), wet, Poorly-graded SAND [Sand per USDA]	
	9				Slight water seepage at 9-1/2 Ft.
-2.0				Test pit complete at 10 Ft.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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14 Worlds Fair Drive, Suite A
Somerset, NJ 08873

LOG OF TEST PIT NO. TP-15

LOG OF TEST PIT NO. TP-16

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **6.5 Ft.**
GROUND SURFACE ELEVATION: **8 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.8	0			2 In. of Gravel	
				FILL - Brown (10YR 4/6), moist, silty sand [Sandy Loam per USDA]	
				- Gray-brown (10YR 5/3), with clay nodules at 1 Ft.	- Infiltration rate = 2 in/hr at 1 Ft.
				- with bricks and abandoned pipe at 2 Ft.	
				- Gray-brown (10YR 5/2) at 2-1/2 Ft.	
	3				
				- with an asphalt layer (3 In. in thickness) at 4 Ft.	- Hard excavating at 4 Ft.
				- Very dark gray (10YR 3/1) at 4-1/2 Ft.	
	6				▼ = Moderate water seepage at 6-1/2 Ft.
0.5		SP		Gray (10YR 5/1), wet, Poorly-graded SAND [Sand per USDA]	
	9				
-2.0				Test pit complete at 10 Ft.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-16

LOG OF TEST PIT NO. TP-17

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **5 Ft.**
GROUND SURFACE ELEVATION: **7.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
7.3	0			3 In. of Topsoil	
				FILL - Dark yellow-brown (10YR 4/6), moist, silty gravel with sand [Sandy Loam per USDA]	
				- Dark brown (10YR 3/3), moist, silty sand with gravel at 1-1/2 Ft. [Sandy Loam per USDA]	- Infiltration rate = 3 in/hr at 1-1/2 Ft.
	3			- with bricks at 3 Ft.	
				- Gray-brown (10YR 5/2), wet, poorly-graded sand with silt at 3-1/2 Ft. [Loamy Sand per USDA]	
				- with wooden beams at 4 Ft.	
					Slight water seepage at 5 Ft.
1.5	6	CL		Very dark gray, wet, Lean CLAY with sand [Clay per USDA]	
	9				
-2.5				Test pit complete at 10 Ft.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-17

LOG OF TEST PIT NO. TP-18

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **7 Ft.**
GROUND SURFACE ELEVATION: **9.5 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
9.3	0			3 In. of Gravel	
				FILL - Brown (10YR 5/3)), moist, silty sand with gravel [Sandy Loam per USDA]	
	3			- Dark brown (10YR 3/3), moist, silty sand with wood fragments at 4 Ft. [Sandy Loam per USDA]	- Infiltration rate = 0 in/hr at 4 Ft. - NMC = 18.1%
	6				
2.5		SP		Gray (10YR 5/1), wet, Poorly-graded SAND [Sand per USDA]	▼ Slight water seepage at 7 Ft.
	9				
-2.5	12			Test pit complete at 12 Ft.	
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-18

LOG OF TEST PIT NO. TP-19

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/8/2024**
DATE COMPLETED: **5/8/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **8 Ft.**
GROUND SURFACE ELEVATION: **6 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
5.8	0			3 In. of Gravel	
				FILL - Brown (10YR 5/3), moist, silty sand with gravel [Sandy Loam per USDA]	- Infiltration rate = 24 in/hr at 1 Ft.
	3			- Dark brown (10YR 3/3), moist, silty gravel with sand at 2-1/2 Ft. [Sandy Loam per USDA]	
1.0		SP		Gray (10YR 5/1), moist, Poorly-graded SAND [Sand per USDA]	
	6				
					▼ Slight water seepage at 8 Ft.
	9				
-4.0				Test pit complete at 10 Ft.	
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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LOG OF TEST PIT NO. TP-19

LOG OF TEST PIT NO. TP-20

PROJECT: **Caspian Pointe**
PROJECT LOCATION: **Atlantic City, Atlantic County, New Jersey**
CLIENT: **Kushner**

PROJECT NO.: **31240977**

DATE STARTED: **5/7/2024**
DATE COMPLETED: **5/7/2024**
CONTRACTOR: **J.A. Neary Excavating, Inc.**
EQUIPMENT: **Case CX580**

GROUNDWATER ENCOUNTERED: **8 Ft.**
GROUND SURFACE ELEVATION: **9 Ft.**
DATUM: **Topo**
LOGGED BY: **SR**
CHECKED BY: **KTP**

ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
8.8	0			2 In. of Asphalt	
				FILL - Dark yellow-brown (10YR 4/6), moist, silty sand with gravel and wood fragments [Sandy Loam per USDA]	
				- with a concrete slab at 2-1/2 Ft.	- Hard excavating at 2-1/2 Ft.
6.0	3	SP		- with abandoned pipes at 2-1/2 Ft.	
				Gray (10YR 5/1), moist, Poorly-graded SAND with silt [Sand per USDA]	
	6				- Infiltration rate = 36 in/hr at 4 Ft.
1.0				Test pit complete at 8 Ft. due to sidewall collapse.	▼ Slight water seepage at 8 Ft.
	9				
	12				
	15				
	18				

NOTES: **Location and elevation are approximate.**
Backfilled on completion.

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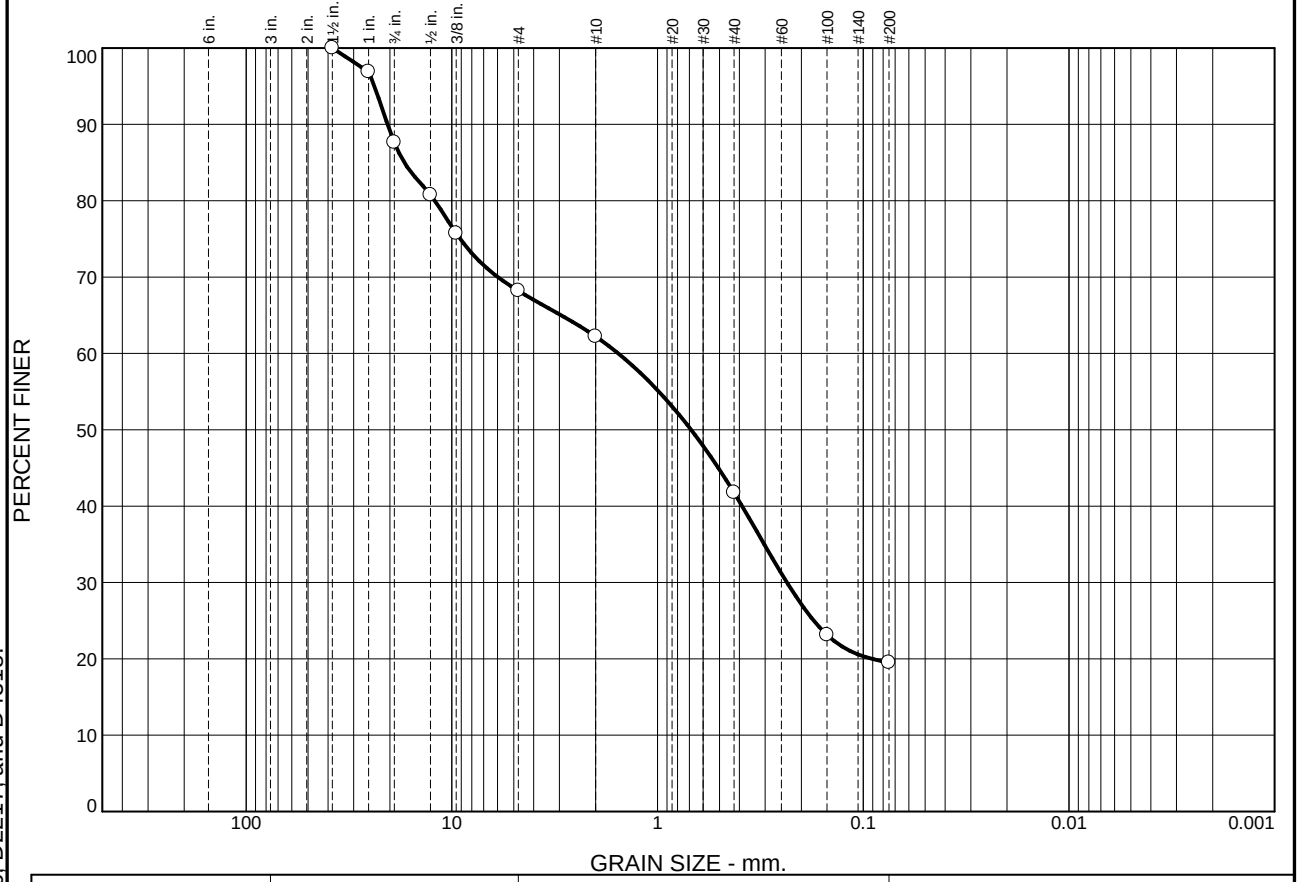
LOG OF TEST PIT NO. TP-20

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	12.4	19.4	6.0	20.4	22.3	19.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	17.0137	1.5535	0.6868	0.2348				

Material Description	USCS	AASHTO
○ Silty SAND with gravel	SM	A-1-b

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-1 **Depth:** 2.5

Remarks:

○NMC = 11.1%

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Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

Particle Size Distribution Report

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.0	0.3	89.8	9.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	0.3442	0.2557	0.2274	0.1750	0.1273	0.0827	1.45	3.09

Material Description	USCS	AASHTO
○ Poorly-graded SAND with silt	SP-SM	A-3

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-5 **Depth:** 4.5

Remarks:

○NMC = 20.9%

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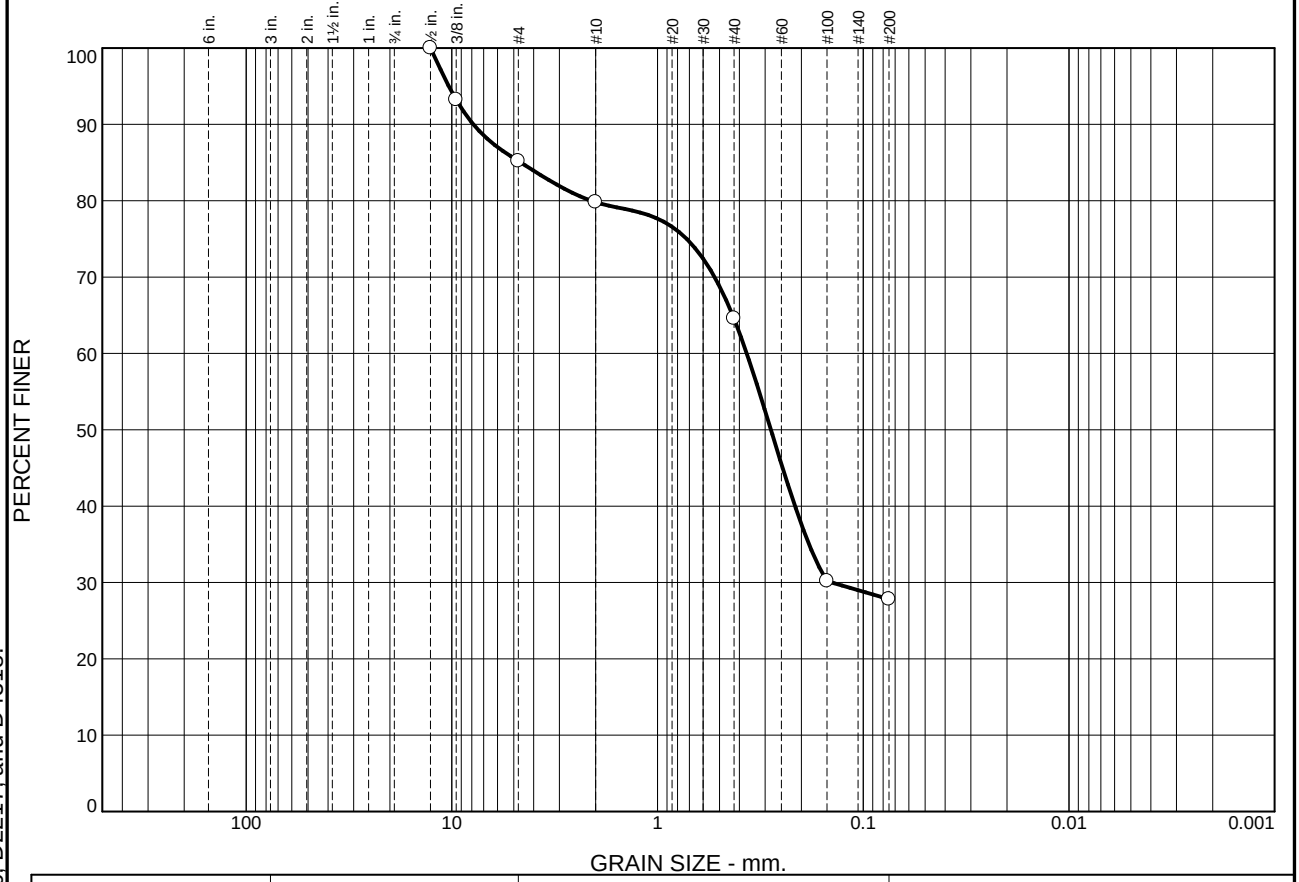
Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	14.8	5.4	15.2	36.8	27.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	4.6255	0.3686	0.2811	0.1426				

	Material Description	USCS	AASHTO
○	Silty SAND	SM	A-2-4(0)

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-8 **Depth:** 4

Remarks:

○NMC = 5.8%

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Somerset, NJ 08873

Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

Particle Size Distribution Report

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	2.5	13.3	7.7	27.0	33.1	16.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	6.0388	0.6604	0.4325	0.2202				

Material Description	USCS	AASHTO
○ Silty SAND with gravel	SM	A-1-b

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-11 **Depth:** 4.5

Remarks:

○NMC = 15.2%

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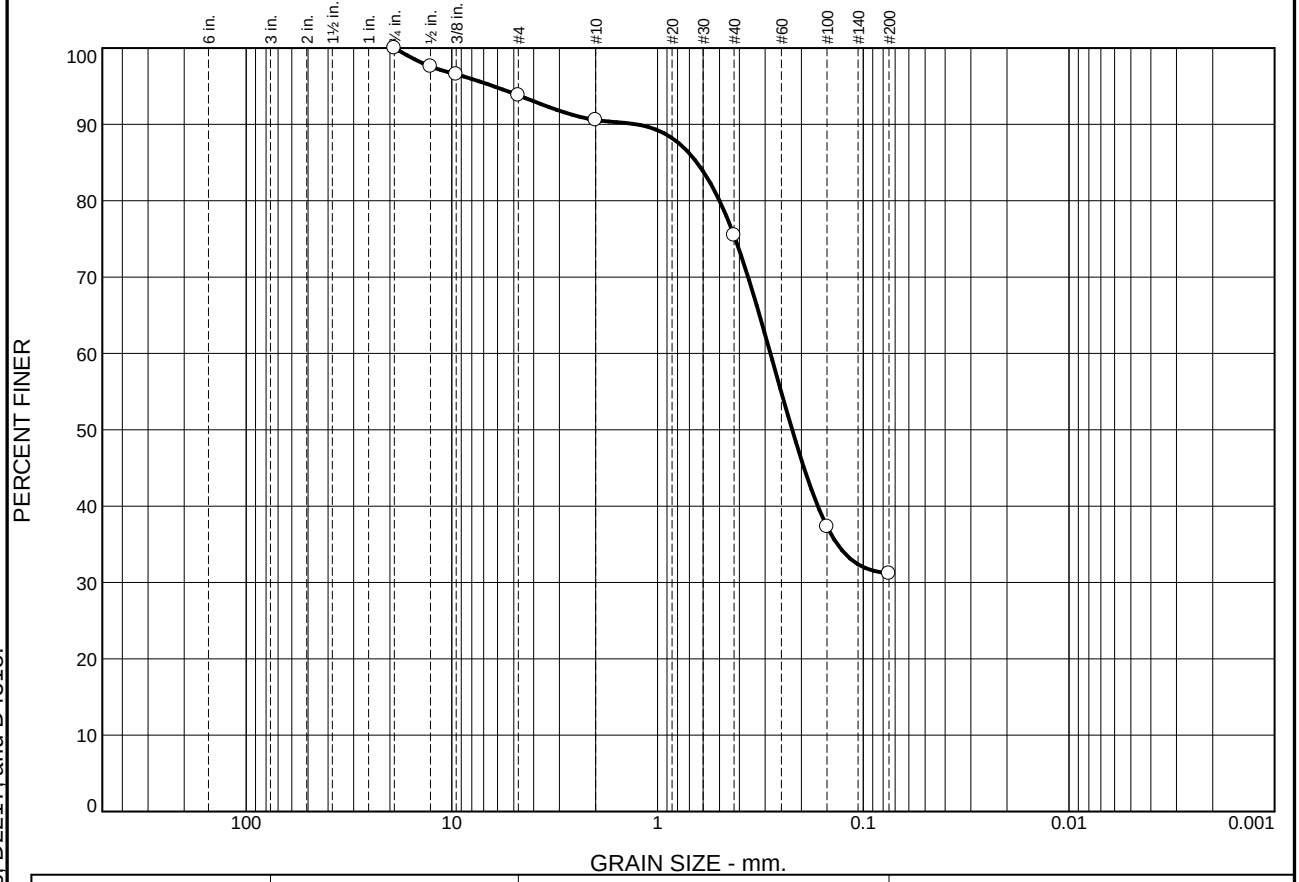
Somerset, NJ 08873

Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.2	3.2	15.1	44.3	31.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	0.6432	0.2827	0.2216					

	Material Description	USCS	AASHTO
○	Silty SAND	SM	A-2-4(0)

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-15 **Depth:** 2

Remarks:

○NMC = 13.4%

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Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

Particle Size Distribution Report

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.7	5.2	16.8	51.0	19.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○	NP	NP	0.8584	0.3347	0.2730	0.1760				

	Material Description	USCS	AASHTO
○	Silty SAND	SM	A-2-4(0)

Project No. 31240977 **Client:** Kushner

Project: Caspian Pointe

○ **Source of Sample:** TP-18 **Depth:** 4

Remarks:

○NMC = 18.1%

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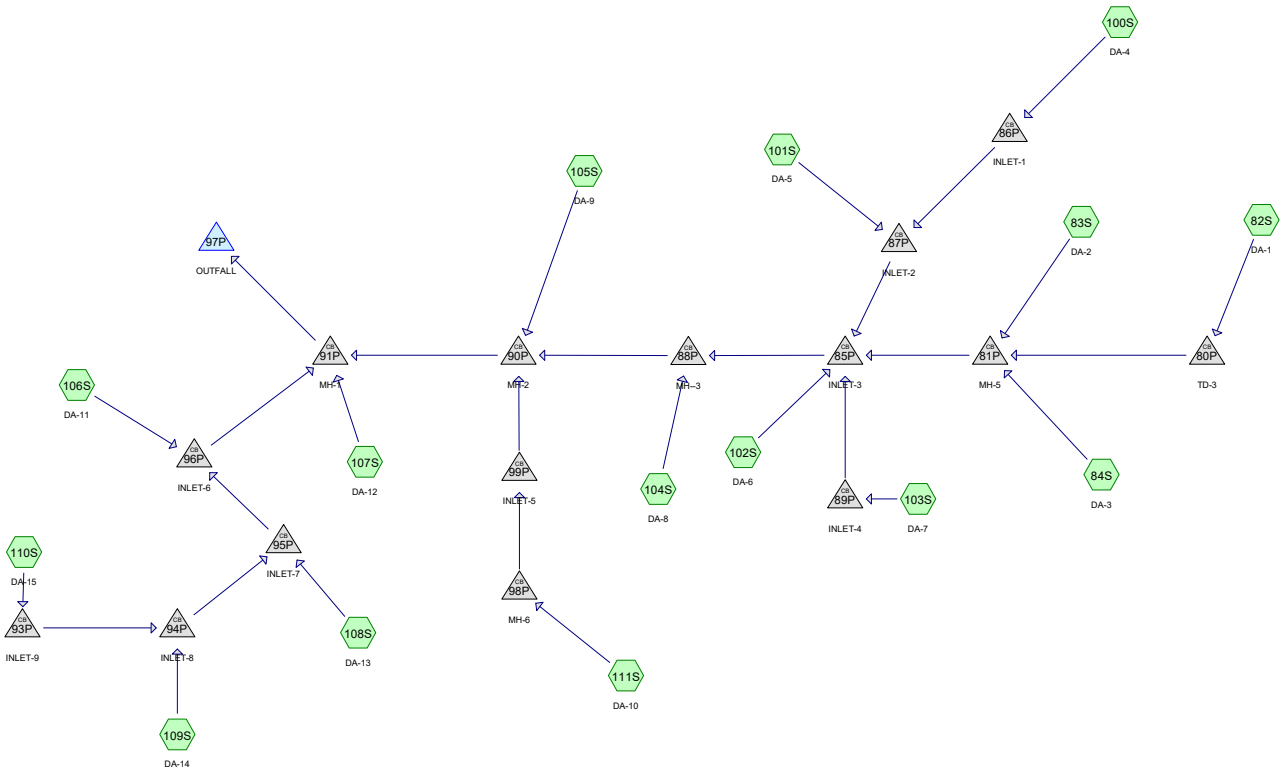
Figure

ASTM Specifications performed my include: D421, D422, D2216, D2217, and D4318.

Tested By: RR **Checked By:** AFS

POST DEVELOPMENT

RUNOFF CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for Post-Developed-Reaches
Prepared by Arthur Ponzio Co, Printed 6/17/2025

Project Notes

Rainfall events imported from "NJ-2023-Rain.txt" for 6600 NJ Atlantic
Rainfall events imported from "NJ-2023-Rain.txt" for 6600 NJ Atlantic
Rainfall events imported from "NJ-2023-Rain.txt" for 6600 NJ Atlantic

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC	P2 (inches)
1	2-Year-2050	NOAA 24-hr	C	Default	24.00	1	4.04	2	4.04
2	10-Year-2050	NOAA 24-hr	C	Default	24.00	1	6.40	2	4.04
3	100-Year-2050	NOAA 24-hr	C	Default	24.00	1	12.37	2	4.04
4	WQ Storm	NJ DEP 2-hr		Default	2.00	1	1.25	2	3.31

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.308	98	(82S, 83S, 84S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 109S, 110S, 111S)
5.308	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
5.308	Other	82S, 83S, 84S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 109S, 110S, 111S
5.308		**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	0.000	0.000	5.308	5.308		82S, 83S, 84S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 109S, 110S, 111S
0.000	**0.000**	**0.000**	**0.000**	**5.308**	**5.308**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	80P	4.14	3.72	83.0	0.0051	0.010	0.0	12.0	0.0	
2	81P	3.72	3.34	76.0	0.0050	0.010	0.0	18.0	0.0	
3	85P	3.03	2.71	65.0	0.0049	0.010	0.0	36.0	0.0	
4	86P	4.50	3.52	195.0	0.0050	0.010	0.0	18.0	0.0	
5	87P	3.52	3.03	98.0	0.0050	0.010	0.0	22.0	0.0	
6	88P	2.71	2.36	140.0	0.0025	0.010	0.0	36.0	0.0	
7	89P	4.21	3.34	173.0	0.0050	0.010	0.0	18.0	0.0	
8	90P	2.34	1.83	101.0	0.0050	0.010	0.0	36.0	0.0	
9	91P	1.82	1.68	55.0	0.0025	0.010	0.0	48.0	0.0	
10	93P	3.95	3.54	83.0	0.0049	0.010	0.0	12.0	0.0	
11	94P	3.54	2.73	161.0	0.0050	0.010	0.0	22.0	0.0	
12	95P	2.73	2.08	131.0	0.0050	0.010	0.0	24.0	0.0	
13	96P	2.08	1.82	53.0	0.0049	0.010	0.0	18.0	0.0	
14	98P	3.52	2.50	204.0	0.0050	0.010	0.0	20.0	0.0	
15	99P	2.50	2.34	33.0	0.0048	0.010	0.0	20.0	0.0	

Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 82S: DA-1 Runoff Area=6,500 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=78' Slope=0.0100 '/' Tc=1.2 min CN=98 Runoff=0.70 cfs 0.047 af

Subcatchment 83S: DA-2 Runoff Area=14,760 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=1.54 cfs 0.107 af

Subcatchment 84S: DA-3 Runoff Area=15,500 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=1.62 cfs 0.113 af

Subcatchment 100S: DA-4 Runoff Area=16,100 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=172' Slope=0.0100 '/' Tc=3.7 min CN=98 Runoff=1.50 cfs 0.117 af

Subcatchment 101S: DA-5 Runoff Area=19,975 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=117' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=2.15 cfs 0.145 af

Subcatchment 102S: DA-6 Runoff Area=20,755 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=142' Slope=0.0100 '/' Tc=1.6 min CN=98 Runoff=2.21 cfs 0.151 af

Subcatchment 103S: DA-7 Runoff Area=15,920 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=131' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=1.70 cfs 0.116 af

Subcatchment 104S: DA-8 Runoff Area=15,025 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=1.57 cfs 0.109 af

Subcatchment 105S: DA-9 Runoff Area=15,360 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=111' Slope=0.0100 '/' Tc=1.3 min CN=98 Runoff=1.66 cfs 0.112 af

Subcatchment 106S: DA-11 Runoff Area=9,360 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=125' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=1.01 cfs 0.068 af

Subcatchment 107S: DA-12 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=1.58 cfs 0.110 af

Subcatchment 108S: DA-13 Runoff Area=8,950 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=49' Slope=0.0100 '/' Tc=0.8 min CN=98 Runoff=0.97 cfs 0.065 af

Subcatchment 109S: DA-14 Runoff Area=20,120 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=213' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=2.08 cfs 0.146 af

Subcatchment 110S: DA-15 Runoff Area=14,280 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=134' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=1.53 cfs 0.104 af

Subcatchment 111S: DA-10 Runoff Area=23,440 sf 100.00% Impervious Runoff Depth=3.81"
Flow Length=176' Slope=0.0100 '/' Tc=1.8 min CN=98 Runoff=2.47 cfs 0.171 af

Pond 80P: TD-3 Peak Elev=4.59' Inflow=0.70 cfs 0.047 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0051 '/' Outflow=0.70 cfs 0.047 af

Pond 81P: MH-5 Peak Elev=4.75' Inflow=3.87 cfs 0.268 af
18.0" Round Culvert n=0.010 L=76.0' S=0.0050 '/' Outflow=3.87 cfs 0.268 af

Pond 85P: INLET-3 Peak Elev=4.49' Inflow=11.38 cfs 0.797 af
36.0" Round Culvert n=0.010 L=65.0' S=0.0049 '/' Outflow=11.38 cfs 0.797 af

Pond 86P: INLET-1 Peak Elev=5.06' Inflow=1.50 cfs 0.117 af
18.0" Round Culvert n=0.010 L=195.0' S=0.0050 '/' Outflow=1.50 cfs 0.117 af

Pond 87P: INLET-2 Peak Elev=4.40' Inflow=3.60 cfs 0.263 af
22.0" Round Culvert n=0.010 L=98.0' S=0.0050 '/' Outflow=3.60 cfs 0.263 af

Pond 88P: MH--3 Peak Elev=4.36' Inflow=12.95 cfs 0.907 af
36.0" Round Culvert n=0.010 L=140.0' S=0.0025 '/' Outflow=12.95 cfs 0.907 af

Pond 89P: INLET-4 Peak Elev=4.81' Inflow=1.70 cfs 0.116 af
18.0" Round Culvert n=0.010 L=173.0' S=0.0050 '/' Outflow=1.70 cfs 0.116 af

Pond 90P: MH-2 Peak Elev=4.13' Inflow=17.07 cfs 1.189 af
36.0" Round Culvert n=0.010 L=101.0' S=0.0050 '/' Outflow=17.07 cfs 1.189 af

Pond 91P: MH-1 Peak Elev=3.98' Inflow=24.24 cfs 1.683 af
48.0" Round Culvert n=0.010 L=55.0' S=0.0025 '/' Outflow=24.24 cfs 1.683 af

Pond 93P: INLET-9 Peak Elev=4.66' Inflow=1.53 cfs 0.104 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0049 '/' Outflow=1.53 cfs 0.104 af

Pond 94P: INLET-8 Peak Elev=4.39' Inflow=3.60 cfs 0.250 af
22.0" Round Culvert n=0.010 L=161.0' S=0.0050 '/' Outflow=3.60 cfs 0.250 af

Pond 95P: INLET-7 Peak Elev=3.69' Inflow=4.58 cfs 0.316 af
24.0" Round Culvert n=0.010 L=131.0' S=0.0050 '/' Outflow=4.58 cfs 0.316 af

Pond 96P: INLET-6 Peak Elev=3.43' Inflow=5.59 cfs 0.384 af
18.0" Round Culvert n=0.010 L=53.0' S=0.0049 '/' Outflow=5.59 cfs 0.384 af

Pond 97P: OUTFALL Inflow=24.24 cfs 1.683 af
Primary=24.24 cfs 1.683 af

Pond 98P: MH-6 Peak Elev=4.23' Inflow=2.47 cfs 0.171 af
20.0" Round Culvert n=0.010 L=204.0' S=0.0050 '/' Outflow=2.47 cfs 0.171 af

Pond 99P: INLET-5 Peak Elev=3.30' Inflow=2.47 cfs 0.171 af
20.0" Round Culvert n=0.010 L=33.0' S=0.0048 '/' Outflow=2.47 cfs 0.171 af

Total Runoff Area = 5.308 ac Runoff Volume = 1.683 af Average Runoff Depth = 3.81"
0.00% Pervious = 0.000 ac 100.00% Impervious = 5.308 ac

Summary for Subcatchment 82S: DA-1

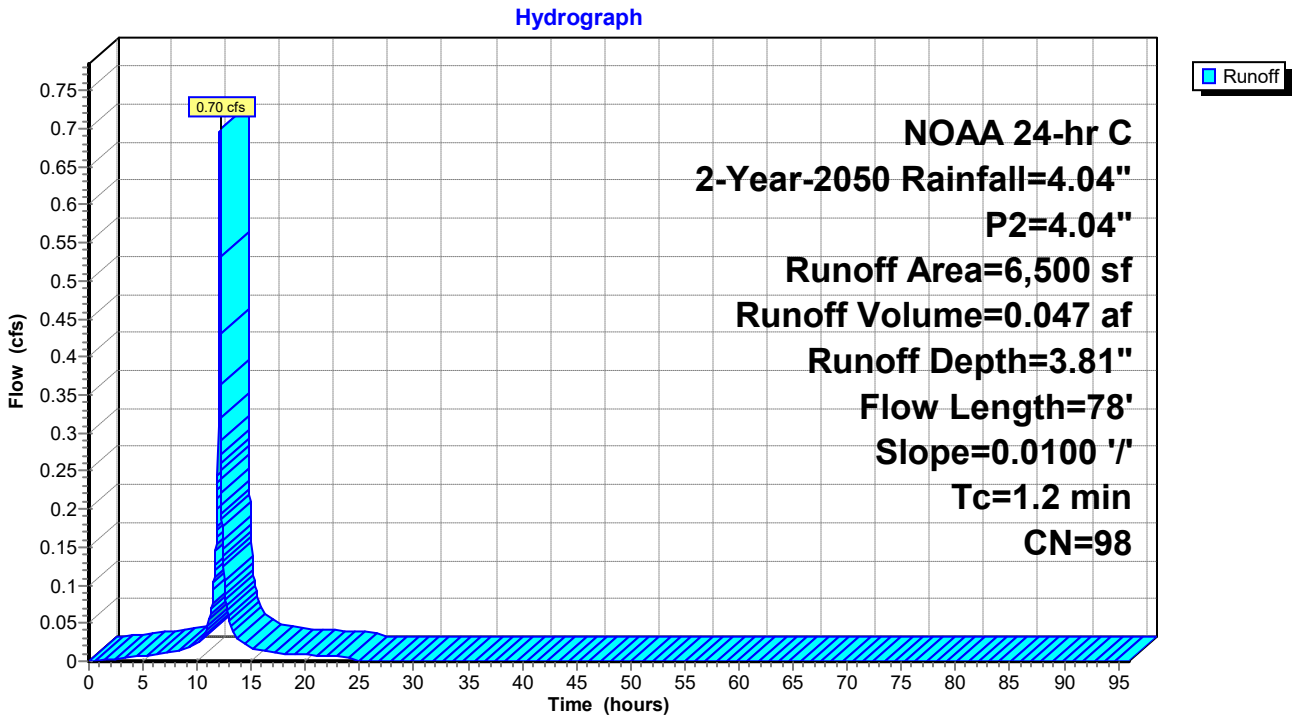
Runoff = 0.70 cfs @ 12.10 hrs, Volume= 0.047 af, Depth= 3.81"
Routed to Pond 80P : TD-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	6,500	98	
	6,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	78	0.0100	1.11		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 82S: DA-1



Summary for Subcatchment 83S: DA-2

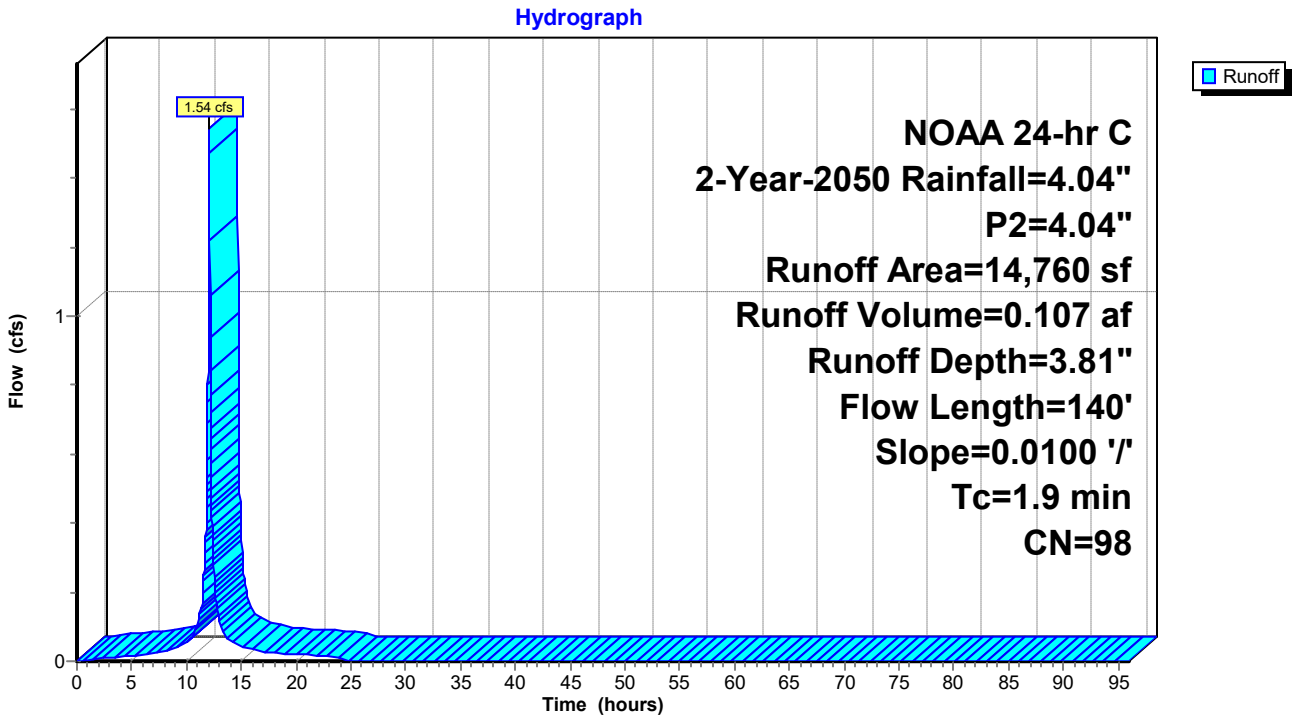
Runoff = 1.54 cfs @ 12.10 hrs, Volume= 0.107 af, Depth= 3.81"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	14,760	98	
	14,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 83S: DA-2



Summary for Subcatchment 84S: DA-3

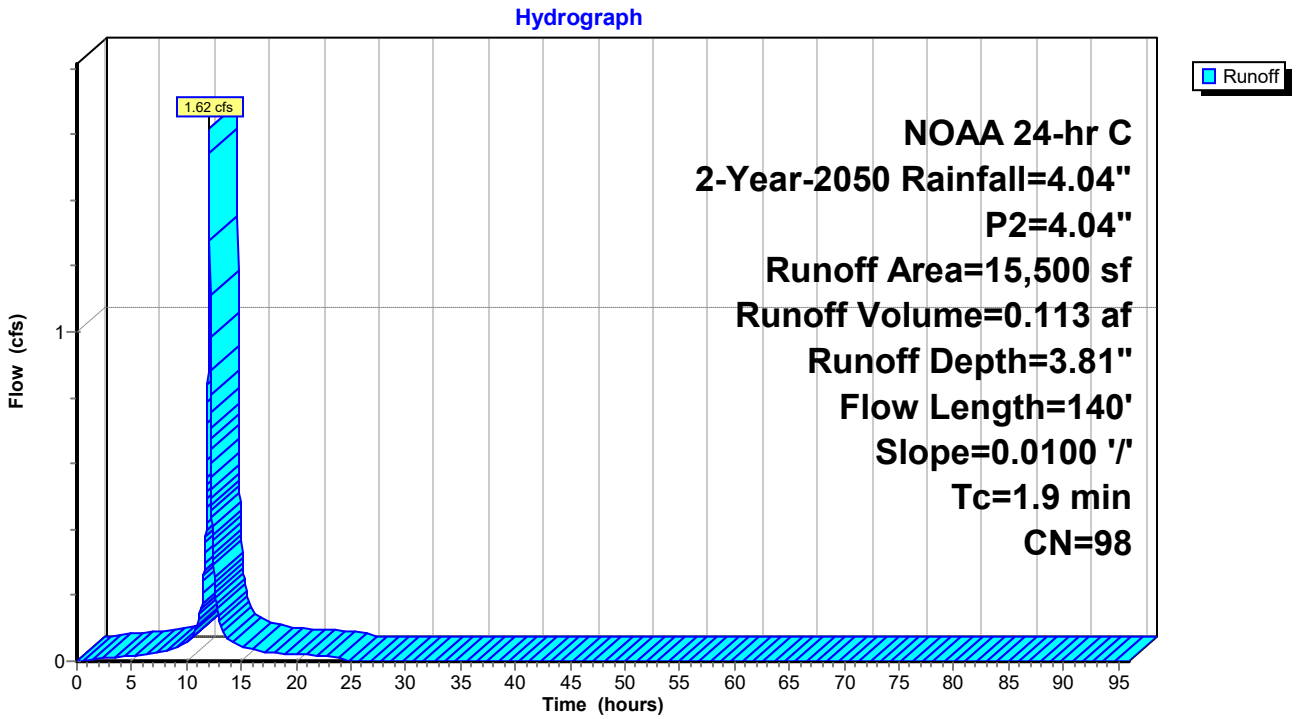
Runoff = 1.62 cfs @ 12.10 hrs, Volume= 0.113 af, Depth= 3.81"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	15,500	98	
	15,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 84S: DA-3



Summary for Subcatchment 100S: DA-4

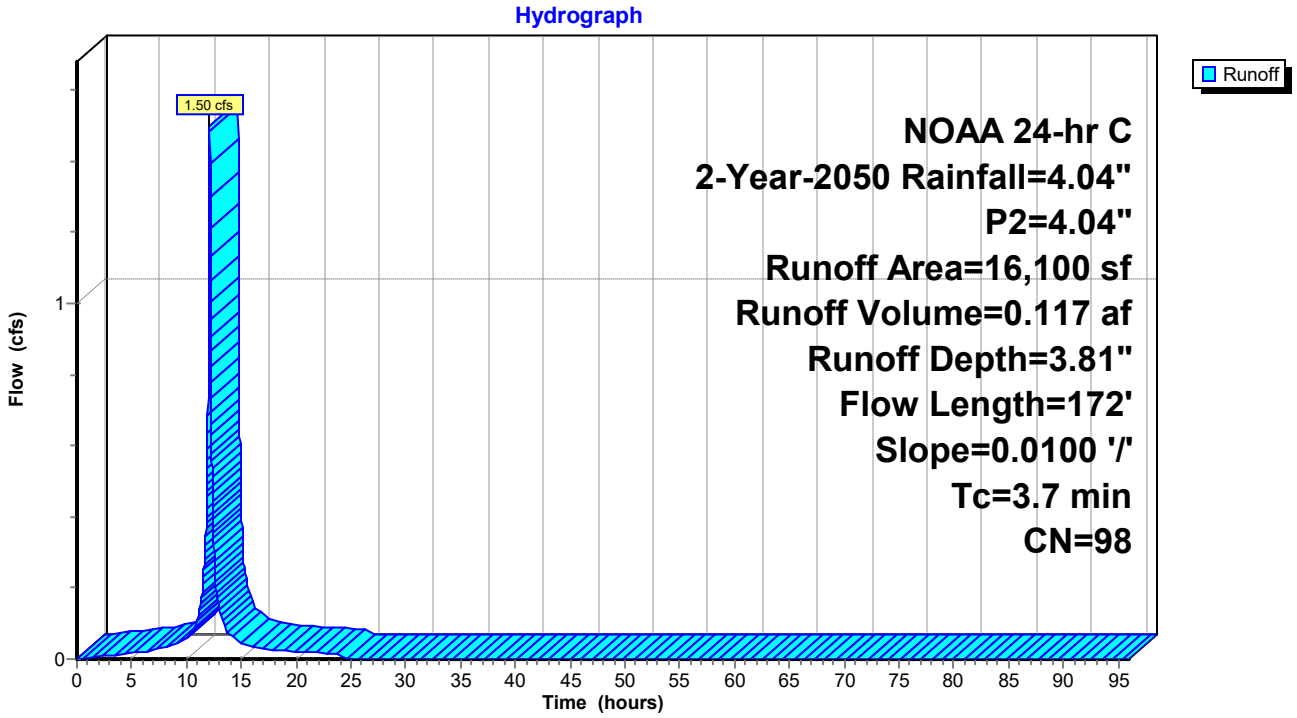
Runoff = 1.50 cfs @ 12.12 hrs, Volume= 0.117 af, Depth= 3.81"
Routed to Pond 86P : INLET-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	16,100	98	
	16,100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0100	0.30		**Sheet Flow, Paved** Fallow n= 0.050 P2= 4.04"
1.0	122	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
3.7	172	Total			

Subcatchment 100S: DA-4



Summary for Subcatchment 101S: DA-5

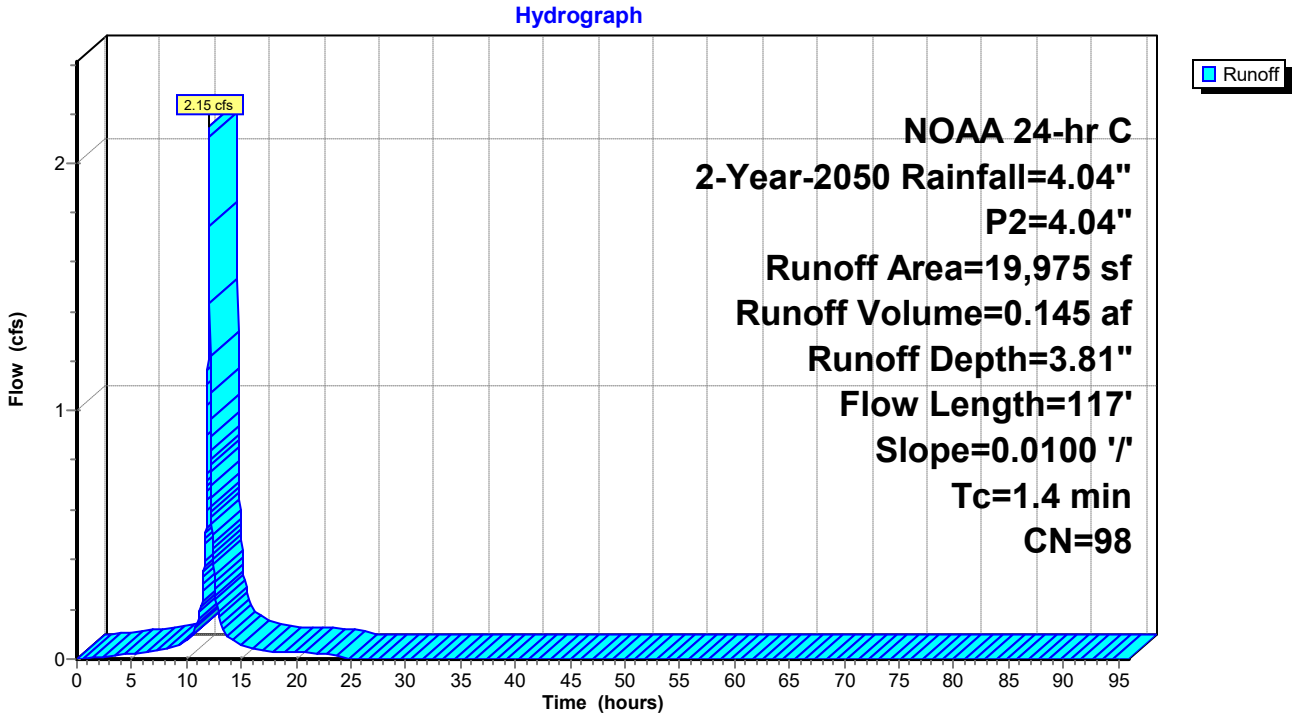
Runoff = 2.15 cfs @ 12.10 hrs, Volume= 0.145 af, Depth= 3.81"
Routed to Pond 87P : INLET-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	19,975	98	
	19,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	67	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	117	Total			

Subcatchment 101S: DA-5



Summary for Subcatchment 102S: DA-6

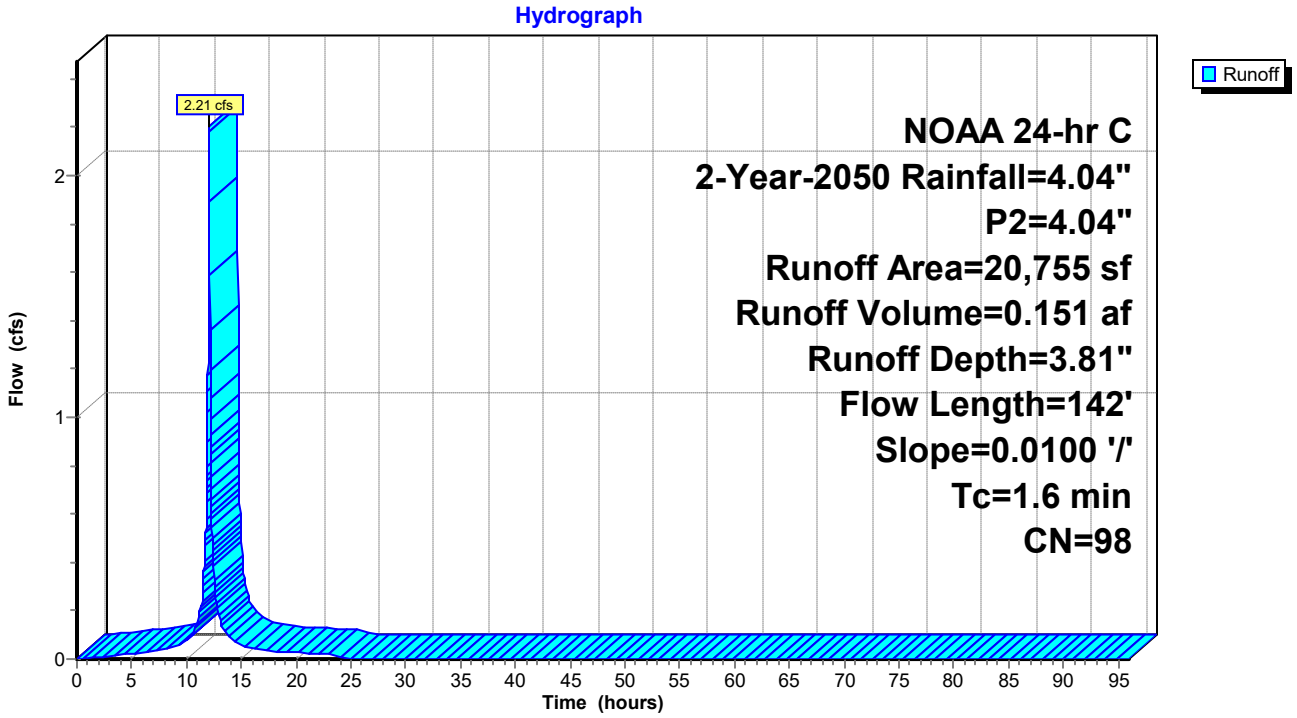
Runoff = 2.21 cfs @ 12.10 hrs, Volume= 0.151 af, Depth= 3.81"
Routed to Pond 85P : INLET-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	20,755	98	
	20,755		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.8	92	0.0100	2.03		**Shallow Concentrated Flow, PAved** Paved Kv= 20.3 fps
1.6	142	Total			

Subcatchment 102S: DA-6



Summary for Subcatchment 103S: DA-7

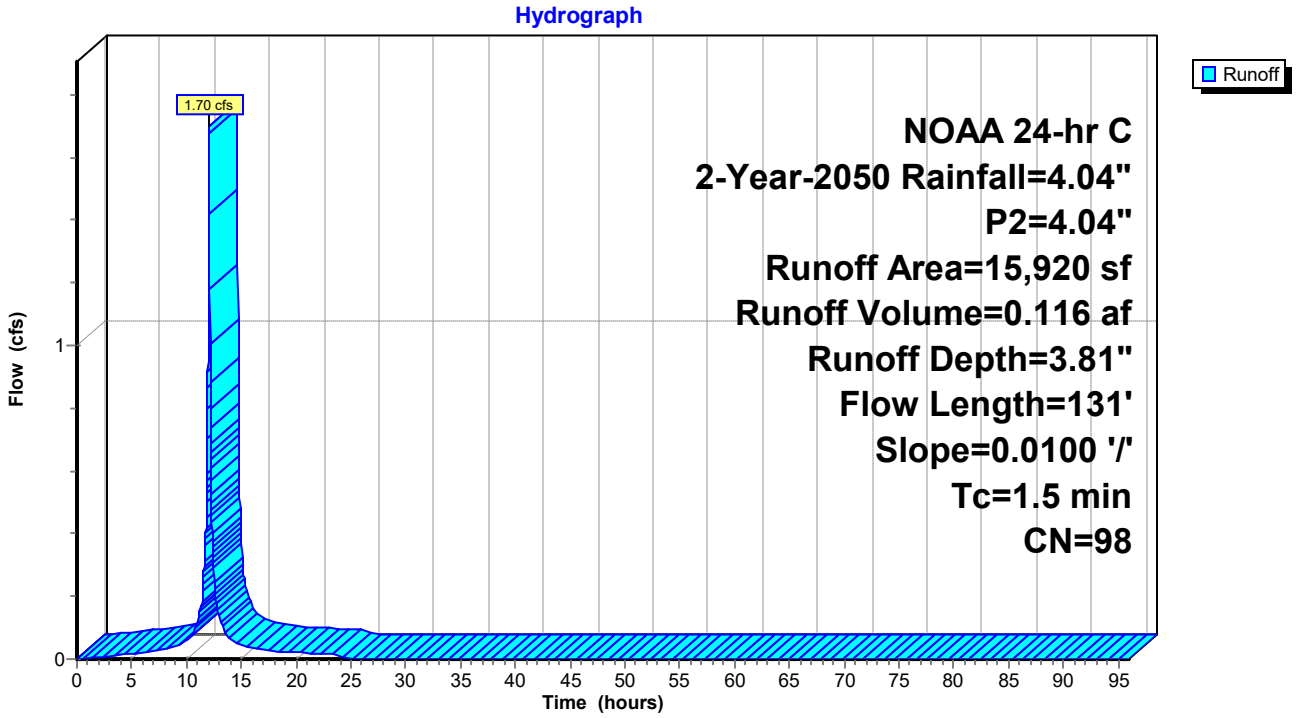
Runoff = 1.70 cfs @ 12.10 hrs, Volume= 0.116 af, Depth= 3.81"
Routed to Pond 89P : INLET-4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	15,920	98	
	15,920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	81	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	131	Total			

Subcatchment 103S: DA-7



Summary for Subcatchment 104S: DA-8

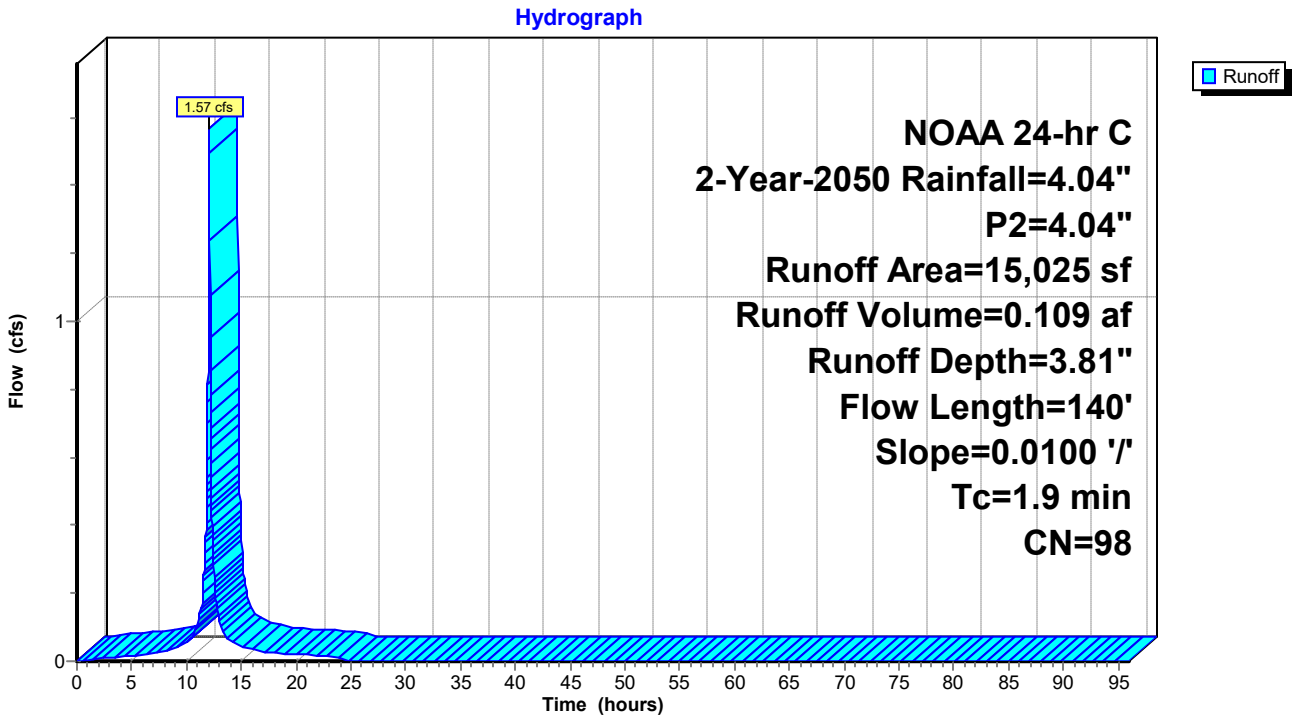
Runoff = 1.57 cfs @ 12.10 hrs, Volume= 0.109 af, Depth= 3.81"
Routed to Pond 88P : MH--3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	15,025	98	
	15,025		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 104S: DA-8



Summary for Subcatchment 105S: DA-9

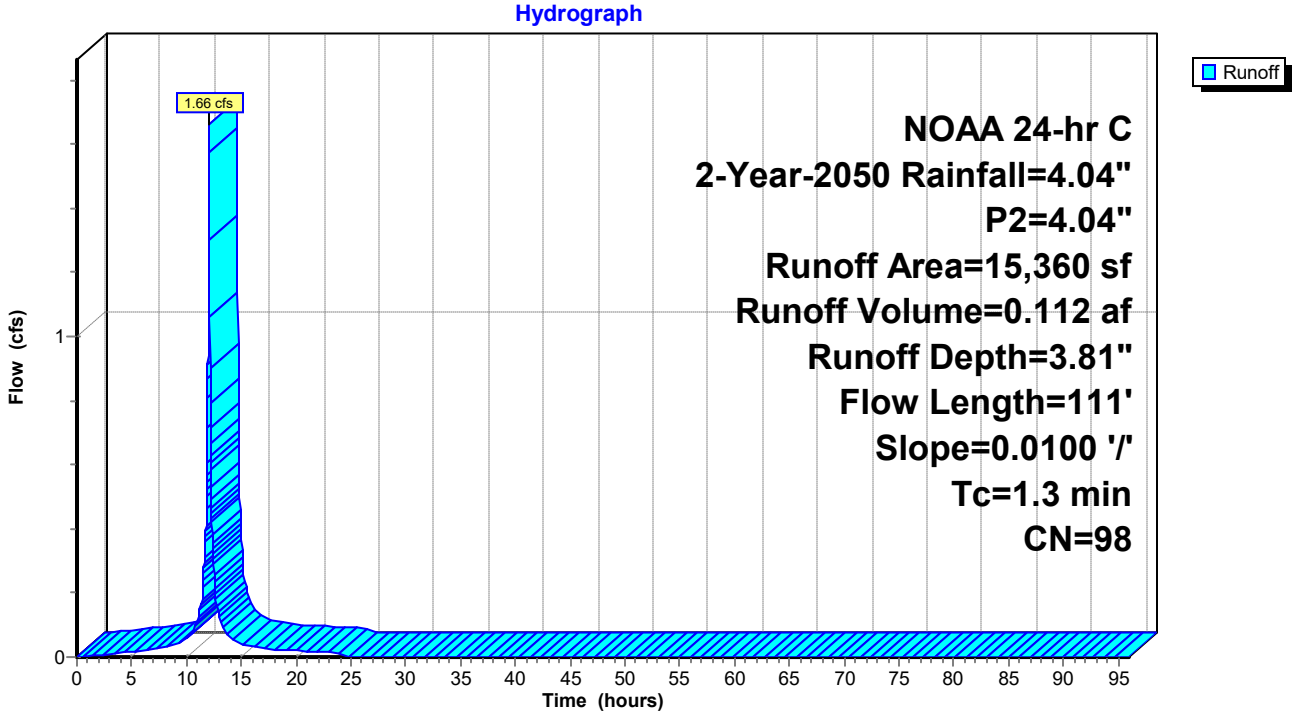
Runoff = 1.66 cfs @ 12.10 hrs, Volume= 0.112 af, Depth= 3.81"
Routed to Pond 90P : MH-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	15,360	98	
	15,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.5	61	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.3	111	Total			

Subcatchment 105S: DA-9



Summary for Subcatchment 106S: DA-11

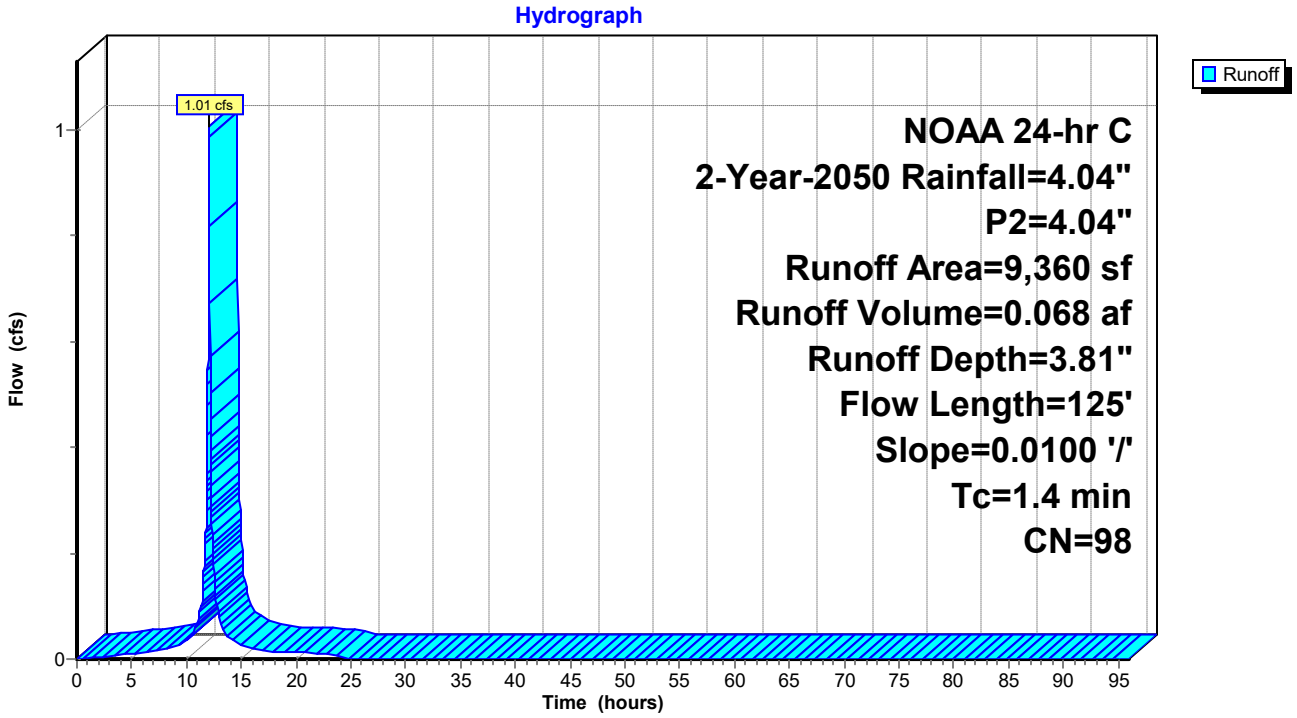
Runoff = 1.01 cfs @ 12.10 hrs, Volume= 0.068 af, Depth= 3.81"
Routed to Pond 96P : INLET-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	9,360	98	
	9,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	125	Total			

Subcatchment 106S: DA-11



Summary for Subcatchment 107S: DA-12

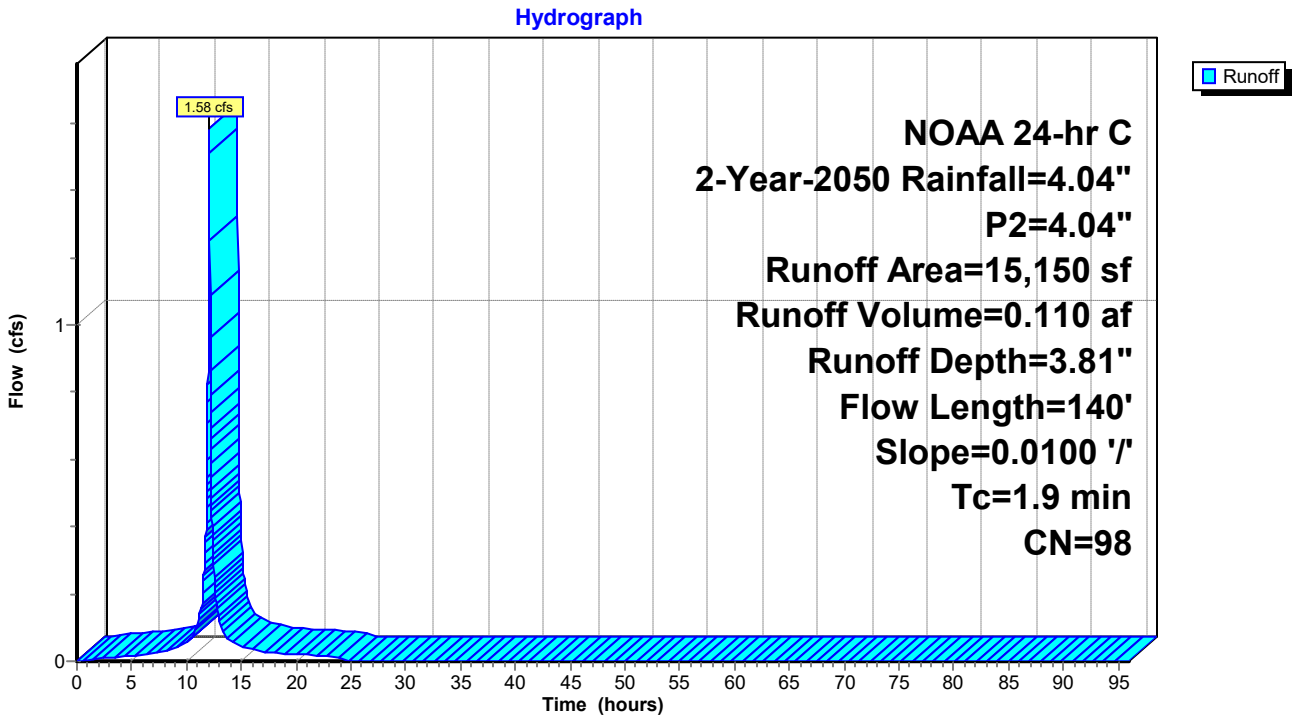
Runoff = 1.58 cfs @ 12.10 hrs, Volume= 0.110 af, Depth= 3.81"
Routed to Pond 91P : MH-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	15,150	98	
	15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 107S: DA-12



Summary for Subcatchment 108S: DA-13

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

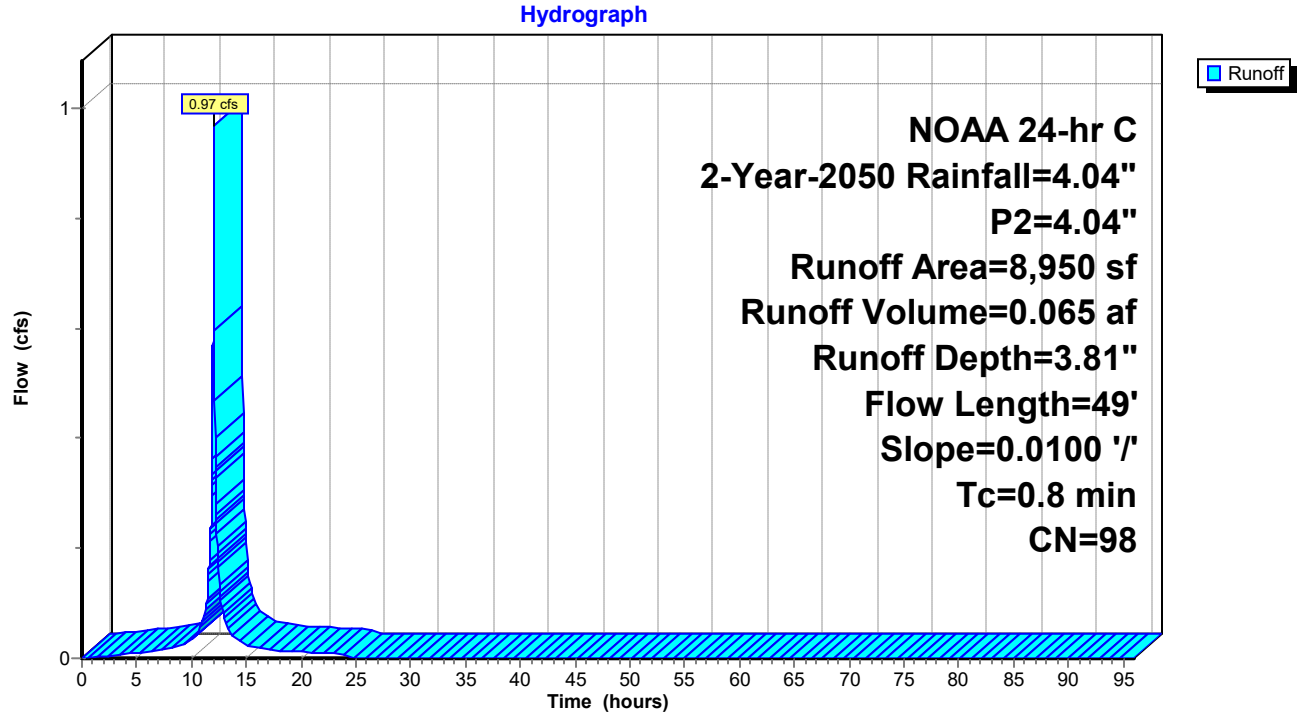
Runoff = 0.97 cfs @ 12.09 hrs, Volume= 0.065 af, Depth= 3.81"
Routed to Pond 95P : INLET-7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	8,950	98	
	8,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	49	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 108S: DA-13



Summary for Subcatchment 109S: DA-14

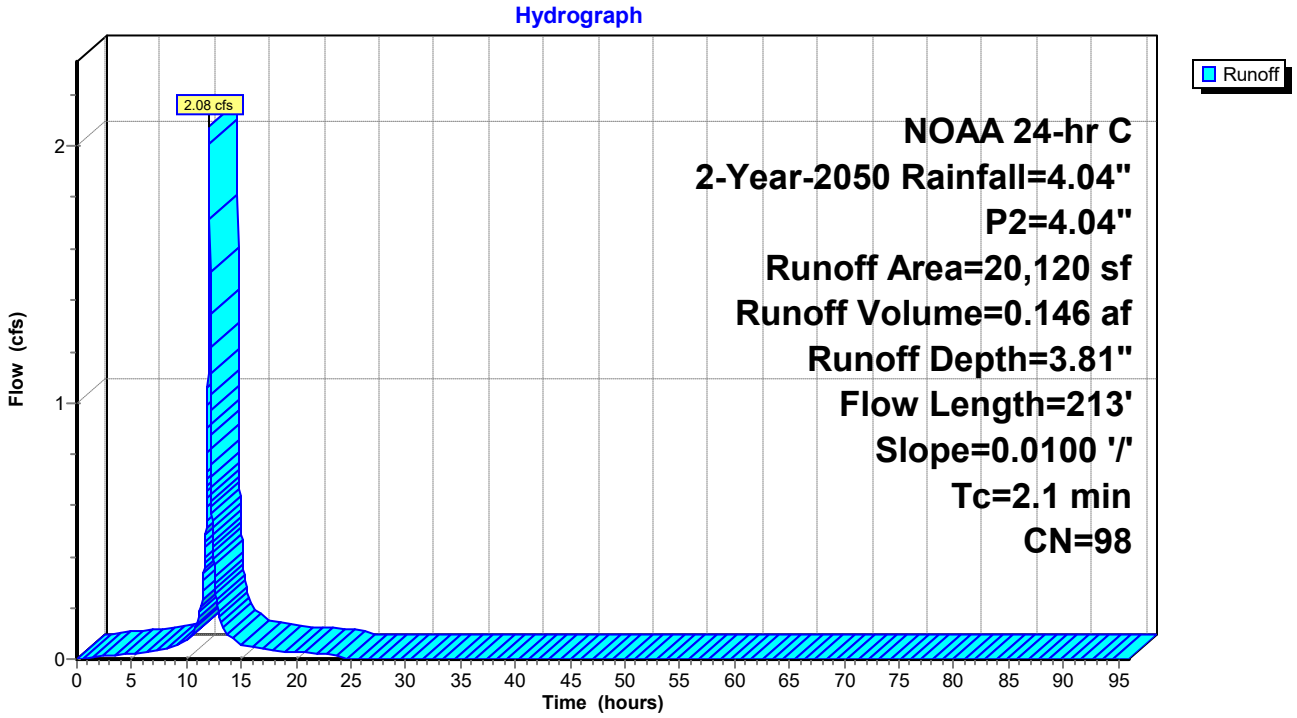
Runoff = 2.08 cfs @ 12.10 hrs, Volume= 0.146 af, Depth= 3.81"
Routed to Pond 94P : INLET-8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	20,120	98	
	20,120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.3	163	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
2.1	213	Total			

Subcatchment 109S: DA-14



Summary for Subcatchment 110S: DA-15

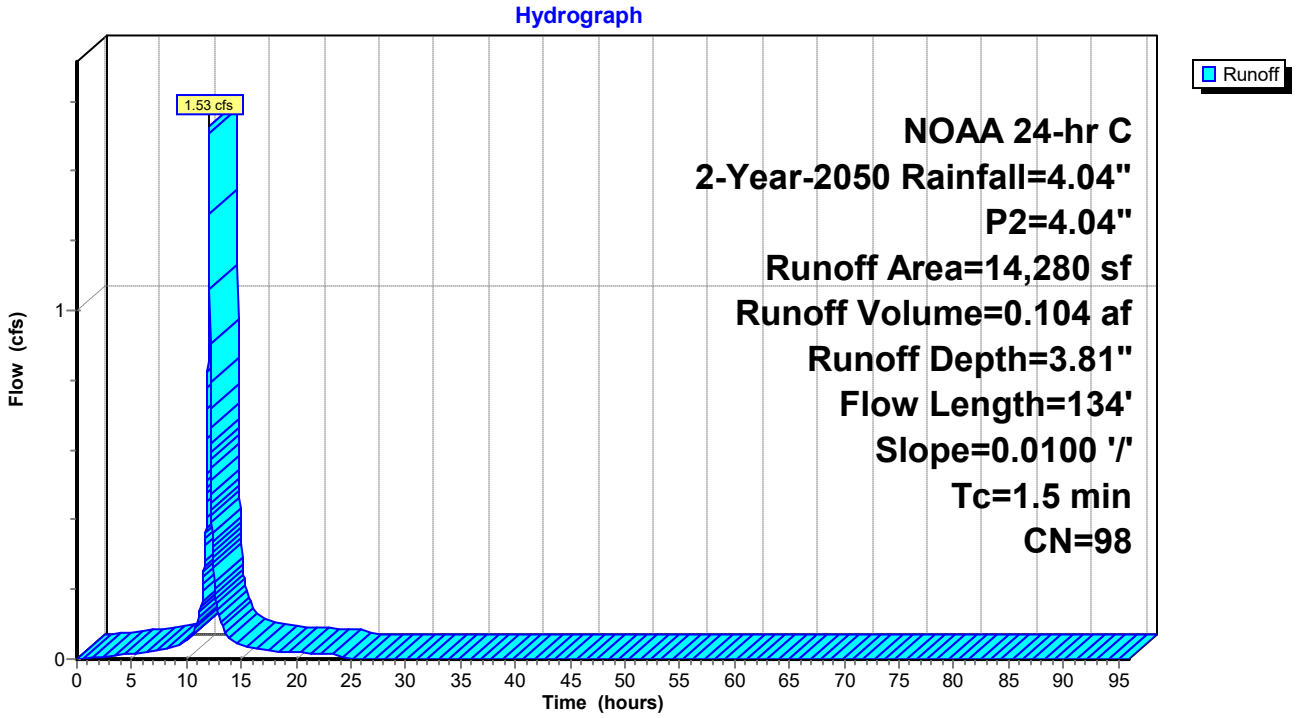
Runoff = 1.53 cfs @ 12.10 hrs, Volume= 0.104 af, Depth= 3.81"
Routed to Pond 93P : INLET-9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	14,280	98	
	14,280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	84	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	134	Total			

Subcatchment 110S: DA-15



Summary for Subcatchment 111S: DA-10

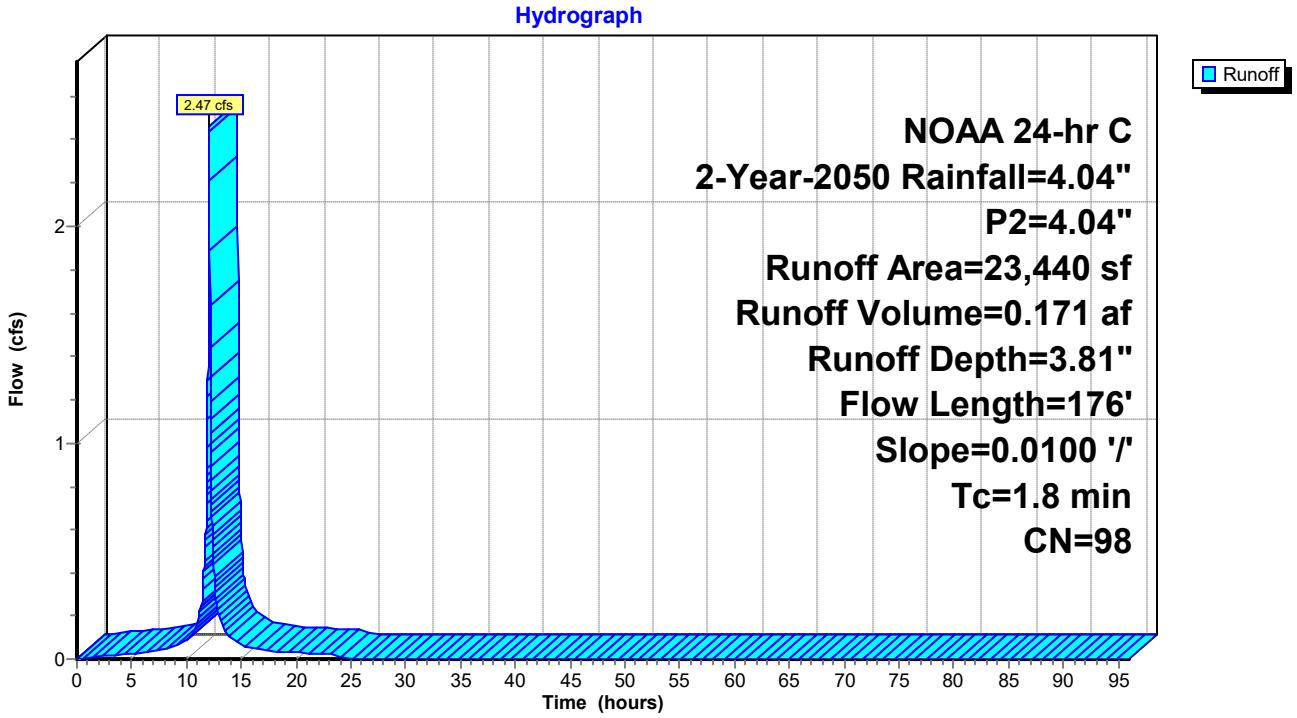
Runoff = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af, Depth= 3.81"
Routed to Pond 98P : MH-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year-2050 Rainfall=4.04", P2=4.04"

	Area (sf)	CN	Description
*	23,440	98	
	23,440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.0	126	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.8	176	Total			

Subcatchment 111S: DA-10



Summary for Pond 80P: TD-3

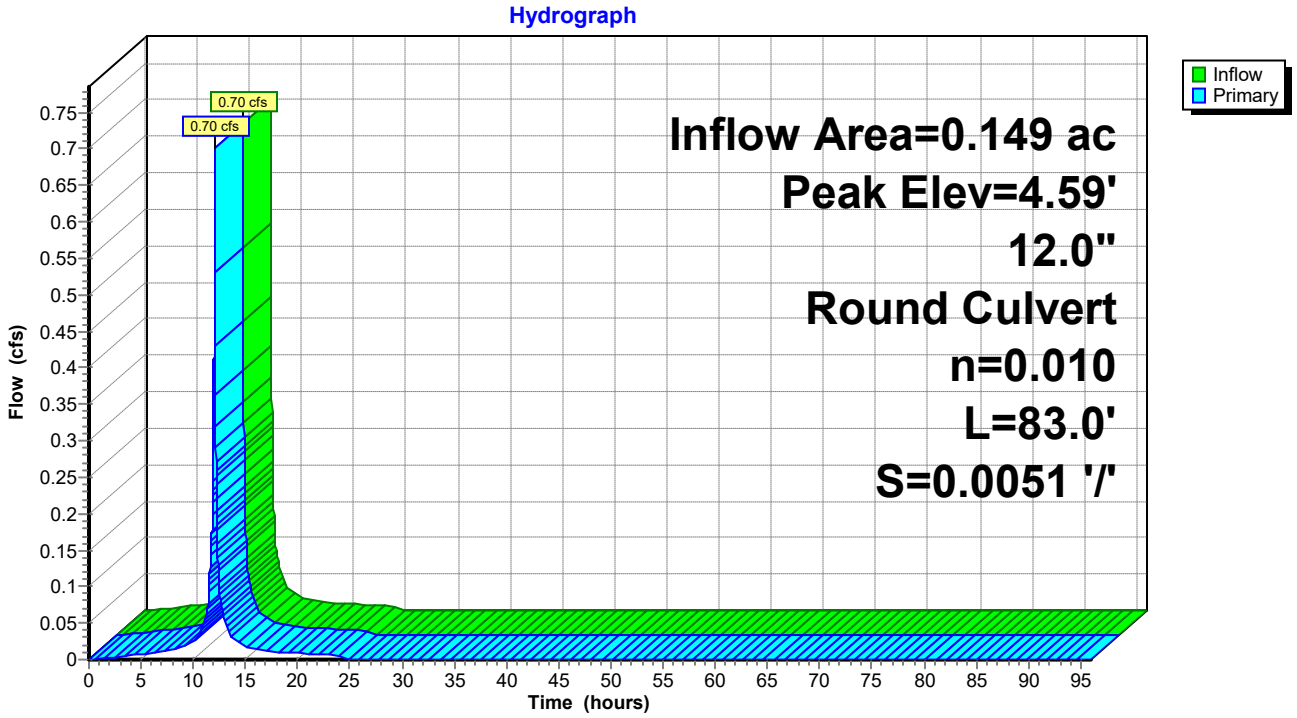
Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 0.70 cfs @ 12.10 hrs, Volume= 0.047 af
Outflow = 0.70 cfs @ 12.10 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.10 hrs, Volume= 0.047 af
Routed to Pond 81P : MH-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.59' @ 12.10 hrs
Flood Elev= 5.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.14'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.14' / 3.72' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.10 hrs HW=4.59' (Free Discharge)
1=Culvert (Barrel Controls 0.70 cfs @ 3.02 fps)

Pond 80P: TD-3



Summary for Pond 81P: MH-5

[81] Warning: Exceeded Pond 80P by 0.16' @ 12.11 hrs

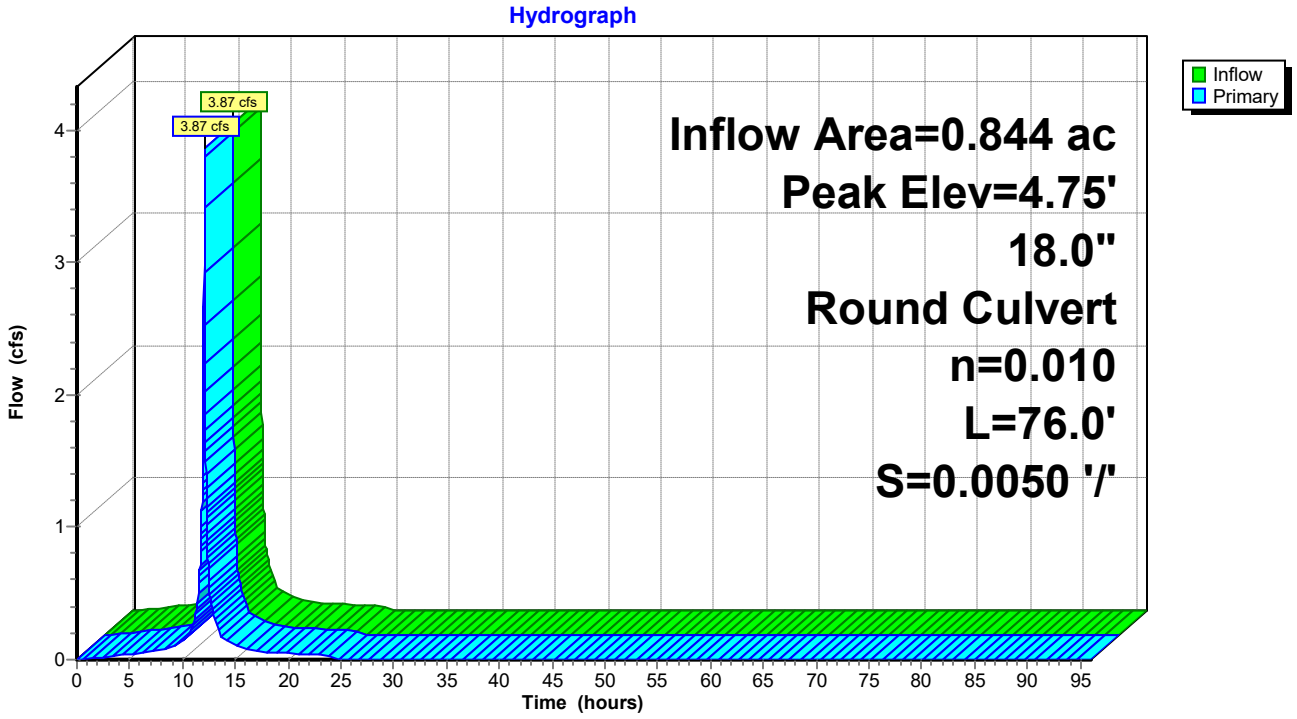
Inflow Area = 0.844 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 3.87 cfs @ 12.10 hrs, Volume= 0.268 af
Outflow = 3.87 cfs @ 12.10 hrs, Volume= 0.268 af, Atten= 0%, Lag= 0.0 min
Primary = 3.87 cfs @ 12.10 hrs, Volume= 0.268 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.75' @ 12.10 hrs
Flood Elev= 9.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.72'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.72' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.86 cfs @ 12.10 hrs HW=4.75' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.86 cfs @ 4.22 fps)

Pond 81P: MH-5



Summary for Pond 85P: INLET-3

[79] Warning: Submerged Pond 81P Primary device # 1 INLET by 0.77'
[81] Warning: Exceeded Pond 87P by 0.09' @ 12.10 hrs
[79] Warning: Submerged Pond 89P Primary device # 1 INLET by 0.28'

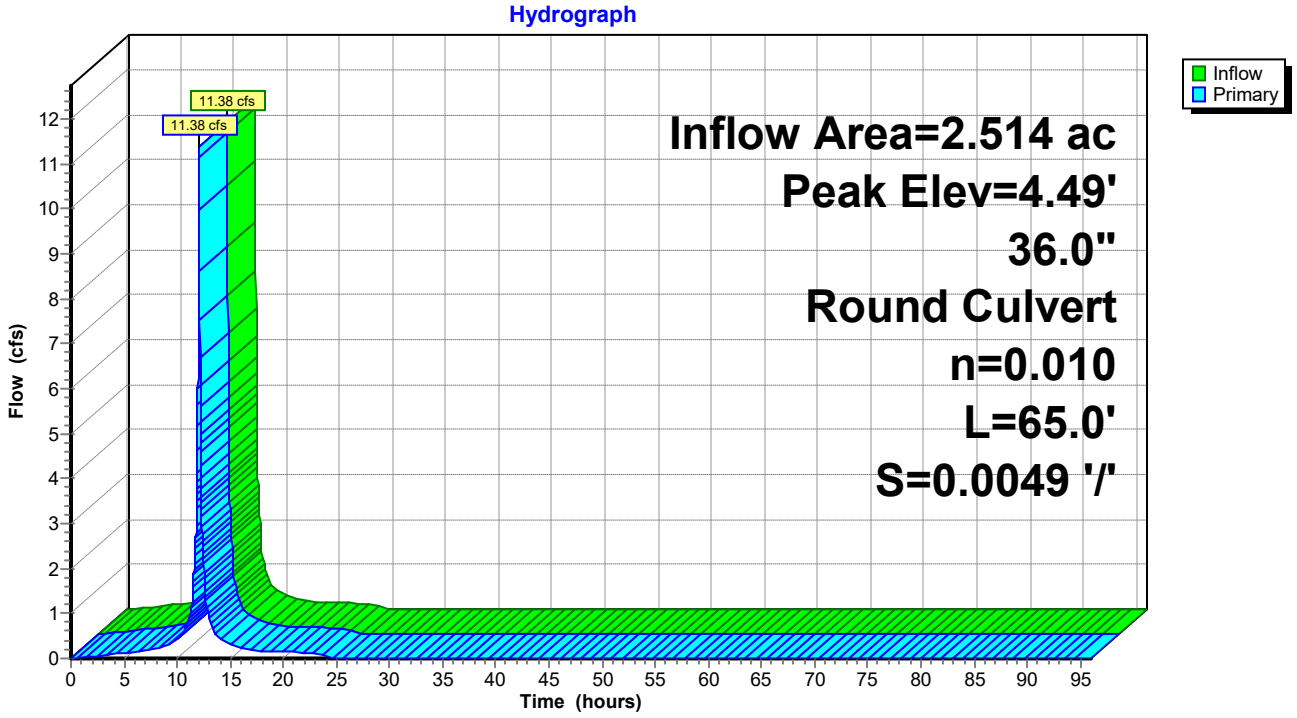
Inflow Area = 2.514 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 11.38 cfs @ 12.10 hrs, Volume= 0.797 af
Outflow = 11.38 cfs @ 12.10 hrs, Volume= 0.797 af, Atten= 0%, Lag= 0.0 min
Primary = 11.38 cfs @ 12.10 hrs, Volume= 0.797 af
Routed to Pond 88P : MH--3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.49' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.03'	**36.0" Round Culvert** L= 65.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.03' / 2.71' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=11.36 cfs @ 12.10 hrs HW=4.49' (Free Discharge)
1=Culvert (Barrel Controls 11.36 cfs @ 4.85 fps)

Pond 85P: INLET-3



Summary for Pond 86P: INLET-1

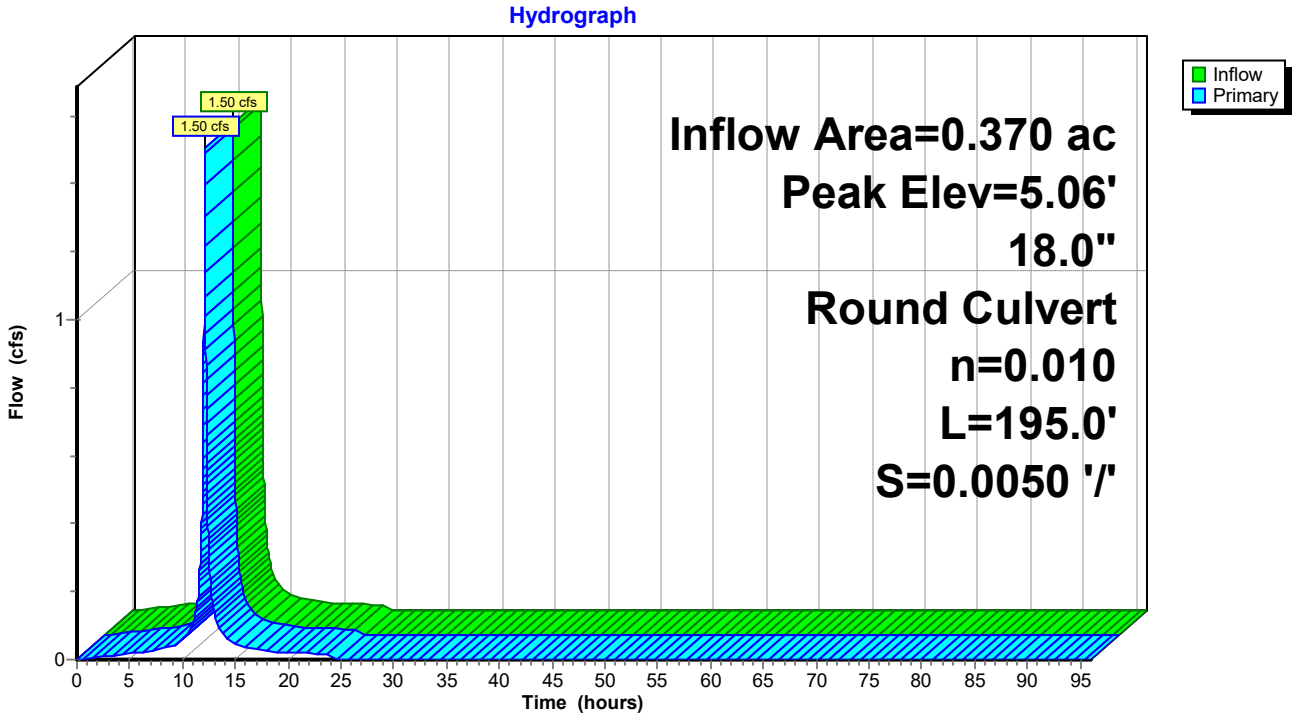
Inflow Area = 0.370 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 1.50 cfs @ 12.12 hrs, Volume= 0.117 af
Outflow = 1.50 cfs @ 12.12 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 1.50 cfs @ 12.12 hrs, Volume= 0.117 af
Routed to Pond 87P : INLET-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.06' @ 12.12 hrs
Flood Elev= 6.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.50'	**18.0" Round Culvert** L= 195.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.50' / 3.52' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.50 cfs @ 12.12 hrs HW=5.06' (Free Discharge)
1=Culvert (Barrel Controls 1.50 cfs @ 3.70 fps)

Pond 86P: INLET-1



Summary for Pond 87P: INLET-2

[79] Warning: Submerged Pond 86P Primary device # 1 OUTLET by 0.88'

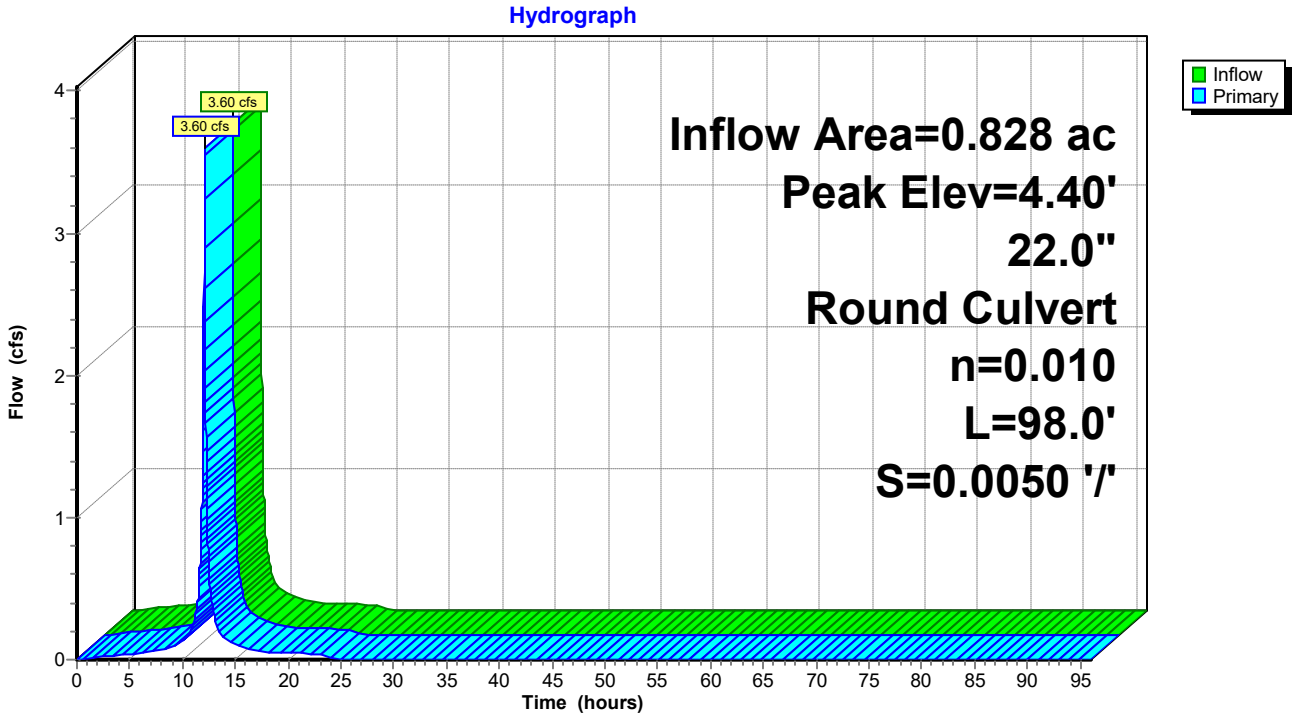
Inflow Area = 0.828 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 3.60 cfs @ 12.10 hrs, Volume= 0.263 af
Outflow = 3.60 cfs @ 12.10 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 12.10 hrs, Volume= 0.263 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.40' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**22.0" Round Culvert** L= 98.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 3.03' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=3.60 cfs @ 12.10 hrs HW=4.40' (Free Discharge)
1=Culvert (Barrel Controls 3.60 cfs @ 4.19 fps)

Pond 87P: INLET-2



Summary for Pond 88P: MH--3

[79] Warning: Submerged Pond 85P Primary device # 1 INLET by 1.33'

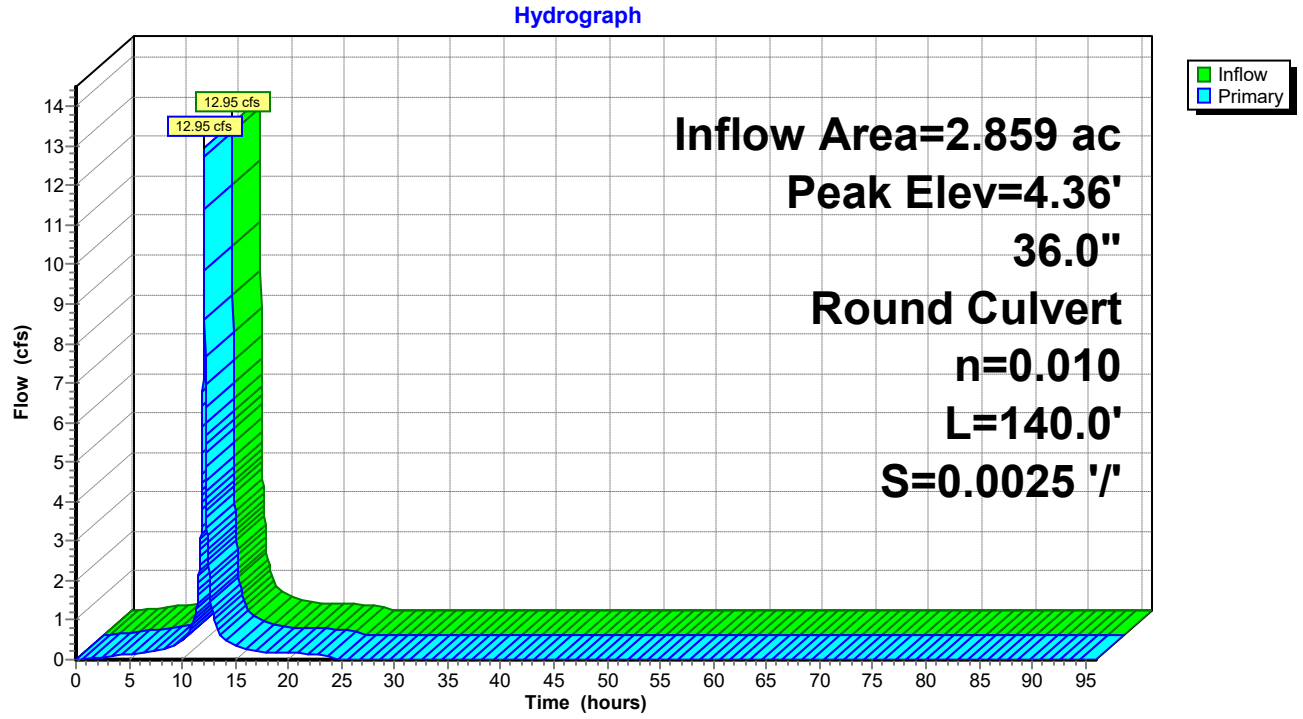
Inflow Area = 2.859 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 12.95 cfs @ 12.10 hrs, Volume= 0.907 af
Outflow = 12.95 cfs @ 12.10 hrs, Volume= 0.907 af, Atten= 0%, Lag= 0.0 min
Primary = 12.95 cfs @ 12.10 hrs, Volume= 0.907 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.36' @ 12.10 hrs
Flood Elev= 9.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.71'	**36.0" Round Culvert** L= 140.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.71' / 2.36' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=12.93 cfs @ 12.10 hrs HW=4.36' (Free Discharge)
1=Culvert (Barrel Controls 12.93 cfs @ 4.70 fps)

Pond 88P: MH--3



Summary for Pond 89P: INLET-4

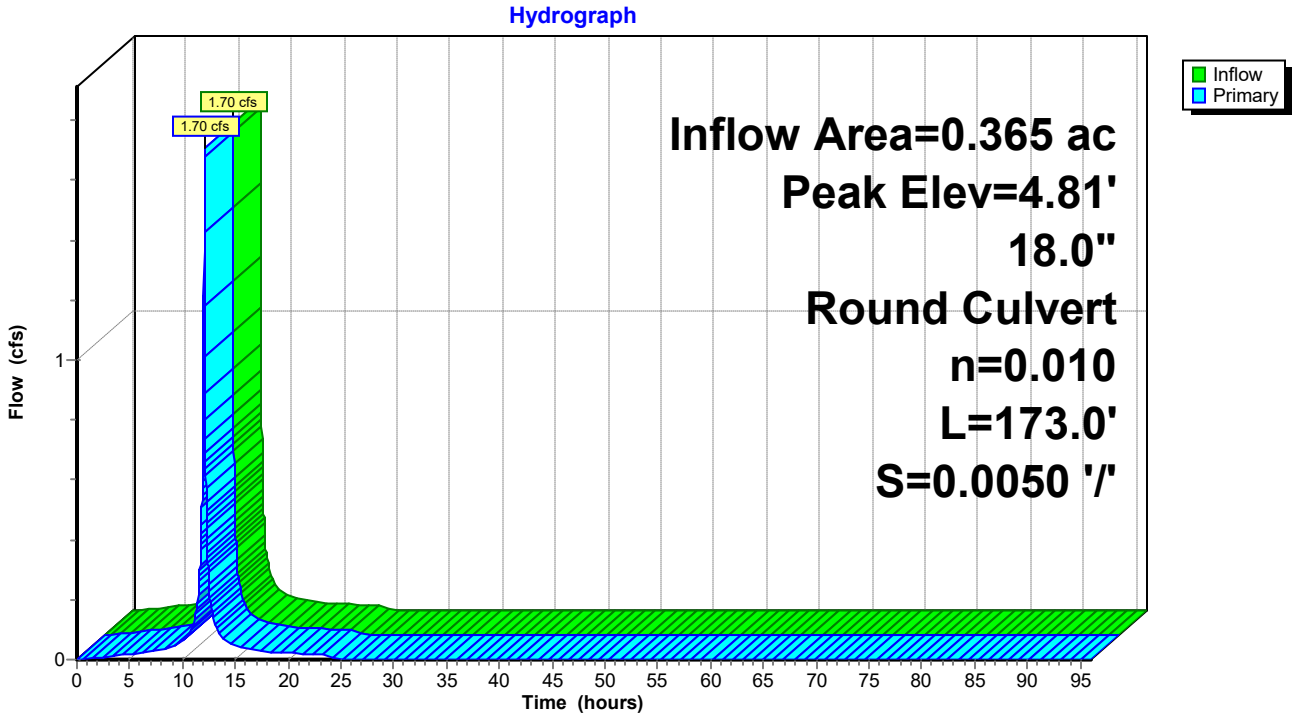
Inflow Area = 0.365 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 1.70 cfs @ 12.10 hrs, Volume= 0.116 af
Outflow = 1.70 cfs @ 12.10 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.0 min
Primary = 1.70 cfs @ 12.10 hrs, Volume= 0.116 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.81' @ 12.10 hrs
Flood Elev= 7.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.21'	**18.0" Round Culvert** L= 173.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.21' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.70 cfs @ 12.10 hrs HW=4.81' (Free Discharge)
1=Culvert (Barrel Controls 1.70 cfs @ 3.78 fps)

Pond 89P: INLET-4



Summary for Pond 90P: MH-2

[79] Warning: Submerged Pond 88P Primary device # 1 INLET by 1.42'
[81] Warning: Exceeded Pond 99P by 0.83' @ 12.10 hrs

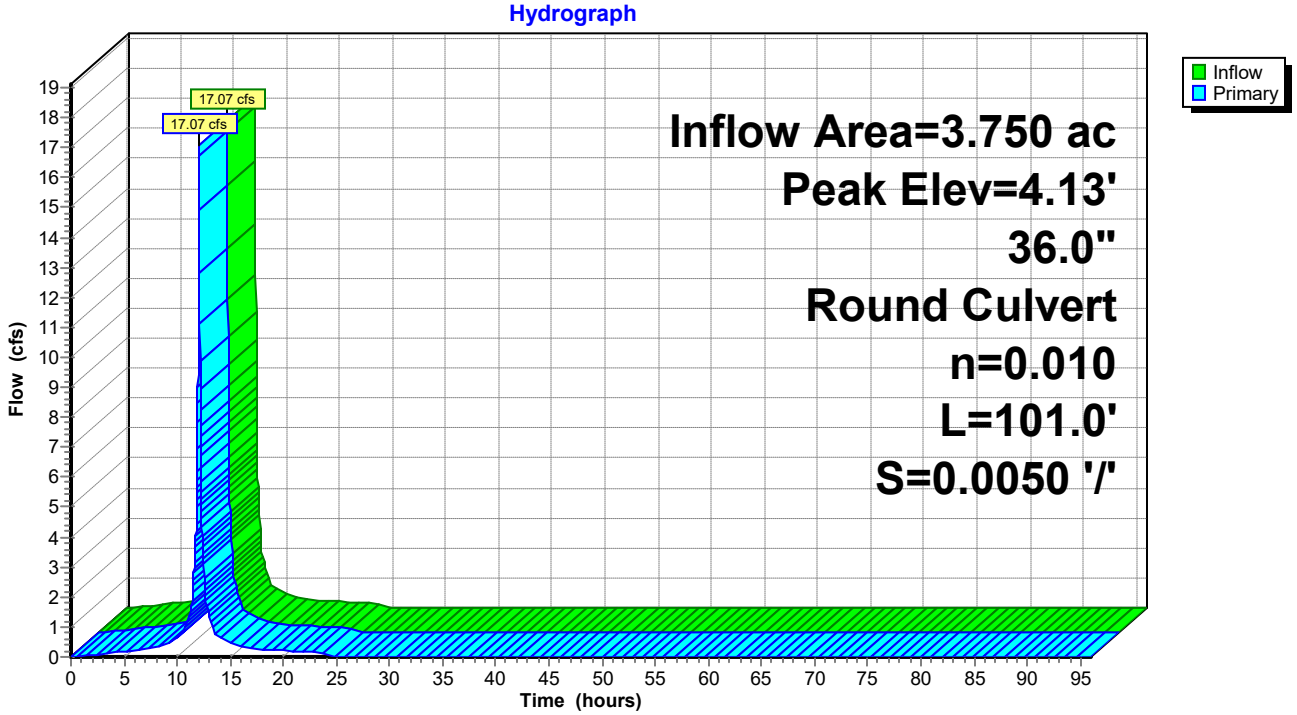
Inflow Area = 3.750 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 17.07 cfs @ 12.10 hrs, Volume= 1.189 af
Outflow = 17.07 cfs @ 12.10 hrs, Volume= 1.189 af, Atten= 0%, Lag= 0.0 min
Primary = 17.07 cfs @ 12.10 hrs, Volume= 1.189 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.13' @ 12.10 hrs
Flood Elev= 10.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.34'	**36.0" Round Culvert** L= 101.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.34' / 1.83' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=17.04 cfs @ 12.10 hrs HW=4.13' (Free Discharge)
└**1=Culvert** (Barrel Controls 17.04 cfs @ 5.58 fps)

Pond 90P: MH-2



Summary for Pond 91P: MH-1

[79] Warning: Submerged Pond 90P Primary device # 1 INLET by 1.64'
[81] Warning: Exceeded Pond 96P by 0.56' @ 12.11 hrs

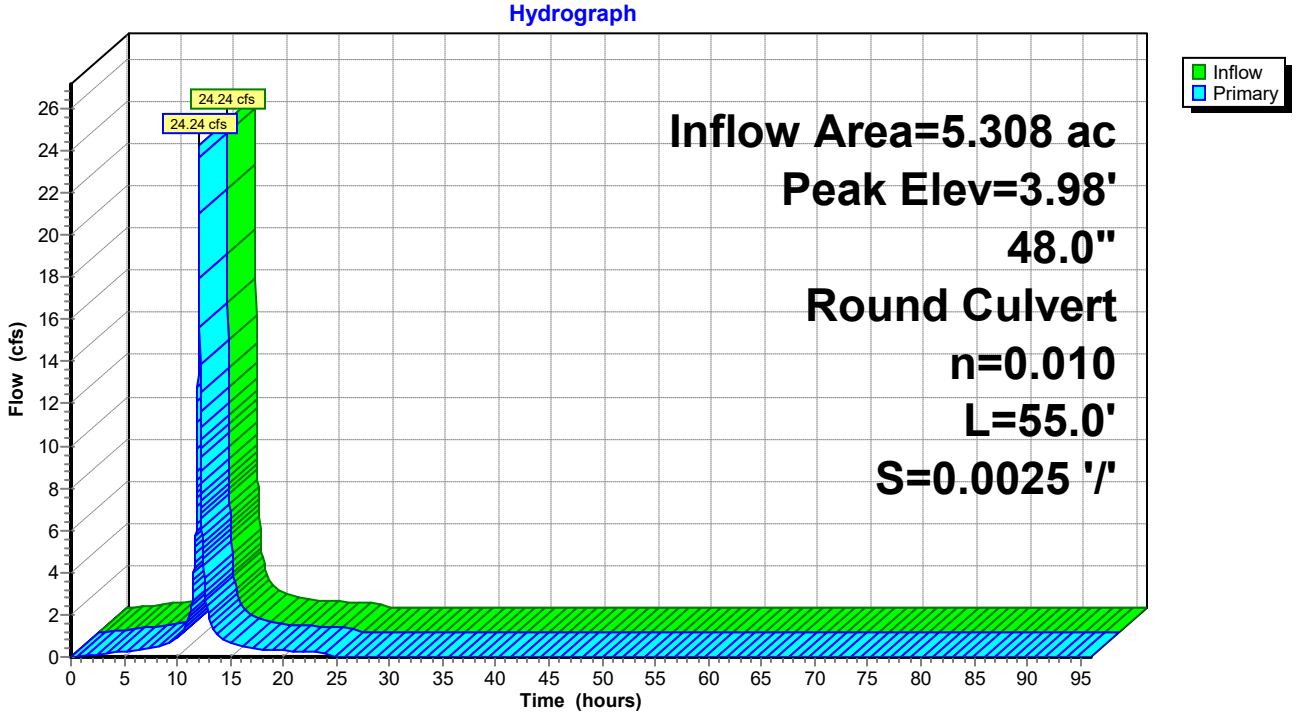
Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 24.24 cfs @ 12.10 hrs, Volume= 1.683 af
Outflow = 24.24 cfs @ 12.10 hrs, Volume= 1.683 af, Atten= 0%, Lag= 0.0 min
Primary = 24.24 cfs @ 12.10 hrs, Volume= 1.683 af
Routed to Pond 97P : OUTFALL

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.98' @ 12.10 hrs
Flood Elev= 9.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.82'	**48.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1.82' / 1.68' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 12.57 sf

Primary OutFlow Max=24.17 cfs @ 12.10 hrs HW=3.98' (Free Discharge)
└**1=Culvert** (Barrel Controls 24.17 cfs @ 5.08 fps)

Pond 91P: MH-1



Summary for Pond 93P: INLET-9

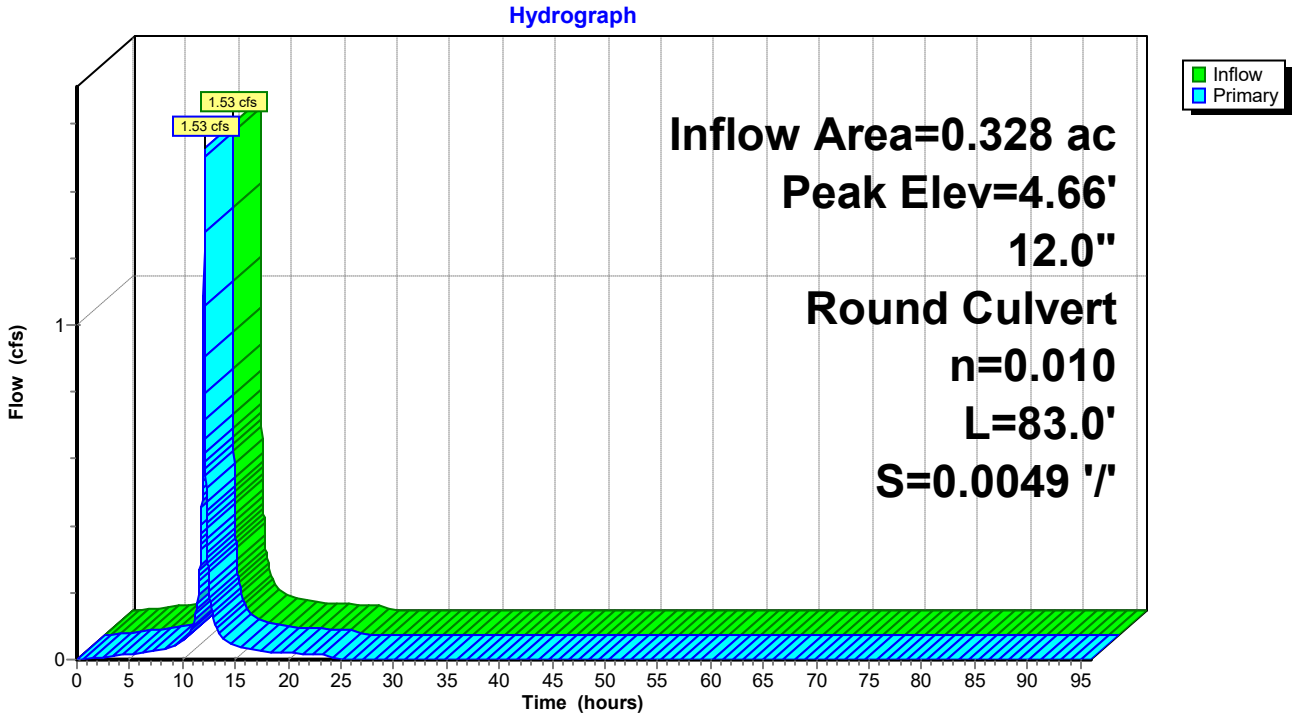
Inflow Area = 0.328 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 1.53 cfs @ 12.10 hrs, Volume= 0.104 af
Outflow = 1.53 cfs @ 12.10 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 12.10 hrs, Volume= 0.104 af
Routed to Pond 94P : INLET-8

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.66' @ 12.10 hrs
Flood Elev= 6.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.95'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.95' / 3.54' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.52 cfs @ 12.10 hrs HW=4.66' (Free Discharge)
1=Culvert (Barrel Controls 1.52 cfs @ 3.57 fps)

Pond 93P: INLET-9



Summary for Pond 94P: INLET-8

[79] Warning: Submerged Pond 93P Primary device # 1 INLET by 0.44'

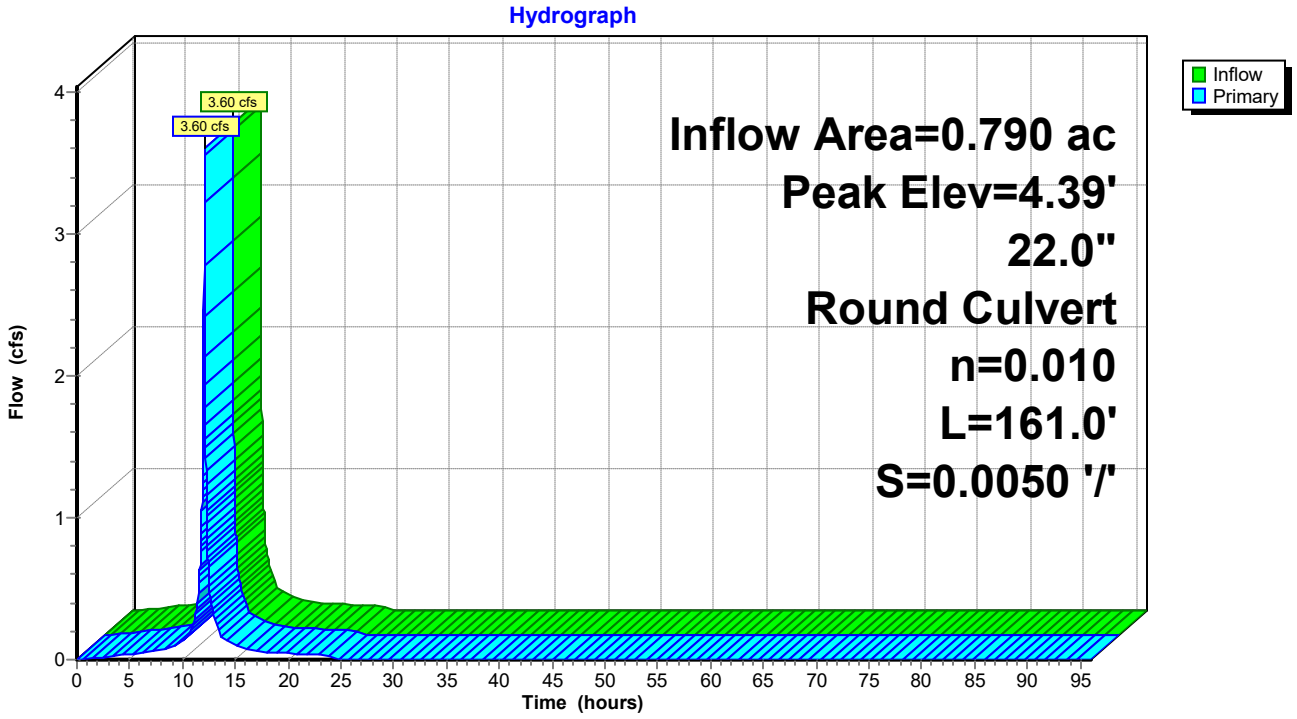
Inflow Area = 0.790 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 3.60 cfs @ 12.10 hrs, Volume= 0.250 af
Outflow = 3.60 cfs @ 12.10 hrs, Volume= 0.250 af, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 12.10 hrs, Volume= 0.250 af
Routed to Pond 95P : INLET-7

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.39' @ 12.10 hrs
Flood Elev= 7.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.54'	**22.0" Round Culvert** L= 161.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.54' / 2.73' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=3.60 cfs @ 12.10 hrs HW=4.39' (Free Discharge)
1=Culvert (Barrel Controls 3.60 cfs @ 4.41 fps)

Pond 94P: INLET-8



Summary for Pond 95P: INLET-7

[79] Warning: Submerged Pond 94P Primary device # 1 INLET by 0.15'

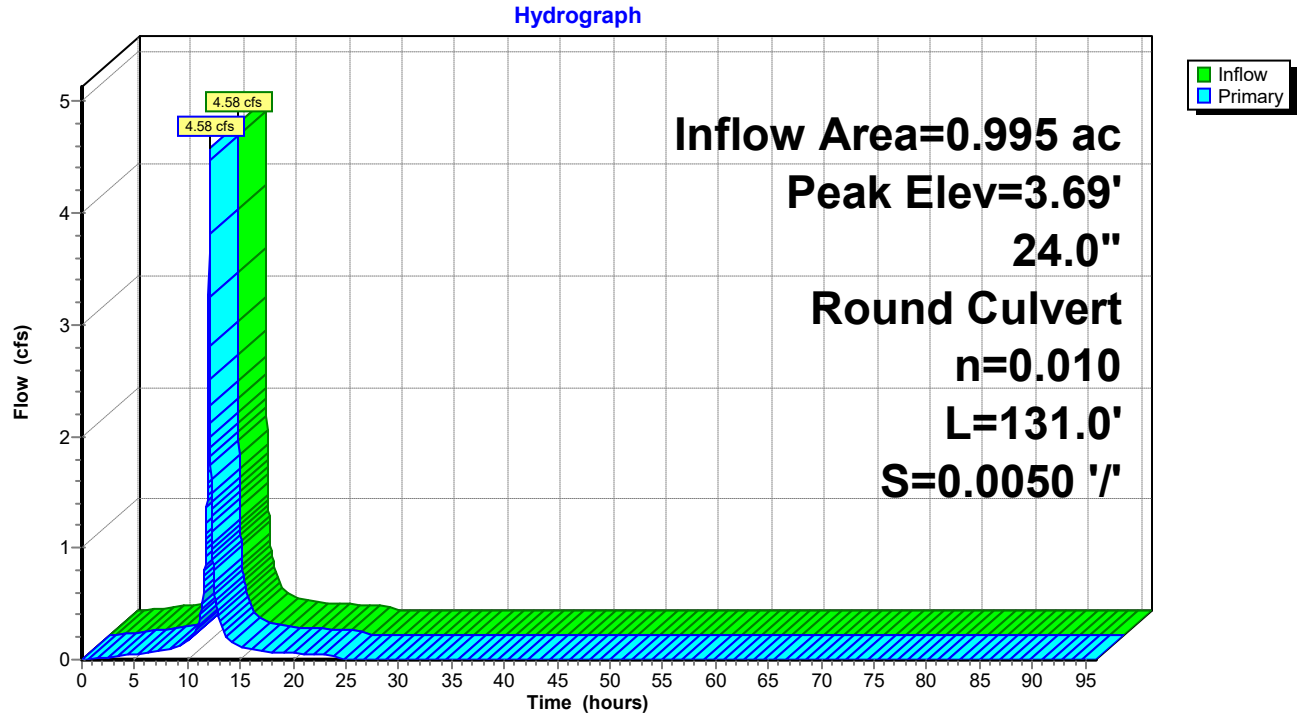
Inflow Area = 0.995 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 4.58 cfs @ 12.10 hrs, Volume= 0.316 af
Outflow = 4.58 cfs @ 12.10 hrs, Volume= 0.316 af, Atten= 0%, Lag= 0.0 min
Primary = 4.58 cfs @ 12.10 hrs, Volume= 0.316 af
Routed to Pond 96P : INLET-6

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.69' @ 12.10 hrs
Flood Elev= 8.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.73'	**24.0" Round Culvert** L= 131.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.73' / 2.08' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.55 cfs @ 12.10 hrs HW=3.69' (Free Discharge)
1=Culvert (Barrel Controls 4.55 cfs @ 4.50 fps)

Pond 95P: INLET-7



Summary for Pond 96P: INLET-6

[79] Warning: Submerged Pond 95P Primary device # 1 INLET by 0.69'

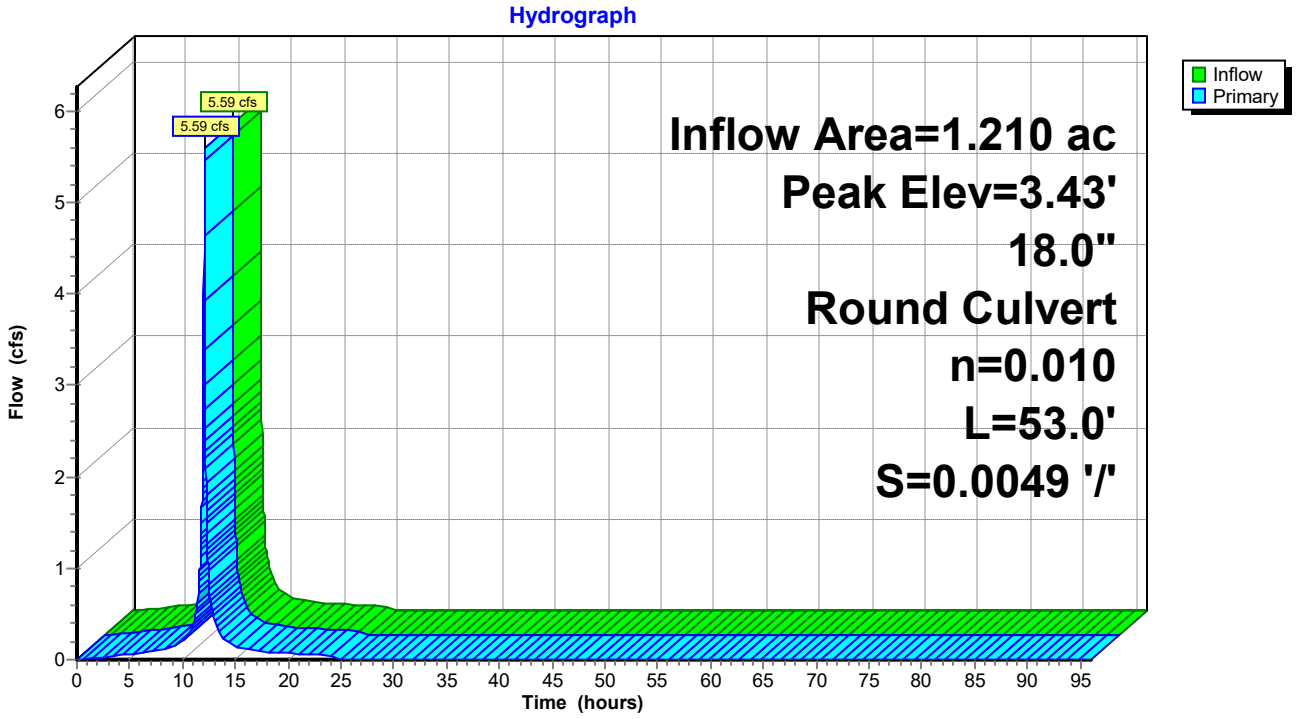
Inflow Area = 1.210 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 5.59 cfs @ 12.10 hrs, Volume= 0.384 af
Outflow = 5.59 cfs @ 12.10 hrs, Volume= 0.384 af, Atten= 0%, Lag= 0.0 min
Primary = 5.59 cfs @ 12.10 hrs, Volume= 0.384 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.43' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.08'	**18.0" Round Culvert** L= 53.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.08' / 1.82' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.56 cfs @ 12.10 hrs HW=3.42' (Free Discharge)
1=Culvert (Barrel Controls 5.56 cfs @ 4.41 fps)

Pond 96P: INLET-6



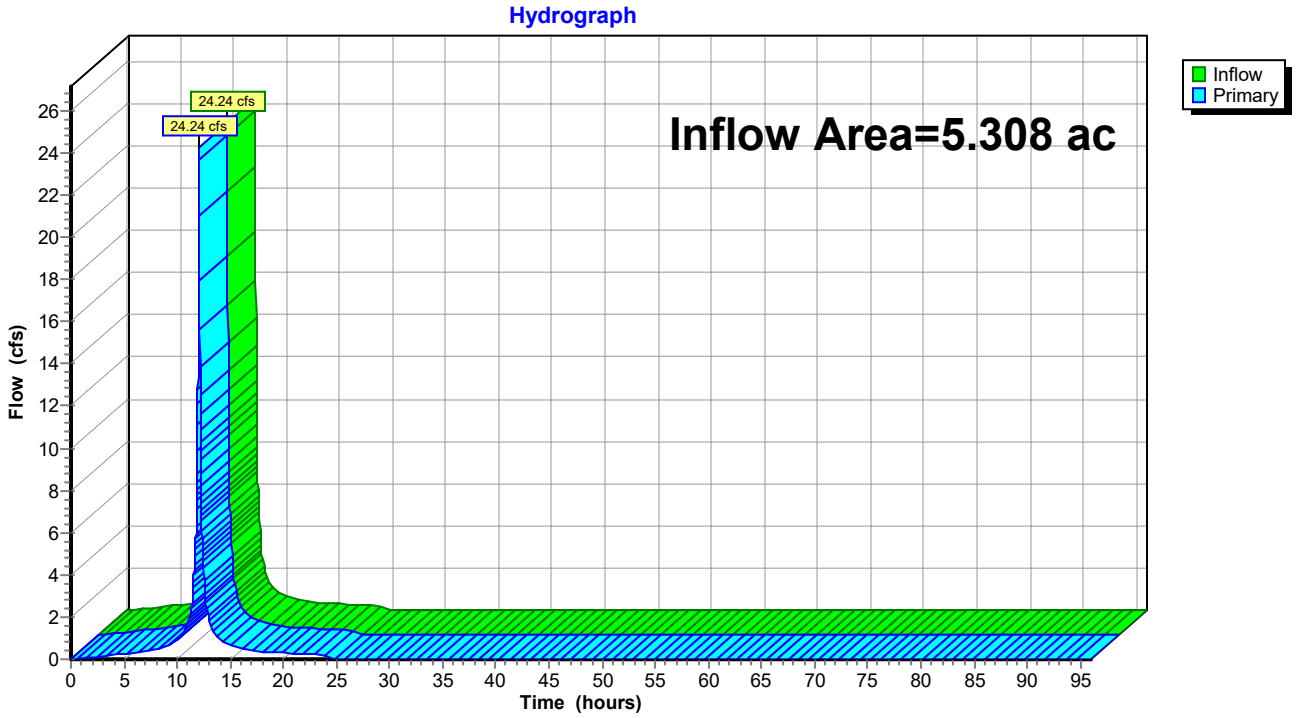
Summary for Pond 97P: OUTFALL

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

Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 24.24 cfs @ 12.10 hrs, Volume= 1.683 af
Primary = 24.24 cfs @ 12.10 hrs, Volume= 1.683 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Pond 97P: OUTFALL



Summary for Pond 98P: MH-6

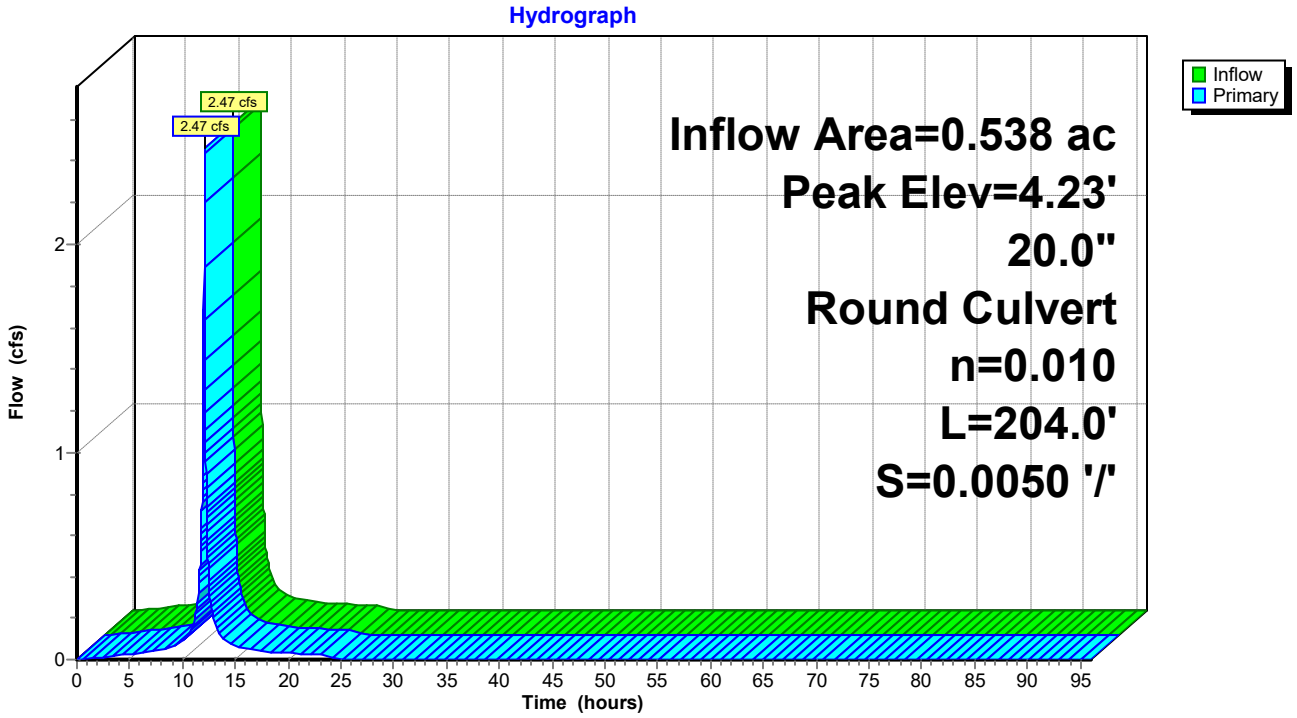
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af
Outflow = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af
Routed to Pond 99P : INLET-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.23' @ 12.10 hrs
Flood Elev= 6.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**20.0" Round Culvert** L= 204.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 2.50' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=2.47 cfs @ 12.10 hrs HW=4.23' (Free Discharge)
1=Culvert (Barrel Controls 2.47 cfs @ 4.14 fps)

Pond 98P: MH-6



Summary for Pond 99P: INLET-5

[79] Warning: Submerged Pond 98P Primary device # 1 OUTLET by 0.80'

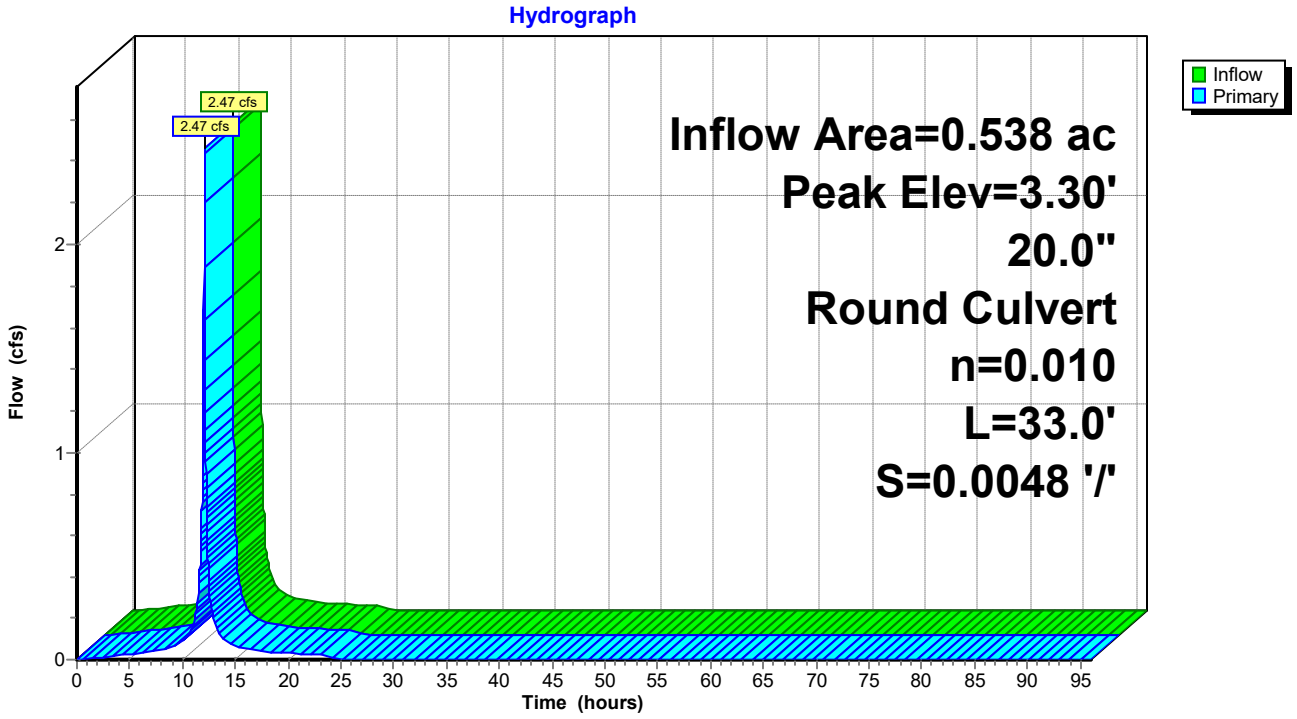
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 3.81" for 2-Year-2050 event
Inflow = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af
Outflow = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.10 hrs, Volume= 0.171 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.30' @ 12.10 hrs
Flood Elev= 10.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.50'	**20.0" Round Culvert** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.34' S= 0.0048 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=2.46 cfs @ 12.10 hrs HW=3.30' (Free Discharge)
1=Culvert (Barrel Controls 2.46 cfs @ 3.47 fps)

Pond 99P: INLET-5



Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 82S: DA-1 Runoff Area=6,500 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=78' Slope=0.0100 '/' Tc=1.2 min CN=98 Runoff=1.12 cfs 0.077 af

Subcatchment 83S: DA-2 Runoff Area=14,760 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=2.46 cfs 0.174 af

Subcatchment 84S: DA-3 Runoff Area=15,500 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=2.58 cfs 0.183 af

Subcatchment 100S: DA-4 Runoff Area=16,100 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=172' Slope=0.0100 '/' Tc=3.7 min CN=98 Runoff=2.39 cfs 0.190 af

Subcatchment 101S: DA-5 Runoff Area=19,975 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=117' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=3.42 cfs 0.235 af

Subcatchment 102S: DA-6 Runoff Area=20,755 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=142' Slope=0.0100 '/' Tc=1.6 min CN=98 Runoff=3.52 cfs 0.245 af

Subcatchment 103S: DA-7 Runoff Area=15,920 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=131' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=2.71 cfs 0.188 af

Subcatchment 104S: DA-8 Runoff Area=15,025 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=2.50 cfs 0.177 af

Subcatchment 105S: DA-9 Runoff Area=15,360 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=111' Slope=0.0100 '/' Tc=1.3 min CN=98 Runoff=2.64 cfs 0.181 af

Subcatchment 106S: DA-11 Runoff Area=9,360 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=125' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=1.60 cfs 0.110 af

Subcatchment 107S: DA-12 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=2.52 cfs 0.179 af

Subcatchment 108S: DA-13 Runoff Area=8,950 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=49' Slope=0.0100 '/' Tc=0.8 min CN=98 Runoff=1.54 cfs 0.105 af

Subcatchment 109S: DA-14 Runoff Area=20,120 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=213' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=3.31 cfs 0.237 af

Subcatchment 110S: DA-15 Runoff Area=14,280 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=134' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=2.43 cfs 0.168 af

Subcatchment 111S: DA-10 Runoff Area=23,440 sf 100.00% Impervious Runoff Depth=6.16"
Flow Length=176' Slope=0.0100 '/' Tc=1.8 min CN=98 Runoff=3.93 cfs 0.276 af

Pond 80P: TD-3 Peak Elev=4.73' Inflow=1.12 cfs 0.077 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0051 '/' Outflow=1.12 cfs 0.077 af

Pond 81P: MH-5 Peak Elev=5.12' Inflow=6.15 cfs 0.433 af
18.0" Round Culvert n=0.010 L=76.0' S=0.0050 '/' Outflow=6.15 cfs 0.433 af

Pond 85P: INLET-3 Peak Elev=4.96' Inflow=18.10 cfs 1.291 af
36.0" Round Culvert n=0.010 L=65.0' S=0.0049 '/' Outflow=18.10 cfs 1.291 af

Pond 86P: INLET-1 Peak Elev=5.22' Inflow=2.39 cfs 0.190 af
18.0" Round Culvert n=0.010 L=195.0' S=0.0050 '/' Outflow=2.39 cfs 0.190 af

Pond 87P: INLET-2 Peak Elev=4.68' Inflow=5.73 cfs 0.425 af
22.0" Round Culvert n=0.010 L=98.0' S=0.0050 '/' Outflow=5.73 cfs 0.425 af

Pond 88P: MH--3 Peak Elev=4.88' Inflow=20.60 cfs 1.468 af
36.0" Round Culvert n=0.010 L=140.0' S=0.0025 '/' Outflow=20.60 cfs 1.468 af

Pond 89P: INLET-4 Peak Elev=4.99' Inflow=2.71 cfs 0.188 af
18.0" Round Culvert n=0.010 L=173.0' S=0.0050 '/' Outflow=2.71 cfs 0.188 af

Pond 90P: MH-2 Peak Elev=4.73' Inflow=27.16 cfs 1.925 af
36.0" Round Culvert n=0.010 L=101.0' S=0.0050 '/' Outflow=27.16 cfs 1.925 af

Pond 91P: MH-1 Peak Elev=4.64' Inflow=38.57 cfs 2.725 af
48.0" Round Culvert n=0.010 L=55.0' S=0.0025 '/' Outflow=38.57 cfs 2.725 af

Pond 93P: INLET-9 Peak Elev=4.93' Inflow=2.43 cfs 0.168 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0049 '/' Outflow=2.43 cfs 0.168 af

Pond 94P: INLET-8 Peak Elev=4.66' Inflow=5.73 cfs 0.405 af
22.0" Round Culvert n=0.010 L=161.0' S=0.0050 '/' Outflow=5.73 cfs 0.405 af

Pond 95P: INLET-7 Peak Elev=3.99' Inflow=7.29 cfs 0.511 af
24.0" Round Culvert n=0.010 L=131.0' S=0.0050 '/' Outflow=7.29 cfs 0.511 af

Pond 96P: INLET-6 Peak Elev=4.14' Inflow=8.89 cfs 0.621 af
18.0" Round Culvert n=0.010 L=53.0' S=0.0049 '/' Outflow=8.89 cfs 0.621 af

Pond 97P: OUTFALL Inflow=38.57 cfs 2.725 af
Primary=38.57 cfs 2.725 af

Pond 98P: MH-6 Peak Elev=4.44' Inflow=3.93 cfs 0.276 af
20.0" Round Culvert n=0.010 L=204.0' S=0.0050 '/' Outflow=3.93 cfs 0.276 af

Pond 99P: INLET-5 Peak Elev=3.55' Inflow=3.93 cfs 0.276 af
20.0" Round Culvert n=0.010 L=33.0' S=0.0048 '/' Outflow=3.93 cfs 0.276 af

Total Runoff Area = 5.308 ac Runoff Volume = 2.725 af Average Runoff Depth = 6.16"
0.00% Pervious = 0.000 ac 100.00% Impervious = 5.308 ac

Summary for Subcatchment 82S: DA-1

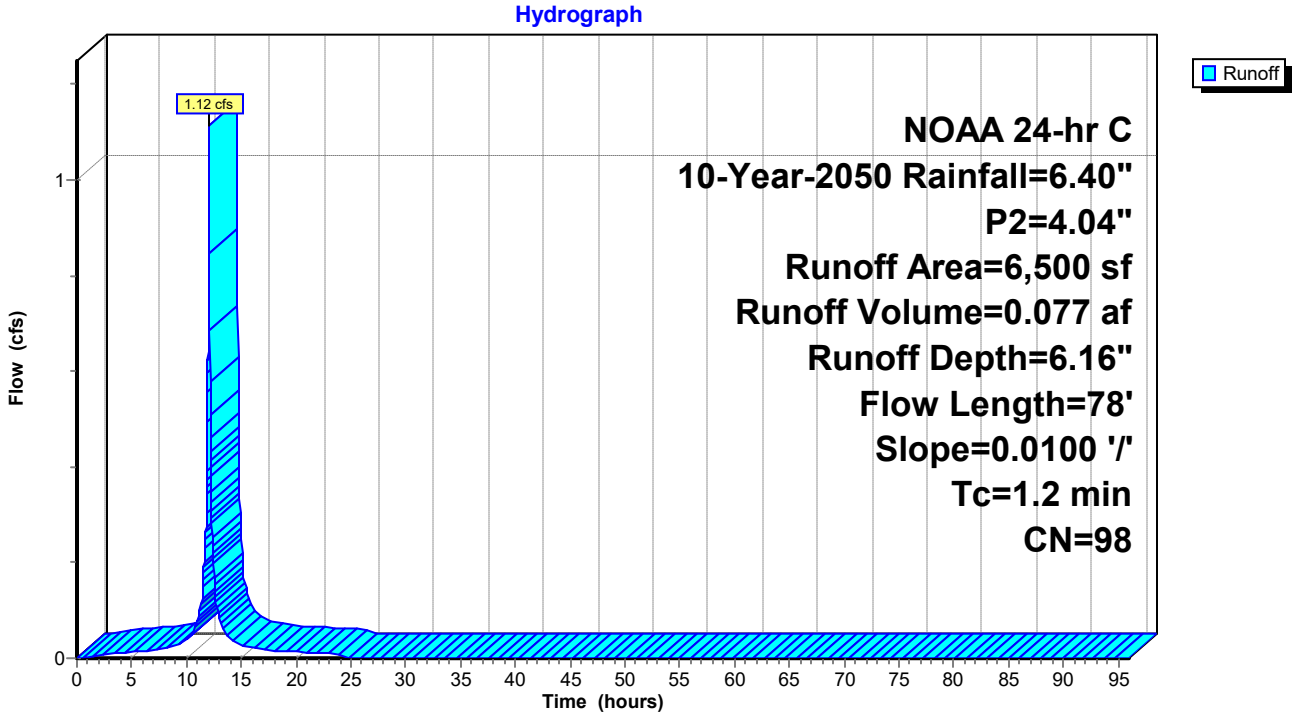
Runoff = 1.12 cfs @ 12.10 hrs, Volume= 0.077 af, Depth= 6.16"
Routed to Pond 80P : TD-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	6,500	98	
	6,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	78	0.0100	1.11		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 82S: DA-1



Summary for Subcatchment 83S: DA-2

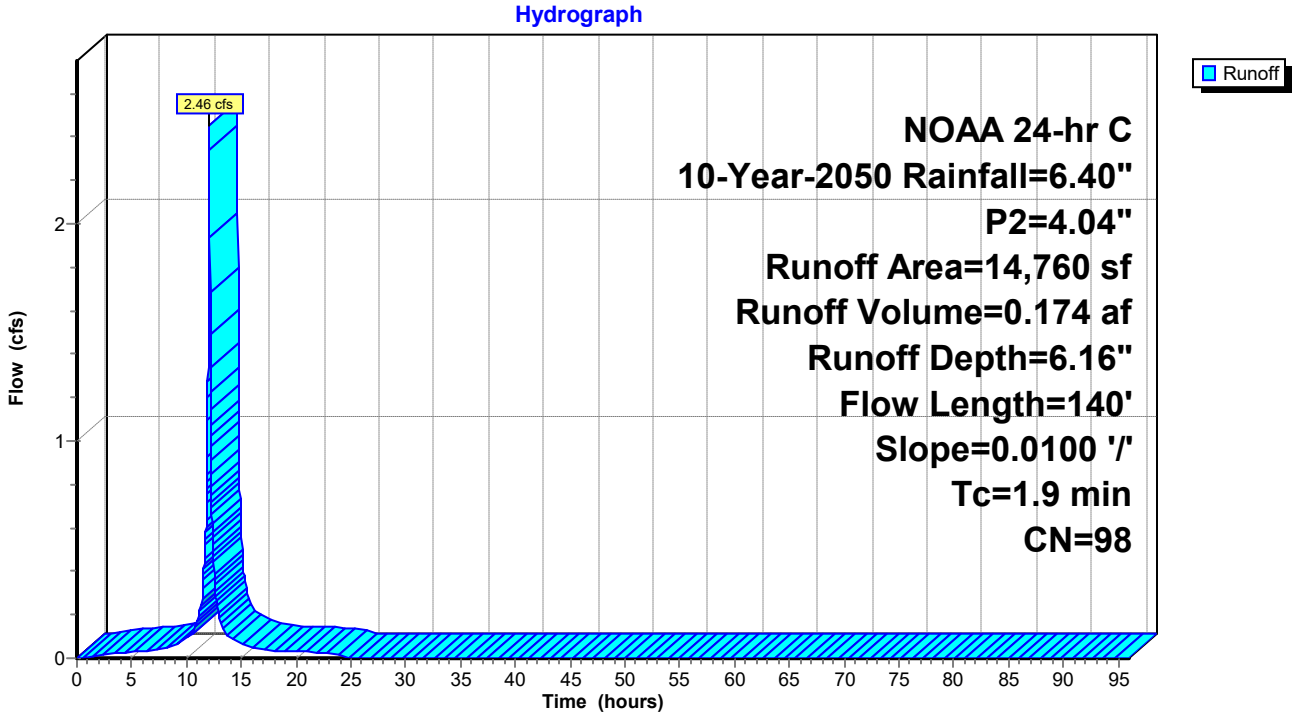
Runoff = 2.46 cfs @ 12.10 hrs, Volume= 0.174 af, Depth= 6.16"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	14,760	98	
	14,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 83S: DA-2



Summary for Subcatchment 84S: DA-3

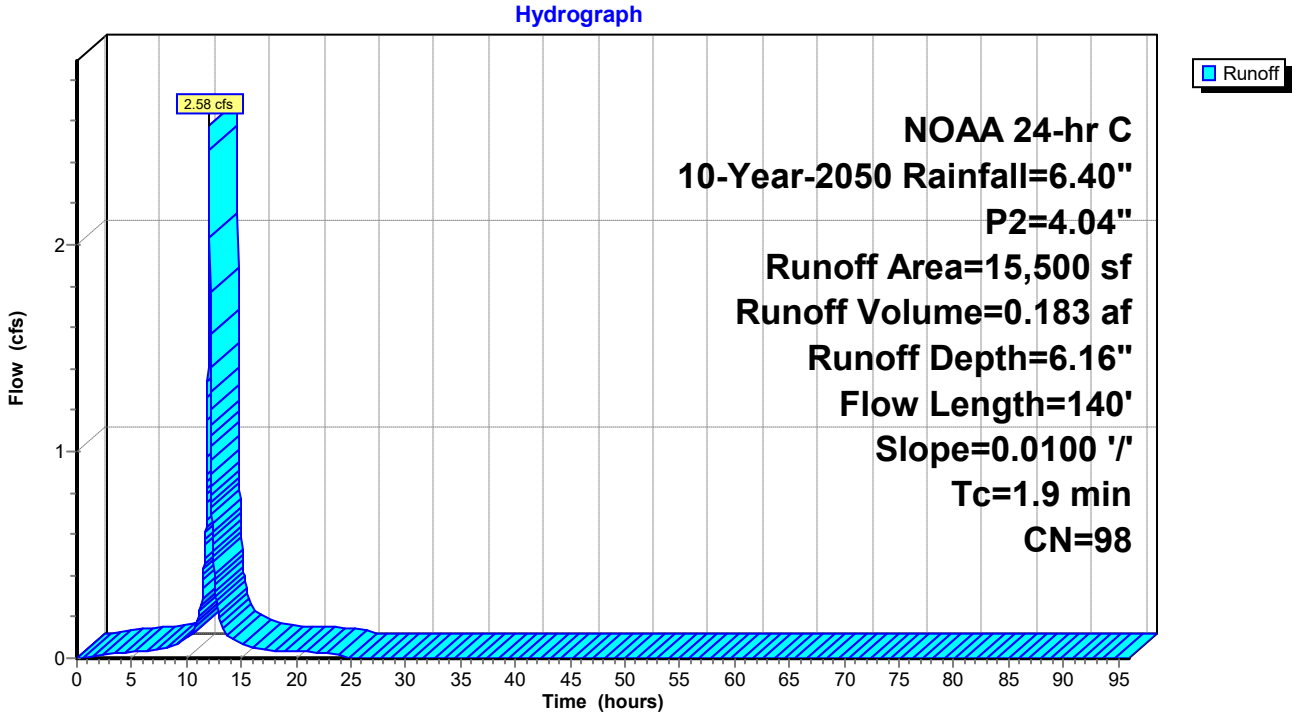
Runoff = 2.58 cfs @ 12.10 hrs, Volume= 0.183 af, Depth= 6.16"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	15,500	98	
	15,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 84S: DA-3



Summary for Subcatchment 100S: DA-4

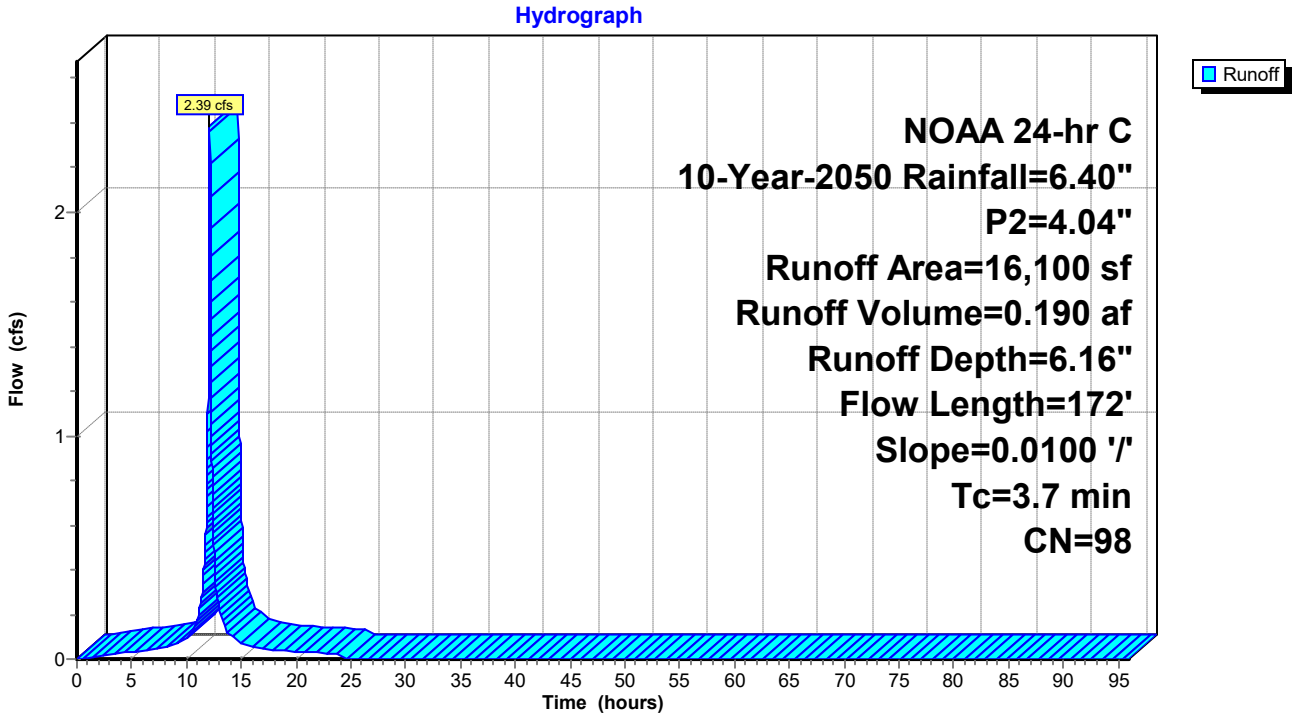
Runoff = 2.39 cfs @ 12.12 hrs, Volume= 0.190 af, Depth= 6.16"
Routed to Pond 86P : INLET-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	16,100	98	
	16,100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0100	0.30		**Sheet Flow, Paved** Fallow n= 0.050 P2= 4.04"
1.0	122	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
3.7	172	Total			

Subcatchment 100S: DA-4



Summary for Subcatchment 101S: DA-5

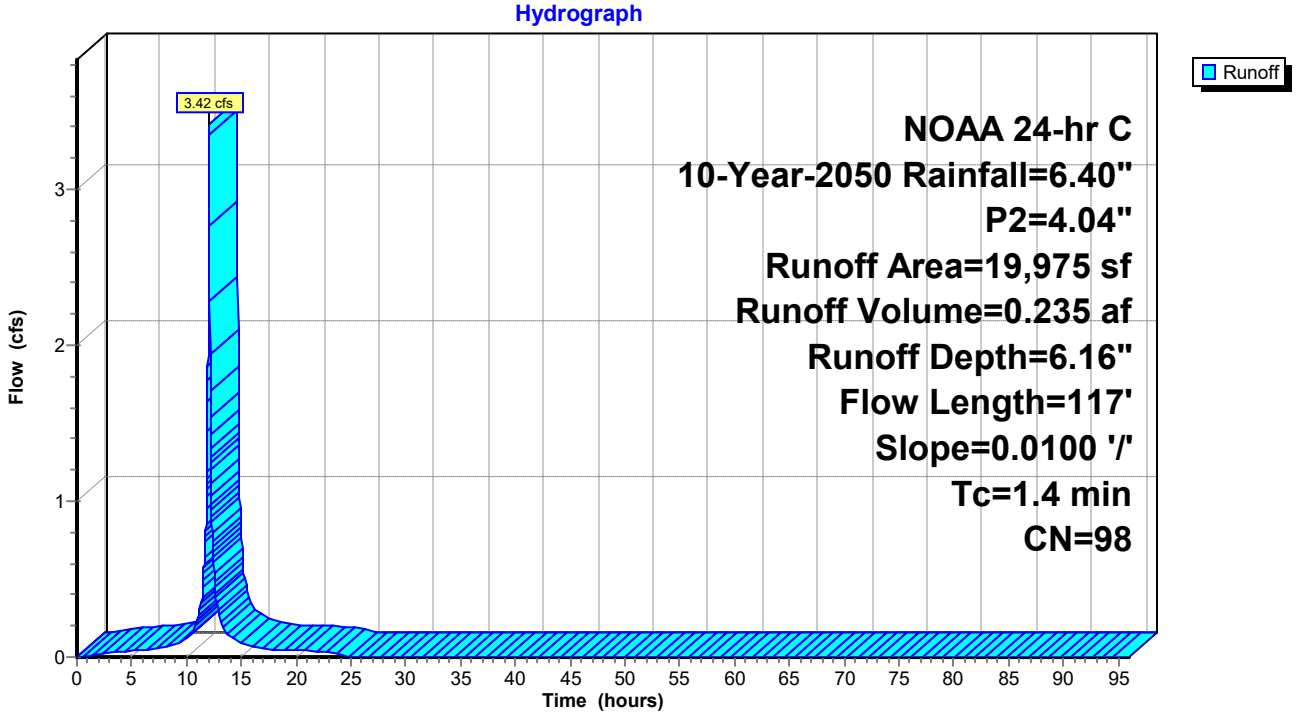
Runoff = 3.42 cfs @ 12.10 hrs, Volume= 0.235 af, Depth= 6.16"
Routed to Pond 87P : INLET-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	19,975	98	
	19,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	67	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	117	Total			

Subcatchment 101S: DA-5



Summary for Subcatchment 102S: DA-6

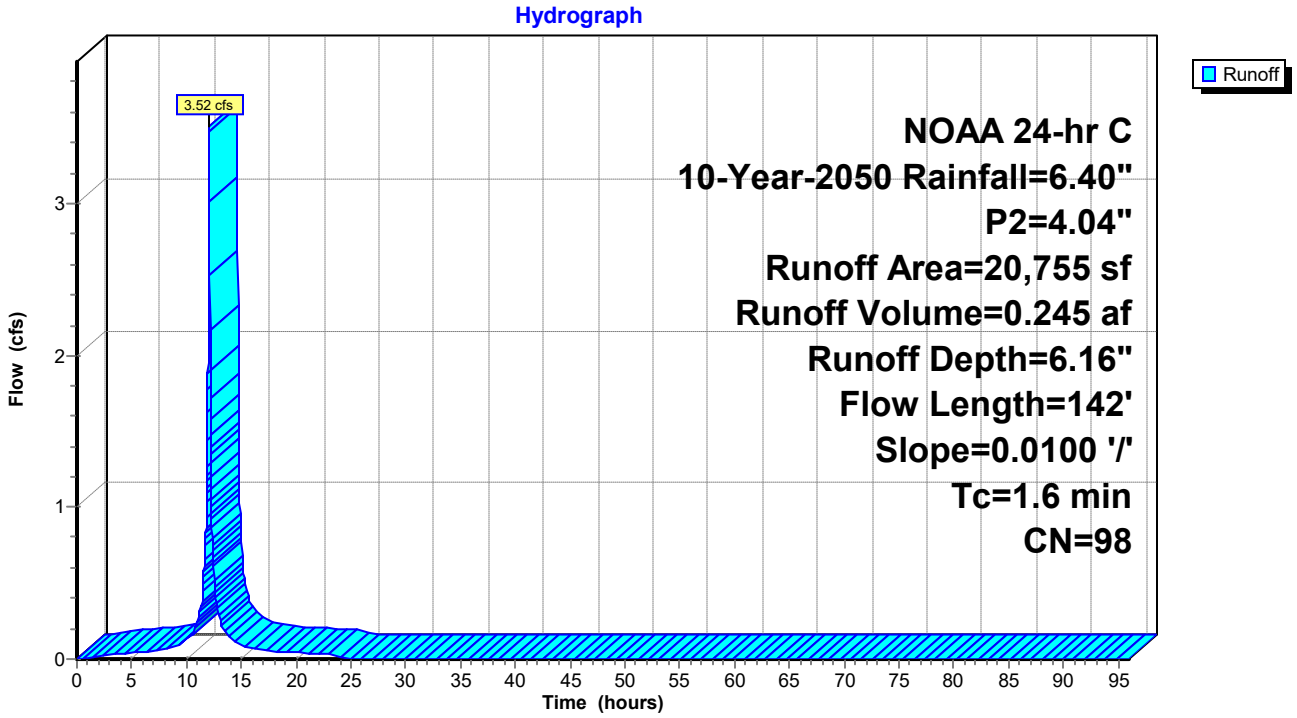
Runoff = 3.52 cfs @ 12.10 hrs, Volume= 0.245 af, Depth= 6.16"
Routed to Pond 85P : INLET-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	20,755	98	
	20,755		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.8	92	0.0100	2.03		**Shallow Concentrated Flow, PAved** Paved Kv= 20.3 fps
1.6	142	Total			

Subcatchment 102S: DA-6



Summary for Subcatchment 103S: DA-7

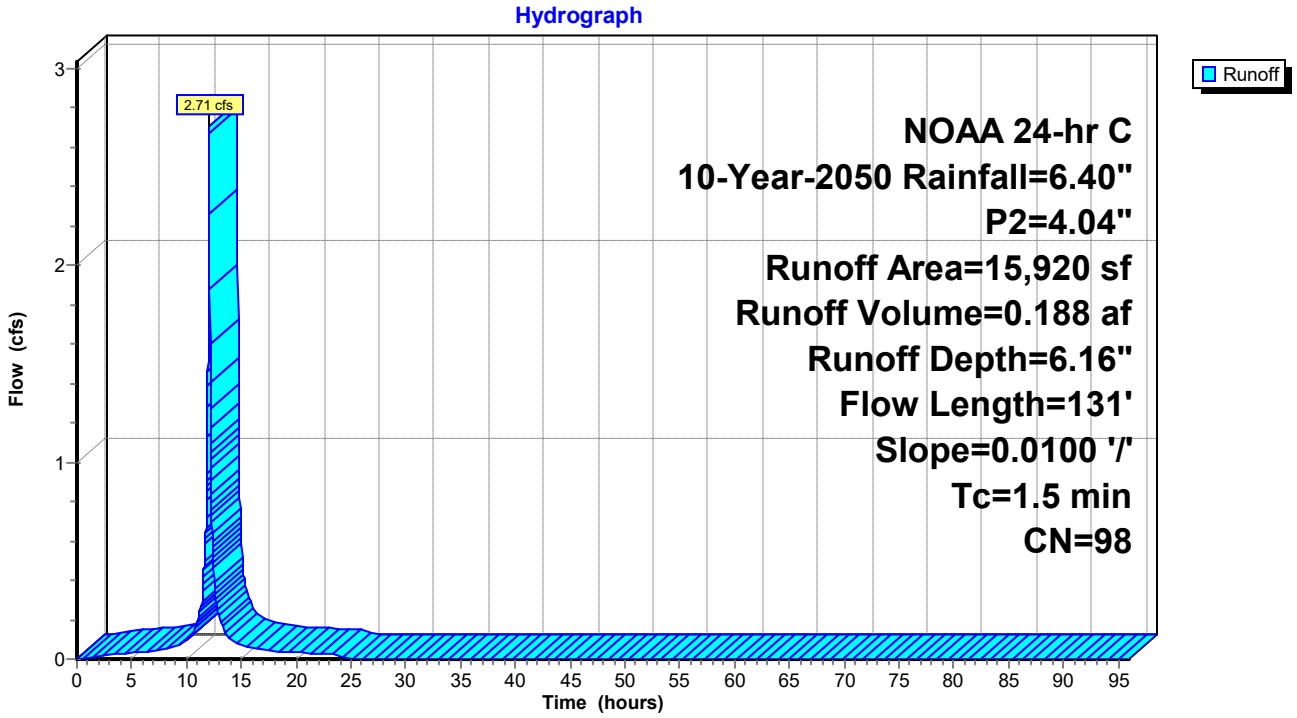
Runoff = 2.71 cfs @ 12.10 hrs, Volume= 0.188 af, Depth= 6.16"
Routed to Pond 89P : INLET-4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	15,920	98	
	15,920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	81	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	131	Total			

Subcatchment 103S: DA-7



Summary for Subcatchment 104S: DA-8

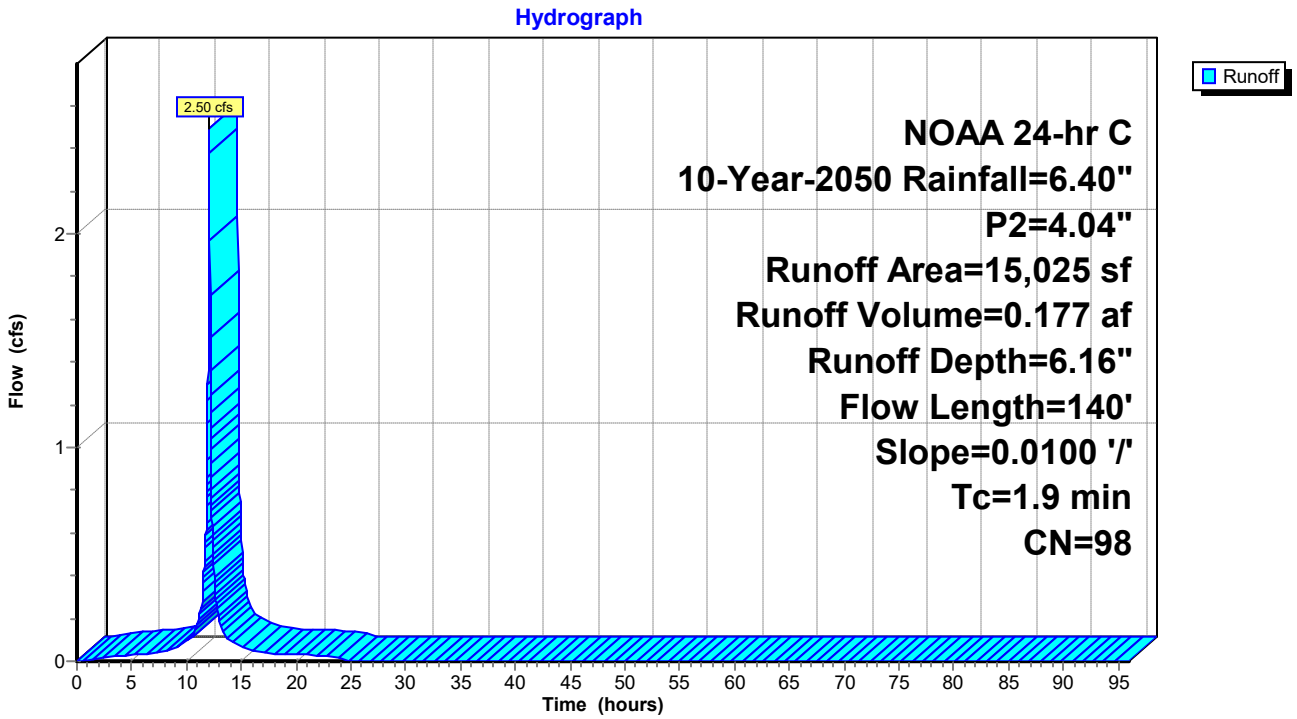
Runoff = 2.50 cfs @ 12.10 hrs, Volume= 0.177 af, Depth= 6.16"
Routed to Pond 88P : MH--3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	15,025	98	
	15,025		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 104S: DA-8



Summary for Subcatchment 105S: DA-9

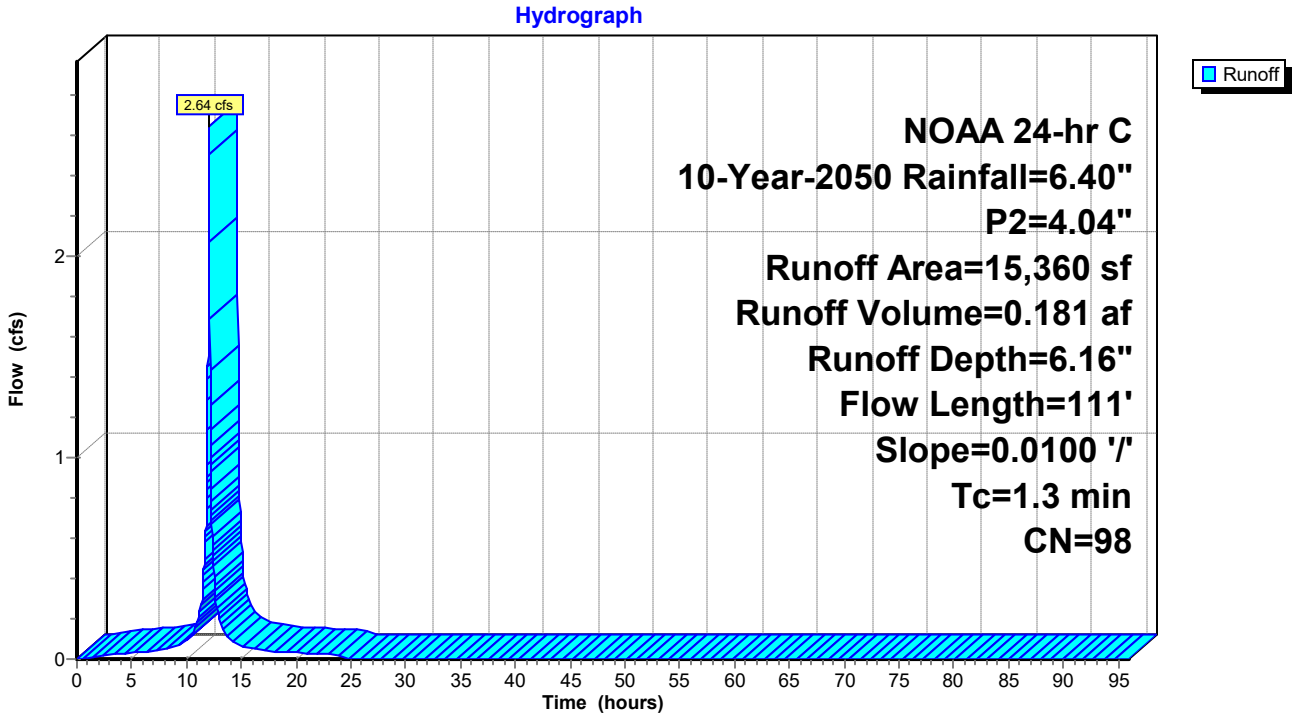
Runoff = 2.64 cfs @ 12.10 hrs, Volume= 0.181 af, Depth= 6.16"
Routed to Pond 90P : MH-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	15,360	98	
	15,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.5	61	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.3	111	Total			

Subcatchment 105S: DA-9



Summary for Subcatchment 106S: DA-11

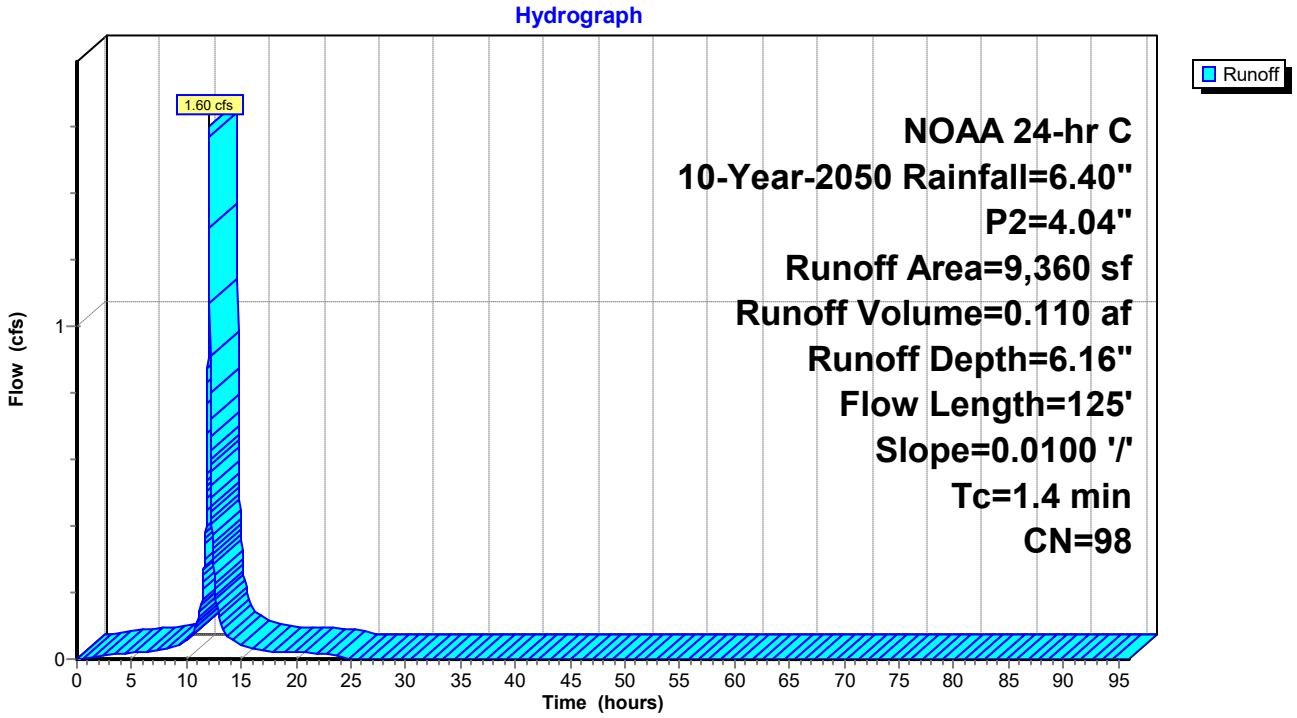
Runoff = 1.60 cfs @ 12.10 hrs, Volume= 0.110 af, Depth= 6.16"
Routed to Pond 96P : INLET-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	9,360	98	
	9,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	125	Total			

Subcatchment 106S: DA-11



Summary for Subcatchment 107S: DA-12

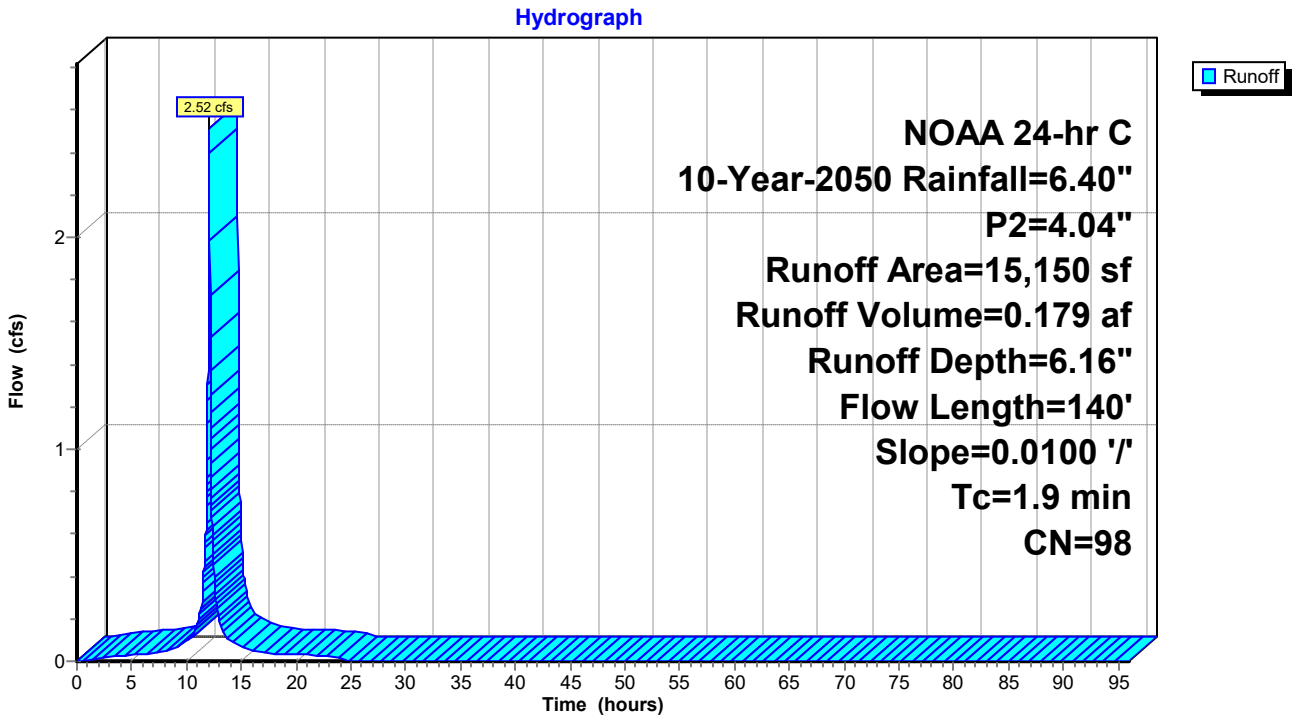
Runoff = 2.52 cfs @ 12.10 hrs, Volume= 0.179 af, Depth= 6.16"
Routed to Pond 91P : MH-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	15,150	98	
	15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 107S: DA-12



Summary for Subcatchment 108S: DA-13

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

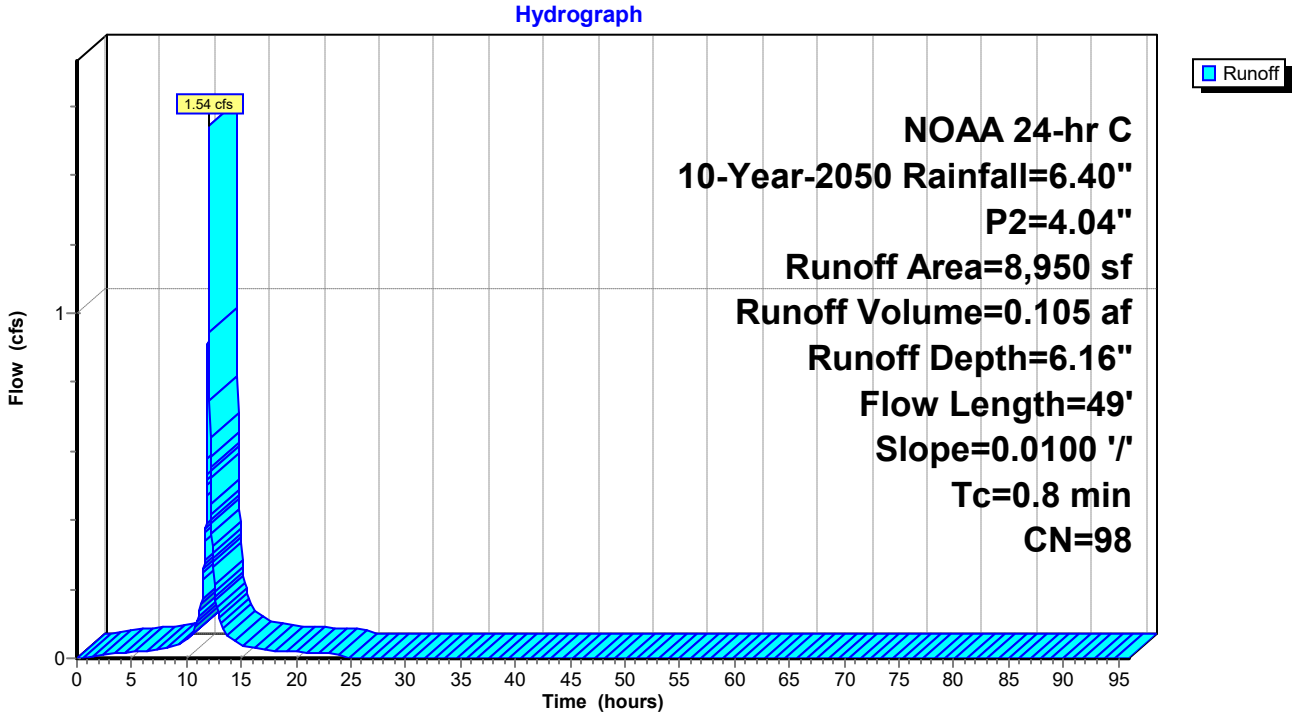
Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 6.16"
Routed to Pond 95P : INLET-7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	8,950	98	
	8,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	49	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 108S: DA-13



Summary for Subcatchment 109S: DA-14

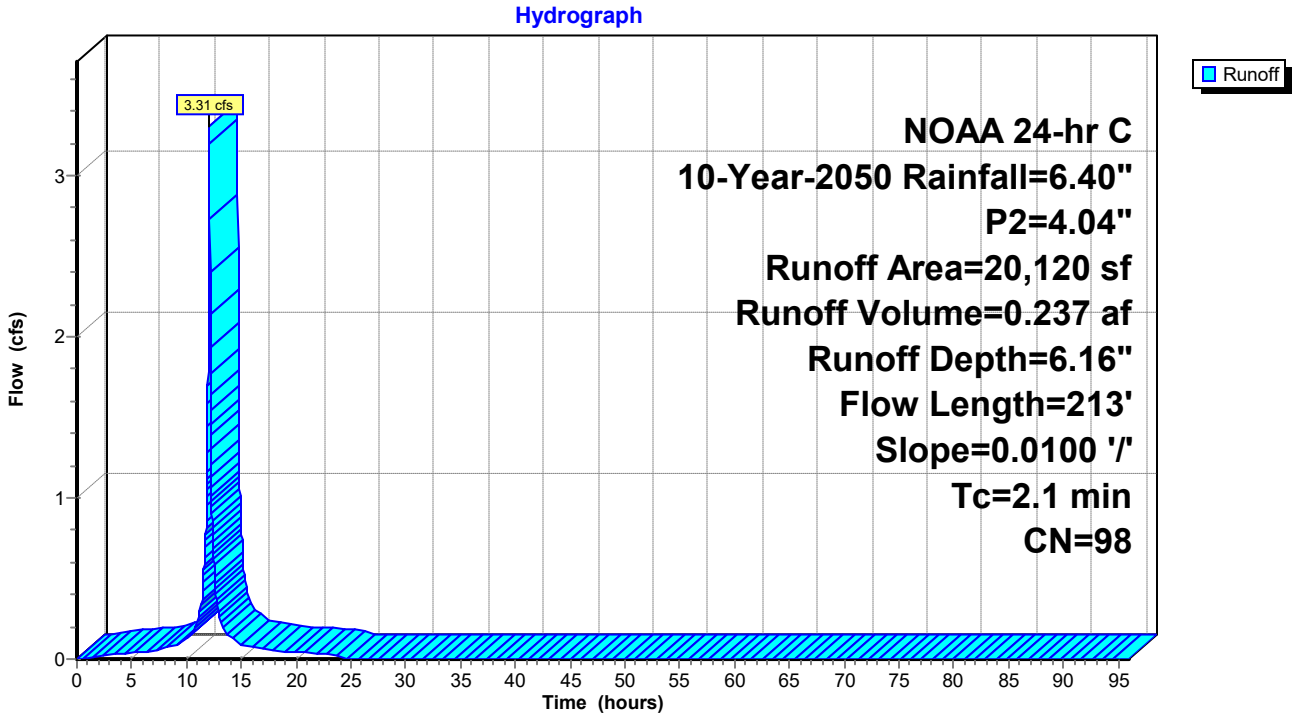
Runoff = 3.31 cfs @ 12.10 hrs, Volume= 0.237 af, Depth= 6.16"
Routed to Pond 94P : INLET-8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	20,120	98	
	20,120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.3	163	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
2.1	213	Total			

Subcatchment 109S: DA-14



Summary for Subcatchment 110S: DA-15

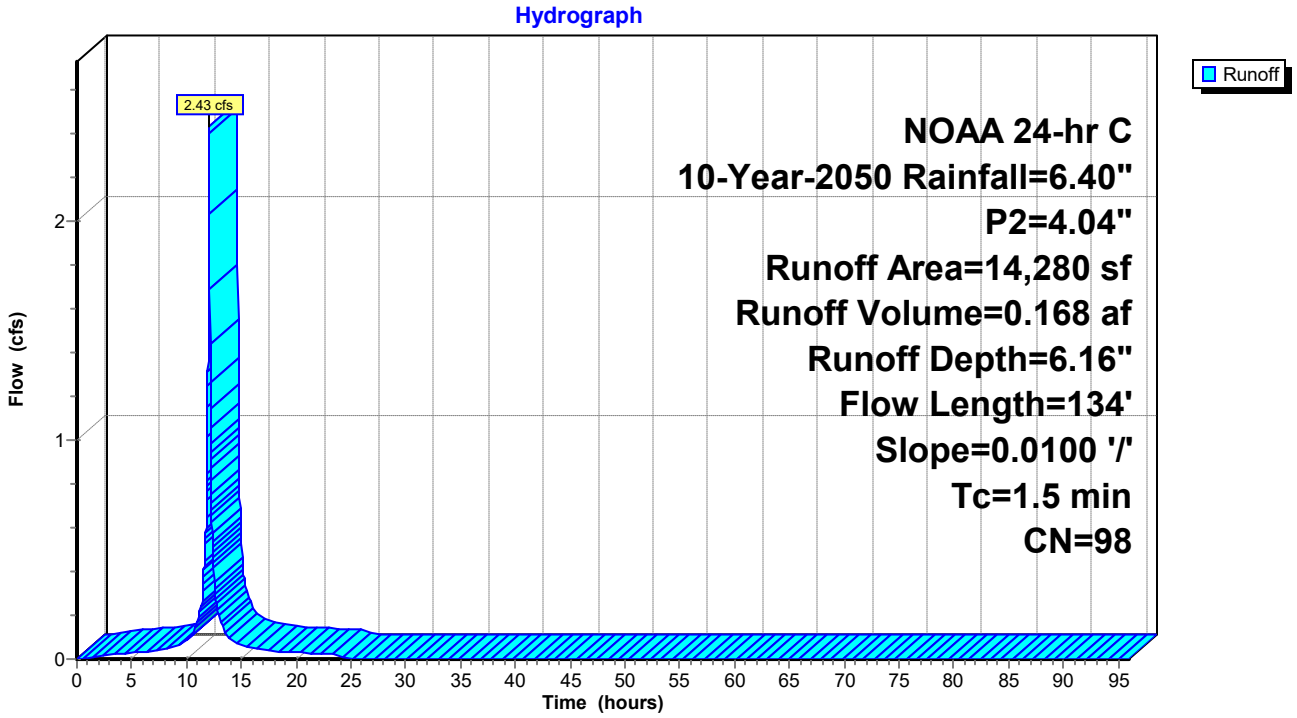
Runoff = 2.43 cfs @ 12.10 hrs, Volume= 0.168 af, Depth= 6.16"
Routed to Pond 93P : INLET-9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	14,280	98	
	14,280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	84	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	134	Total			

Subcatchment 110S: DA-15



Summary for Subcatchment 111S: DA-10

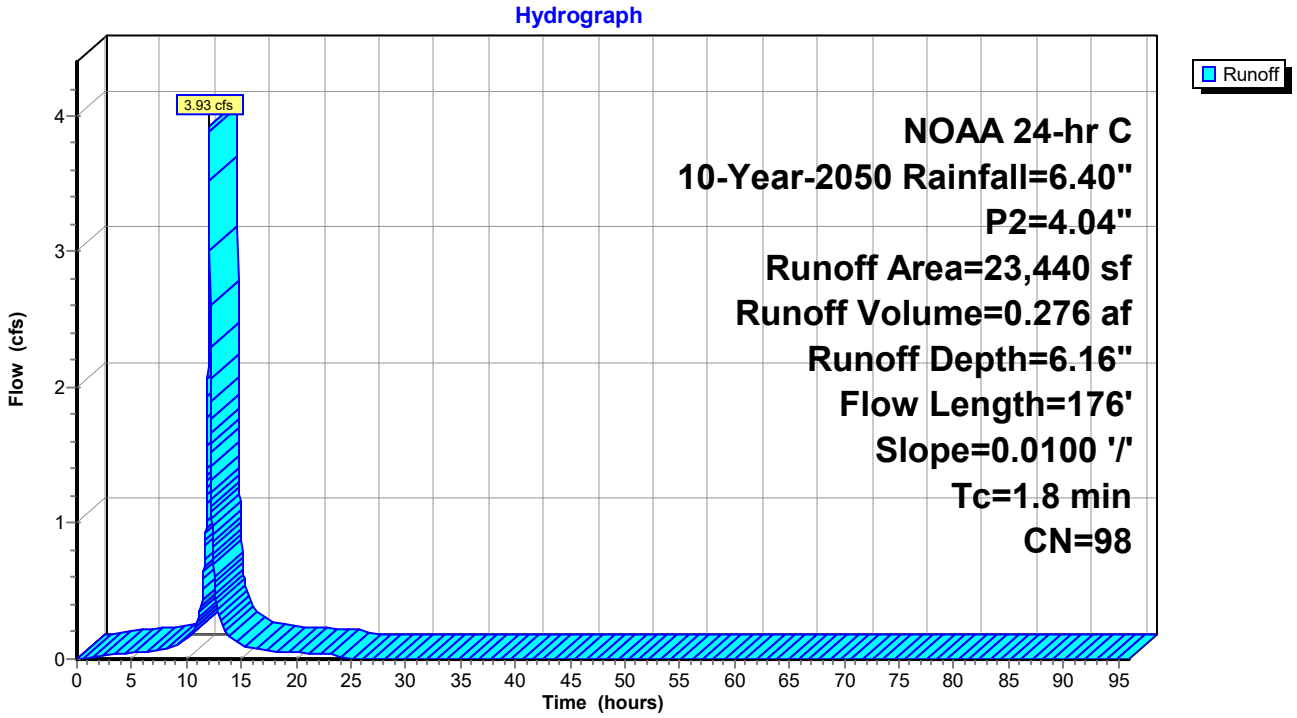
Runoff = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af, Depth= 6.16"
Routed to Pond 98P : MH-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year-2050 Rainfall=6.40", P2=4.04"

	Area (sf)	CN	Description
*	23,440	98	
	23,440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.0	126	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.8	176	Total			

Subcatchment 111S: DA-10



Summary for Pond 80P: TD-3

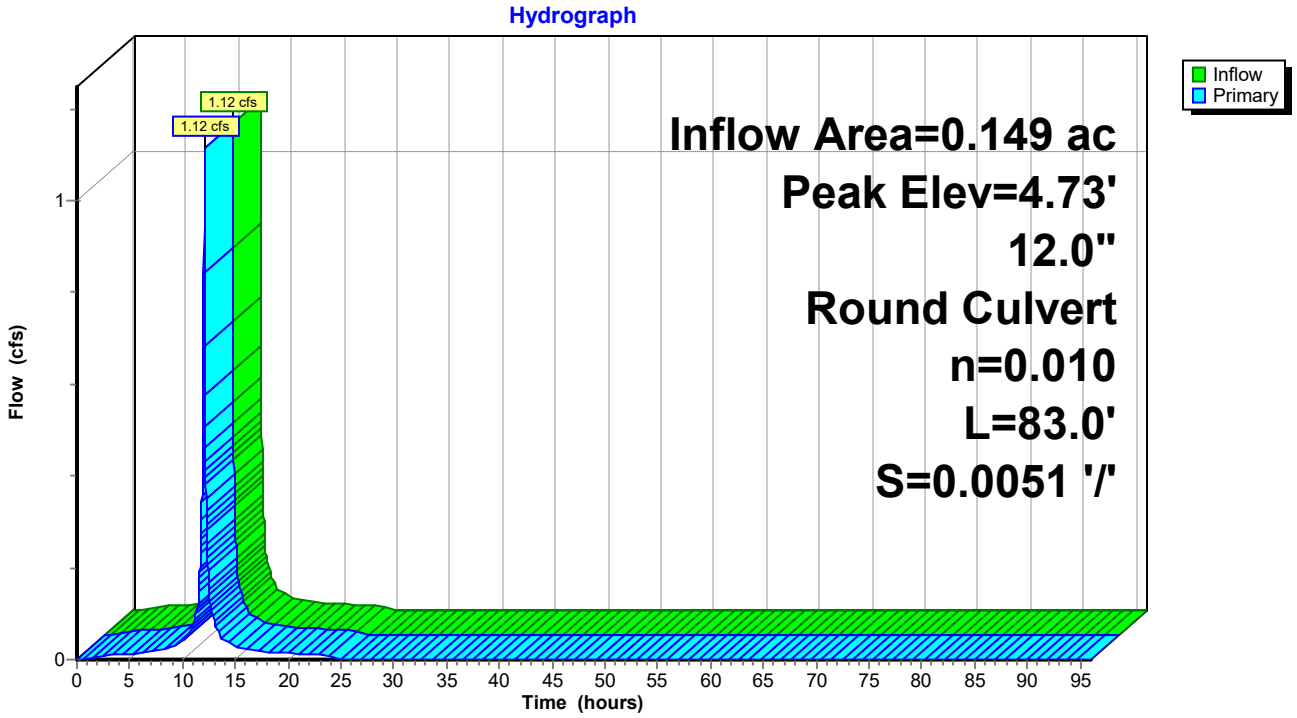
Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 1.12 cfs @ 12.10 hrs, Volume= 0.077 af
Outflow = 1.12 cfs @ 12.10 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.10 hrs, Volume= 0.077 af
Routed to Pond 81P : MH-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.73' @ 12.10 hrs
Flood Elev= 5.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.14'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.14' / 3.72' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.12 cfs @ 12.10 hrs HW=4.73' (Free Discharge)
1=Culvert (Barrel Controls 1.12 cfs @ 3.36 fps)

Pond 80P: TD-3



Summary for Pond 81P: MH-5

[81] Warning: Exceeded Pond 80P by 0.40' @ 12.11 hrs

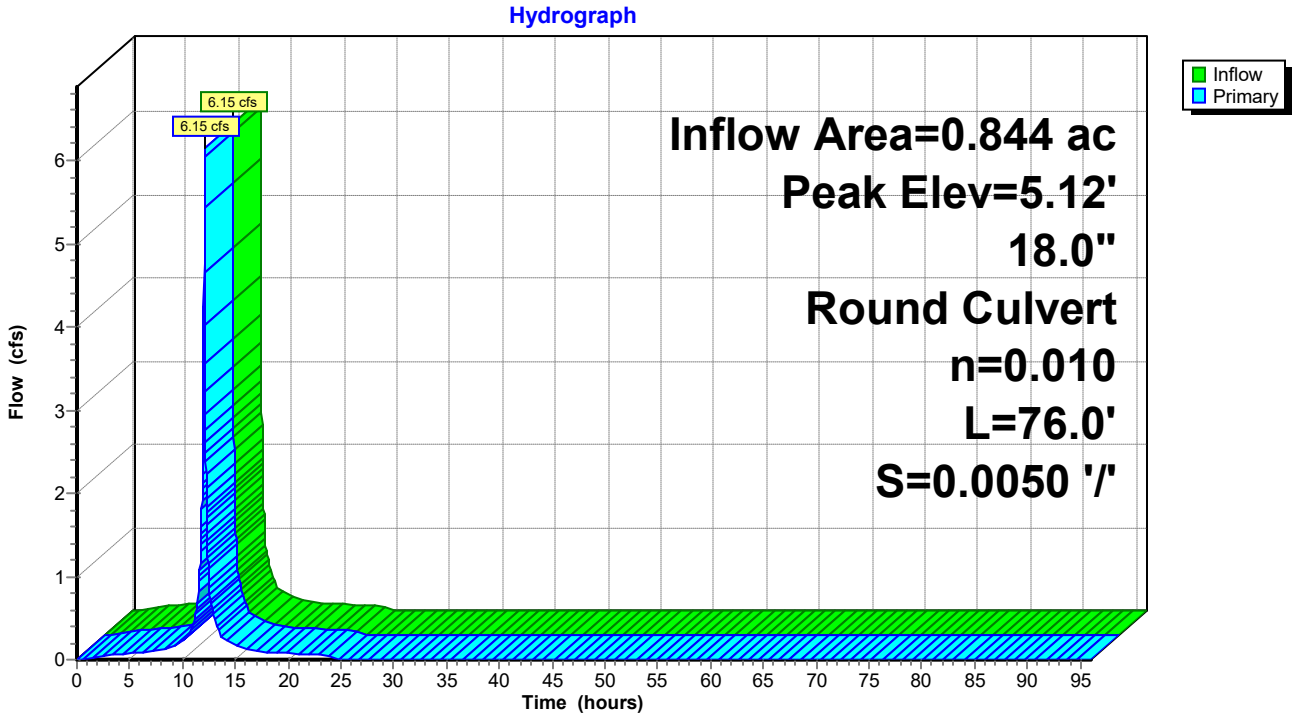
Inflow Area = 0.844 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 6.15 cfs @ 12.10 hrs, Volume= 0.433 af
Outflow = 6.15 cfs @ 12.10 hrs, Volume= 0.433 af, Atten= 0%, Lag= 0.0 min
Primary = 6.15 cfs @ 12.10 hrs, Volume= 0.433 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.12' @ 12.10 hrs
Flood Elev= 9.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.72'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.72' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.14 cfs @ 12.10 hrs HW=5.12' (Free Discharge)
└**1=Culvert** (Barrel Controls 6.14 cfs @ 4.67 fps)

Pond 81P: MH-5



Summary for Pond 85P: INLET-3

[79] Warning: Submerged Pond 81P Primary device # 1 INLET by 1.24'
[81] Warning: Exceeded Pond 87P by 0.27' @ 12.10 hrs
[79] Warning: Submerged Pond 89P Primary device # 1 INLET by 0.75'

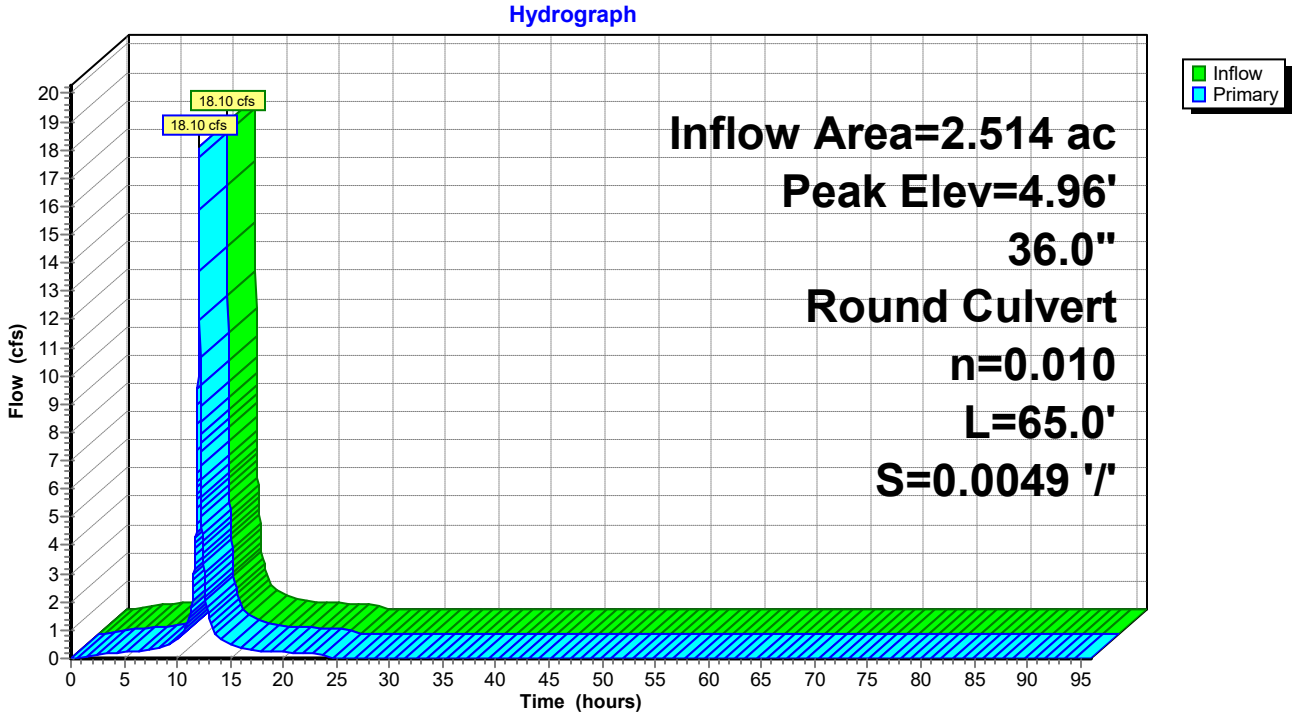
Inflow Area = 2.514 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 18.10 cfs @ 12.10 hrs, Volume= 1.291 af
Outflow = 18.10 cfs @ 12.10 hrs, Volume= 1.291 af, Atten= 0%, Lag= 0.0 min
Primary = 18.10 cfs @ 12.10 hrs, Volume= 1.291 af
Routed to Pond 88P : MH--3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.96' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.03'	**36.0" Round Culvert** L= 65.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.03' / 2.71' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=18.07 cfs @ 12.10 hrs HW=4.95' (Free Discharge)
1=Culvert (Barrel Controls 18.07 cfs @ 5.37 fps)

Pond 85P: INLET-3



Summary for Pond 86P: INLET-1

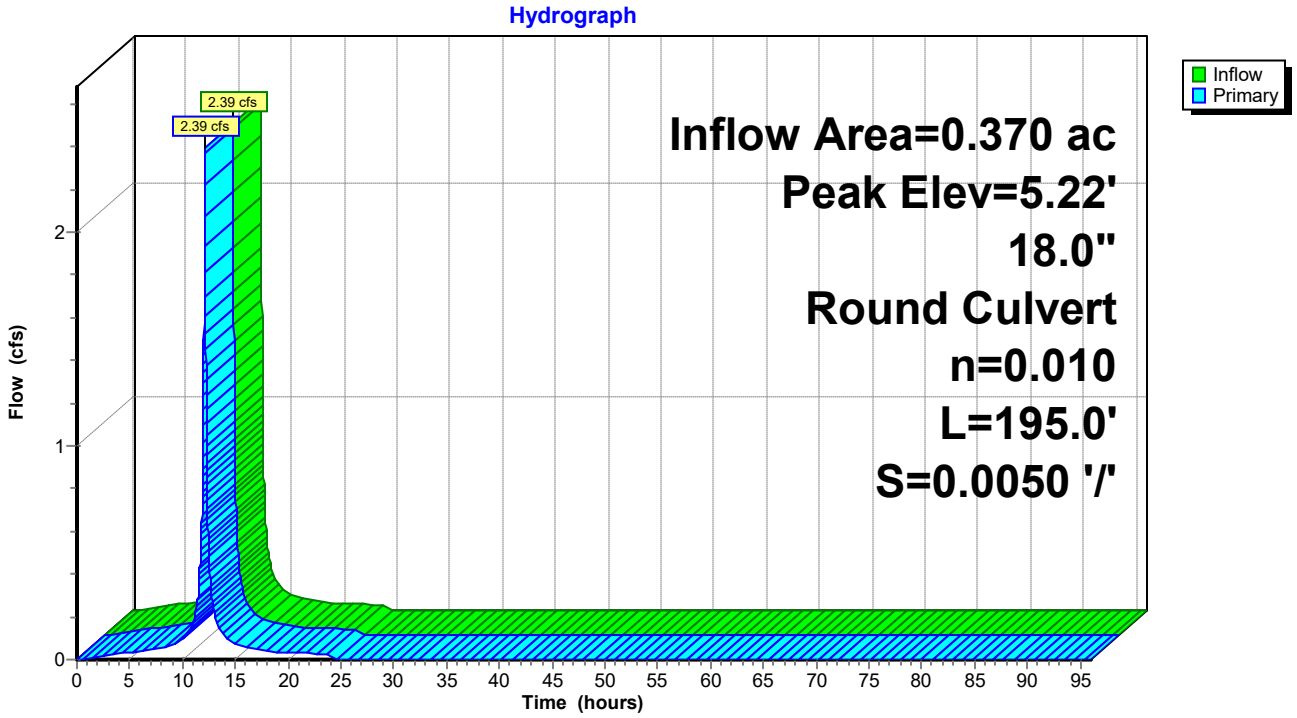
Inflow Area = 0.370 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 2.39 cfs @ 12.12 hrs, Volume= 0.190 af
Outflow = 2.39 cfs @ 12.12 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 2.39 cfs @ 12.12 hrs, Volume= 0.190 af
Routed to Pond 87P : INLET-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.22' @ 12.12 hrs
Flood Elev= 6.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.50'	**18.0" Round Culvert** L= 195.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.50' / 3.52' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.38 cfs @ 12.12 hrs HW=5.22' (Free Discharge)
1=Culvert (Barrel Controls 2.38 cfs @ 4.14 fps)

Pond 86P: INLET-1



Summary for Pond 87P: INLET-2

[79] Warning: Submerged Pond 86P Primary device # 1 INLET by 0.18'

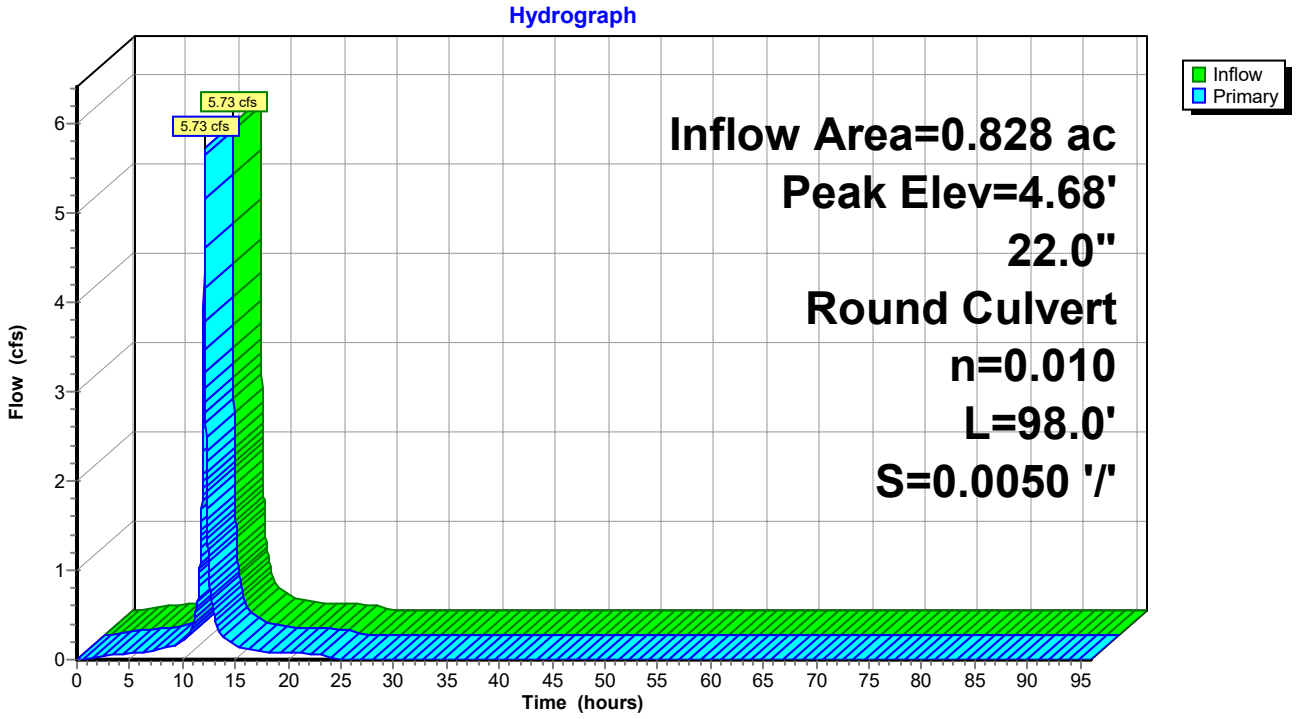
Inflow Area = 0.828 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 5.73 cfs @ 12.10 hrs, Volume= 0.425 af
Outflow = 5.73 cfs @ 12.10 hrs, Volume= 0.425 af, Atten= 0%, Lag= 0.0 min
Primary = 5.73 cfs @ 12.10 hrs, Volume= 0.425 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.68' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**22.0" Round Culvert** L= 98.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 3.03' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=5.72 cfs @ 12.10 hrs HW=4.68' (Free Discharge)
1=Culvert (Barrel Controls 5.72 cfs @ 4.63 fps)

Pond 87P: INLET-2



Summary for Pond 88P: MH--3

[79] Warning: Submerged Pond 85P Primary device # 1 INLET by 1.85'

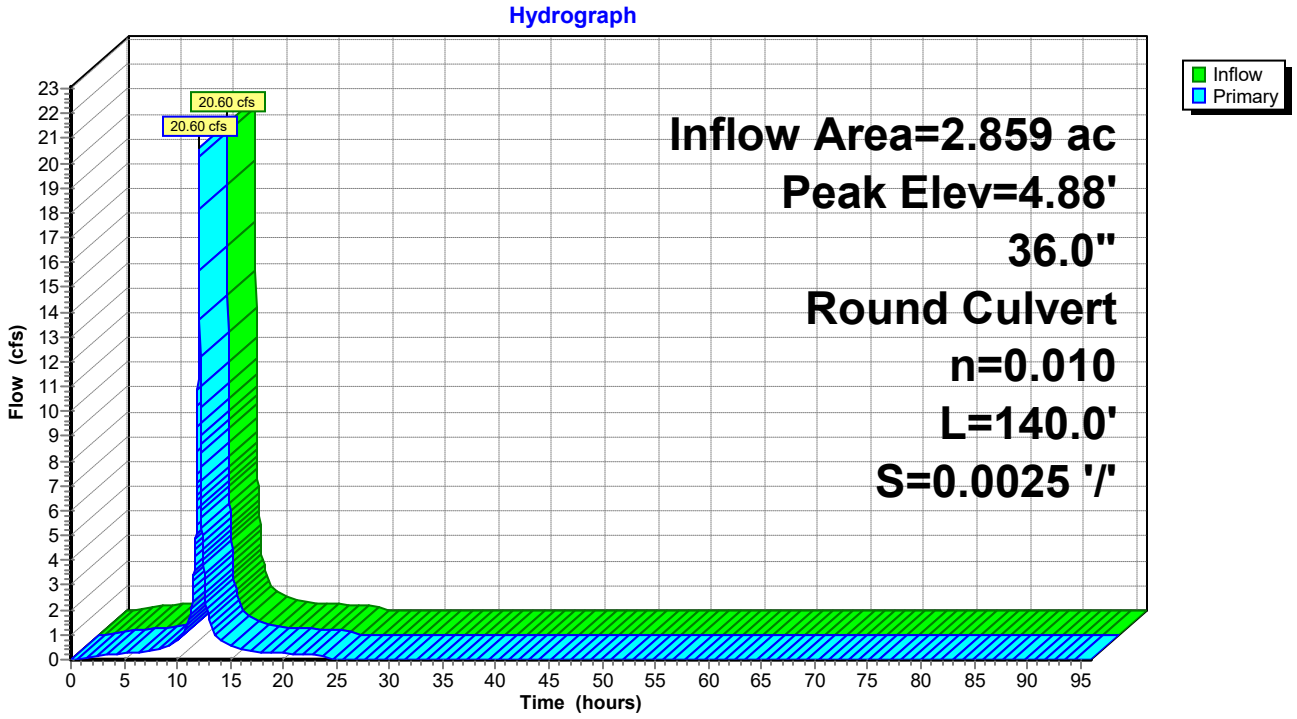
Inflow Area = 2.859 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 20.60 cfs @ 12.10 hrs, Volume= 1.468 af
Outflow = 20.60 cfs @ 12.10 hrs, Volume= 1.468 af, Atten= 0%, Lag= 0.0 min
Primary = 20.60 cfs @ 12.10 hrs, Volume= 1.468 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.88' @ 12.10 hrs
Flood Elev= 9.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.71'	**36.0" Round Culvert** L= 140.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.71' / 2.36' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=20.57 cfs @ 12.10 hrs HW=4.87' (Free Discharge)
1=Culvert (Barrel Controls 20.57 cfs @ 5.27 fps)

Pond 88P: MH--3



Summary for Pond 89P: INLET-4

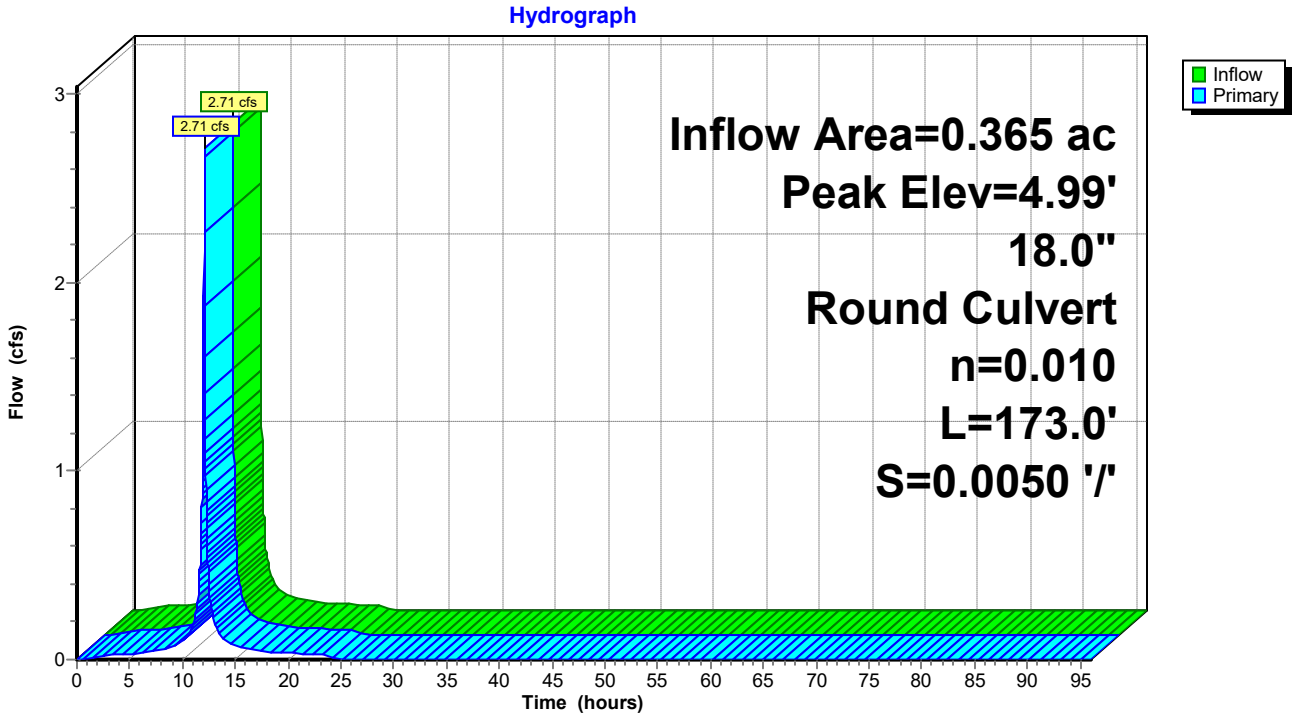
Inflow Area = 0.365 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 2.71 cfs @ 12.10 hrs, Volume= 0.188 af
Outflow = 2.71 cfs @ 12.10 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.0 min
Primary = 2.71 cfs @ 12.10 hrs, Volume= 0.188 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.99' @ 12.10 hrs
Flood Elev= 7.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.21'	**18.0" Round Culvert** L= 173.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.21' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.70 cfs @ 12.10 hrs HW=4.99' (Free Discharge)
1=Culvert (Barrel Controls 2.70 cfs @ 4.22 fps)

Pond 89P: INLET-4



Summary for Pond 90P: MH-2

[79] Warning: Submerged Pond 88P Primary device # 1 INLET by 2.02'
[81] Warning: Exceeded Pond 99P by 1.18' @ 12.10 hrs

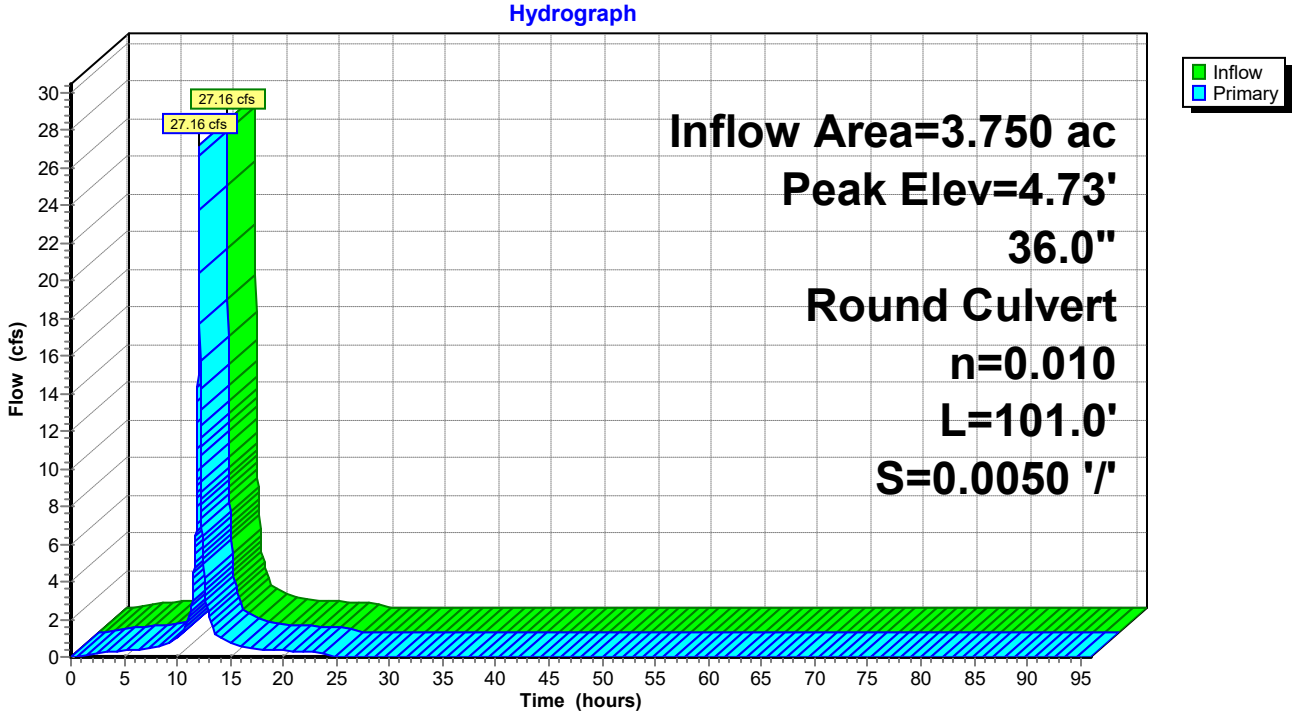
Inflow Area = 3.750 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 27.16 cfs @ 12.10 hrs, Volume= 1.925 af
Outflow = 27.16 cfs @ 12.10 hrs, Volume= 1.925 af, Atten= 0%, Lag= 0.0 min
Primary = 27.16 cfs @ 12.10 hrs, Volume= 1.925 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.73' @ 12.10 hrs
Flood Elev= 10.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.34'	**36.0" Round Culvert** L= 101.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.34' / 1.83' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=27.11 cfs @ 12.10 hrs HW=4.73' (Free Discharge)
1=Culvert (Barrel Controls 27.11 cfs @ 6.16 fps)

Pond 90P: MH-2



Summary for Pond 91P: MH-1

[79] Warning: Submerged Pond 90P Primary device # 1 INLET by 2.29'
[81] Warning: Exceeded Pond 96P by 0.68' @ 12.12 hrs

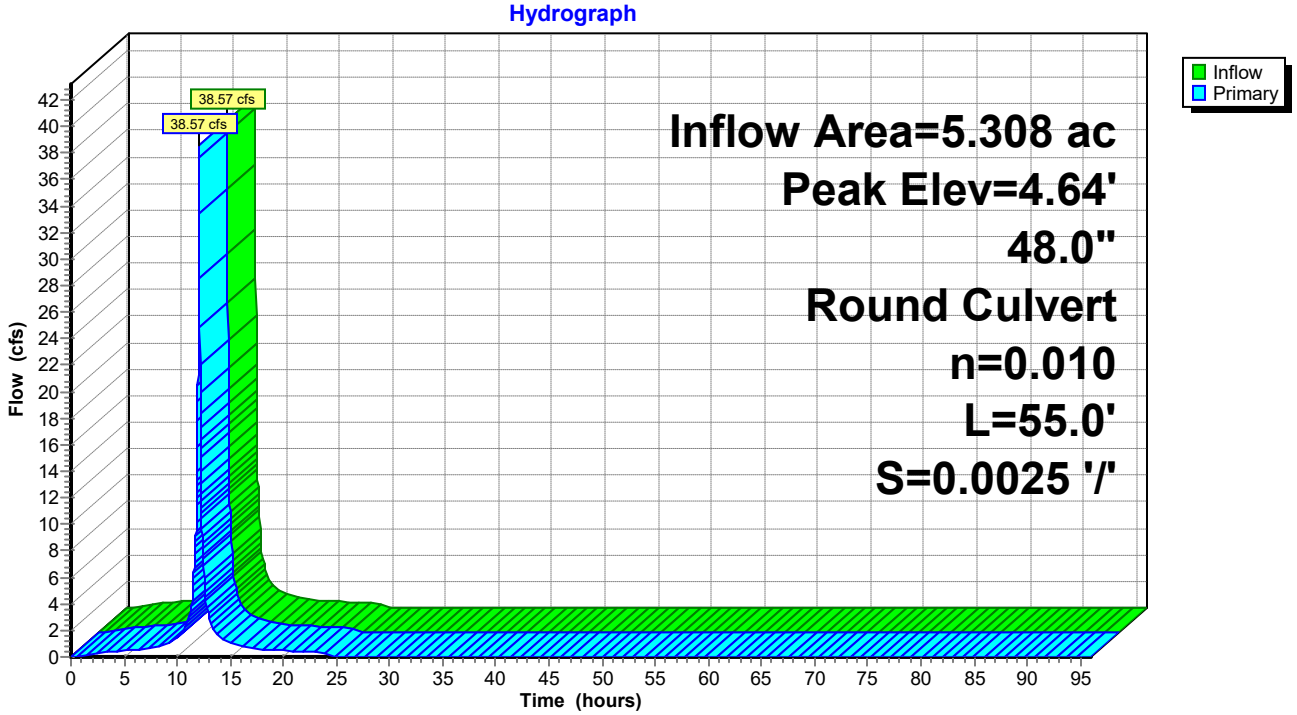
Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 38.57 cfs @ 12.10 hrs, Volume= 2.725 af
Outflow = 38.57 cfs @ 12.10 hrs, Volume= 2.725 af, Atten= 0%, Lag= 0.0 min
Primary = 38.57 cfs @ 12.10 hrs, Volume= 2.725 af
Routed to Pond 97P : OUTFALL

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.64' @ 12.10 hrs
Flood Elev= 9.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.82'	**48.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1.82' / 1.68' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 12.57 sf

Primary OutFlow Max=38.46 cfs @ 12.10 hrs HW=4.63' (Free Discharge)
└**1=Culvert** (Barrel Controls 38.46 cfs @ 5.73 fps)

Pond 91P: MH-1



Summary for Pond 93P: INLET-9

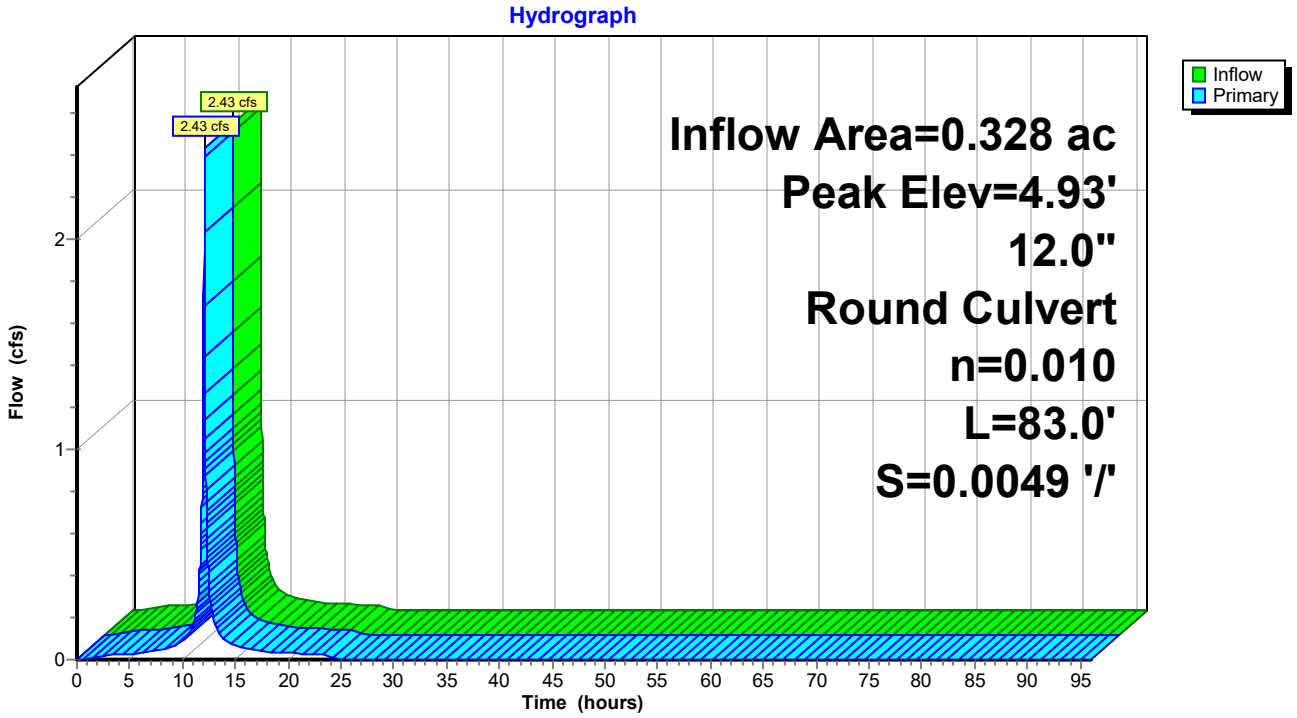
Inflow Area = 0.328 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 2.43 cfs @ 12.10 hrs, Volume= 0.168 af
Outflow = 2.43 cfs @ 12.10 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min
Primary = 2.43 cfs @ 12.10 hrs, Volume= 0.168 af
Routed to Pond 94P : INLET-8

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.93' @ 12.10 hrs
Flood Elev= 6.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.95'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.95' / 3.54' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.42 cfs @ 12.10 hrs HW=4.92' (Free Discharge)
1=Culvert (Barrel Controls 2.42 cfs @ 3.94 fps)

Pond 93P: INLET-9



Summary for Pond 94P: INLET-8

[79] Warning: Submerged Pond 93P Primary device # 1 INLET by 0.71'

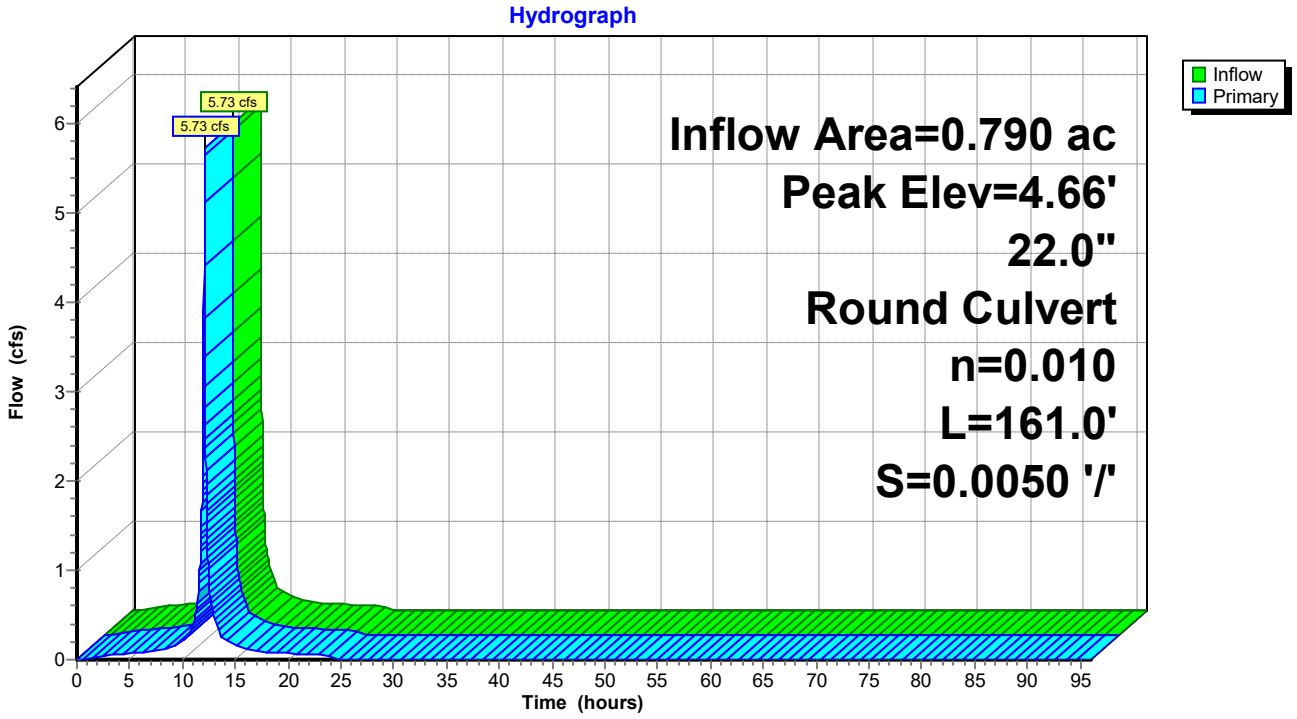
Inflow Area = 0.790 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 5.73 cfs @ 12.10 hrs, Volume= 0.405 af
Outflow = 5.73 cfs @ 12.10 hrs, Volume= 0.405 af, Atten= 0%, Lag= 0.0 min
Primary = 5.73 cfs @ 12.10 hrs, Volume= 0.405 af
Routed to Pond 95P : INLET-7

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.66' @ 12.10 hrs
Flood Elev= 7.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.54'	**22.0" Round Culvert** L= 161.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.54' / 2.73' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=5.73 cfs @ 12.10 hrs HW=4.66' (Free Discharge)
1=Culvert (Barrel Controls 5.73 cfs @ 4.88 fps)

Pond 94P: INLET-8



Summary for Pond 95P: INLET-7

[79] Warning: Submerged Pond 94P Primary device # 1 INLET by 0.45'

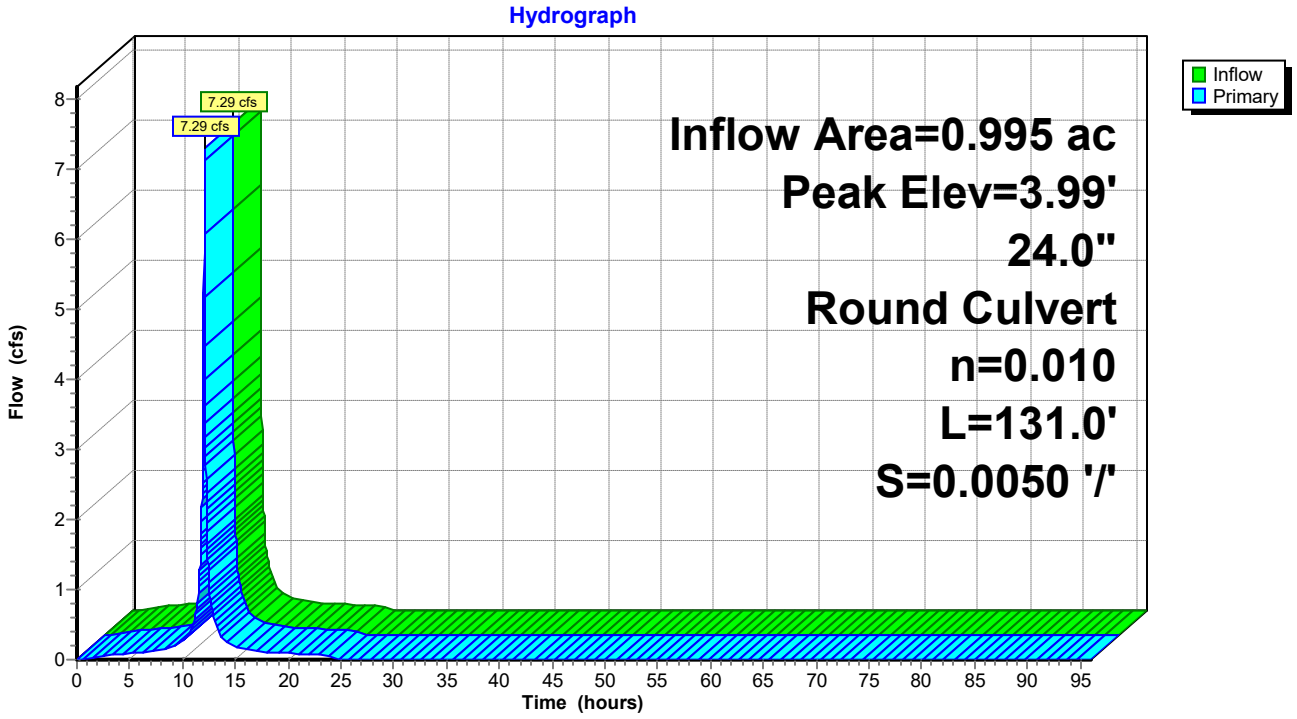
Inflow Area = 0.995 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 7.29 cfs @ 12.10 hrs, Volume= 0.511 af
Outflow = 7.29 cfs @ 12.10 hrs, Volume= 0.511 af, Atten= 0%, Lag= 0.0 min
Primary = 7.29 cfs @ 12.10 hrs, Volume= 0.511 af
Routed to Pond 96P : INLET-6

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.99' @ 12.10 hrs
Flood Elev= 8.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.73'	**24.0" Round Culvert** L= 131.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.73' / 2.08' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.25 cfs @ 12.10 hrs HW=3.99' (Free Discharge)
1=Culvert (Barrel Controls 7.25 cfs @ 4.97 fps)

Pond 95P: INLET-7



Summary for Pond 96P: INLET-6

[81] Warning: Exceeded Pond 95P by 0.14' @ 12.10 hrs

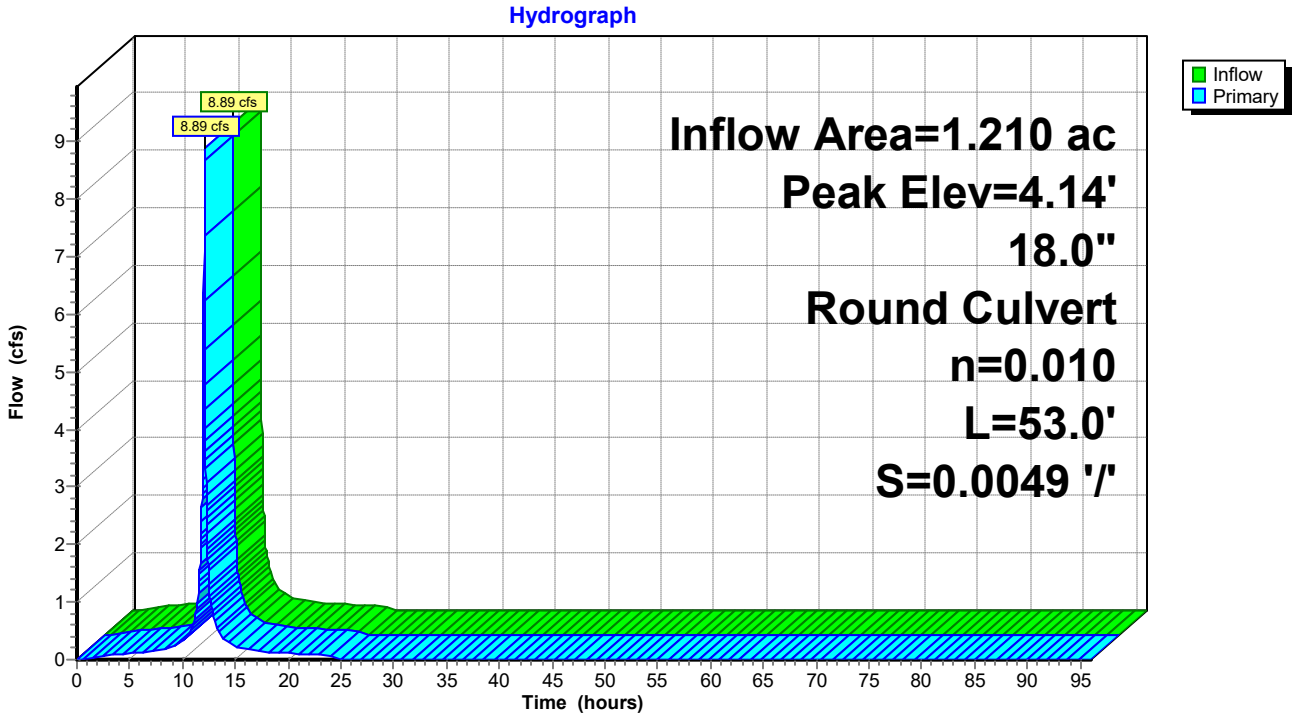
Inflow Area = 1.210 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 8.89 cfs @ 12.10 hrs, Volume= 0.621 af
Outflow = 8.89 cfs @ 12.10 hrs, Volume= 0.621 af, Atten= 0%, Lag= 0.0 min
Primary = 8.89 cfs @ 12.10 hrs, Volume= 0.621 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.14' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.08'	**18.0" Round Culvert** L= 53.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.08' / 1.82' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.85 cfs @ 12.10 hrs HW=4.13' (Free Discharge)
1=Culvert (Barrel Controls 8.85 cfs @ 5.01 fps)

Pond 96P: INLET-6



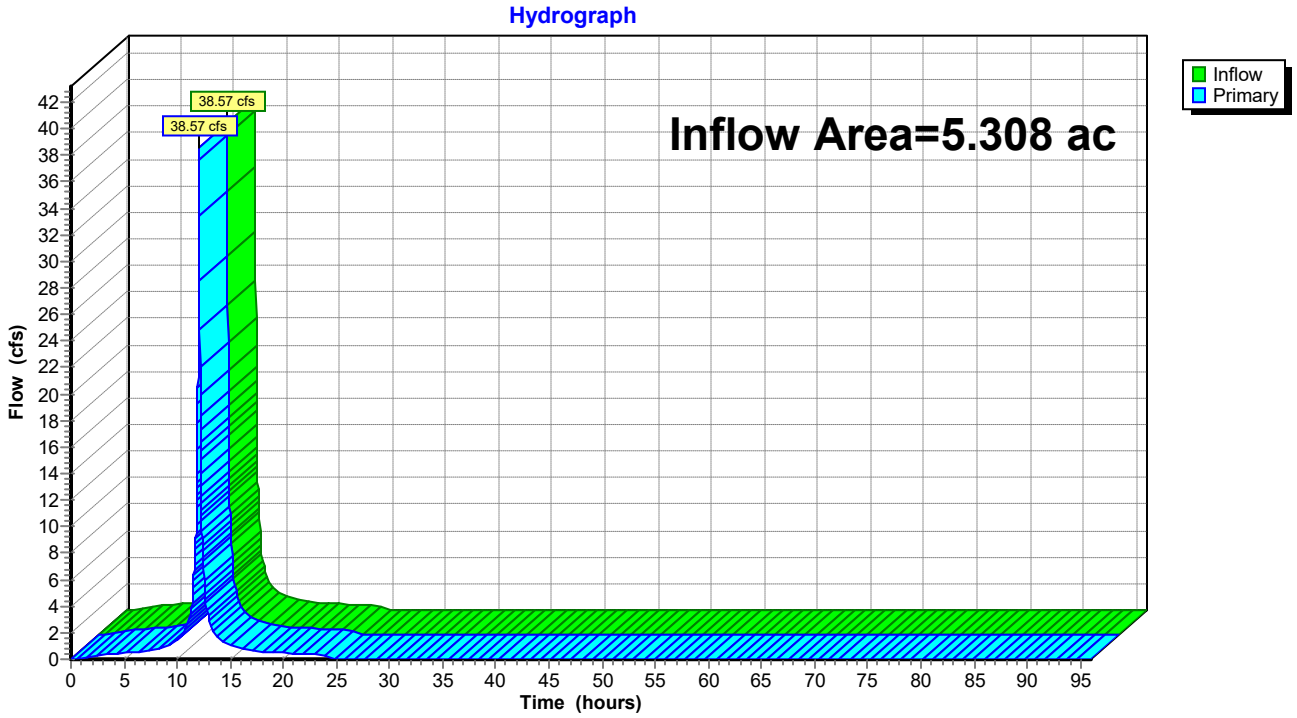
Summary for Pond 97P: OUTFALL

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

Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 38.57 cfs @ 12.10 hrs, Volume= 2.725 af
Primary = 38.57 cfs @ 12.10 hrs, Volume= 2.725 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Pond 97P: OUTFALL



Summary for Pond 98P: MH-6

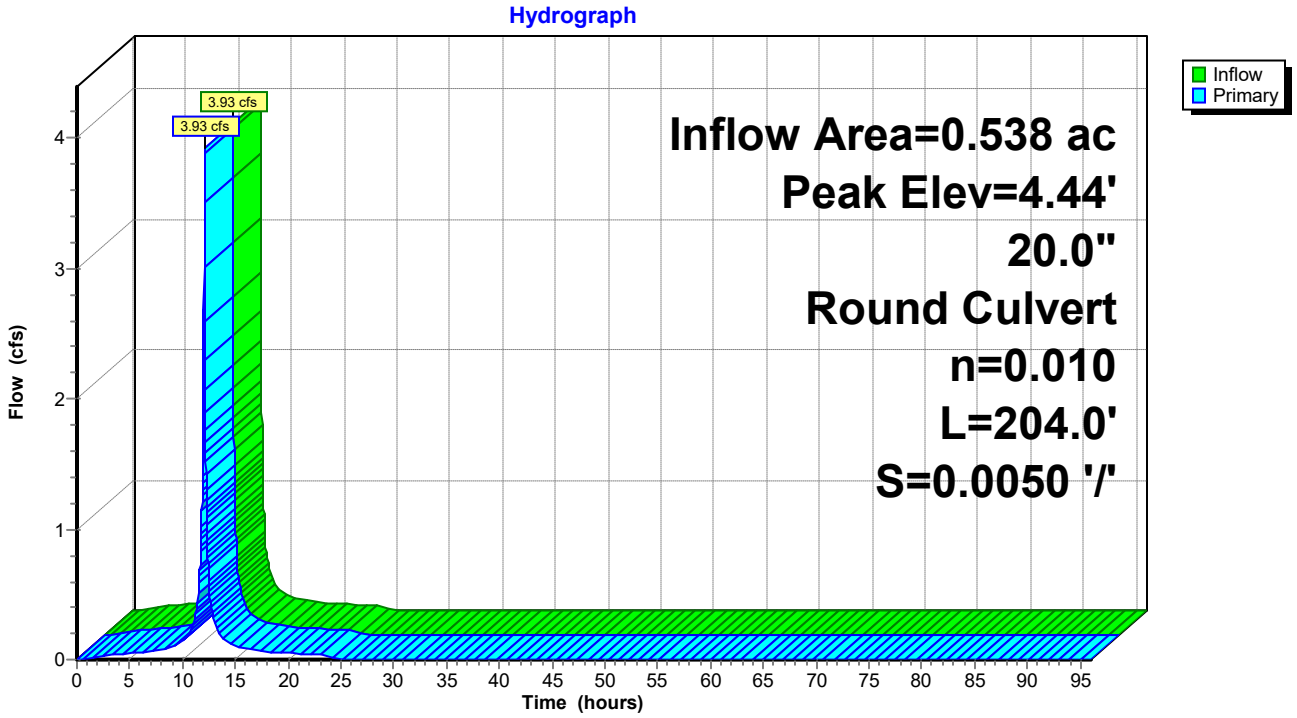
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af
Outflow = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min
Primary = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af
Routed to Pond 99P : INLET-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.44' @ 12.10 hrs
Flood Elev= 6.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**20.0" Round Culvert** L= 204.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 2.50' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=3.92 cfs @ 12.10 hrs HW=4.44' (Free Discharge)
1=Culvert (Barrel Controls 3.92 cfs @ 4.61 fps)

Pond 98P: MH-6



Summary for Pond 99P: INLET-5

[79] Warning: Submerged Pond 98P Primary device # 1 INLET by 0.03'

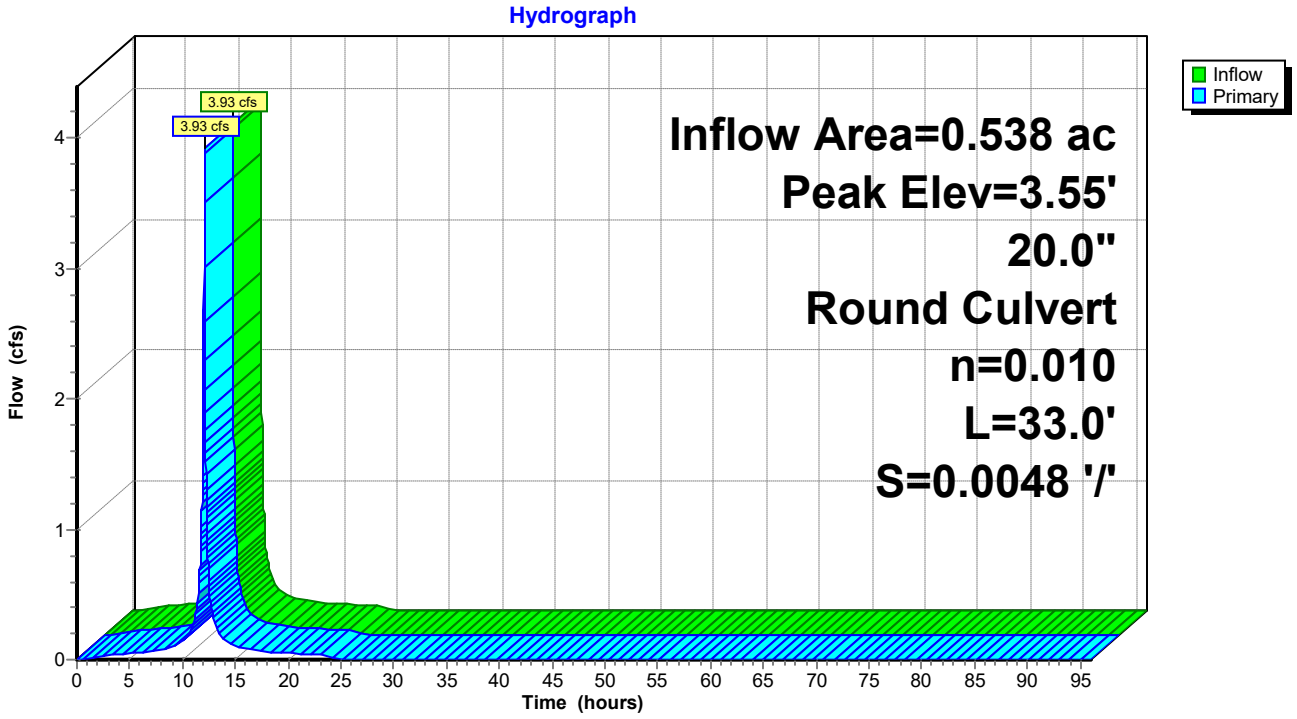
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 6.16" for 10-Year-2050 event
Inflow = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af
Outflow = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min
Primary = 3.93 cfs @ 12.10 hrs, Volume= 0.276 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.55' @ 12.10 hrs
Flood Elev= 10.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.50'	**20.0" Round Culvert** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.34' S= 0.0048 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=3.92 cfs @ 12.10 hrs HW=3.55' (Free Discharge)
1=Culvert (Barrel Controls 3.92 cfs @ 3.86 fps)

Pond 99P: INLET-5



Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 82S: DA-1 Runoff Area=6,500 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=78' Slope=0.0100 '/' Tc=1.2 min CN=98 Runoff=2.16 cfs 0.151 af

Subcatchment 83S: DA-2 Runoff Area=14,760 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=4.76 cfs 0.342 af

Subcatchment 84S: DA-3 Runoff Area=15,500 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=5.00 cfs 0.360 af

Subcatchment 100S: DA-4 Runoff Area=16,100 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=172' Slope=0.0100 '/' Tc=3.7 min CN=98 Runoff=4.63 cfs 0.374 af

Subcatchment 101S: DA-5 Runoff Area=19,975 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=117' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=6.63 cfs 0.463 af

Subcatchment 102S: DA-6 Runoff Area=20,755 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=142' Slope=0.0100 '/' Tc=1.6 min CN=98 Runoff=6.81 cfs 0.482 af

Subcatchment 103S: DA-7 Runoff Area=15,920 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=131' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=5.25 cfs 0.369 af

Subcatchment 104S: DA-8 Runoff Area=15,025 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=4.84 cfs 0.349 af

Subcatchment 105S: DA-9 Runoff Area=15,360 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=111' Slope=0.0100 '/' Tc=1.3 min CN=98 Runoff=5.12 cfs 0.356 af

Subcatchment 106S: DA-11 Runoff Area=9,360 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=125' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=3.10 cfs 0.217 af

Subcatchment 107S: DA-12 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=140' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=4.88 cfs 0.352 af

Subcatchment 108S: DA-13 Runoff Area=8,950 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=49' Slope=0.0100 '/' Tc=0.8 min CN=98 Runoff=2.99 cfs 0.208 af

Subcatchment 109S: DA-14 Runoff Area=20,120 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=213' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=6.41 cfs 0.467 af

Subcatchment 110S: DA-15 Runoff Area=14,280 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=134' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=4.71 cfs 0.331 af

Subcatchment 111S: DA-10 Runoff Area=23,440 sf 100.00% Impervious Runoff Depth=12.13"
Flow Length=176' Slope=0.0100 '/' Tc=1.8 min CN=98 Runoff=7.60 cfs 0.544 af

Pond 80P: TD-3 Peak Elev=5.03' Inflow=2.16 cfs 0.151 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0051 '/' Outflow=2.16 cfs 0.151 af

Pond 81P: MH-5 Peak Elev=6.48' Inflow=11.92 cfs 0.853 af
18.0" Round Culvert n=0.010 L=76.0' S=0.0050 '/' Outflow=11.92 cfs 0.853 af

Pond 85P: INLET-3 Peak Elev=5.97' Inflow=35.07 cfs 2.541 af
36.0" Round Culvert n=0.010 L=65.0' S=0.0049 '/' Outflow=35.07 cfs 2.541 af

Pond 86P: INLET-1 Peak Elev=5.57' Inflow=4.63 cfs 0.374 af
18.0" Round Culvert n=0.010 L=195.0' S=0.0050 '/' Outflow=4.63 cfs 0.374 af

Pond 87P: INLET-2 Peak Elev=5.32' Inflow=11.10 cfs 0.837 af
22.0" Round Culvert n=0.010 L=98.0' S=0.0050 '/' Outflow=11.10 cfs 0.837 af

Pond 88P: MH--3 Peak Elev=6.09' Inflow=39.91 cfs 2.890 af
36.0" Round Culvert n=0.010 L=140.0' S=0.0025 '/' Outflow=39.91 cfs 2.890 af

Pond 89P: INLET-4 Peak Elev=5.38' Inflow=5.25 cfs 0.369 af
18.0" Round Culvert n=0.010 L=173.0' S=0.0050 '/' Outflow=5.25 cfs 0.369 af

Pond 90P: MH-2 Peak Elev=6.49' Inflow=52.62 cfs 3.790 af
36.0" Round Culvert n=0.010 L=101.0' S=0.0050 '/' Outflow=52.62 cfs 3.790 af

Pond 91P: MH-1 Peak Elev=6.09' Inflow=74.71 cfs 5.364 af
48.0" Round Culvert n=0.010 L=55.0' S=0.0025 '/' Outflow=74.71 cfs 5.364 af

Pond 93P: INLET-9 Peak Elev=6.24' Inflow=4.71 cfs 0.331 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0049 '/' Outflow=4.71 cfs 0.331 af

Pond 94P: INLET-8 Peak Elev=5.26' Inflow=11.10 cfs 0.798 af
22.0" Round Culvert n=0.010 L=161.0' S=0.0050 '/' Outflow=11.10 cfs 0.798 af

Pond 95P: INLET-7 Peak Elev=4.69' Inflow=14.12 cfs 1.006 af
24.0" Round Culvert n=0.010 L=131.0' S=0.0050 '/' Outflow=14.12 cfs 1.006 af

Pond 96P: INLET-6 Peak Elev=6.93' Inflow=17.23 cfs 1.223 af
18.0" Round Culvert n=0.010 L=53.0' S=0.0049 '/' Outflow=17.23 cfs 1.223 af

Pond 97P: OUTFALL Inflow=74.71 cfs 5.364 af
Primary=74.71 cfs 5.364 af

Pond 98P: MH-6 Peak Elev=4.91' Inflow=7.60 cfs 0.544 af
20.0" Round Culvert n=0.010 L=204.0' S=0.0050 '/' Outflow=7.60 cfs 0.544 af

Pond 99P: INLET-5 Peak Elev=4.09' Inflow=7.60 cfs 0.544 af
20.0" Round Culvert n=0.010 L=33.0' S=0.0048 '/' Outflow=7.60 cfs 0.544 af

Total Runoff Area = 5.308 ac Runoff Volume = 5.364 af Average Runoff Depth = 12.13"
0.00% Pervious = 0.000 ac 100.00% Impervious = 5.308 ac

Summary for Subcatchment 82S: DA-1

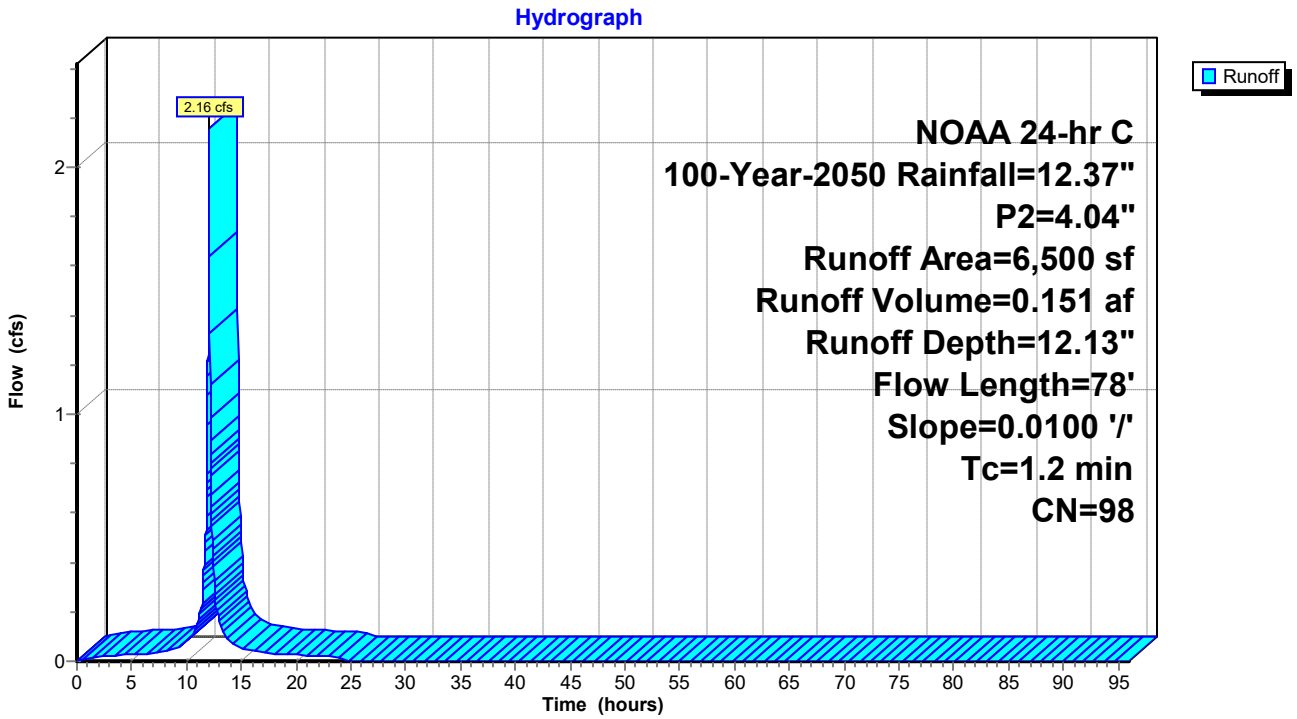
Runoff = 2.16 cfs @ 12.10 hrs, Volume= 0.151 af, Depth=12.13"
Routed to Pond 80P : TD-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	6,500	98	
	6,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	78	0.0100	1.11		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 82S: DA-1



Summary for Subcatchment 83S: DA-2

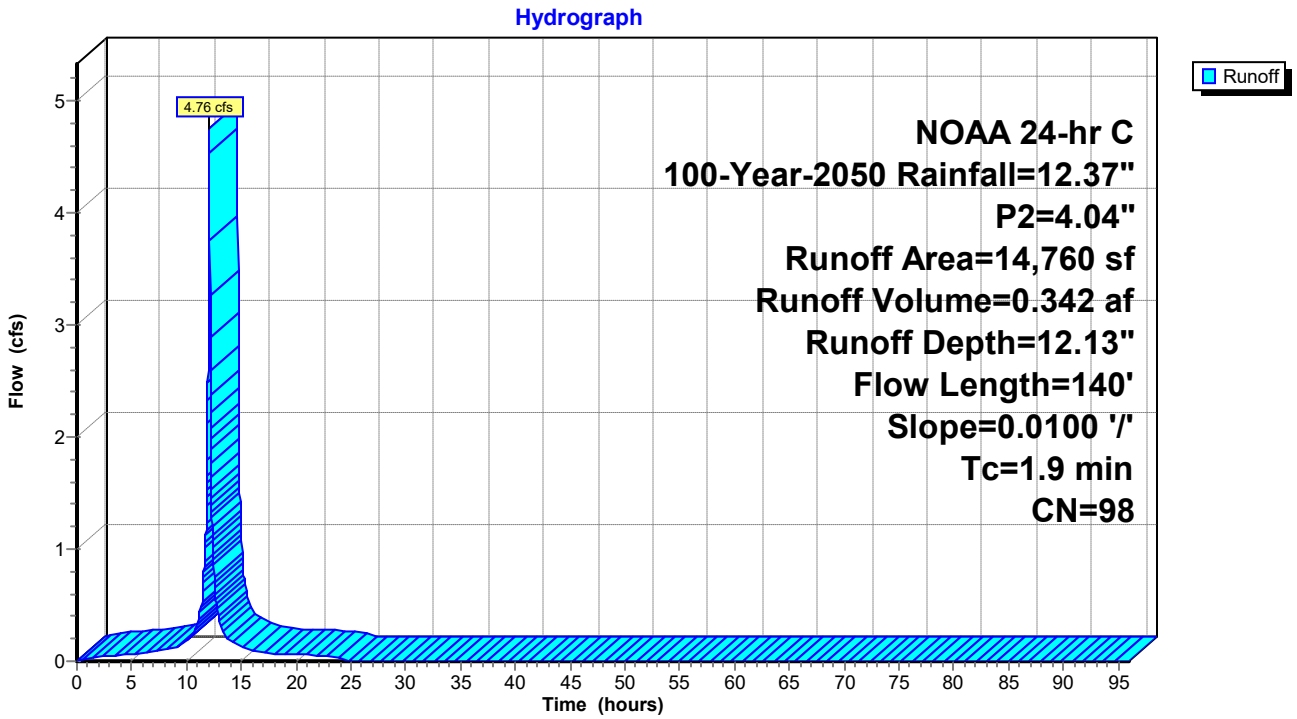
Runoff = 4.76 cfs @ 12.10 hrs, Volume= 0.342 af, Depth=12.13"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	14,760	98	
	14,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 83S: DA-2



Summary for Subcatchment 84S: DA-3

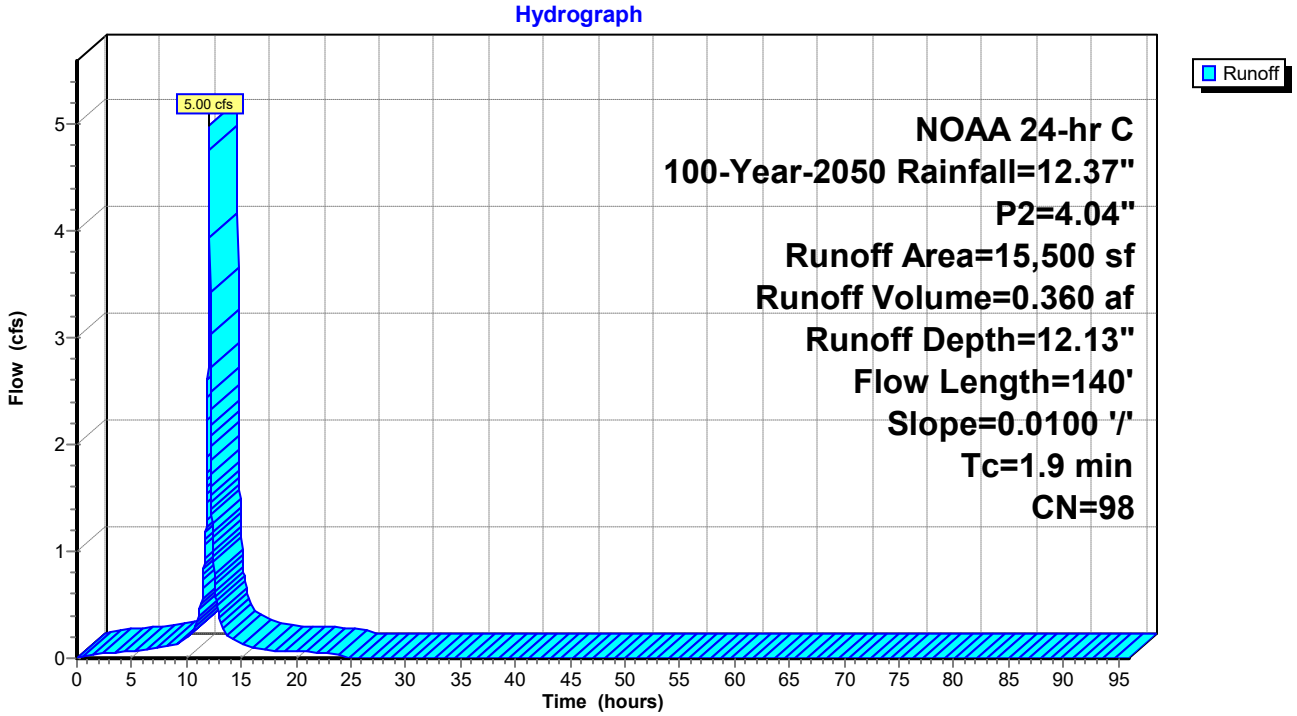
Runoff = 5.00 cfs @ 12.10 hrs, Volume= 0.360 af, Depth=12.13"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	15,500	98	
	15,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 84S: DA-3



Summary for Subcatchment 100S: DA-4

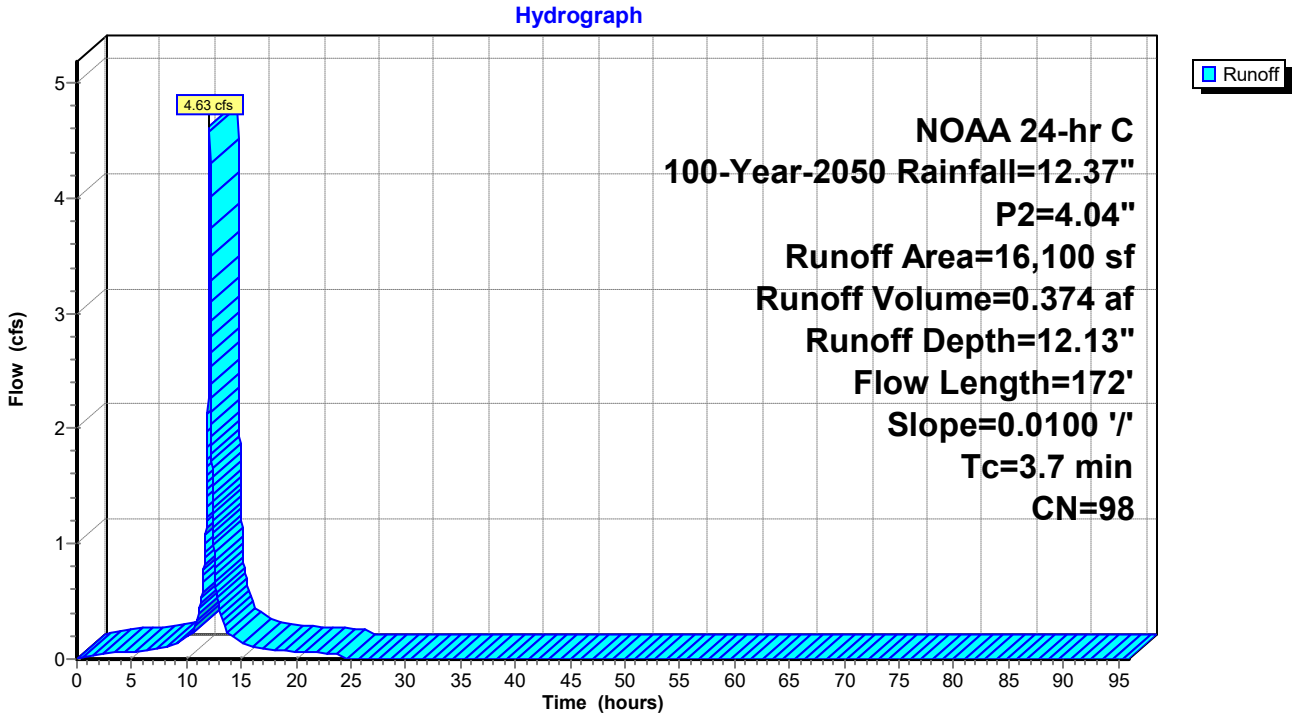
Runoff = 4.63 cfs @ 12.12 hrs, Volume= 0.374 af, Depth=12.13"
Routed to Pond 86P : INLET-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	16,100	98	
	16,100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	50	0.0100	0.30		**Sheet Flow, Paved** Fallow n= 0.050 P2= 4.04"
1.0	122	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
3.7	172	Total			

Subcatchment 100S: DA-4



Summary for Subcatchment 101S: DA-5

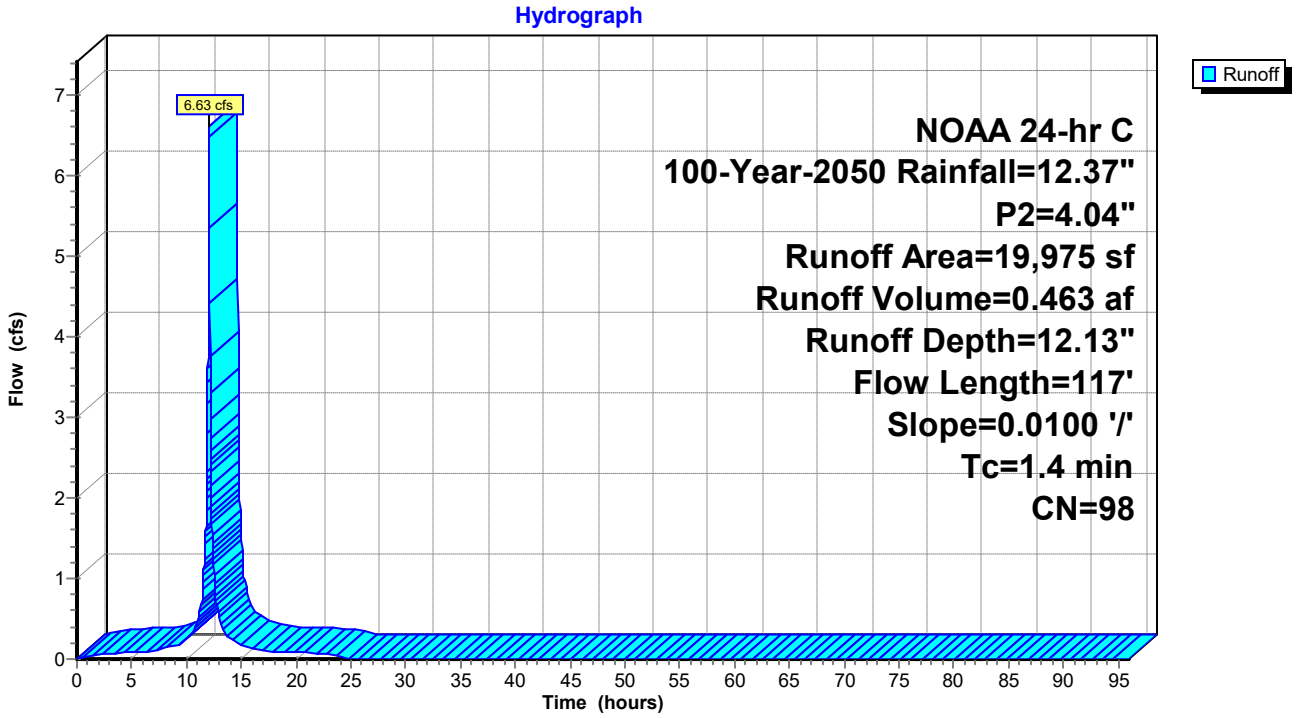
Runoff = 6.63 cfs @ 12.10 hrs, Volume= 0.463 af, Depth=12.13"
Routed to Pond 87P : INLET-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	19,975	98	
	19,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	67	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	117	Total			

Subcatchment 101S: DA-5



Summary for Subcatchment 102S: DA-6

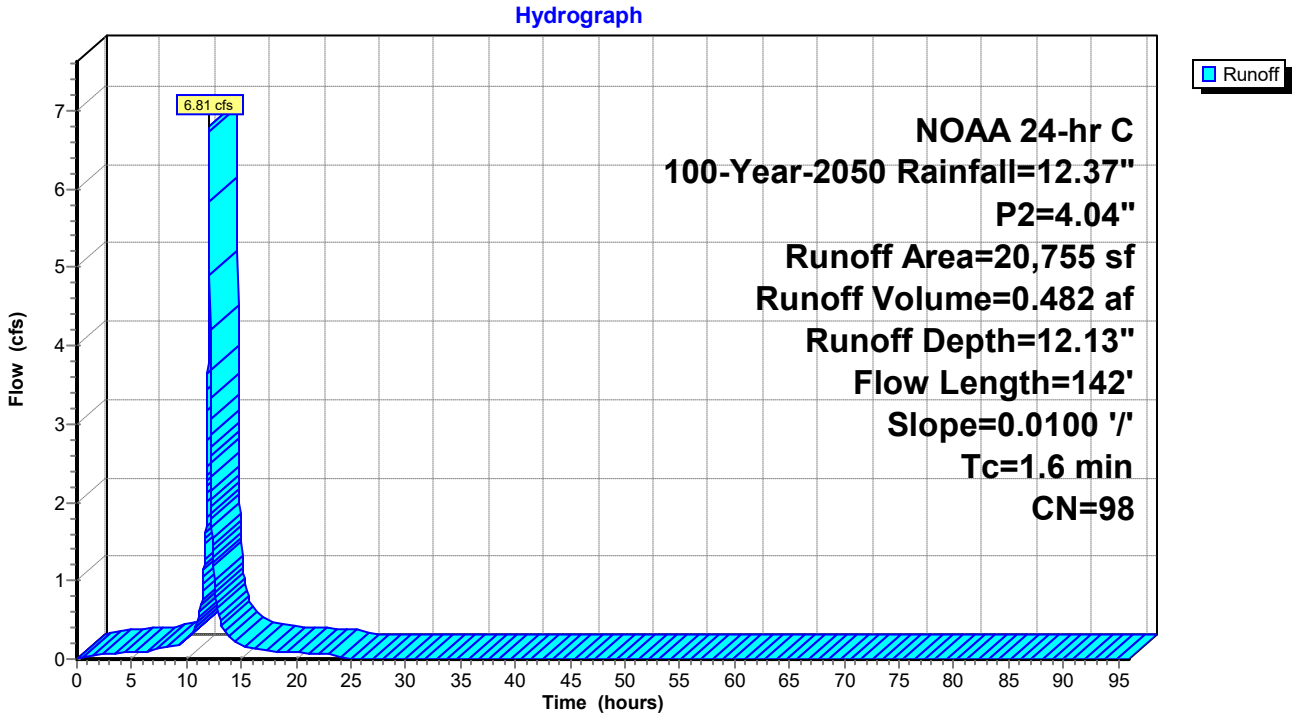
Runoff = 6.81 cfs @ 12.10 hrs, Volume= 0.482 af, Depth=12.13"
Routed to Pond 85P : INLET-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	20,755	98	
	20,755		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.8	92	0.0100	2.03		**Shallow Concentrated Flow, PAved** Paved Kv= 20.3 fps
1.6	142	Total			

Subcatchment 102S: DA-6



Summary for Subcatchment 103S: DA-7

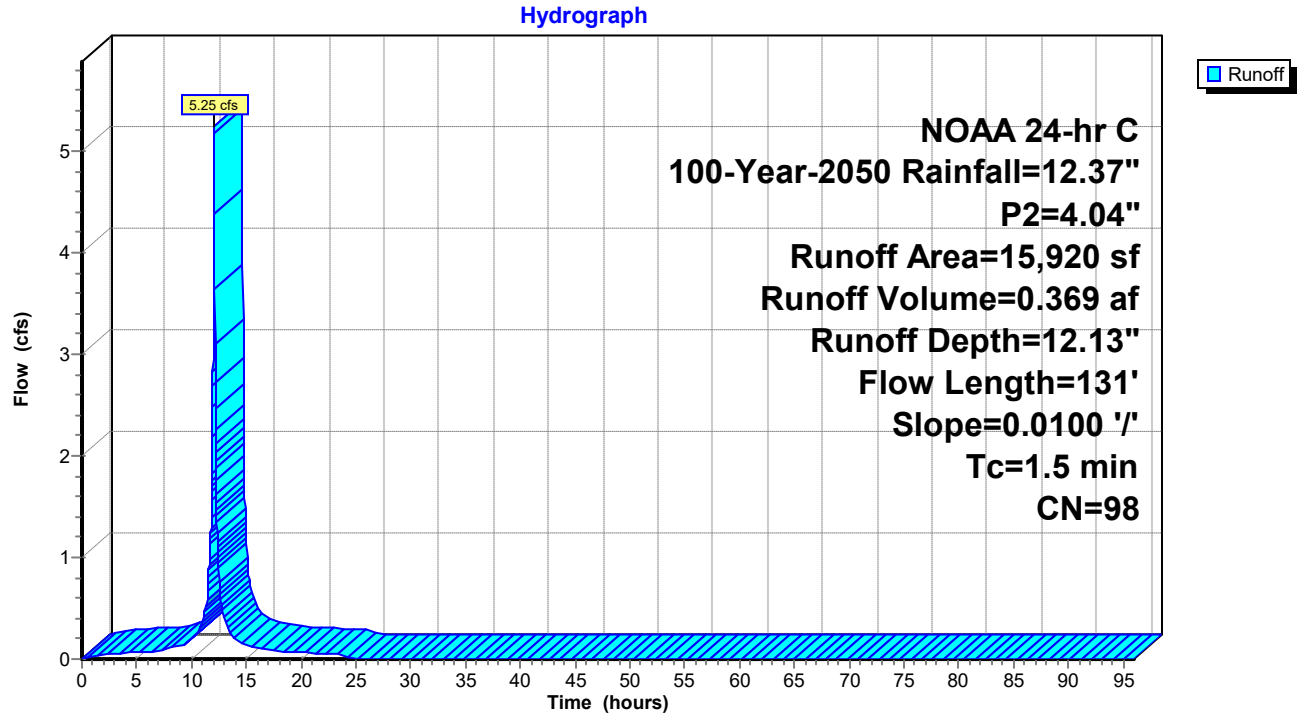
Runoff = 5.25 cfs @ 12.10 hrs, Volume= 0.369 af, Depth=12.13"
Routed to Pond 89P : INLET-4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	15,920	98	
	15,920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	81	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	131	Total			

Subcatchment 103S: DA-7



Summary for Subcatchment 104S: DA-8

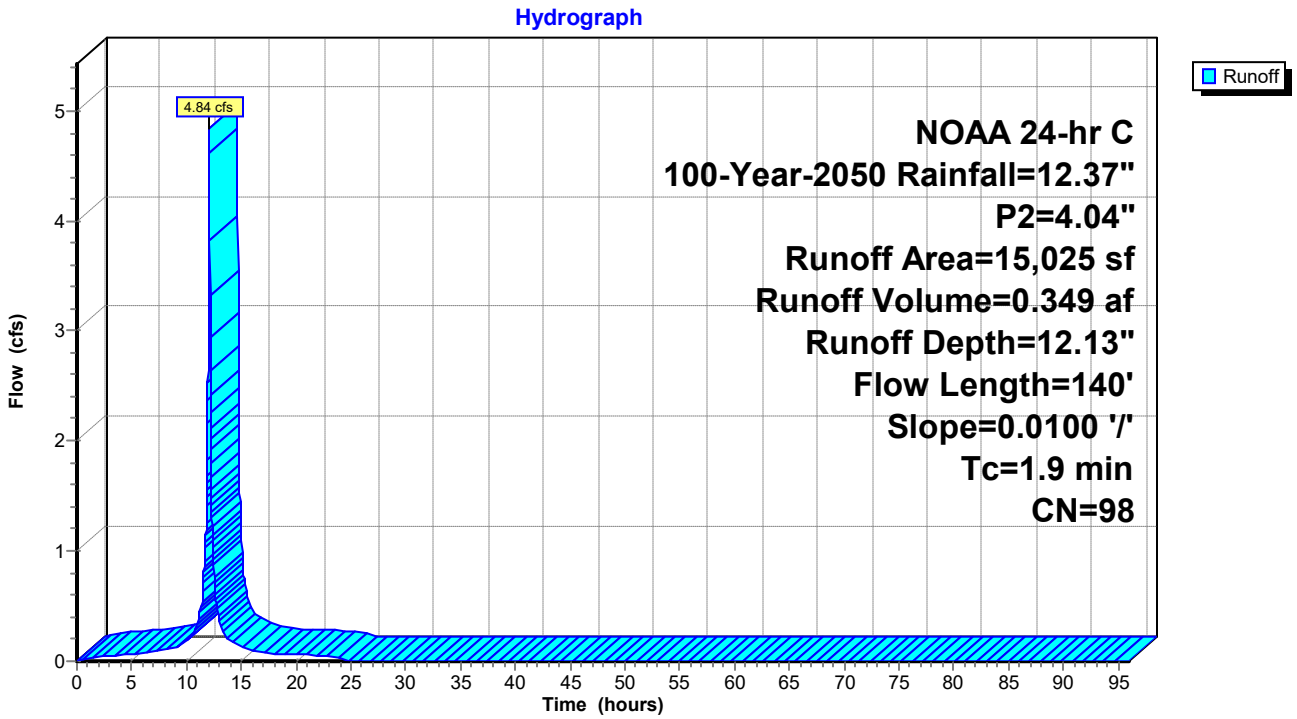
Runoff = 4.84 cfs @ 12.10 hrs, Volume= 0.349 af, Depth=12.13"
Routed to Pond 88P : MH--3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	15,025	98	
	15,025		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 104S: DA-8



Summary for Subcatchment 105S: DA-9

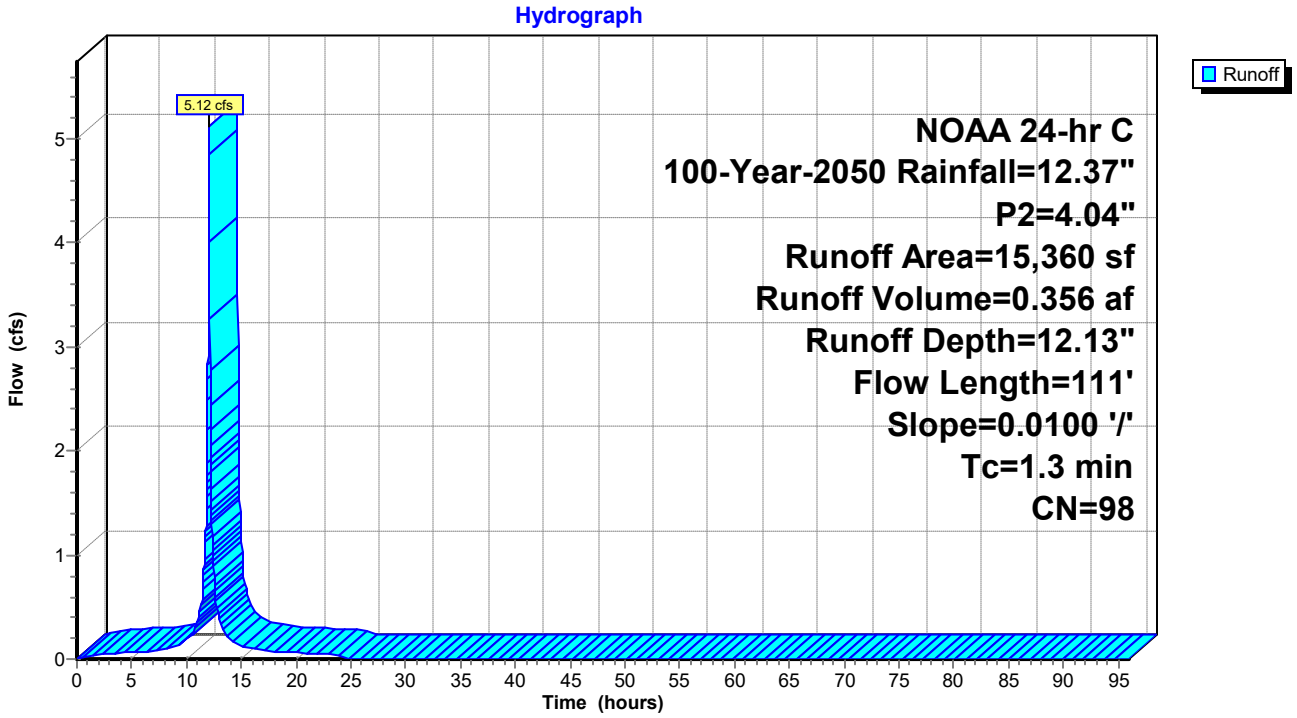
Runoff = 5.12 cfs @ 12.10 hrs, Volume= 0.356 af, Depth=12.13"
Routed to Pond 90P : MH-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	15,360	98	
	15,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.5	61	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.3	111	Total			

Subcatchment 105S: DA-9



Summary for Subcatchment 106S: DA-11

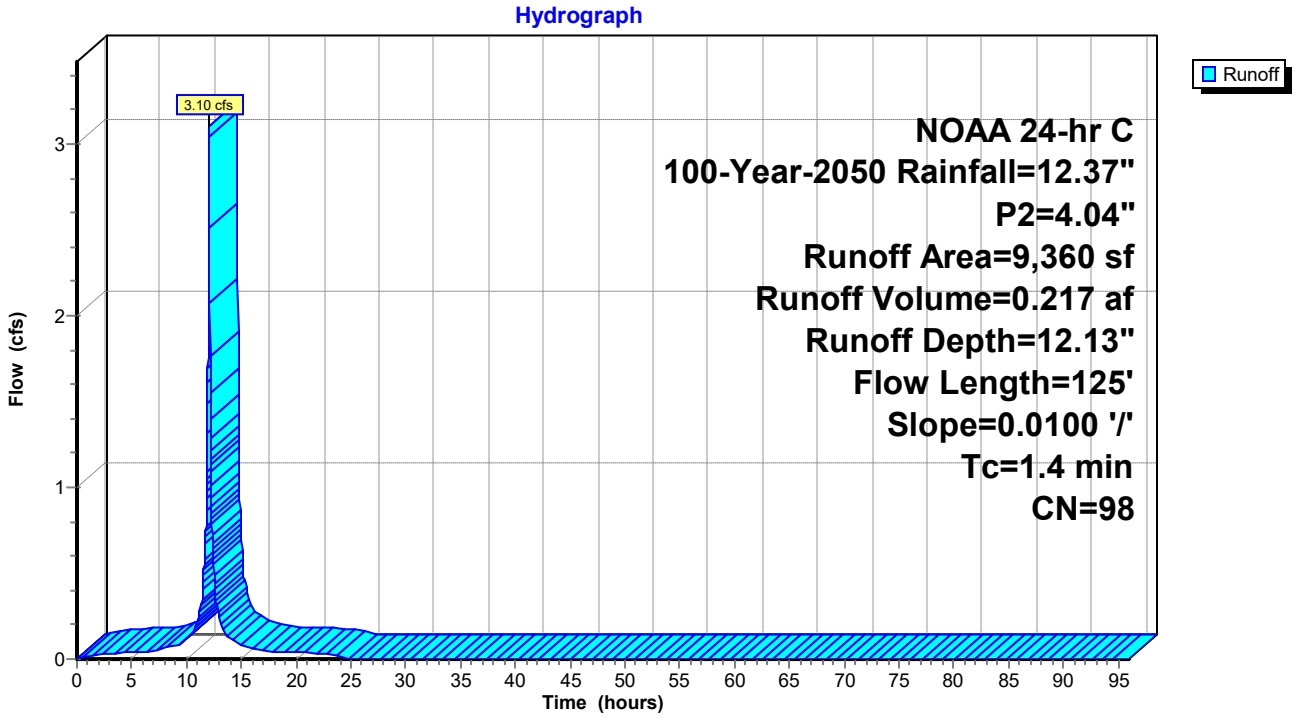
Runoff = 3.10 cfs @ 12.10 hrs, Volume= 0.217 af, Depth=12.13"
Routed to Pond 96P : INLET-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	9,360	98	
	9,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	125	Total			

Subcatchment 106S: DA-11



Summary for Subcatchment 107S: DA-12

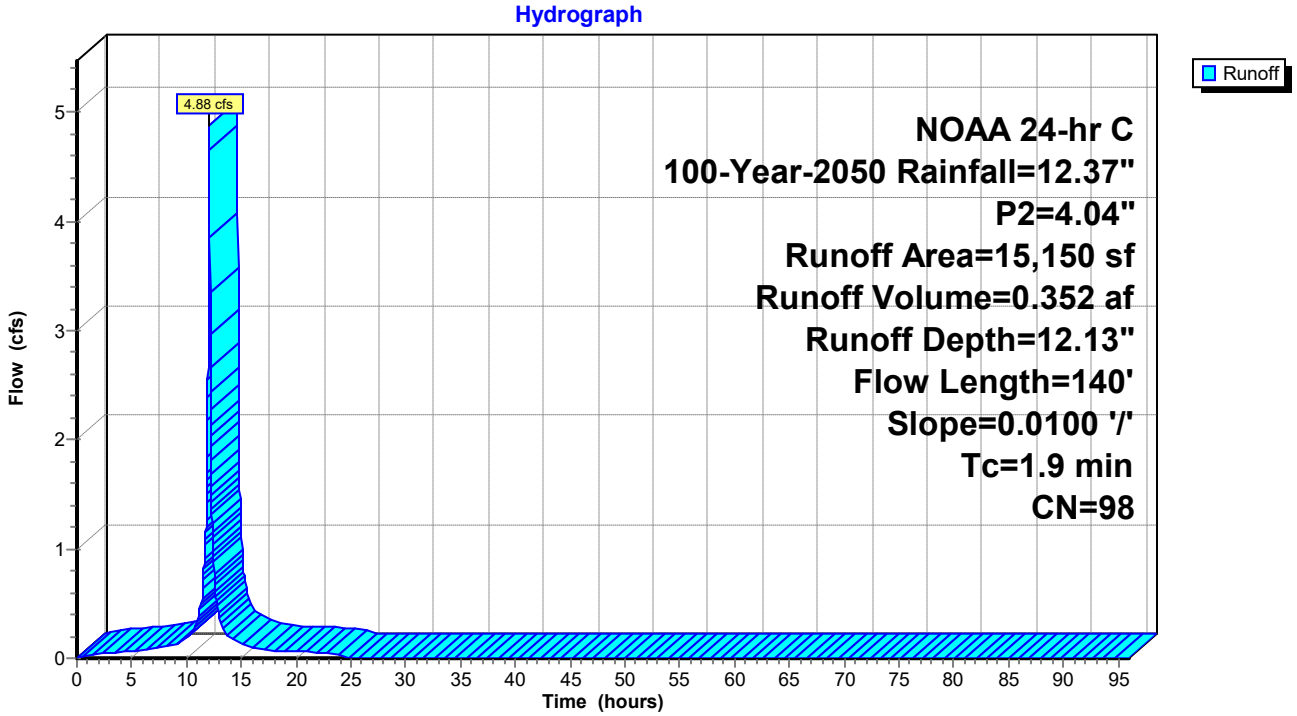
Runoff = 4.88 cfs @ 12.10 hrs, Volume= 0.352 af, Depth=12.13"
Routed to Pond 91P : MH-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	15,150	98	
	15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	140	0.0100	1.25		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 107S: DA-12



Summary for Subcatchment 108S: DA-13

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

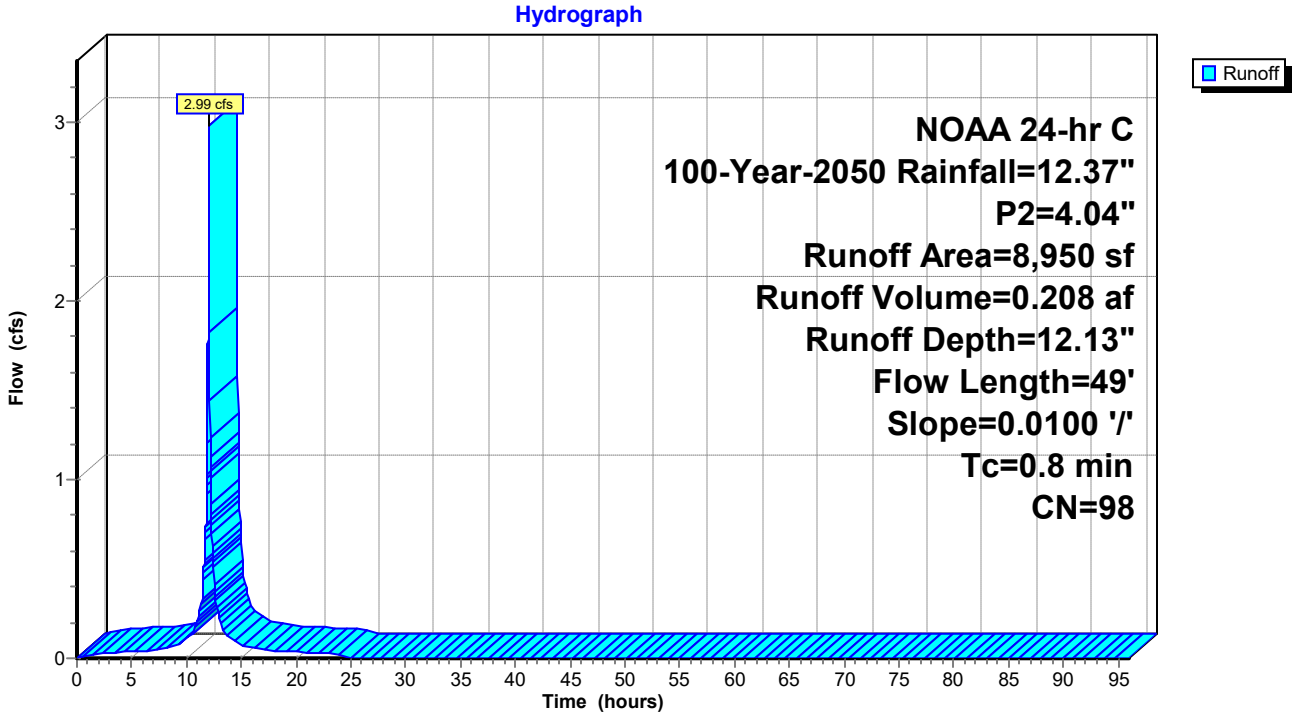
Runoff = 2.99 cfs @ 12.09 hrs, Volume= 0.208 af, Depth=12.13"
Routed to Pond 95P : INLET-7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	8,950	98	
	8,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	49	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"

Subcatchment 108S: DA-13



Summary for Subcatchment 109S: DA-14

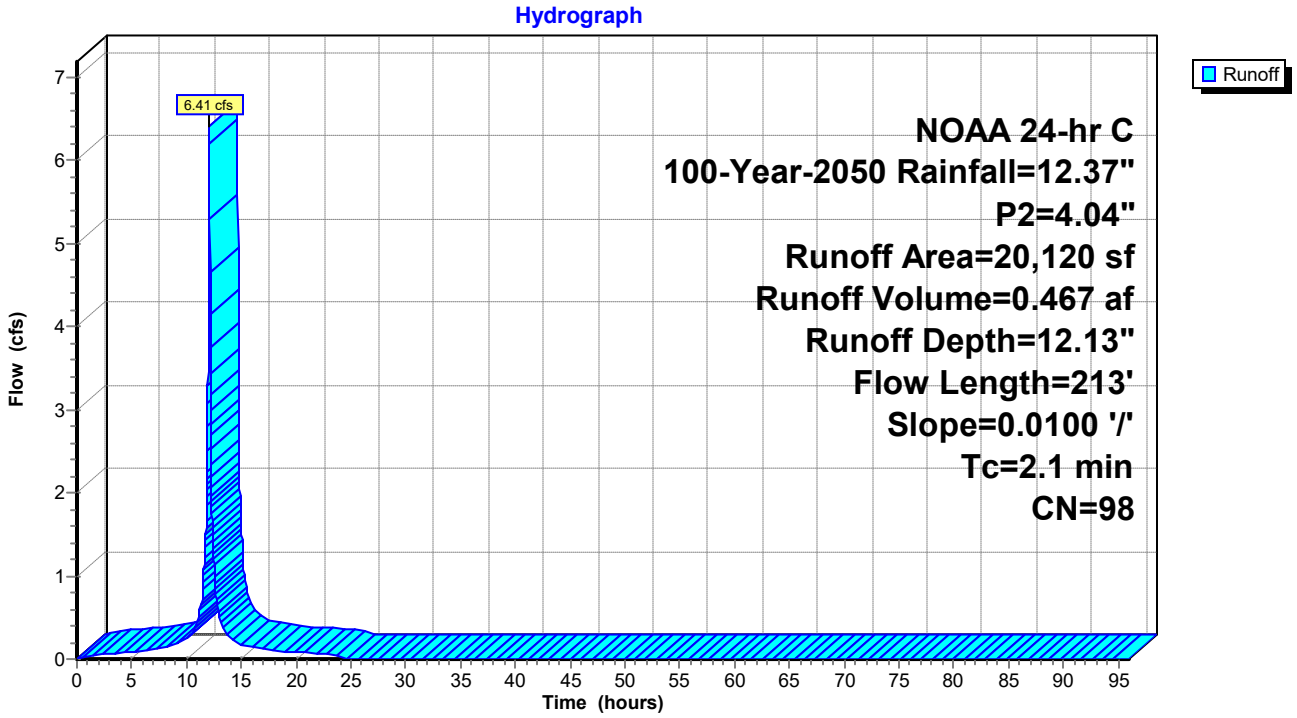
Runoff = 6.41 cfs @ 12.10 hrs, Volume= 0.467 af, Depth=12.13"
Routed to Pond 94P : INLET-8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	20,120	98	
	20,120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.3	163	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
2.1	213	Total			

Subcatchment 109S: DA-14



Summary for Subcatchment 110S: DA-15

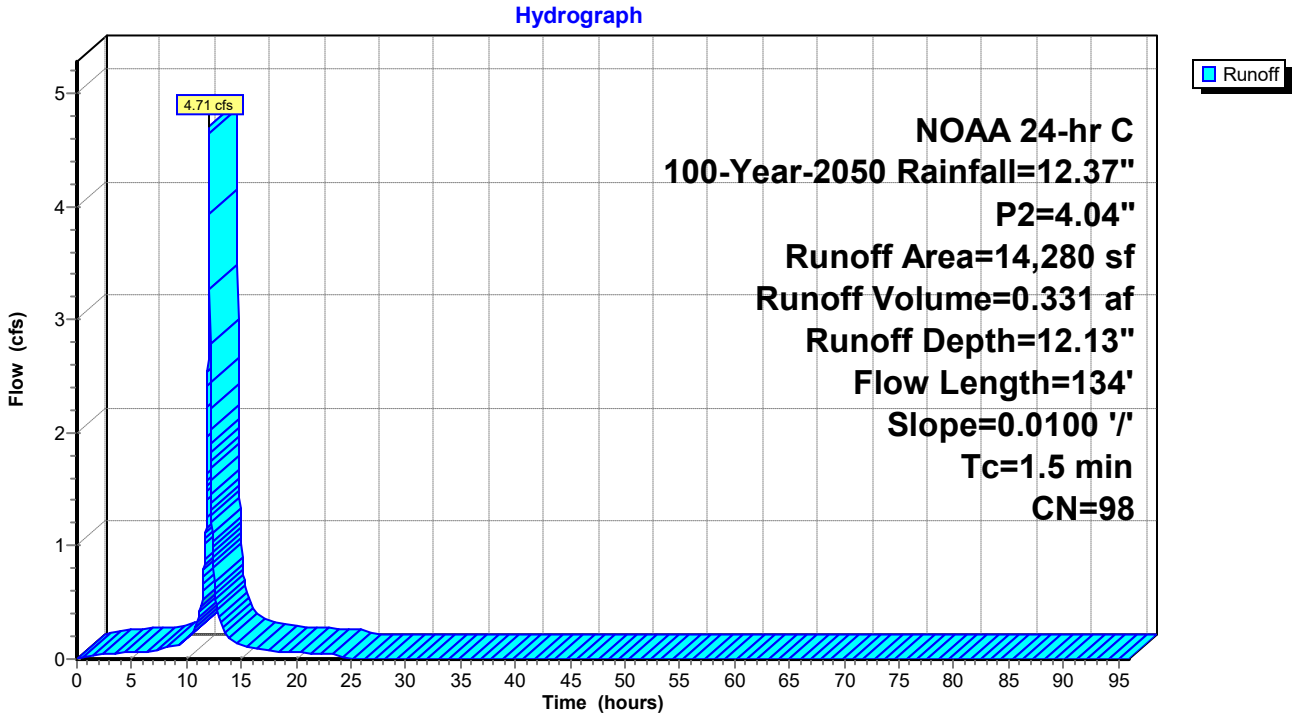
Runoff = 4.71 cfs @ 12.10 hrs, Volume= 0.331 af, Depth=12.13"
Routed to Pond 93P : INLET-9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	14,280	98	
	14,280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
0.7	84	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	134	Total			

Subcatchment 110S: DA-15



Summary for Subcatchment 111S: DA-10

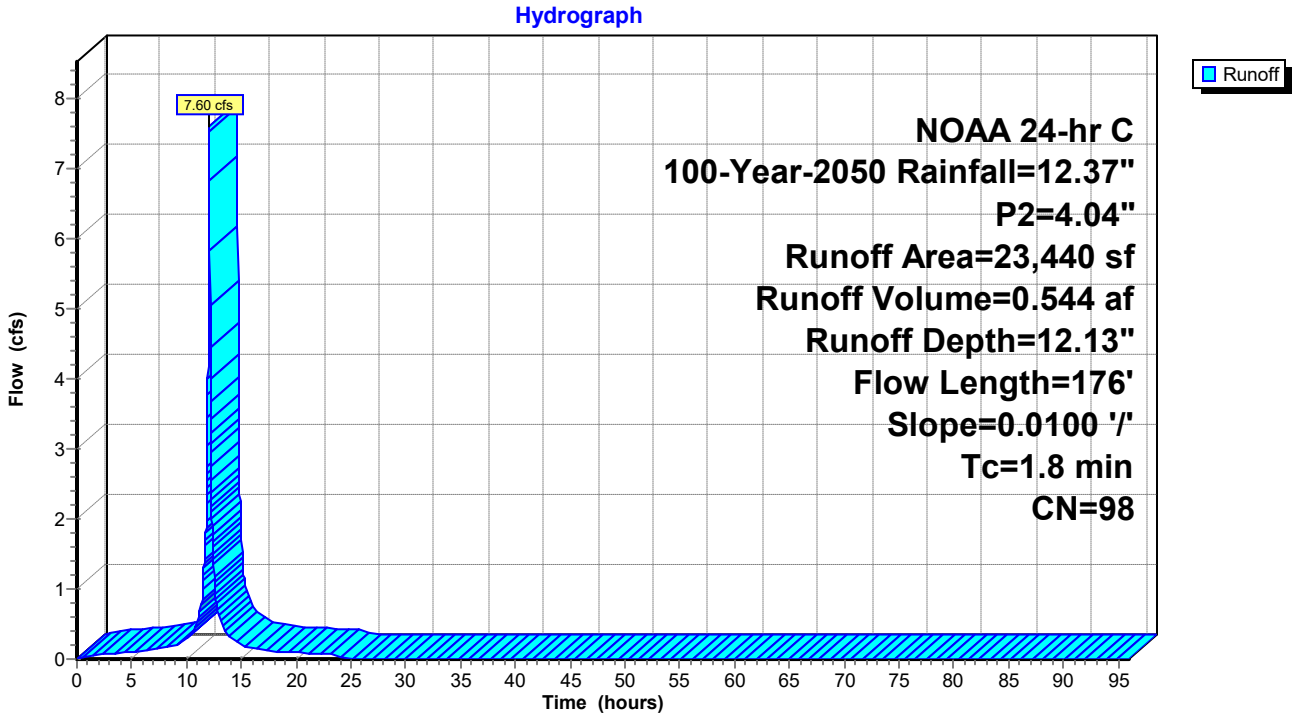
Runoff = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af, Depth=12.13"
Routed to Pond 98P : MH-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year-2050 Rainfall=12.37", P2=4.04"

	Area (sf)	CN	Description
*	23,440	98	
	23,440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0100	1.02		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 4.04"
1.0	126	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.8	176	Total			

Subcatchment 111S: DA-10



Summary for Pond 80P: TD-3

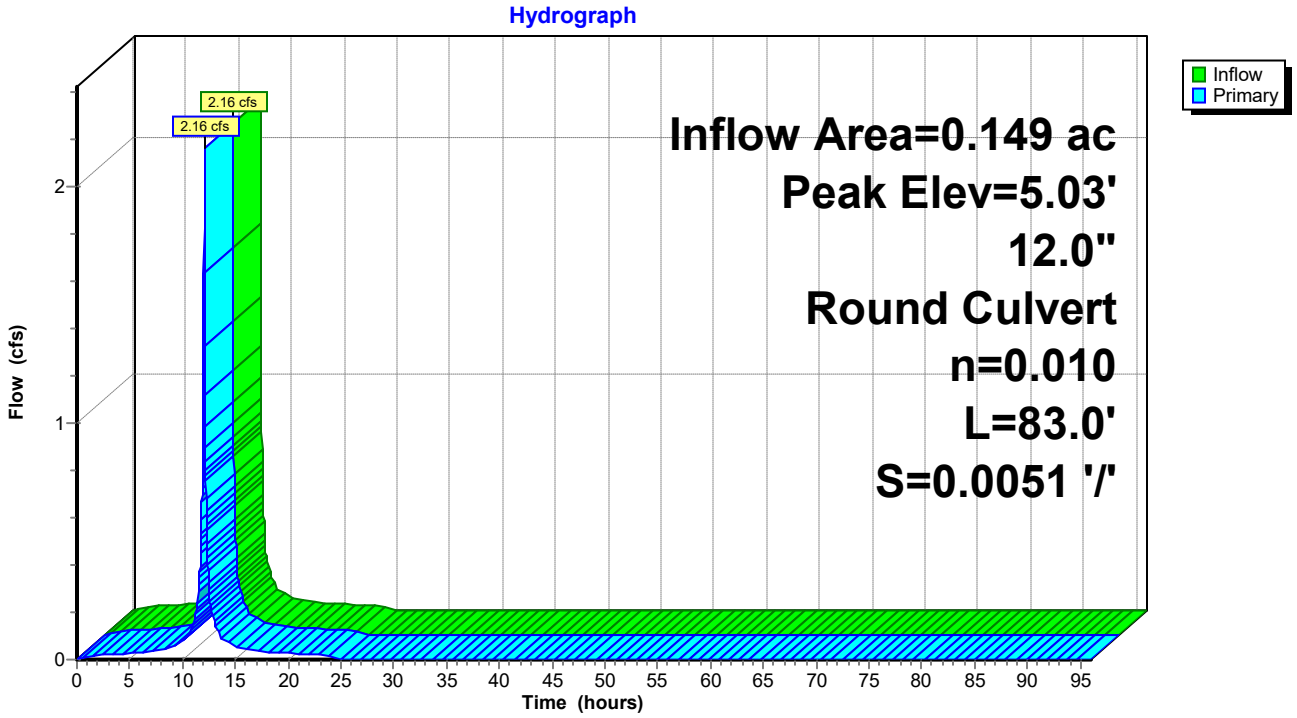
Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 2.16 cfs @ 12.10 hrs, Volume= 0.151 af
Outflow = 2.16 cfs @ 12.10 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min
Primary = 2.16 cfs @ 12.10 hrs, Volume= 0.151 af
Routed to Pond 81P : MH-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.03' @ 12.10 hrs
Flood Elev= 5.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.14'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.14' / 3.72' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.16 cfs @ 12.10 hrs HW=5.03' (Free Discharge)
1=Culvert (Barrel Controls 2.16 cfs @ 3.87 fps)

Pond 80P: TD-3



Summary for Pond 81P: MH-5

[81] Warning: Exceeded Pond 80P by 1.45' @ 12.10 hrs

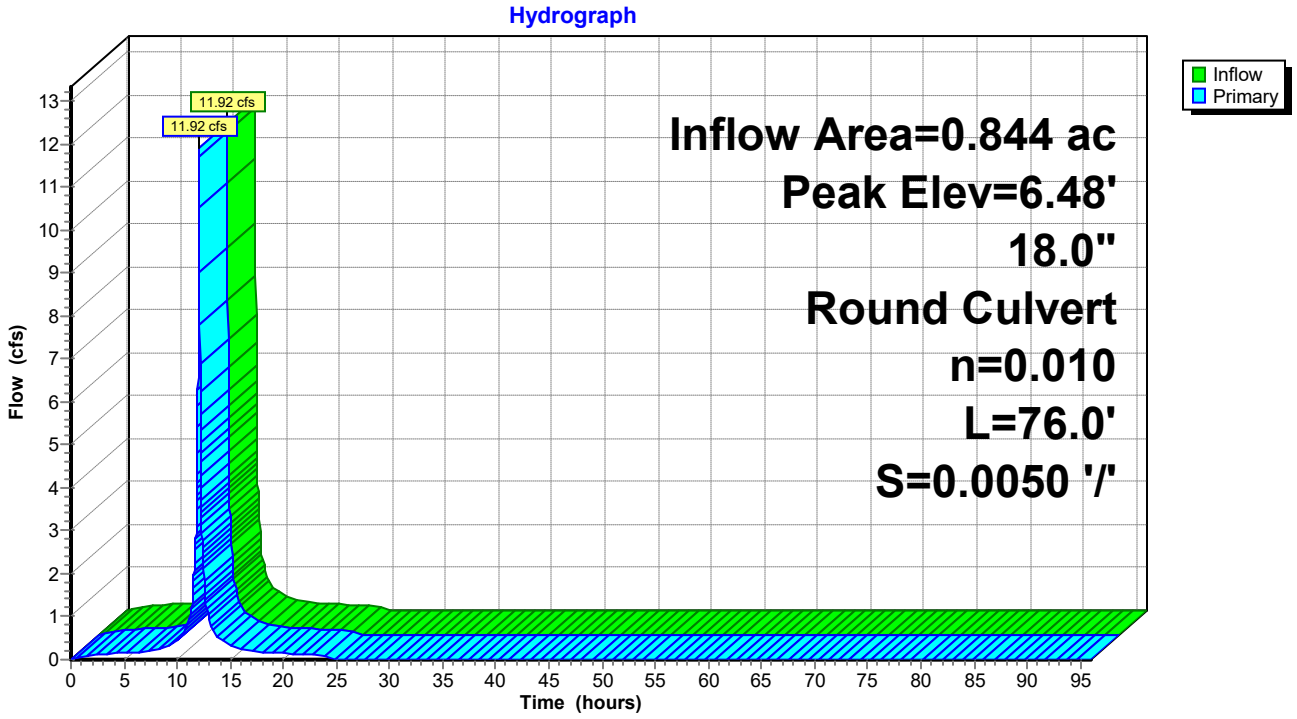
Inflow Area = 0.844 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 11.92 cfs @ 12.10 hrs, Volume= 0.853 af
Outflow = 11.92 cfs @ 12.10 hrs, Volume= 0.853 af, Atten= 0%, Lag= 0.0 min
Primary = 11.92 cfs @ 12.10 hrs, Volume= 0.853 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.48' @ 12.10 hrs
Flood Elev= 9.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.72'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.72' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=11.90 cfs @ 12.10 hrs HW=6.48' (Free Discharge)
1=Culvert (Barrel Controls 11.90 cfs @ 6.73 fps)

Pond 81P: MH-5



Summary for Pond 85P: INLET-3

[79] Warning: Submerged Pond 81P Primary device # 1 INLET by 2.25'
[81] Warning: Exceeded Pond 87P by 0.65' @ 12.10 hrs
[81] Warning: Exceeded Pond 89P by 0.59' @ 12.10 hrs

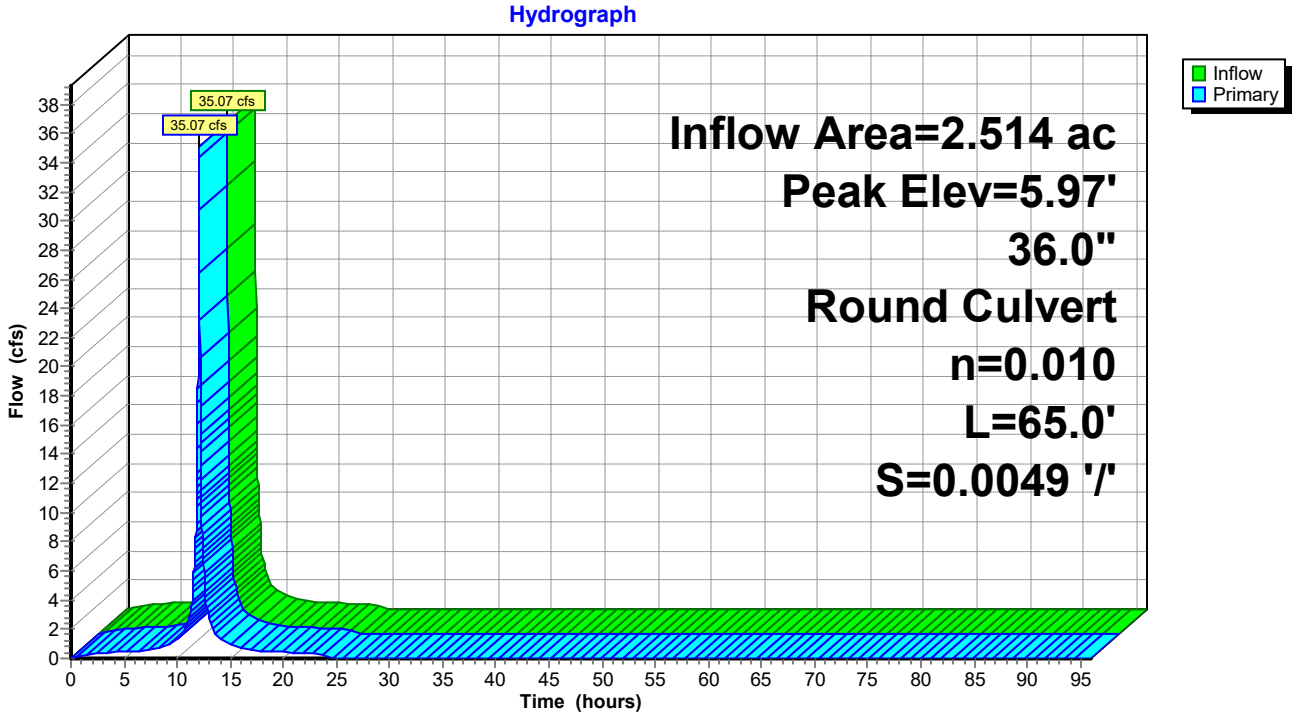
Inflow Area = 2.514 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 35.07 cfs @ 12.10 hrs, Volume= 2.541 af
Outflow = 35.07 cfs @ 12.10 hrs, Volume= 2.541 af, Atten= 0%, Lag= 0.0 min
Primary = 35.07 cfs @ 12.10 hrs, Volume= 2.541 af
Routed to Pond 88P : MH--3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.97' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.03'	**36.0" Round Culvert** L= 65.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.03' / 2.71' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=35.01 cfs @ 12.10 hrs HW=5.97' (Free Discharge)
1=Culvert (Barrel Controls 35.01 cfs @ 6.29 fps)

Pond 85P: INLET-3



Summary for Pond 86P: INLET-1

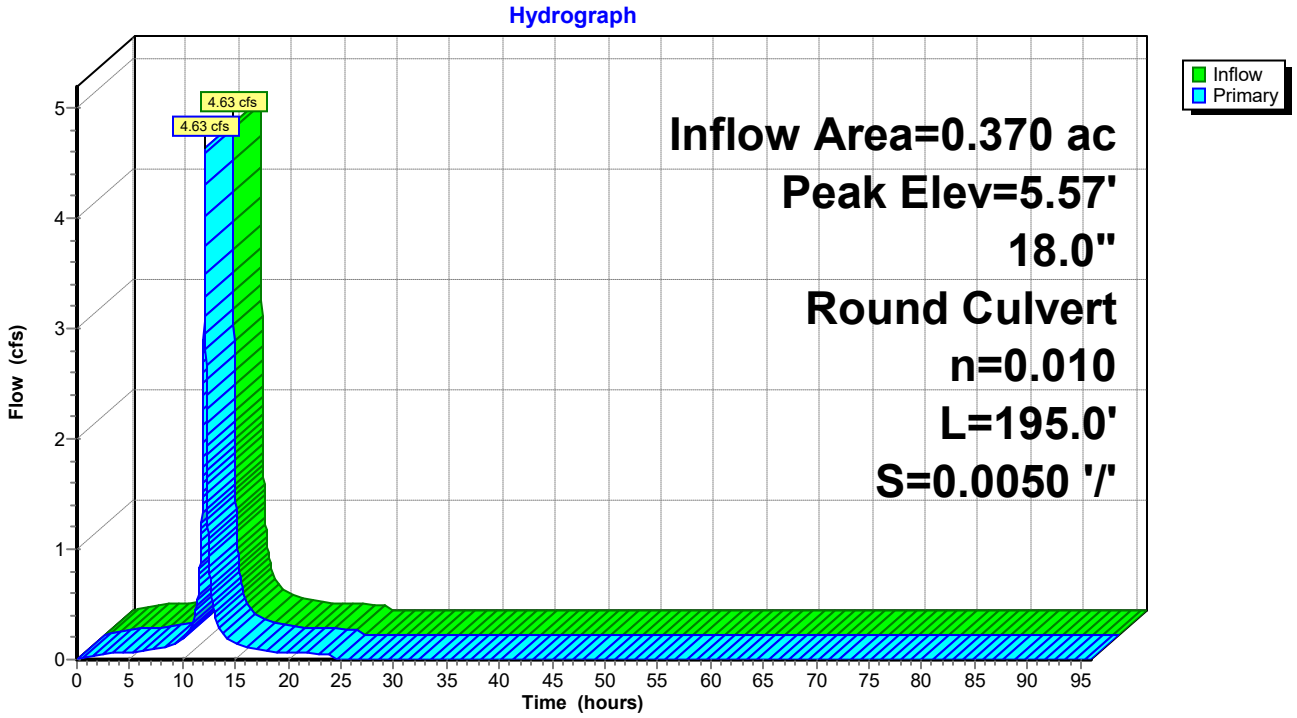
Inflow Area = 0.370 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 4.63 cfs @ 12.12 hrs, Volume= 0.374 af
Outflow = 4.63 cfs @ 12.12 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min
Primary = 4.63 cfs @ 12.12 hrs, Volume= 0.374 af
Routed to Pond 87P : INLET-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.57' @ 12.12 hrs
Flood Elev= 6.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.50'	**18.0" Round Culvert** L= 195.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.50' / 3.52' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.62 cfs @ 12.12 hrs HW=5.57' (Free Discharge)
1=Culvert (Barrel Controls 4.62 cfs @ 4.79 fps)

Pond 86P: INLET-1



Summary for Pond 87P: INLET-2

[79] Warning: Submerged Pond 86P Primary device # 1 INLET by 0.82'

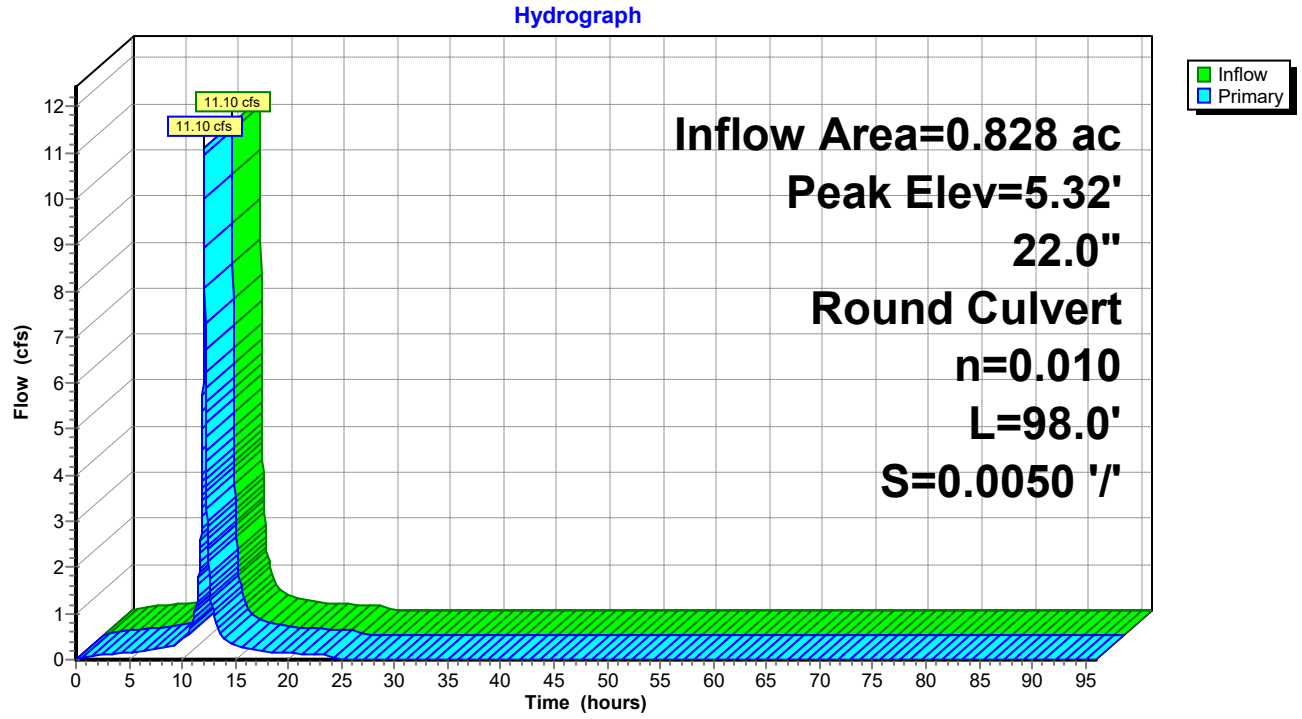
Inflow Area = 0.828 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 11.10 cfs @ 12.10 hrs, Volume= 0.837 af
Outflow = 11.10 cfs @ 12.10 hrs, Volume= 0.837 af, Atten= 0%, Lag= 0.0 min
Primary = 11.10 cfs @ 12.10 hrs, Volume= 0.837 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.32' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**22.0" Round Culvert** L= 98.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 3.03' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=11.09 cfs @ 12.10 hrs HW=5.32' (Free Discharge)
1=Culvert (Barrel Controls 11.09 cfs @ 5.32 fps)

Pond 87P: INLET-2



Summary for Pond 88P: MH--3

[81] Warning: Exceeded Pond 85P by 0.12' @ 12.10 hrs

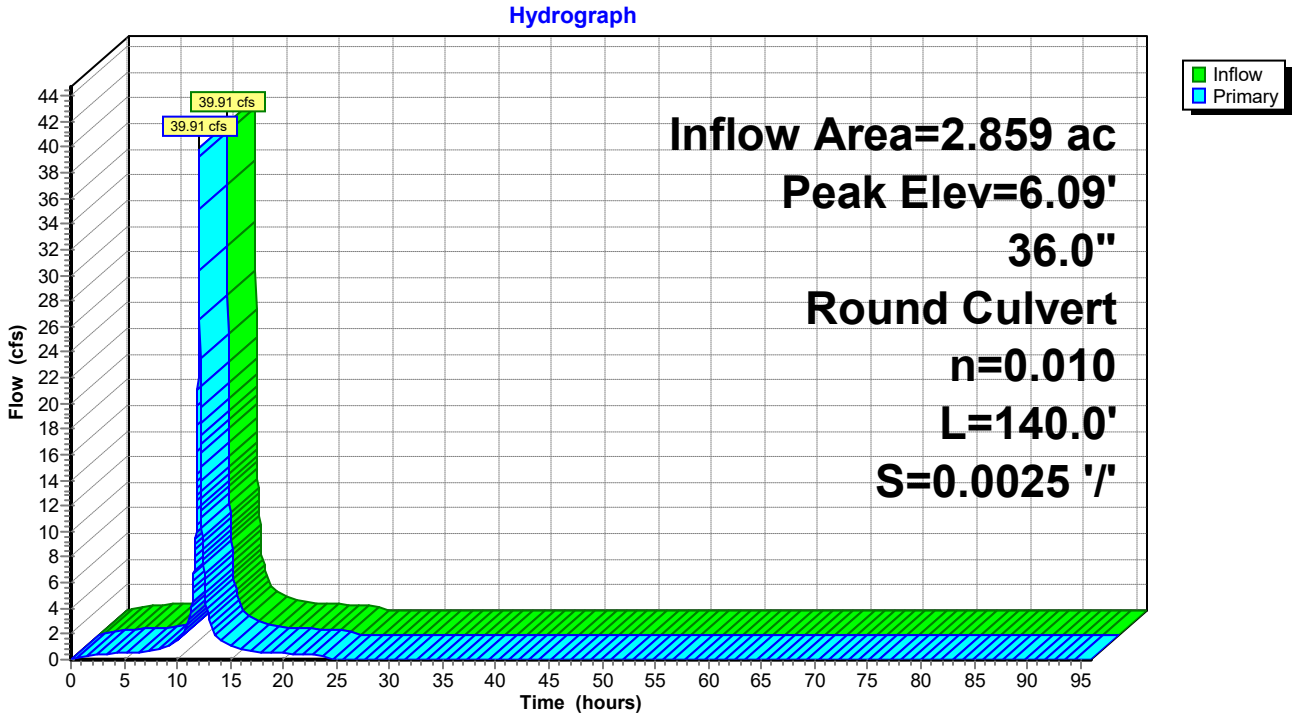
Inflow Area = 2.859 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 39.91 cfs @ 12.10 hrs, Volume= 2.890 af
Outflow = 39.91 cfs @ 12.10 hrs, Volume= 2.890 af, Atten= 0%, Lag= 0.0 min
Primary = 39.91 cfs @ 12.10 hrs, Volume= 2.890 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.09' @ 12.10 hrs
Flood Elev= 9.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.71'	**36.0" Round Culvert** L= 140.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.71' / 2.36' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=39.86 cfs @ 12.10 hrs HW=6.09' (Free Discharge)
1=Culvert (Barrel Controls 39.86 cfs @ 6.26 fps)

Pond 88P: MH--3



Summary for Pond 89P: INLET-4

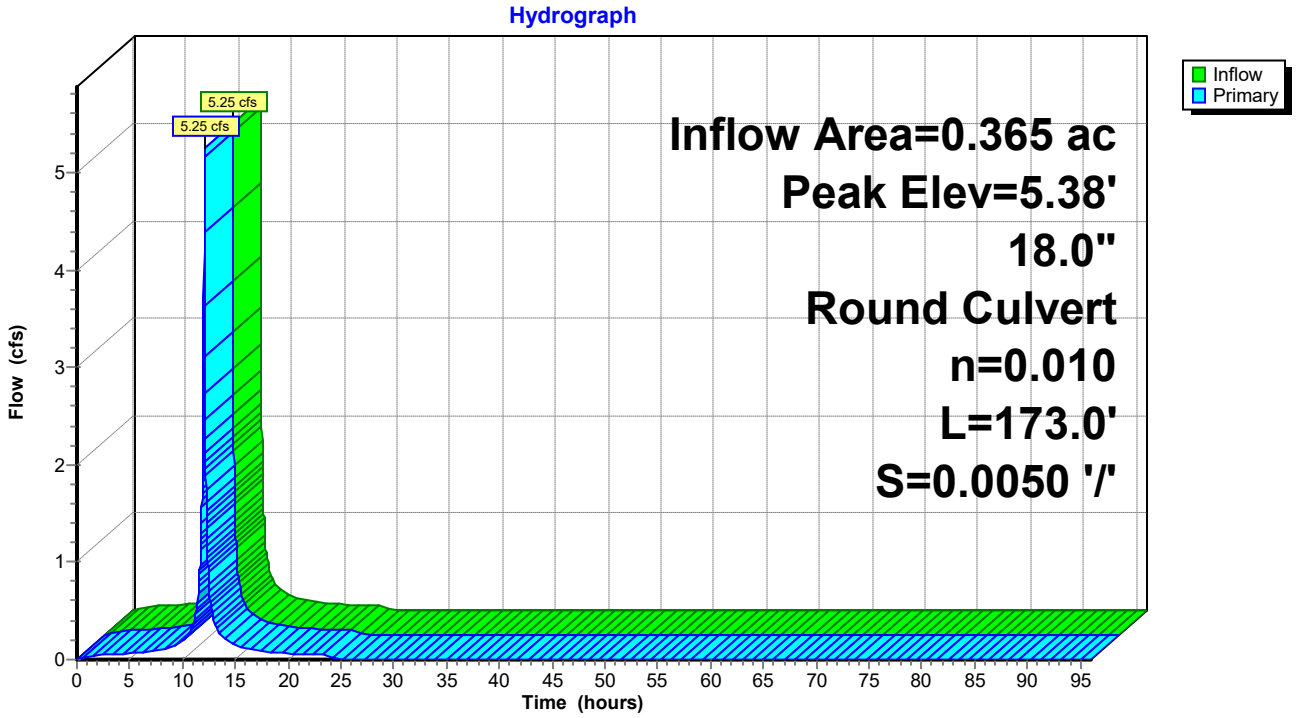
Inflow Area = 0.365 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 5.25 cfs @ 12.10 hrs, Volume= 0.369 af
Outflow = 5.25 cfs @ 12.10 hrs, Volume= 0.369 af, Atten= 0%, Lag= 0.0 min
Primary = 5.25 cfs @ 12.10 hrs, Volume= 0.369 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.38' @ 12.10 hrs
Flood Elev= 7.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.21'	**18.0" Round Culvert** L= 173.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.21' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.23 cfs @ 12.10 hrs HW=5.38' (Free Discharge)
1=Culvert (Barrel Controls 5.23 cfs @ 4.87 fps)

Pond 89P: INLET-4



Summary for Pond 90P: MH-2

[81] Warning: Exceeded Pond 88P by 0.40' @ 12.10 hrs
[81] Warning: Exceeded Pond 99P by 2.40' @ 12.10 hrs

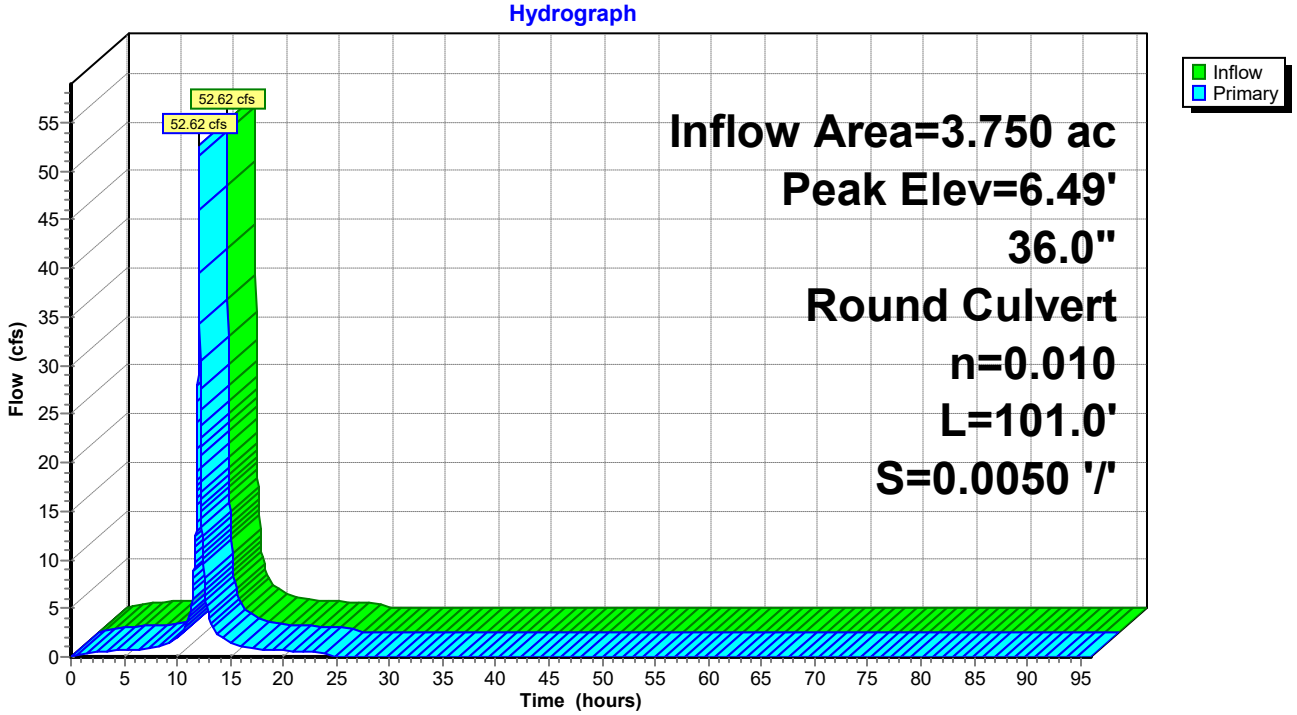
Inflow Area = 3.750 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 52.62 cfs @ 12.10 hrs, Volume= 3.790 af
Outflow = 52.62 cfs @ 12.10 hrs, Volume= 3.790 af, Atten= 0%, Lag= 0.0 min
Primary = 52.62 cfs @ 12.10 hrs, Volume= 3.790 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.49' @ 12.10 hrs
Flood Elev= 10.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.34'	**36.0" Round Culvert** L= 101.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.34' / 1.83' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=52.53 cfs @ 12.10 hrs HW=6.49' (Free Discharge)
1=Culvert (Barrel Controls 52.53 cfs @ 7.43 fps)

Pond 90P: MH-2



Summary for Pond 91P: MH-1

[79] Warning: Submerged Pond 90P Primary device # 1 INLET by 3.75'
[81] Warning: Exceeded Pond 96P by 0.70' @ 12.17 hrs

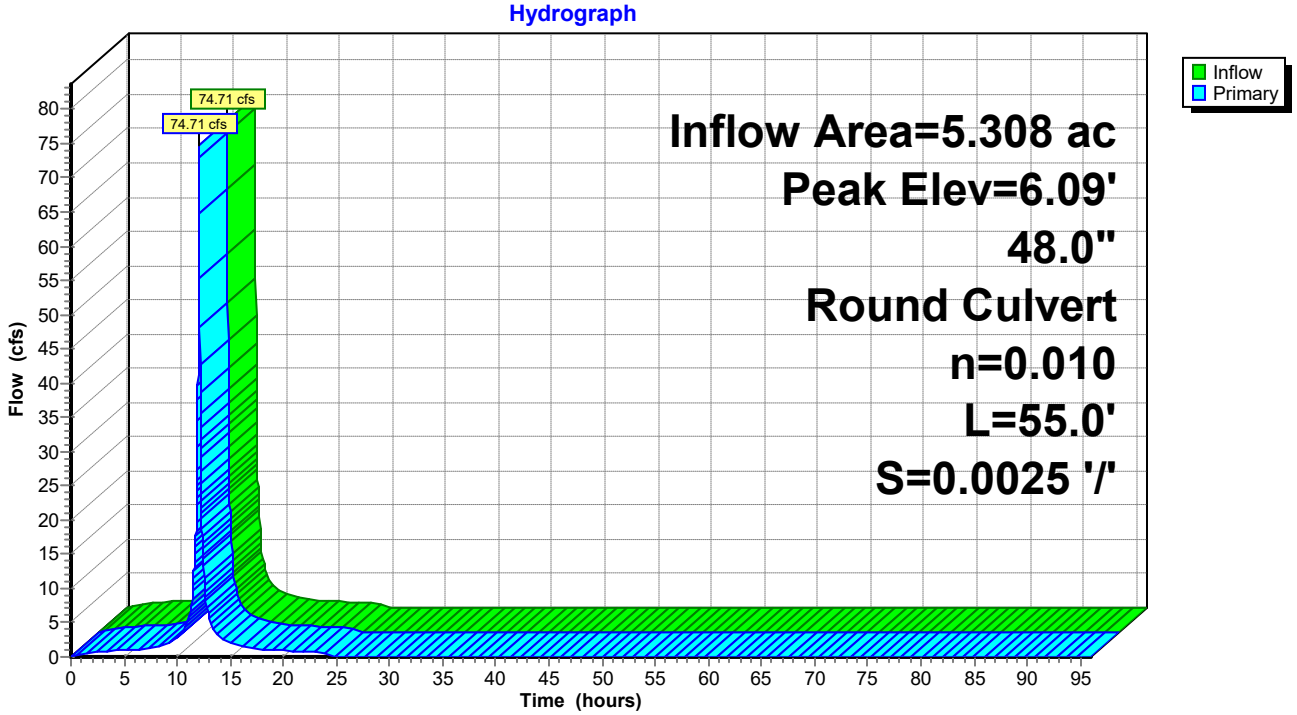
Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 74.71 cfs @ 12.10 hrs, Volume= 5.364 af
Outflow = 74.71 cfs @ 12.10 hrs, Volume= 5.364 af, Atten= 0%, Lag= 0.0 min
Primary = 74.71 cfs @ 12.10 hrs, Volume= 5.364 af
Routed to Pond 97P : OUTFALL

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.09' @ 12.10 hrs
Flood Elev= 9.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.82'	**48.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1.82' / 1.68' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 12.57 sf

Primary OutFlow Max=74.52 cfs @ 12.10 hrs HW=6.09' (Free Discharge)
└**1=Culvert** (Barrel Controls 74.52 cfs @ 6.92 fps)

Pond 91P: MH-1



Summary for Pond 93P: INLET-9

[58] Hint: Peaked 0.24' above defined flood level

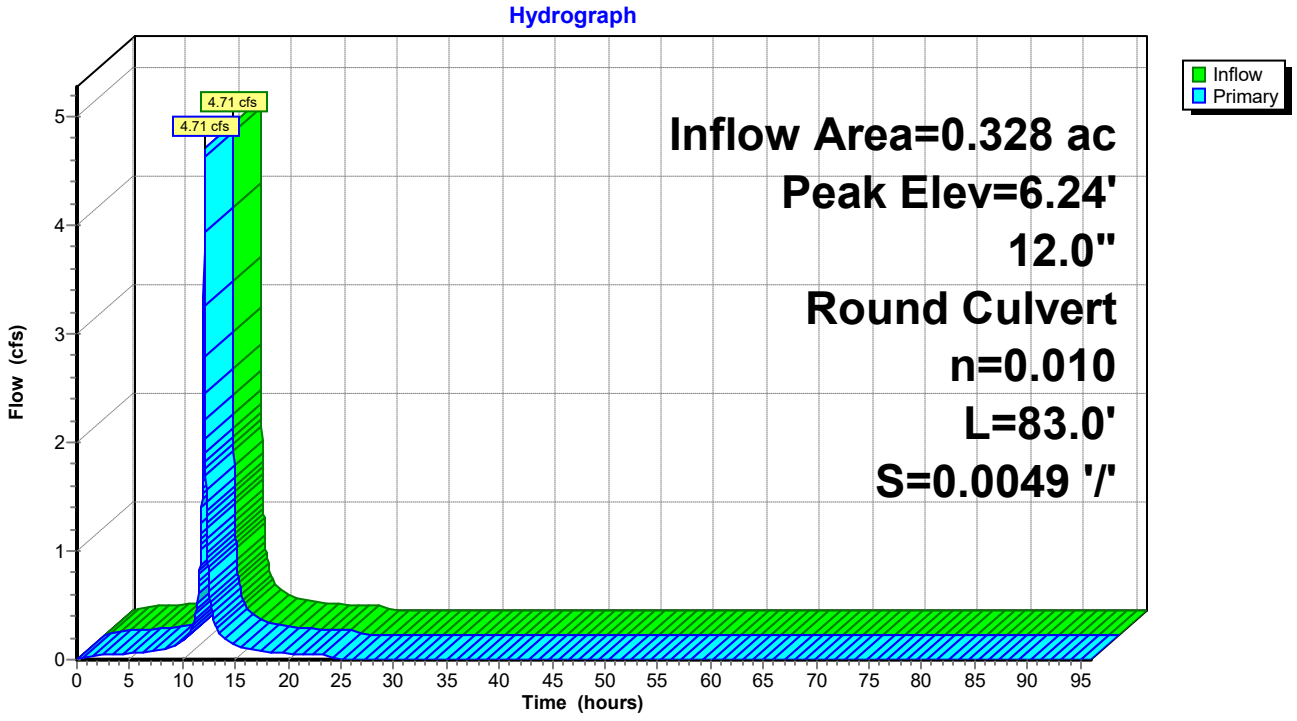
Inflow Area = 0.328 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 4.71 cfs @ 12.10 hrs, Volume= 0.331 af
Outflow = 4.71 cfs @ 12.10 hrs, Volume= 0.331 af, Atten= 0%, Lag= 0.0 min
Primary = 4.71 cfs @ 12.10 hrs, Volume= 0.331 af
Routed to Pond 94P : INLET-8

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.24' @ 12.10 hrs
Flood Elev= 6.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.95'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.95' / 3.54' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.69 cfs @ 12.10 hrs HW=6.23' (Free Discharge)
1=Culvert (Barrel Controls 4.69 cfs @ 5.98 fps)

Pond 93P: INLET-9



Summary for Pond 94P: INLET-8

[79] Warning: Submerged Pond 93P Primary device # 1 INLET by 1.31'

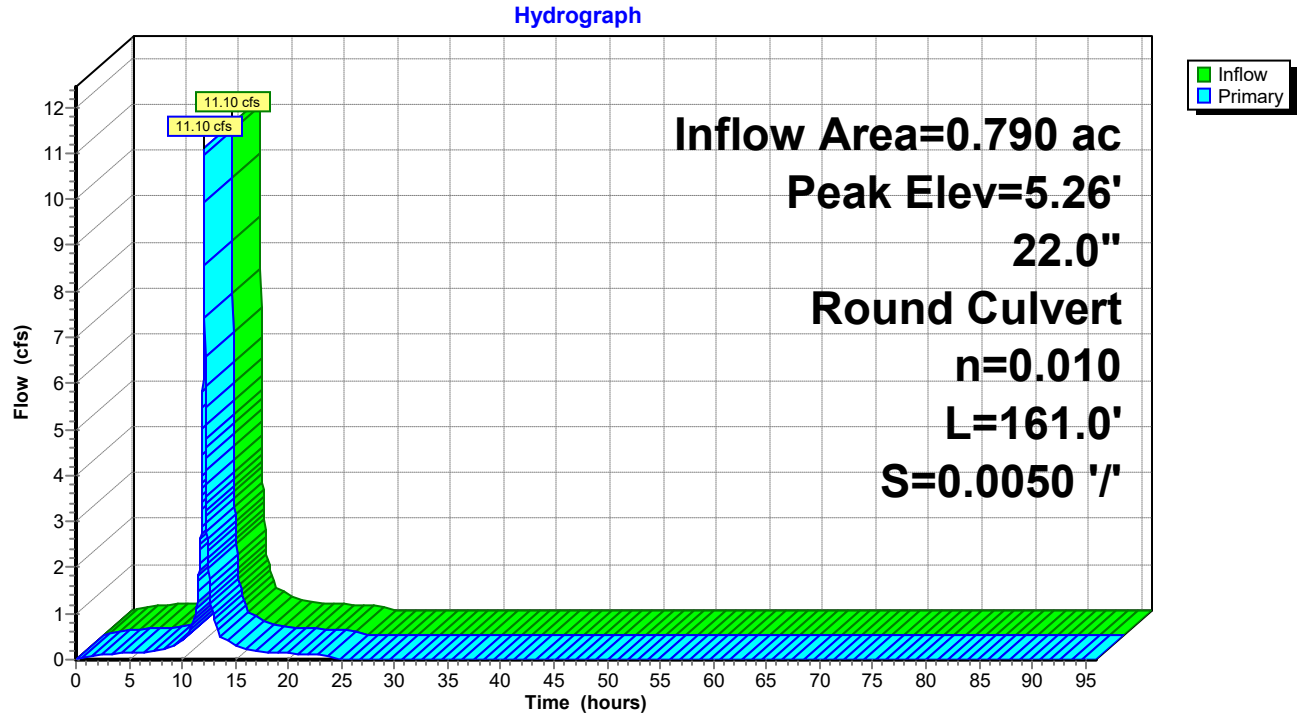
Inflow Area = 0.790 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 11.10 cfs @ 12.10 hrs, Volume= 0.798 af
Outflow = 11.10 cfs @ 12.10 hrs, Volume= 0.798 af, Atten= 0%, Lag= 0.0 min
Primary = 11.10 cfs @ 12.10 hrs, Volume= 0.798 af
Routed to Pond 95P : INLET-7

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 5.26' @ 12.10 hrs
Flood Elev= 7.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.54'	**22.0" Round Culvert** L= 161.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.54' / 2.73' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=11.10 cfs @ 12.10 hrs HW=5.26' (Free Discharge)
1=Culvert (Barrel Controls 11.10 cfs @ 5.59 fps)

Pond 94P: INLET-8



Summary for Pond 95P: INLET-7

[79] Warning: Submerged Pond 94P Primary device # 1 INLET by 1.15'

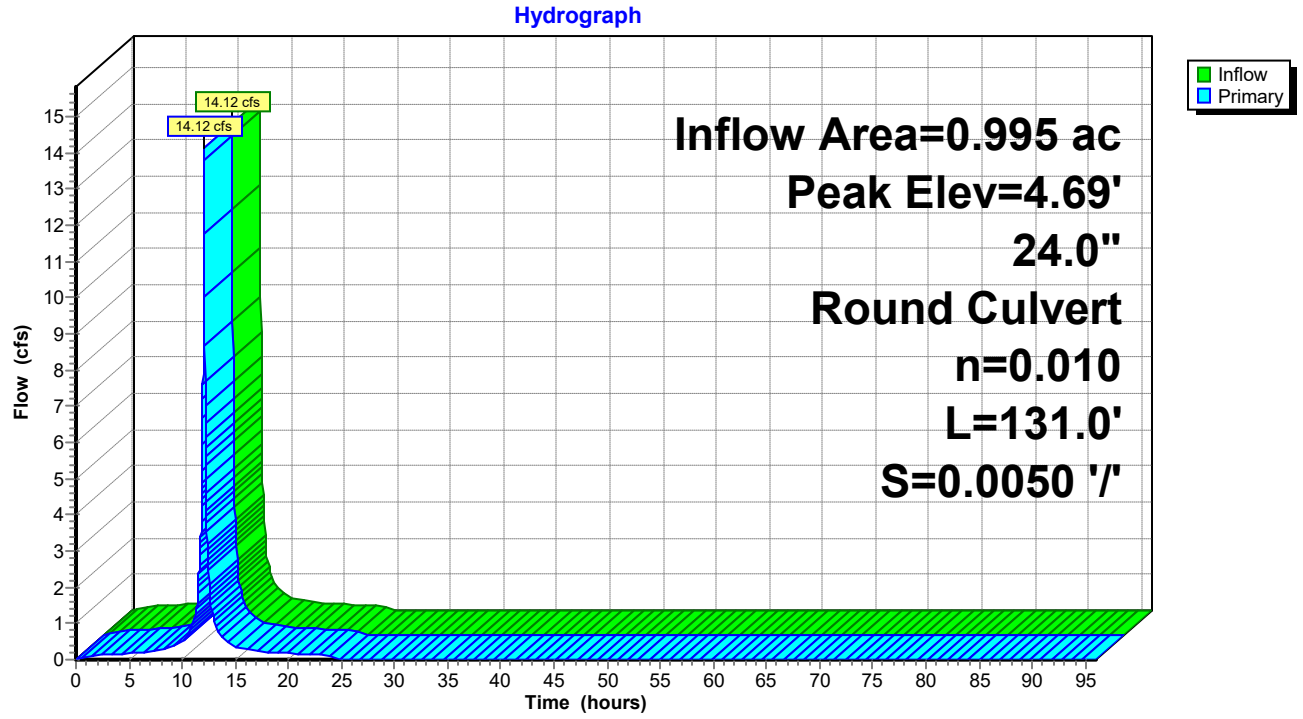
Inflow Area = 0.995 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 14.12 cfs @ 12.10 hrs, Volume= 1.006 af
Outflow = 14.12 cfs @ 12.10 hrs, Volume= 1.006 af, Atten= 0%, Lag= 0.0 min
Primary = 14.12 cfs @ 12.10 hrs, Volume= 1.006 af
Routed to Pond 96P : INLET-6

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.69' @ 12.10 hrs
Flood Elev= 8.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.73'	**24.0" Round Culvert** L= 131.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.73' / 2.08' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=14.04 cfs @ 12.10 hrs HW=4.68' (Free Discharge)
1=Culvert (Barrel Controls 14.04 cfs @ 5.70 fps)

Pond 95P: INLET-7



Summary for Pond 96P: INLET-6

[81] Warning: Exceeded Pond 95P by 2.22' @ 12.10 hrs

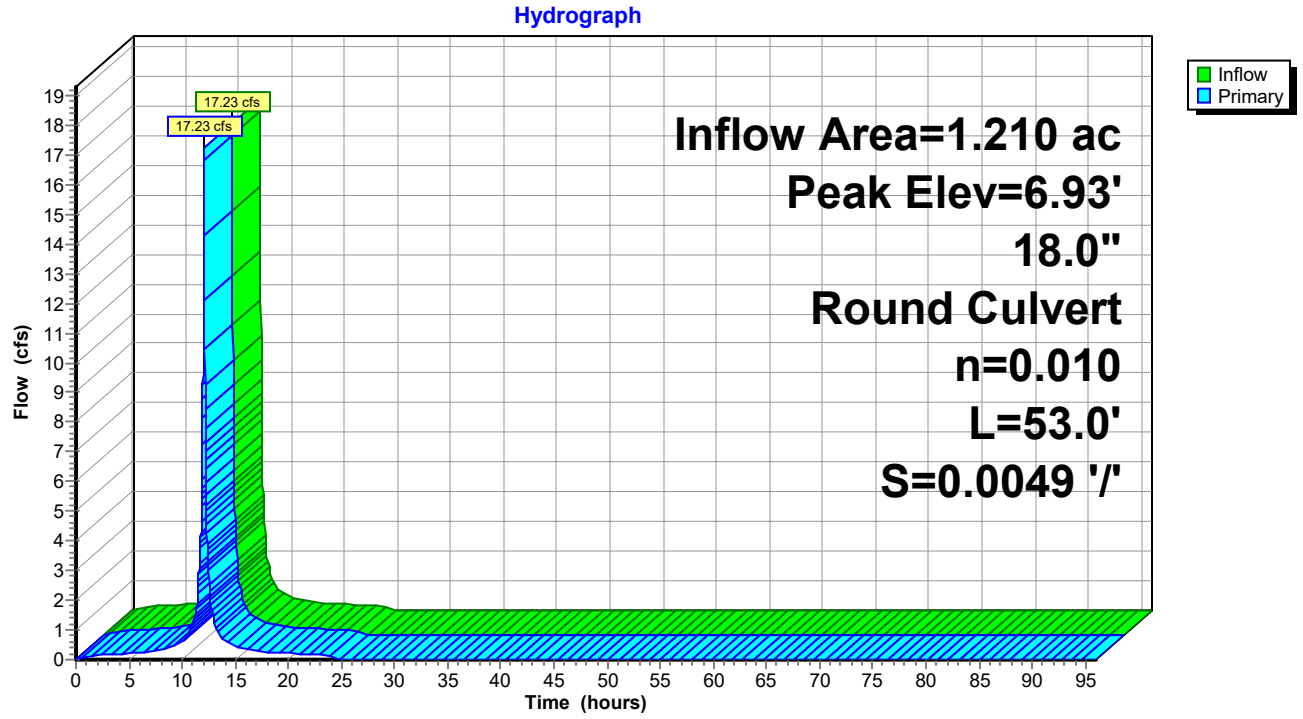
Inflow Area = 1.210 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 17.23 cfs @ 12.10 hrs, Volume= 1.223 af
Outflow = 17.23 cfs @ 12.10 hrs, Volume= 1.223 af, Atten= 0%, Lag= 0.0 min
Primary = 17.23 cfs @ 12.10 hrs, Volume= 1.223 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 6.93' @ 12.10 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.08'	**18.0" Round Culvert** L= 53.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.08' / 1.82' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=17.13 cfs @ 12.10 hrs HW=6.88' (Free Discharge)
1=Culvert (Inlet Controls 17.13 cfs @ 9.69 fps)

Pond 96P: INLET-6



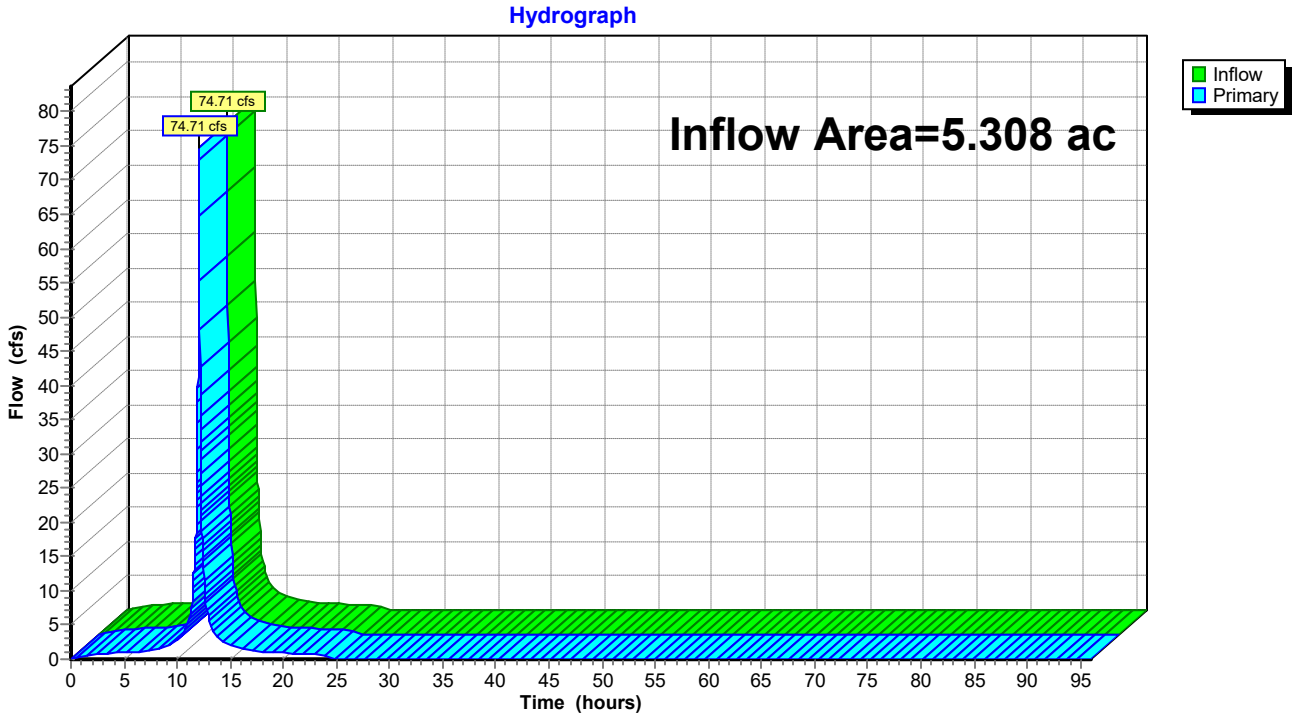
Summary for Pond 97P: OUTFALL

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

Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 74.71 cfs @ 12.10 hrs, Volume= 5.364 af
Primary = 74.71 cfs @ 12.10 hrs, Volume= 5.364 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Pond 97P: OUTFALL



Summary for Pond 98P: MH-6

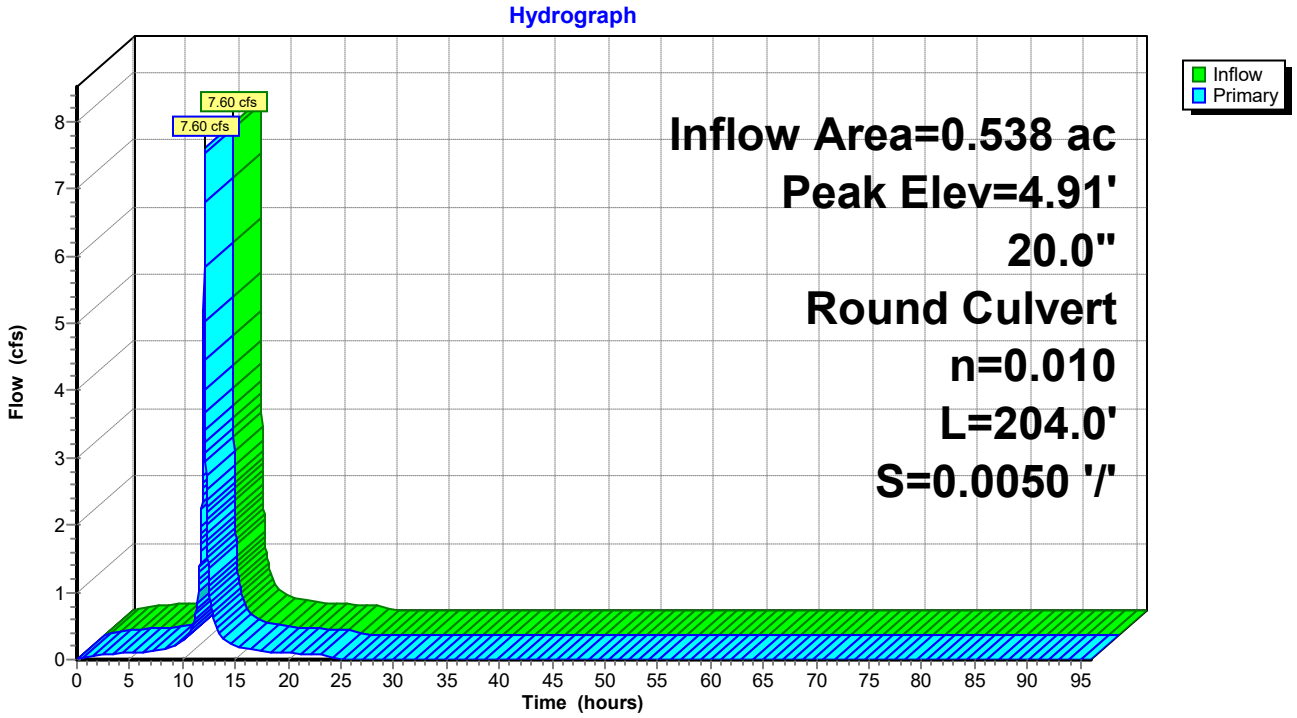
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af
Outflow = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af, Atten= 0%, Lag= 0.0 min
Primary = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af
Routed to Pond 99P : INLET-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.91' @ 12.10 hrs
Flood Elev= 6.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**20.0" Round Culvert** L= 204.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 2.50' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=7.60 cfs @ 12.10 hrs HW=4.91' (Free Discharge)
1=Culvert (Barrel Controls 7.60 cfs @ 5.31 fps)

Pond 98P: MH-6



Summary for Pond 99P: INLET-5

[79] Warning: Submerged Pond 98P Primary device # 1 INLET by 0.57'

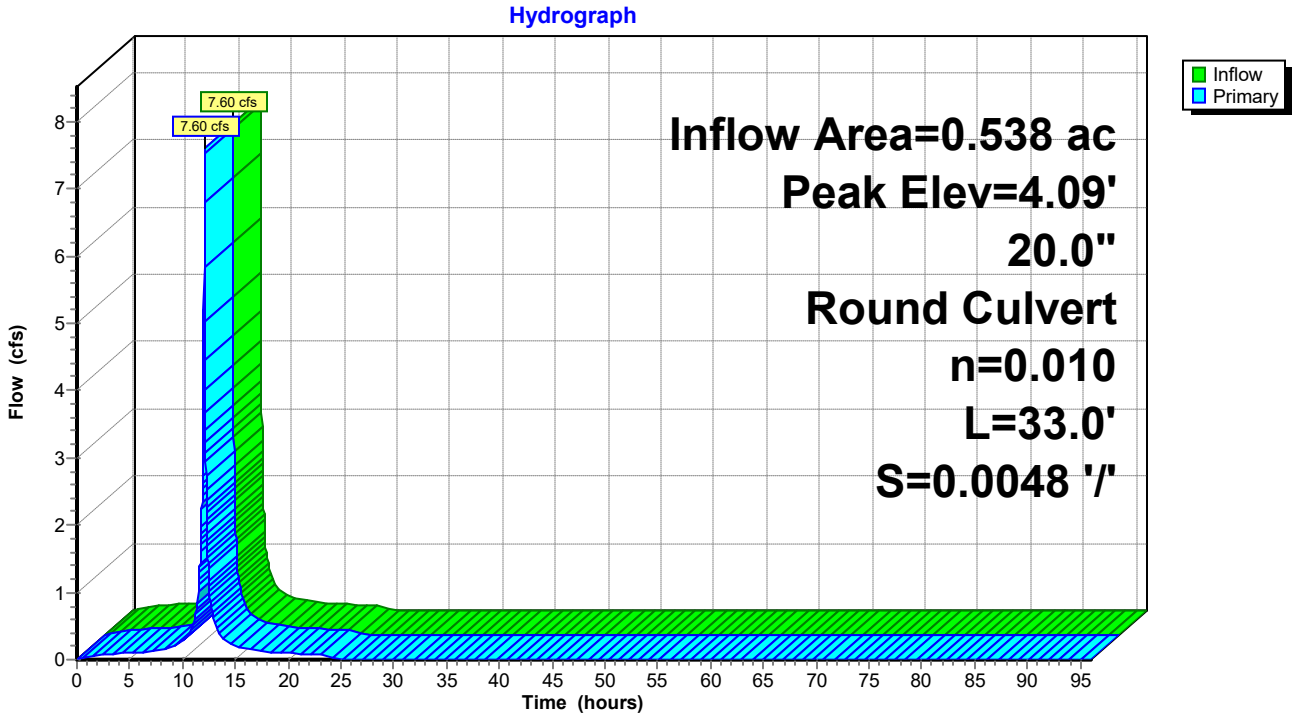
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 12.13" for 100-Year-2050 event
Inflow = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af
Outflow = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af, Atten= 0%, Lag= 0.0 min
Primary = 7.60 cfs @ 12.10 hrs, Volume= 0.544 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.09' @ 12.10 hrs
Flood Elev= 10.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.50'	**20.0" Round Culvert** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.34' S= 0.0048 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=7.60 cfs @ 12.10 hrs HW=4.09' (Free Discharge)
1=Culvert (Barrel Controls 7.60 cfs @ 4.54 fps)

Pond 99P: INLET-5



Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 82S: DA-1 Runoff Area=6,500 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=78' Slope=0.0100 '/' Tc=1.3 min CN=98 Runoff=0.46 cfs 0.013 af

Subcatchment 83S: DA-2 Runoff Area=14,760 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=140' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=1.03 cfs 0.029 af

Subcatchment 84S: DA-3 Runoff Area=15,500 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=140' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=1.08 cfs 0.031 af

Subcatchment 100S: DA-4 Runoff Area=16,100 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=172' Slope=0.0100 '/' Tc=4.0 min CN=98 Runoff=1.01 cfs 0.032 af

Subcatchment 101S: DA-5 Runoff Area=19,975 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=117' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=1.41 cfs 0.040 af

Subcatchment 102S: DA-6 Runoff Area=20,755 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=142' Slope=0.0100 '/' Tc=1.7 min CN=98 Runoff=1.45 cfs 0.041 af

Subcatchment 103S: DA-7 Runoff Area=15,920 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=131' Slope=0.0100 '/' Tc=1.6 min CN=98 Runoff=1.12 cfs 0.032 af

Subcatchment 104S: DA-8 Runoff Area=15,025 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=140' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=1.05 cfs 0.030 af

Subcatchment 105S: DA-9 Runoff Area=15,360 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=111' Slope=0.0100 '/' Tc=1.4 min CN=98 Runoff=1.08 cfs 0.030 af

Subcatchment 106S: DA-11 Runoff Area=9,360 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=125' Slope=0.0100 '/' Tc=1.5 min CN=98 Runoff=0.66 cfs 0.019 af

Subcatchment 107S: DA-12 Runoff Area=15,150 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=140' Slope=0.0100 '/' Tc=2.1 min CN=98 Runoff=1.06 cfs 0.030 af

Subcatchment 108S: DA-13 Runoff Area=8,950 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=49' Slope=0.0100 '/' Tc=0.9 min CN=98 Runoff=0.63 cfs 0.018 af

Subcatchment 109S: DA-14 Runoff Area=20,120 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=213' Slope=0.0100 '/' Tc=2.2 min CN=98 Runoff=1.40 cfs 0.040 af

Subcatchment 110S: DA-15 Runoff Area=14,280 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=134' Slope=0.0100 '/' Tc=1.6 min CN=98 Runoff=1.00 cfs 0.028 af

Subcatchment 111S: DA-10 Runoff Area=23,440 sf 100.00% Impervious Runoff Depth=1.03"
Flow Length=176' Slope=0.0100 '/' Tc=1.9 min CN=98 Runoff=1.63 cfs 0.046 af

Pond 80P: TD-3 Peak Elev=4.50' Inflow=0.46 cfs 0.013 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0051 '/' Outflow=0.46 cfs 0.013 af

Pond 81P: MH-5 Peak Elev=4.52' Inflow=2.55 cfs 0.073 af
18.0" Round Culvert n=0.010 L=76.0' S=0.0050 '/' Outflow=2.55 cfs 0.073 af

Pond 85P: INLET-3 Peak Elev=4.18' Inflow=7.51 cfs 0.217 af
36.0" Round Culvert n=0.010 L=65.0' S=0.0049 '/' Outflow=7.51 cfs 0.217 af

Pond 86P: INLET-1 Peak Elev=4.95' Inflow=1.01 cfs 0.032 af
18.0" Round Culvert n=0.010 L=195.0' S=0.0050 '/' Outflow=1.01 cfs 0.032 af

Pond 87P: INLET-2 Peak Elev=4.22' Inflow=2.40 cfs 0.071 af
22.0" Round Culvert n=0.010 L=98.0' S=0.0050 '/' Outflow=2.40 cfs 0.071 af

Pond 88P: MH--3 Peak Elev=4.02' Inflow=8.55 cfs 0.246 af
36.0" Round Culvert n=0.010 L=140.0' S=0.0025 '/' Outflow=8.55 cfs 0.246 af

Pond 89P: INLET-4 Peak Elev=4.69' Inflow=1.12 cfs 0.032 af
18.0" Round Culvert n=0.010 L=173.0' S=0.0050 '/' Outflow=1.12 cfs 0.032 af

Pond 90P: MH-2 Peak Elev=3.74' Inflow=11.26 cfs 0.323 af
36.0" Round Culvert n=0.010 L=101.0' S=0.0050 '/' Outflow=11.26 cfs 0.323 af

Pond 91P: MH-1 Peak Elev=3.54' Inflow=15.99 cfs 0.458 af
48.0" Round Culvert n=0.010 L=55.0' S=0.0025 '/' Outflow=15.99 cfs 0.458 af

Pond 93P: INLET-9 Peak Elev=4.50' Inflow=1.00 cfs 0.028 af
12.0" Round Culvert n=0.010 L=83.0' S=0.0049 '/' Outflow=1.00 cfs 0.028 af

Pond 94P: INLET-8 Peak Elev=4.22' Inflow=2.39 cfs 0.068 af
22.0" Round Culvert n=0.010 L=161.0' S=0.0050 '/' Outflow=2.39 cfs 0.068 af

Pond 95P: INLET-7 Peak Elev=3.49' Inflow=3.02 cfs 0.086 af
24.0" Round Culvert n=0.010 L=131.0' S=0.0050 '/' Outflow=3.02 cfs 0.086 af

Pond 96P: INLET-6 Peak Elev=3.11' Inflow=3.68 cfs 0.104 af
18.0" Round Culvert n=0.010 L=53.0' S=0.0049 '/' Outflow=3.68 cfs 0.104 af

Pond 97P: OUTFALL Inflow=15.99 cfs 0.458 af
Primary=15.99 cfs 0.458 af

Pond 98P: MH-6 Peak Elev=4.08' Inflow=1.63 cfs 0.046 af
20.0" Round Culvert n=0.010 L=204.0' S=0.0050 '/' Outflow=1.63 cfs 0.046 af

Pond 99P: INLET-5 Peak Elev=3.13' Inflow=1.63 cfs 0.046 af
20.0" Round Culvert n=0.010 L=33.0' S=0.0048 '/' Outflow=1.63 cfs 0.046 af

Total Runoff Area = 5.308 ac Runoff Volume = 0.458 af Average Runoff Depth = 1.03"
0.00% Pervious = 0.000 ac 100.00% Impervious = 5.308 ac

Summary for Subcatchment 82S: DA-1

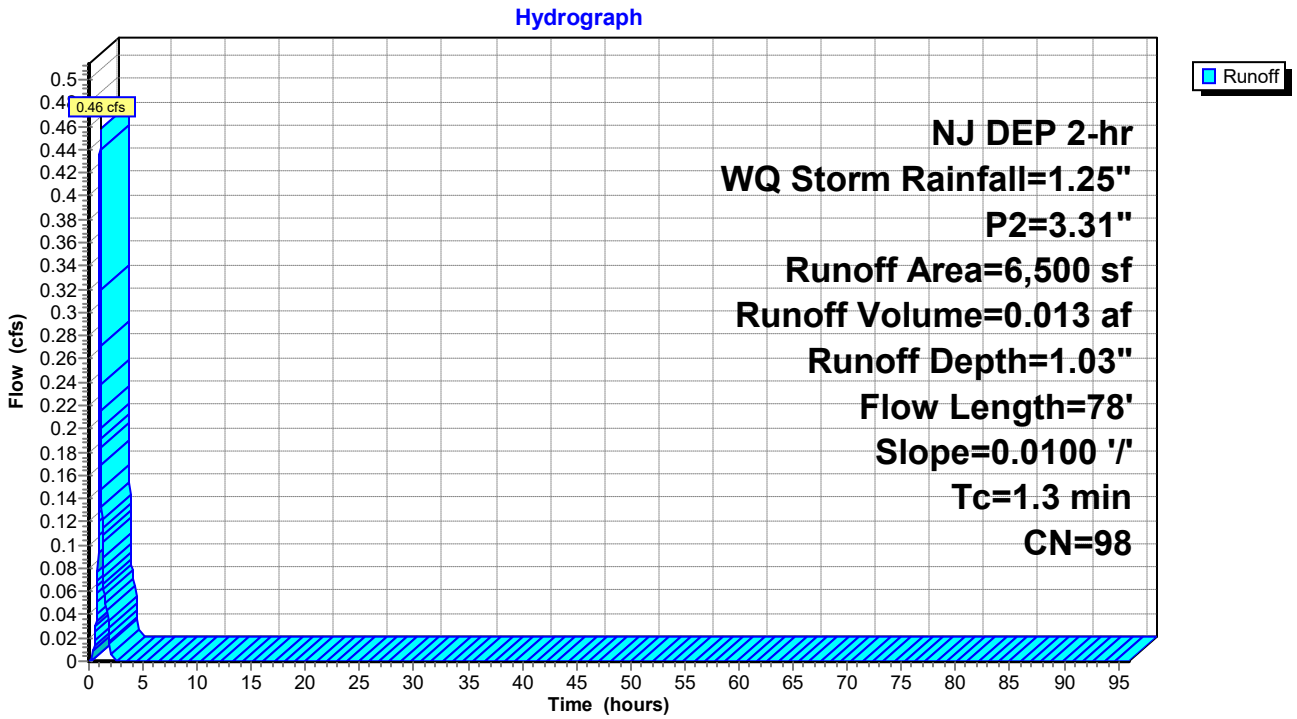
Runoff = 0.46 cfs @ 1.08 hrs, Volume= 0.013 af, Depth= 1.03"
Routed to Pond 80P : TD-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	6,500	98	
	6,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	78	0.0100	1.01		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 82S: DA-1



Summary for Subcatchment 83S: DA-2

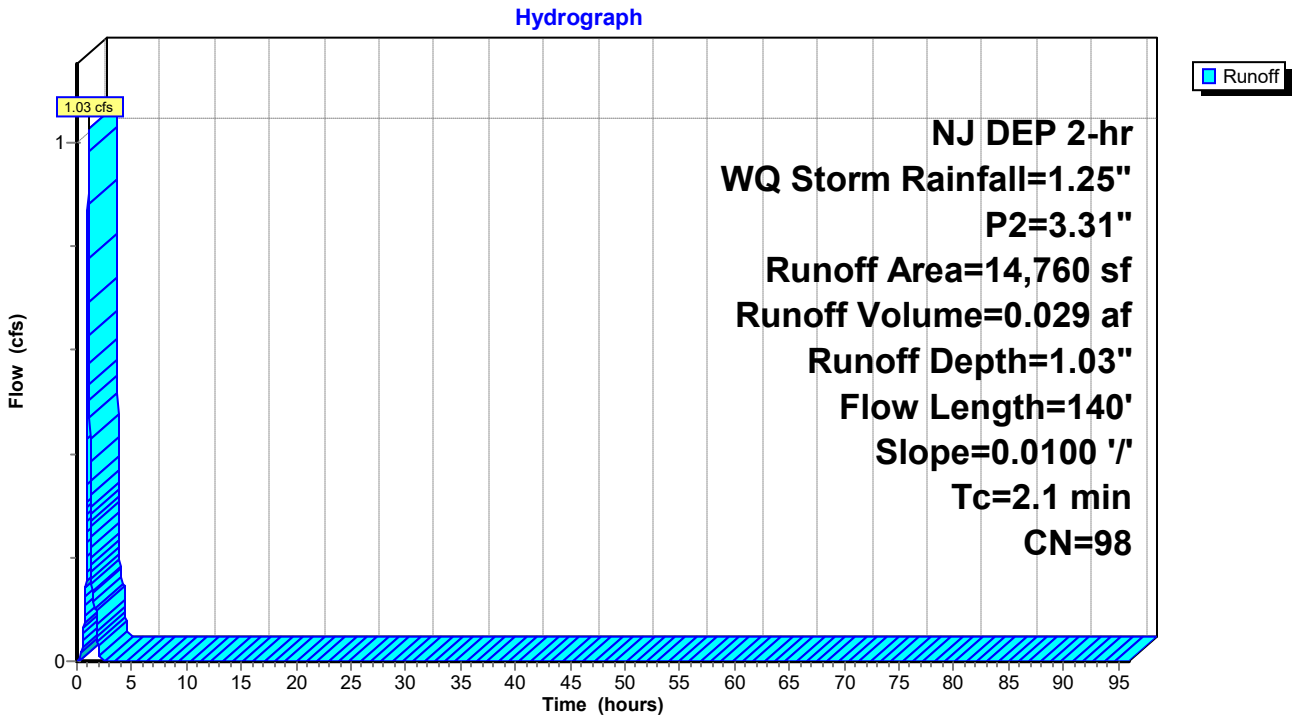
Runoff = 1.03 cfs @ 1.09 hrs, Volume= 0.029 af, Depth= 1.03"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	14,760	98	
	14,760		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	140	0.0100	1.13		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 83S: DA-2



Summary for Subcatchment 84S: DA-3

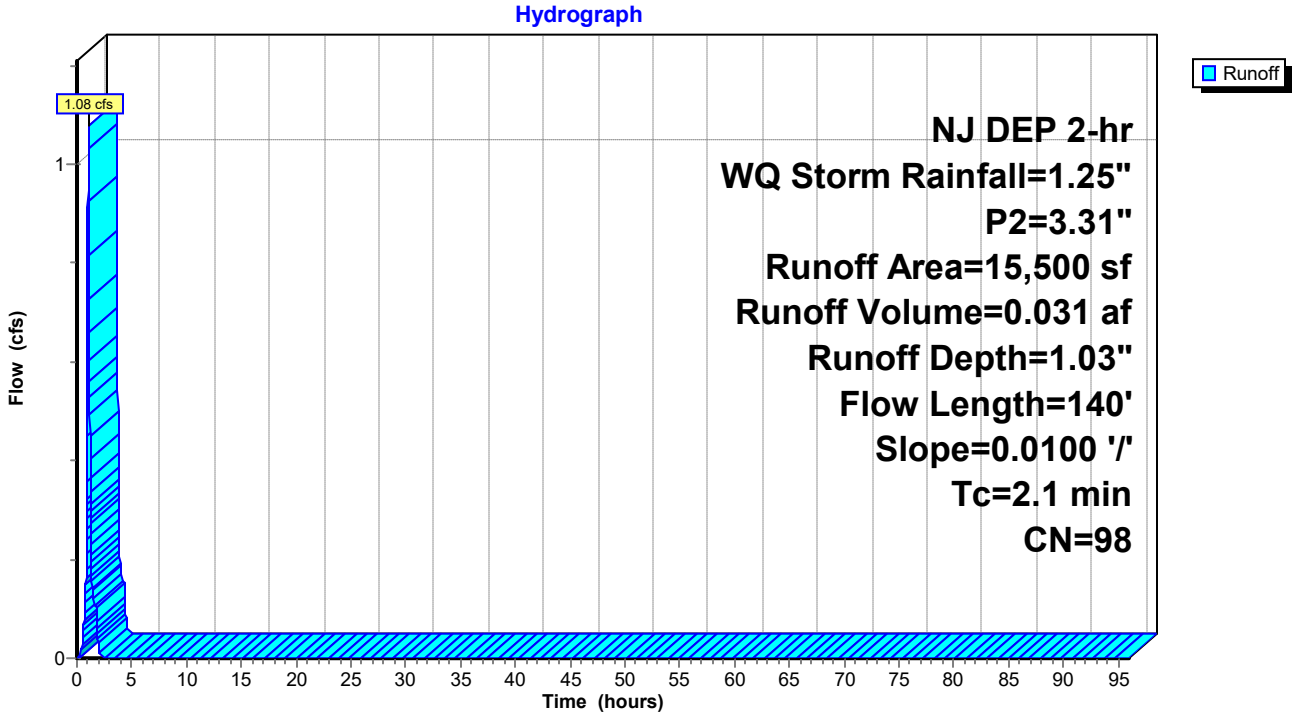
Runoff = 1.08 cfs @ 1.09 hrs, Volume= 0.031 af, Depth= 1.03"
Routed to Pond 81P : MH-5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	15,500	98	
	15,500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	140	0.0100	1.13		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 84S: DA-3



Summary for Subcatchment 100S: DA-4

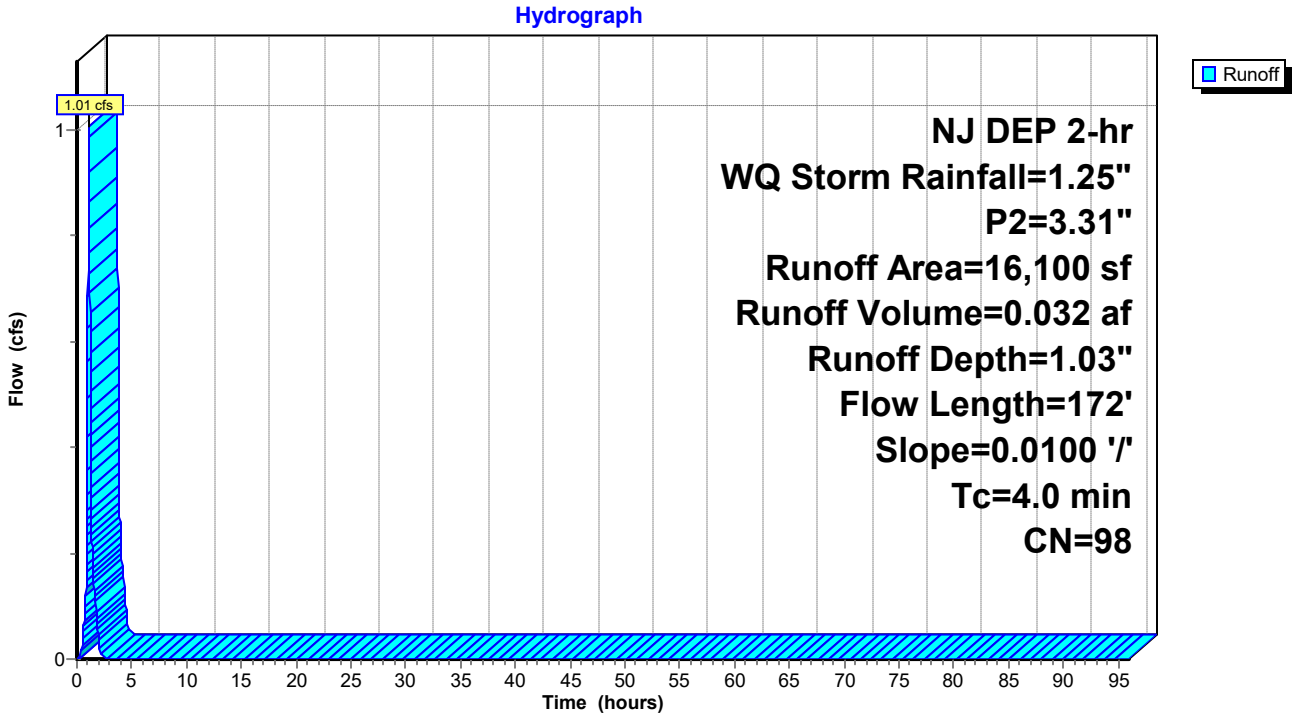
Runoff = 1.01 cfs @ 1.10 hrs, Volume= 0.032 af, Depth= 1.03"
Routed to Pond 86P : INLET-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	16,100	98	
	16,100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	50	0.0100	0.27		**Sheet Flow, Paved** Fallow n= 0.050 P2= 3.31"
1.0	122	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
4.0	172	Total			

Subcatchment 100S: DA-4



Summary for Subcatchment 101S: DA-5

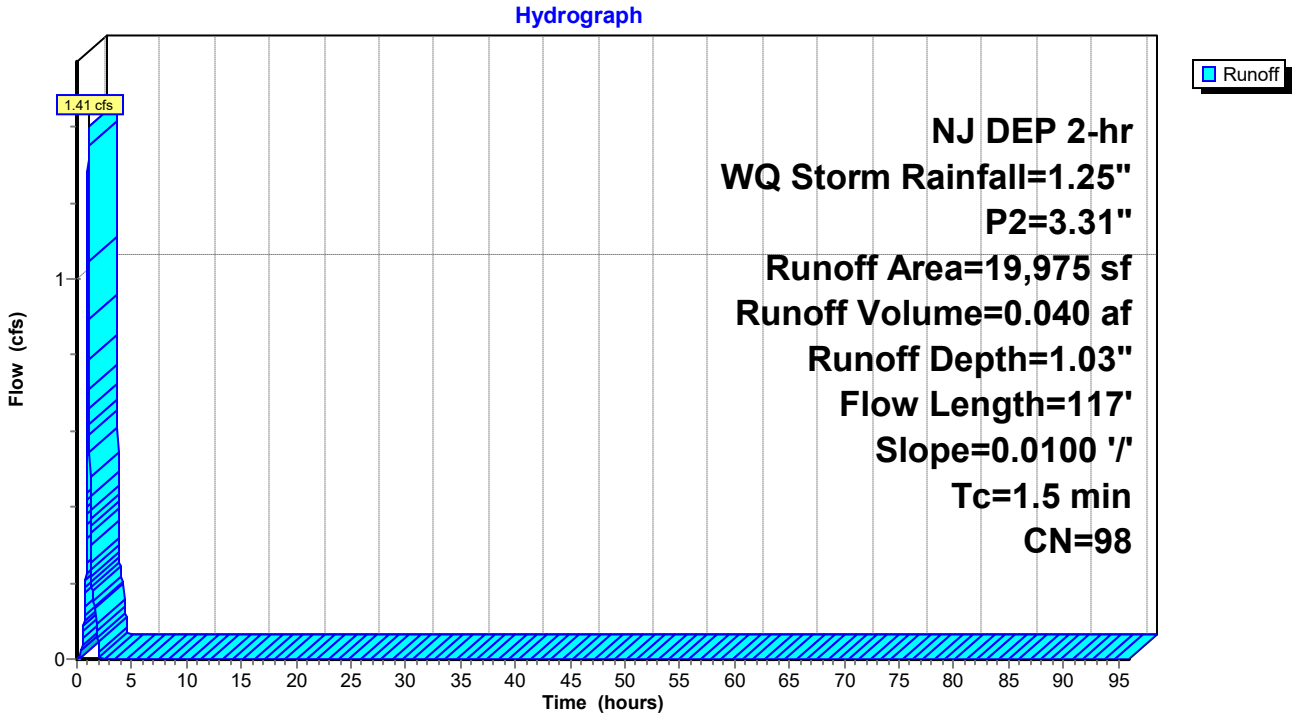
Runoff = 1.41 cfs @ 1.08 hrs, Volume= 0.040 af, Depth= 1.03"
Routed to Pond 87P : INLET-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	19,975	98	
	19,975		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.6	67	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	117	Total			

Subcatchment 101S: DA-5



Summary for Subcatchment 102S: DA-6

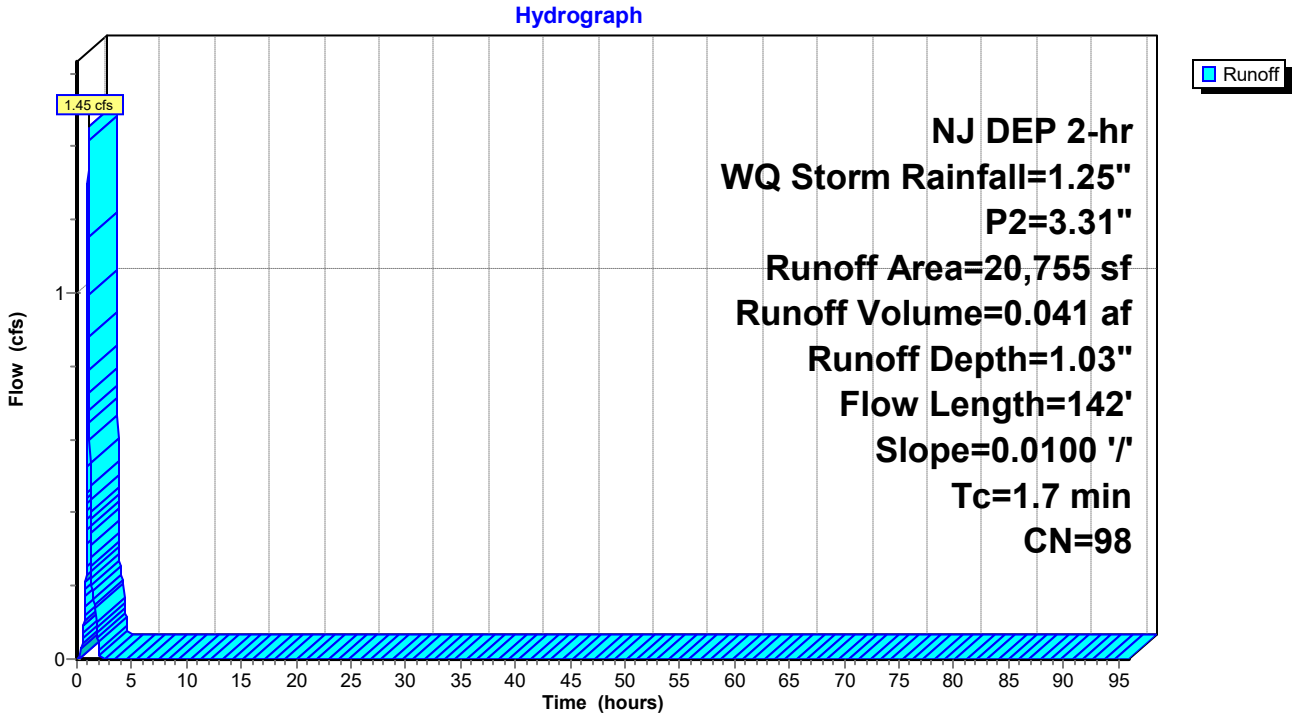
Runoff = 1.45 cfs @ 1.08 hrs, Volume= 0.041 af, Depth= 1.03"
Routed to Pond 85P : INLET-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	20,755	98	
	20,755		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.8	92	0.0100	2.03		**Shallow Concentrated Flow, PAved** Paved Kv= 20.3 fps
1.7	142	Total			

Subcatchment 102S: DA-6



Summary for Subcatchment 103S: DA-7

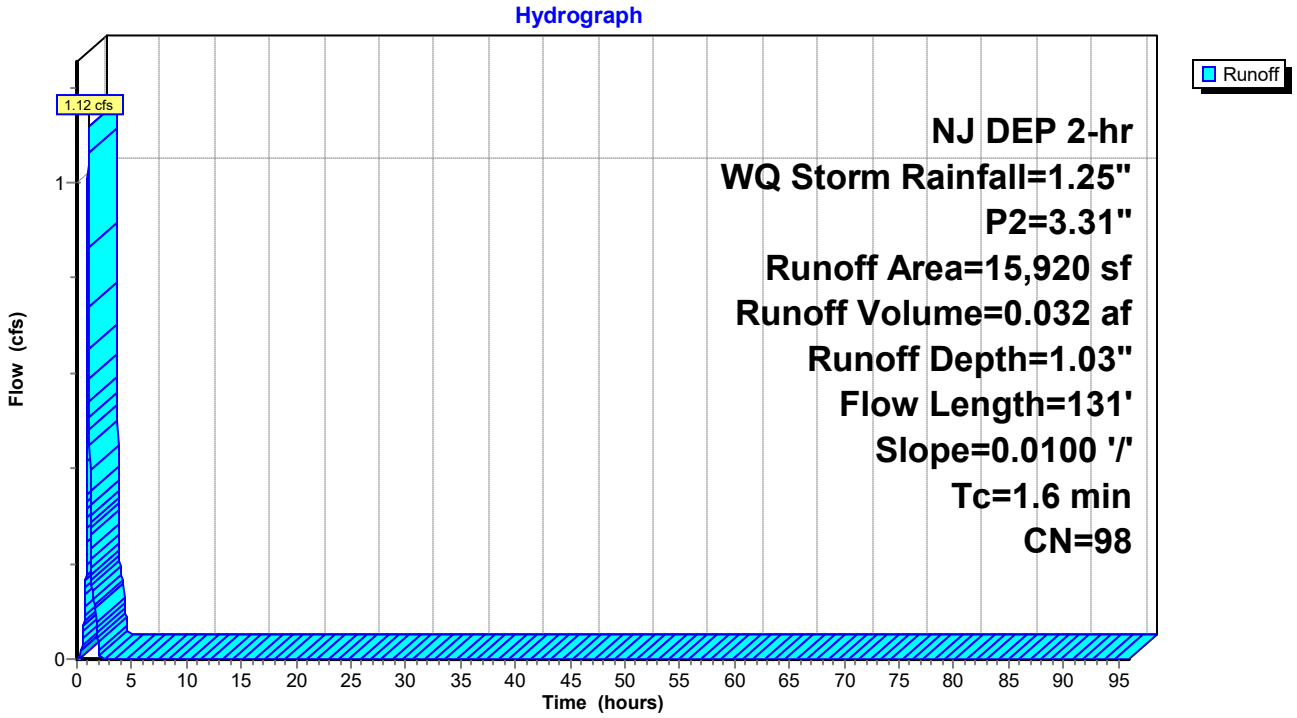
Runoff = 1.12 cfs @ 1.08 hrs, Volume= 0.032 af, Depth= 1.03"
Routed to Pond 89P : INLET-4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	15,920	98	
	15,920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.7	81	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.6	131	Total			

Subcatchment 103S: DA-7



Summary for Subcatchment 104S: DA-8

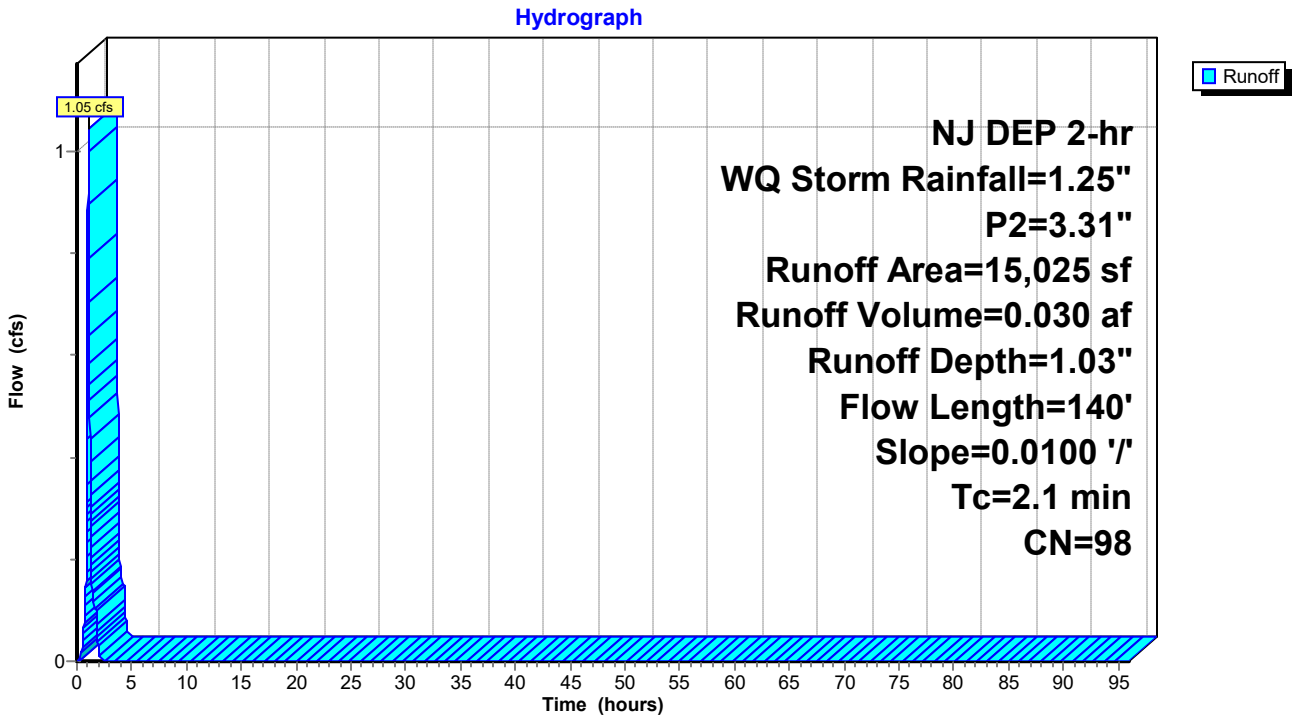
Runoff = 1.05 cfs @ 1.09 hrs, Volume= 0.030 af, Depth= 1.03"
Routed to Pond 88P : MH--3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	15,025	98	
	15,025		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	140	0.0100	1.13		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 104S: DA-8



Summary for Subcatchment 105S: DA-9

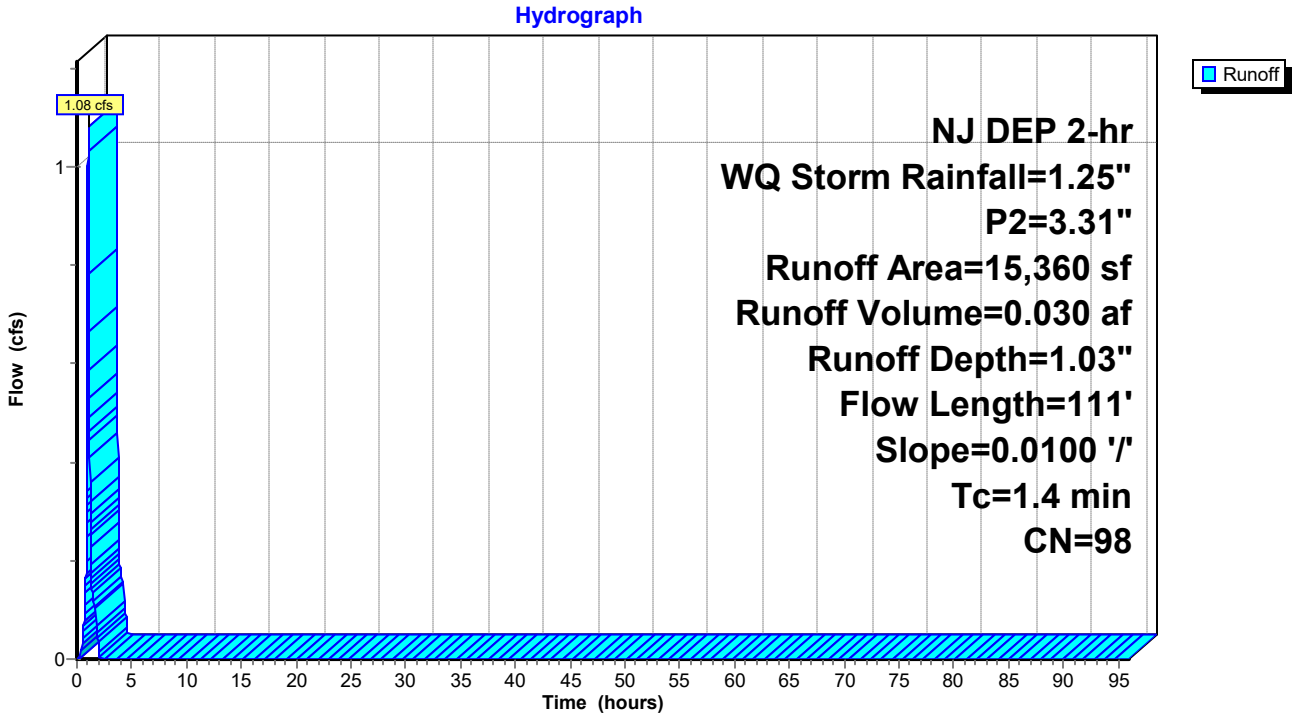
Runoff = 1.08 cfs @ 1.08 hrs, Volume= 0.030 af, Depth= 1.03"
Routed to Pond 90P : MH-2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	15,360	98	
	15,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.5	61	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.4	111	Total			

Subcatchment 105S: DA-9



Summary for Subcatchment 106S: DA-11

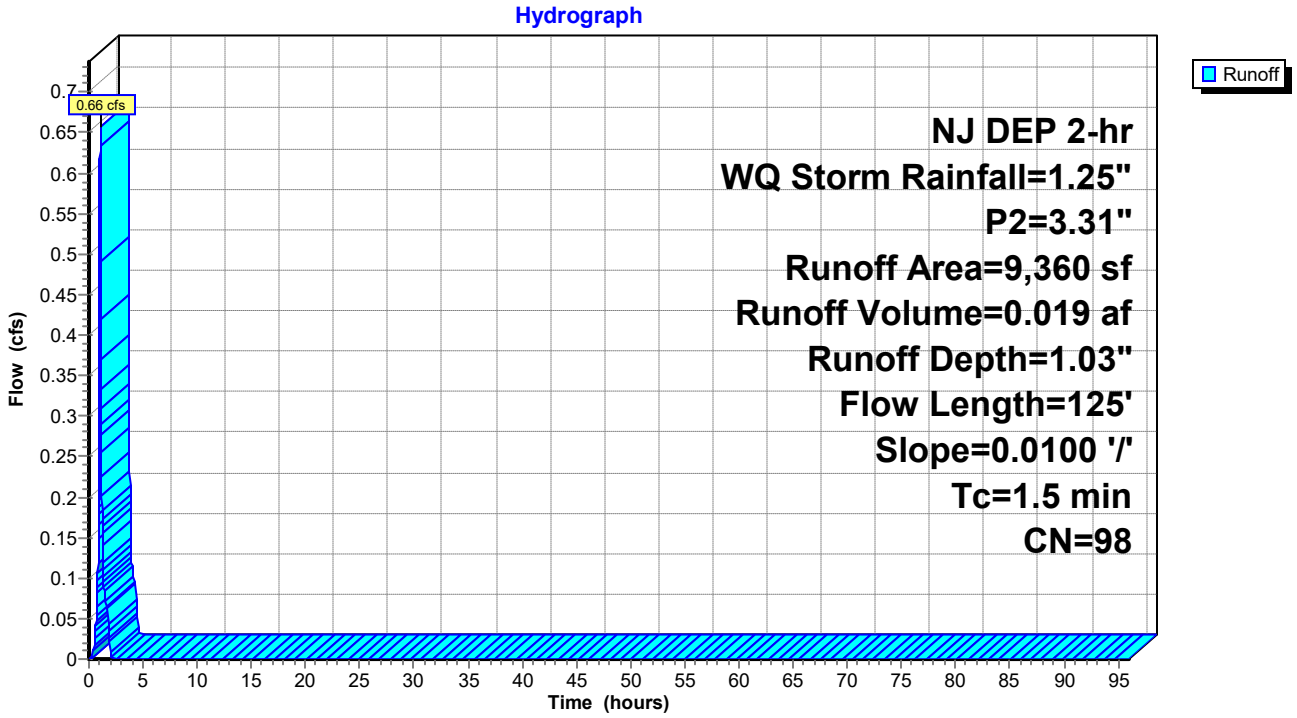
Runoff = 0.66 cfs @ 1.08 hrs, Volume= 0.019 af, Depth= 1.03"
Routed to Pond 96P : INLET-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	9,360	98	
	9,360		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.6	75	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.5	125	Total			

Subcatchment 106S: DA-11



Summary for Subcatchment 107S: DA-12

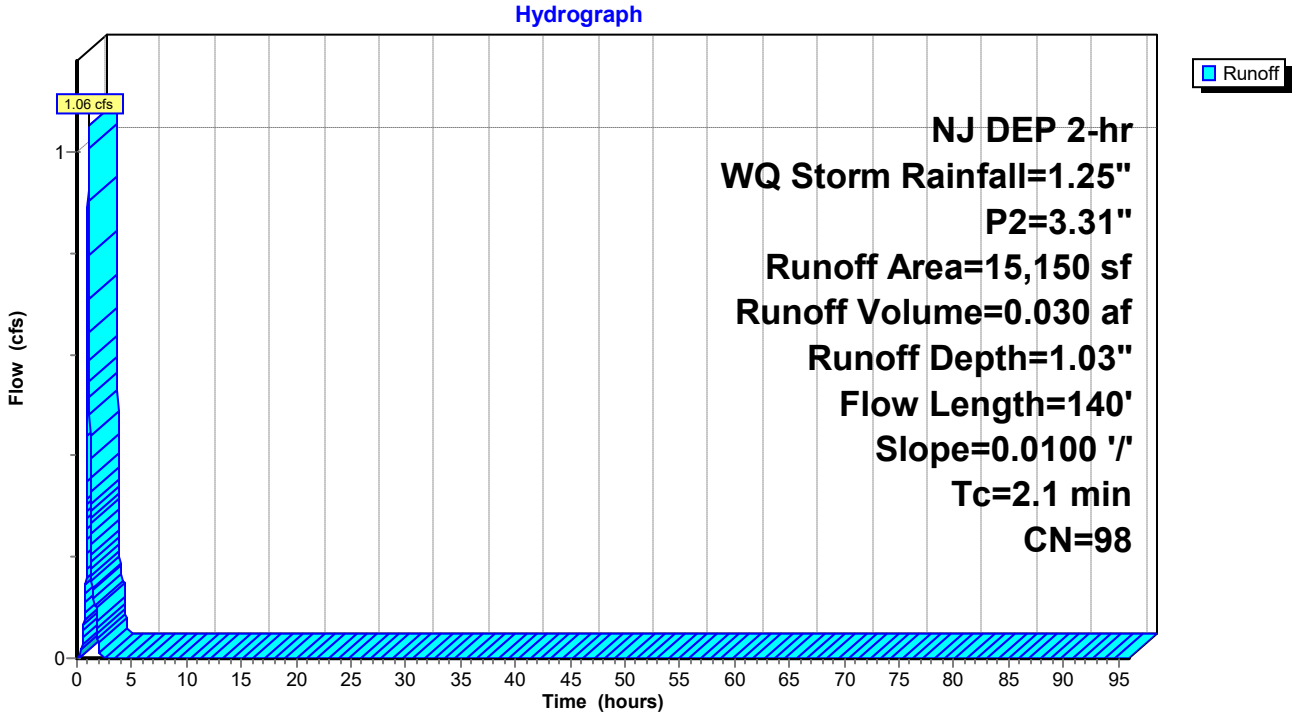
Runoff = 1.06 cfs @ 1.09 hrs, Volume= 0.030 af, Depth= 1.03"
Routed to Pond 91P : MH-1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	15,150	98	
	15,150		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	140	0.0100	1.13		**Sheet Flow, Roof** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 107S: DA-12



Summary for Subcatchment 108S: DA-13

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

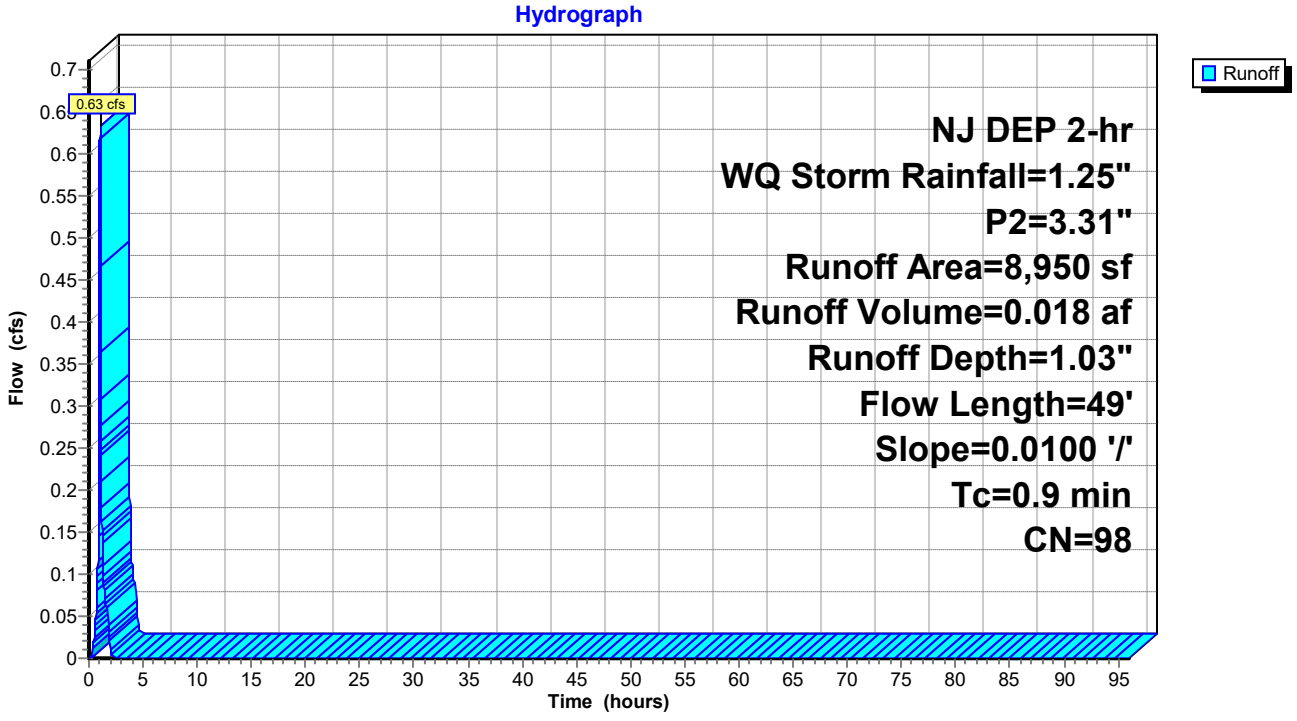
Runoff = 0.63 cfs @ 1.08 hrs, Volume= 0.018 af, Depth= 1.03"
Routed to Pond 95P : INLET-7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	8,950	98	
	8,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	49	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"

Subcatchment 108S: DA-13



Summary for Subcatchment 109S: DA-14

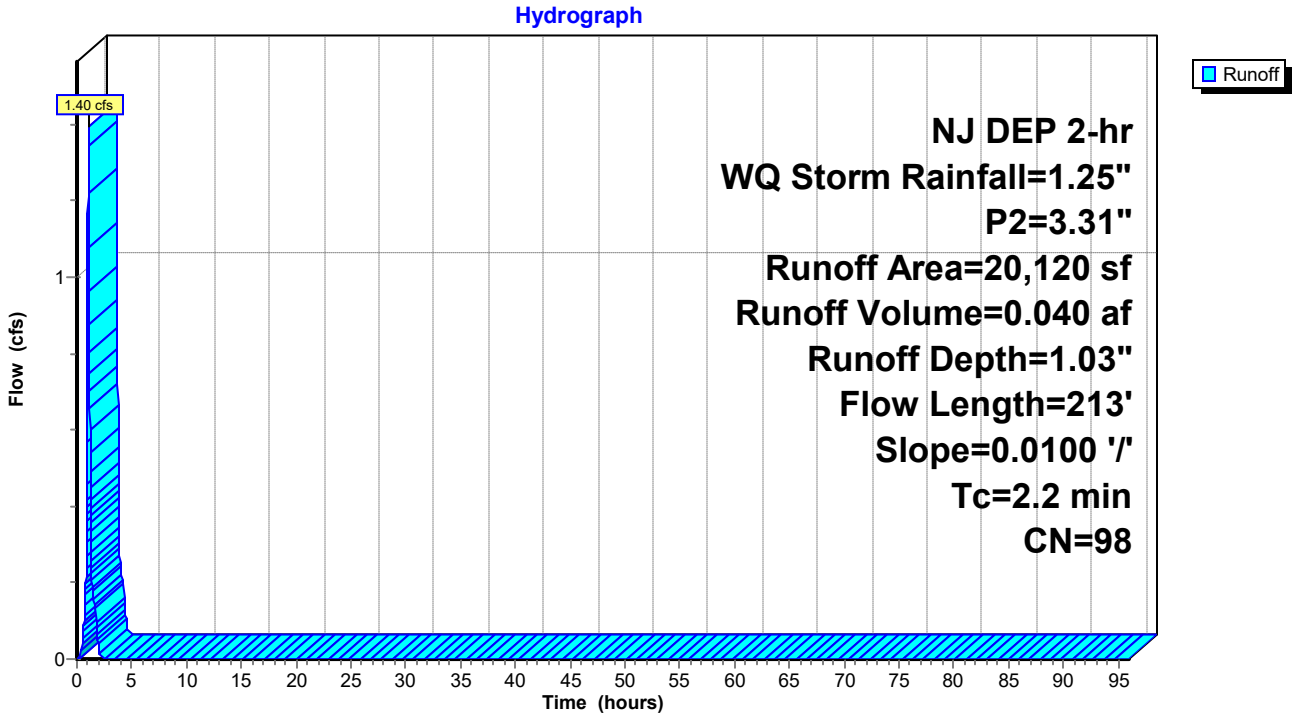
Runoff = 1.40 cfs @ 1.09 hrs, Volume= 0.040 af, Depth= 1.03"
Routed to Pond 94P : INLET-8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	20,120	98	
	20,120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
1.3	163	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
2.2	213	Total			

Subcatchment 109S: DA-14



Summary for Subcatchment 110S: DA-15

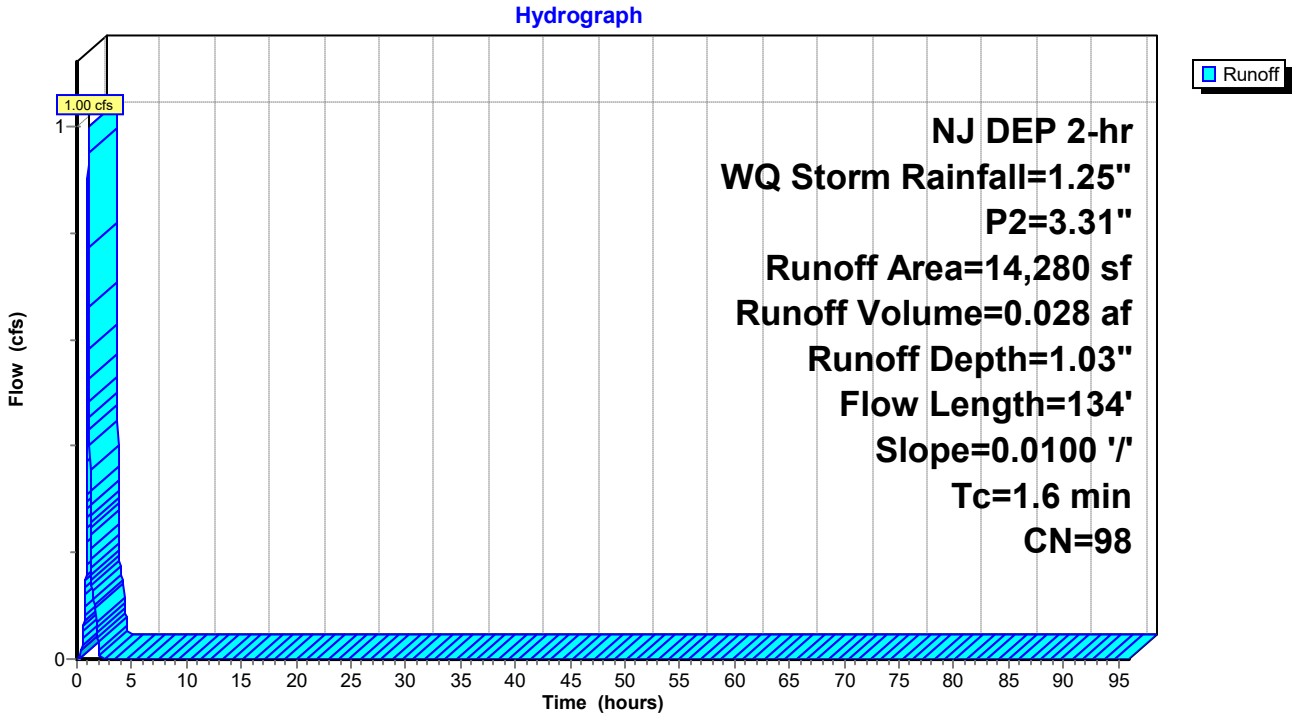
Runoff = 1.00 cfs @ 1.08 hrs, Volume= 0.028 af, Depth= 1.03"
Routed to Pond 93P : INLET-9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	14,280	98	
	14,280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
0.7	84	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.6	134	Total			

Subcatchment 110S: DA-15



Summary for Subcatchment 111S: DA-10

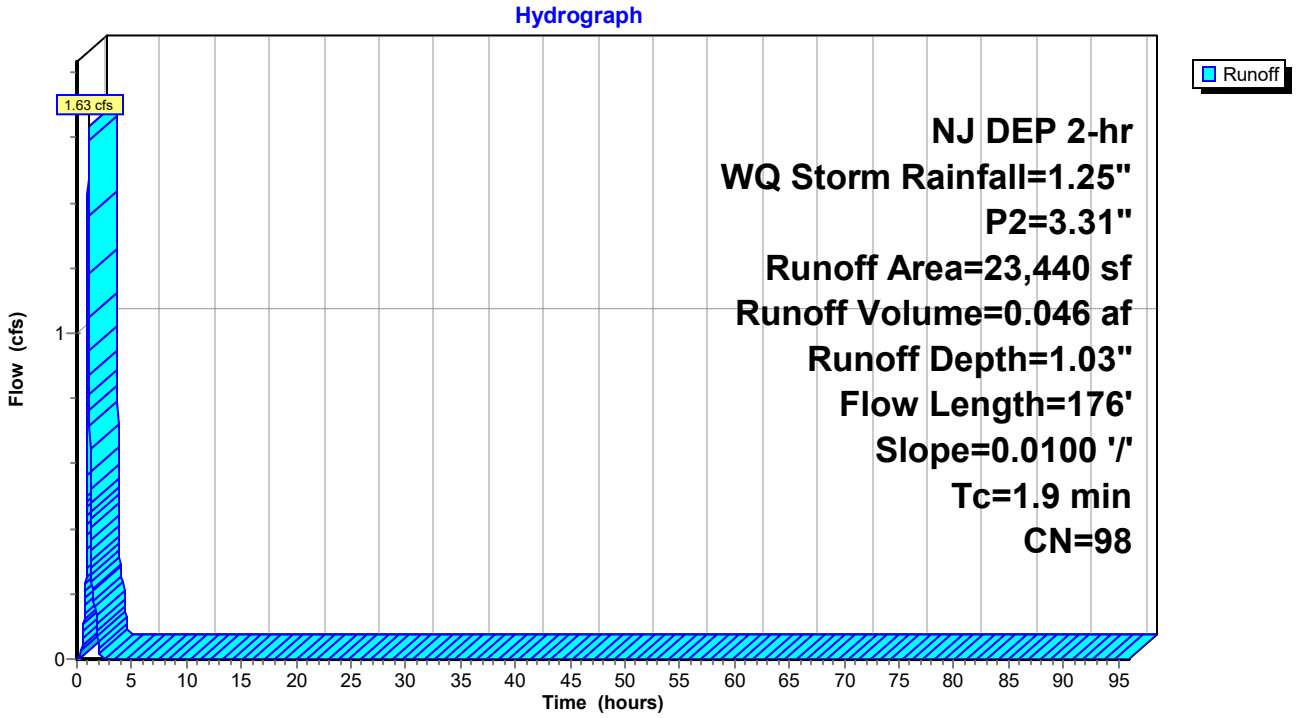
Runoff = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af, Depth= 1.03"
Routed to Pond 98P : MH-6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Storm Rainfall=1.25", P2=3.31"

	Area (sf)	CN	Description
*	23,440	98	
	23,440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.92		**Sheet Flow, Paved** Smooth surfaces n= 0.011 P2= 3.31"
1.0	126	0.0100	2.03		**Shallow Concentrated Flow, Paved** Paved Kv= 20.3 fps
1.9	176	Total			

Subcatchment 111S: DA-10



Summary for Pond 80P: TD-3

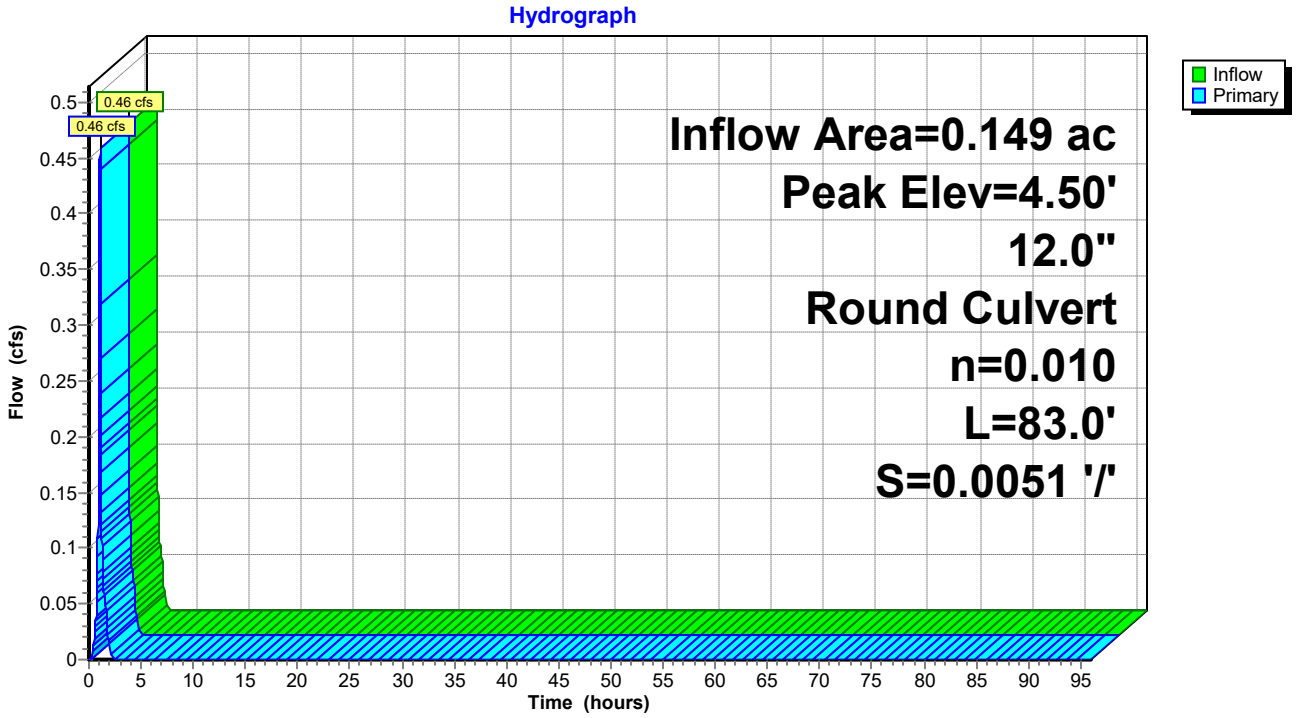
Inflow Area = 0.149 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 0.46 cfs @ 1.08 hrs, Volume= 0.013 af
Outflow = 0.46 cfs @ 1.08 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 1.08 hrs, Volume= 0.013 af
Routed to Pond 81P : MH-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.50' @ 1.08 hrs
Flood Elev= 5.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.14'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.14' / 3.72' S= 0.0051 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.46 cfs @ 1.08 hrs HW=4.50' (Free Discharge)
1=Culvert (Barrel Controls 0.46 cfs @ 2.72 fps)

Pond 80P: TD-3



Summary for Pond 81P: MH-5

[81] Warning: Exceeded Pond 80P by 0.03' @ 1.09 hrs

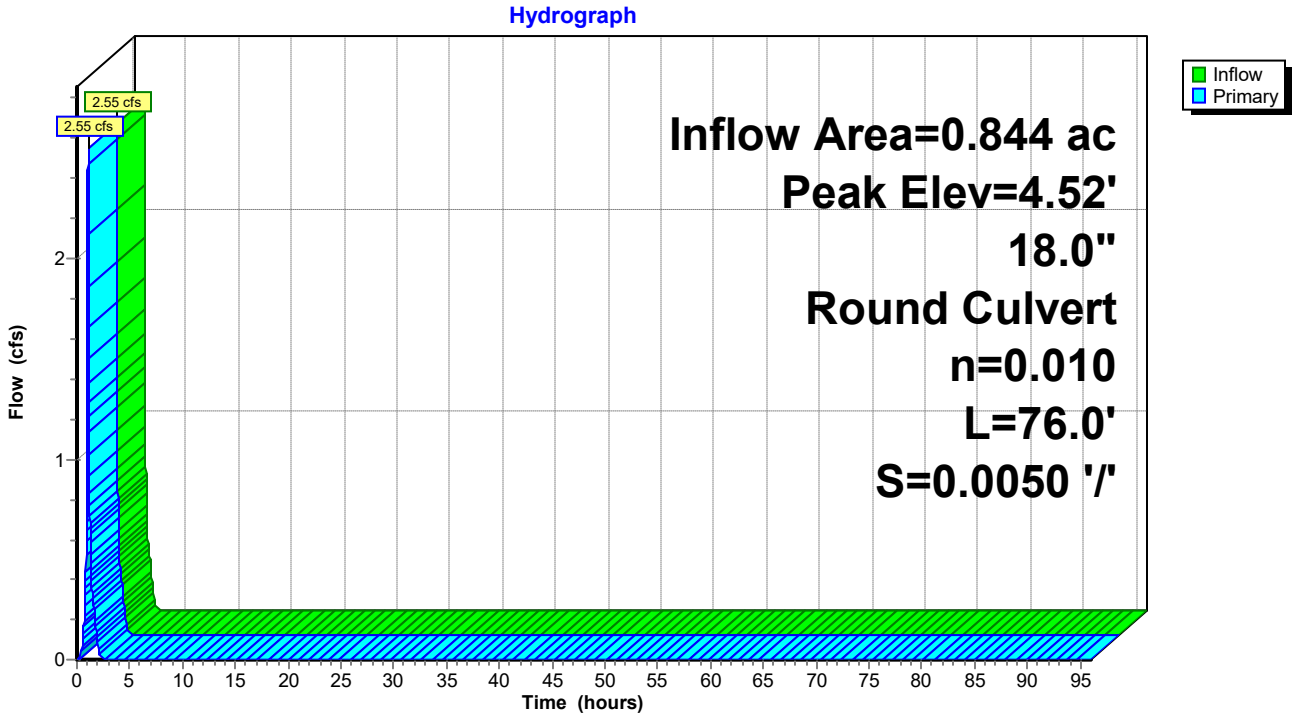
Inflow Area = 0.844 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 2.55 cfs @ 1.08 hrs, Volume= 0.073 af
Outflow = 2.55 cfs @ 1.08 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Primary = 2.55 cfs @ 1.08 hrs, Volume= 0.073 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.52' @ 1.08 hrs
Flood Elev= 9.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.72'	**18.0" Round Culvert** L= 76.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.72' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.55 cfs @ 1.08 hrs HW=4.52' (Free Discharge)
1=Culvert (Barrel Controls 2.55 cfs @ 3.86 fps)

Pond 81P: MH-5



Summary for Pond 85P: INLET-3

[79] Warning: Submerged Pond 81P Primary device # 1 INLET by 0.46'
[79] Warning: Submerged Pond 87P Primary device # 1 INLET by 0.66'
[79] Warning: Submerged Pond 89P Primary device # 1 OUTLET by 0.84'

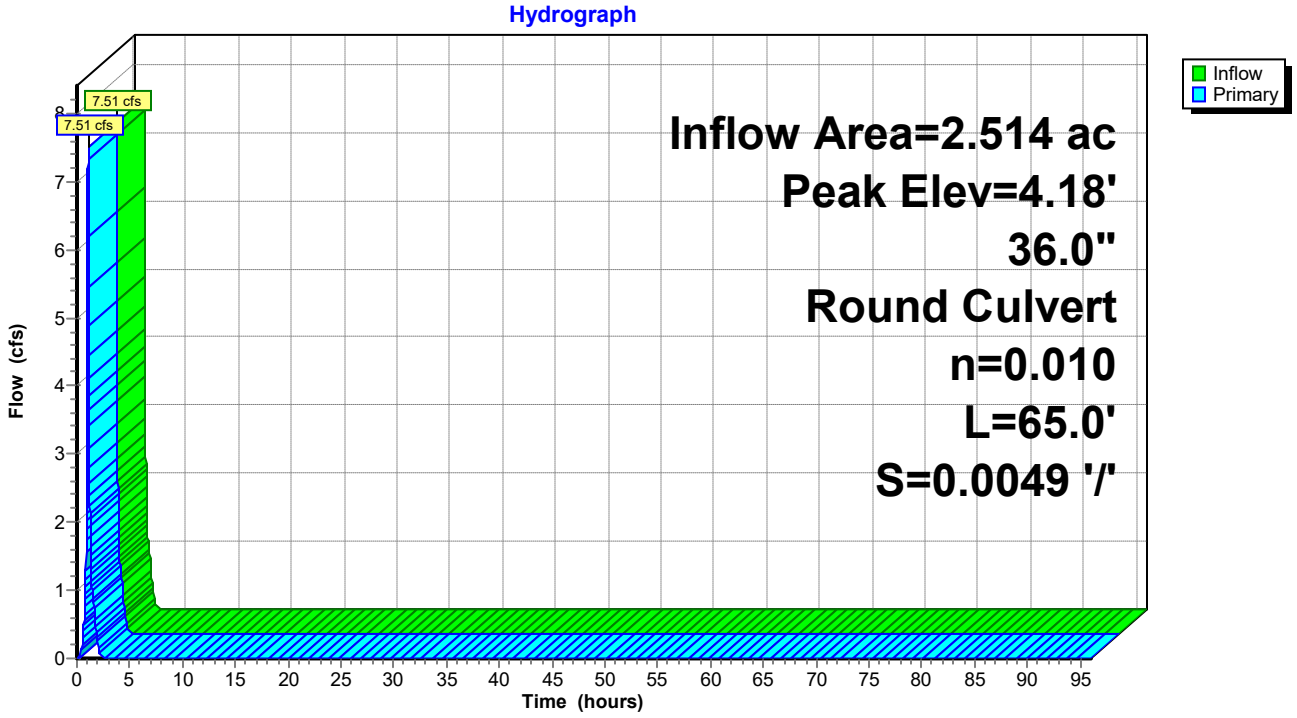
Inflow Area = 2.514 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 7.51 cfs @ 1.08 hrs, Volume= 0.217 af
Outflow = 7.51 cfs @ 1.08 hrs, Volume= 0.217 af, Atten= 0%, Lag= 0.0 min
Primary = 7.51 cfs @ 1.08 hrs, Volume= 0.217 af
Routed to Pond 88P : MH--3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.18' @ 1.08 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.03'	**36.0" Round Culvert** L= 65.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.03' / 2.71' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=7.50 cfs @ 1.08 hrs HW=4.18' (Free Discharge)
1=Culvert (Barrel Controls 7.50 cfs @ 4.44 fps)

Pond 85P: INLET-3



Summary for Pond 86P: INLET-1

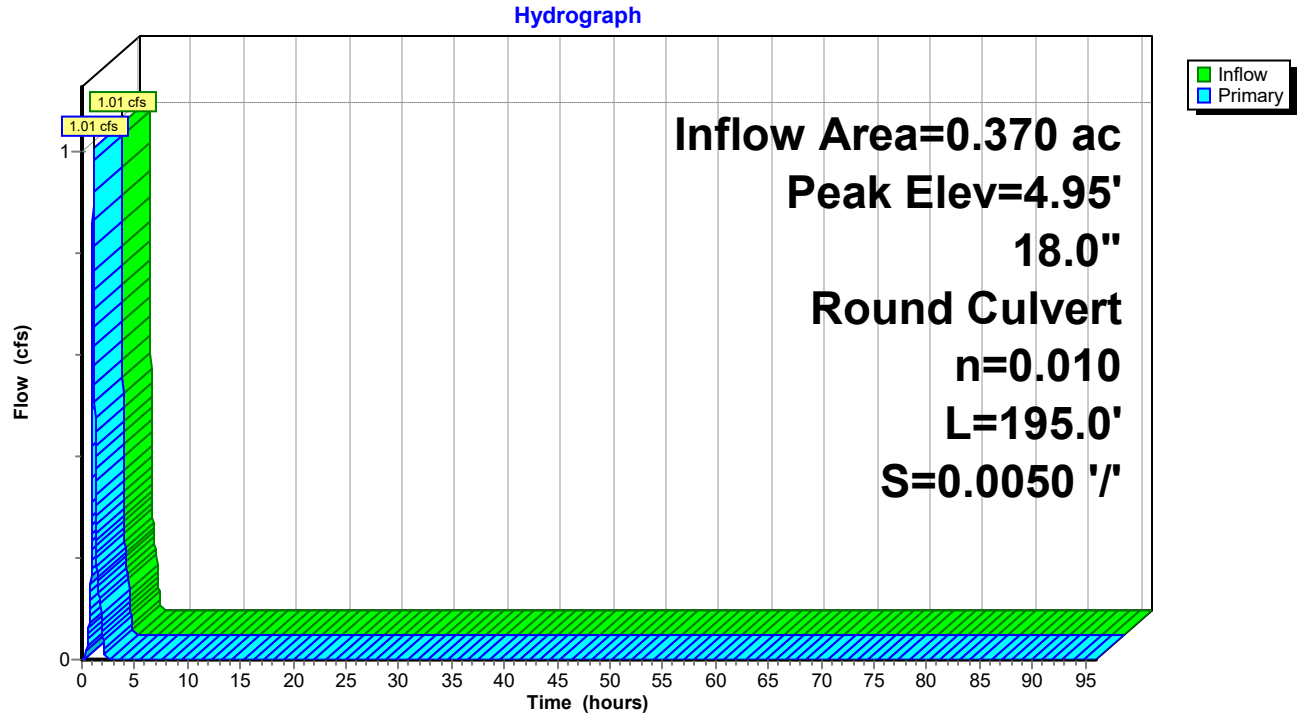
Inflow Area = 0.370 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 1.01 cfs @ 1.10 hrs, Volume= 0.032 af
Outflow = 1.01 cfs @ 1.10 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 1.01 cfs @ 1.10 hrs, Volume= 0.032 af
Routed to Pond 87P : INLET-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.95' @ 1.10 hrs
Flood Elev= 6.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.50'	**18.0" Round Culvert** L= 195.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.50' / 3.52' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.01 cfs @ 1.10 hrs HW=4.95' (Free Discharge)
1=Culvert (Barrel Controls 1.01 cfs @ 3.34 fps)

Pond 86P: INLET-1



Summary for Pond 87P: INLET-2

[79] Warning: Submerged Pond 86P Primary device # 1 OUTLET by 0.70'

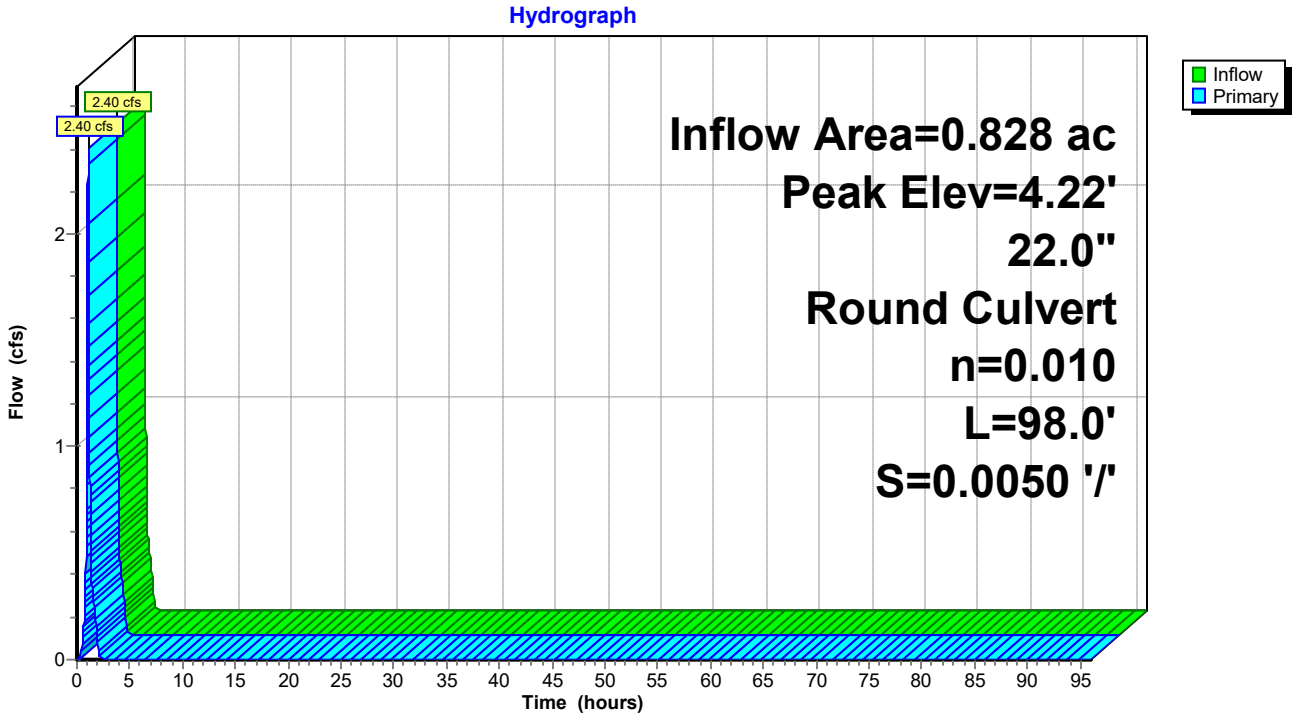
Inflow Area = 0.828 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 2.40 cfs @ 1.09 hrs, Volume= 0.071 af
Outflow = 2.40 cfs @ 1.09 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min
Primary = 2.40 cfs @ 1.09 hrs, Volume= 0.071 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.22' @ 1.09 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**22.0" Round Culvert** L= 98.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 3.03' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=2.38 cfs @ 1.09 hrs HW=4.22' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.38 cfs @ 3.83 fps)

Pond 87P: INLET-2



Summary for Pond 88P: MH--3

[79] Warning: Submerged Pond 85P Primary device # 1 INLET by 0.99'

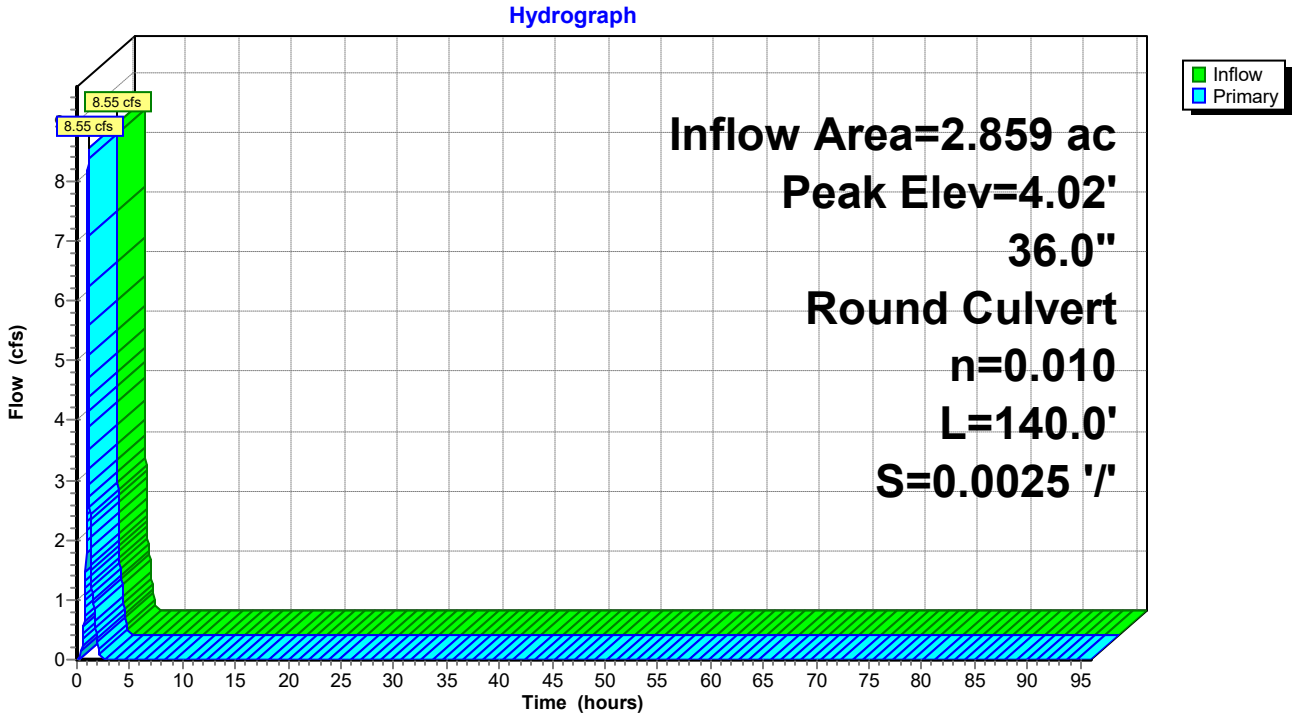
Inflow Area = 2.859 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 8.55 cfs @ 1.08 hrs, Volume= 0.246 af
Outflow = 8.55 cfs @ 1.08 hrs, Volume= 0.246 af, Atten= 0%, Lag= 0.0 min
Primary = 8.55 cfs @ 1.08 hrs, Volume= 0.246 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.02' @ 1.08 hrs
Flood Elev= 9.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.71'	**36.0" Round Culvert** L= 140.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.71' / 2.36' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=8.54 cfs @ 1.08 hrs HW=4.02' (Free Discharge)
1=Culvert (Barrel Controls 8.54 cfs @ 4.25 fps)

Pond 88P: MH--3



Summary for Pond 89P: INLET-4

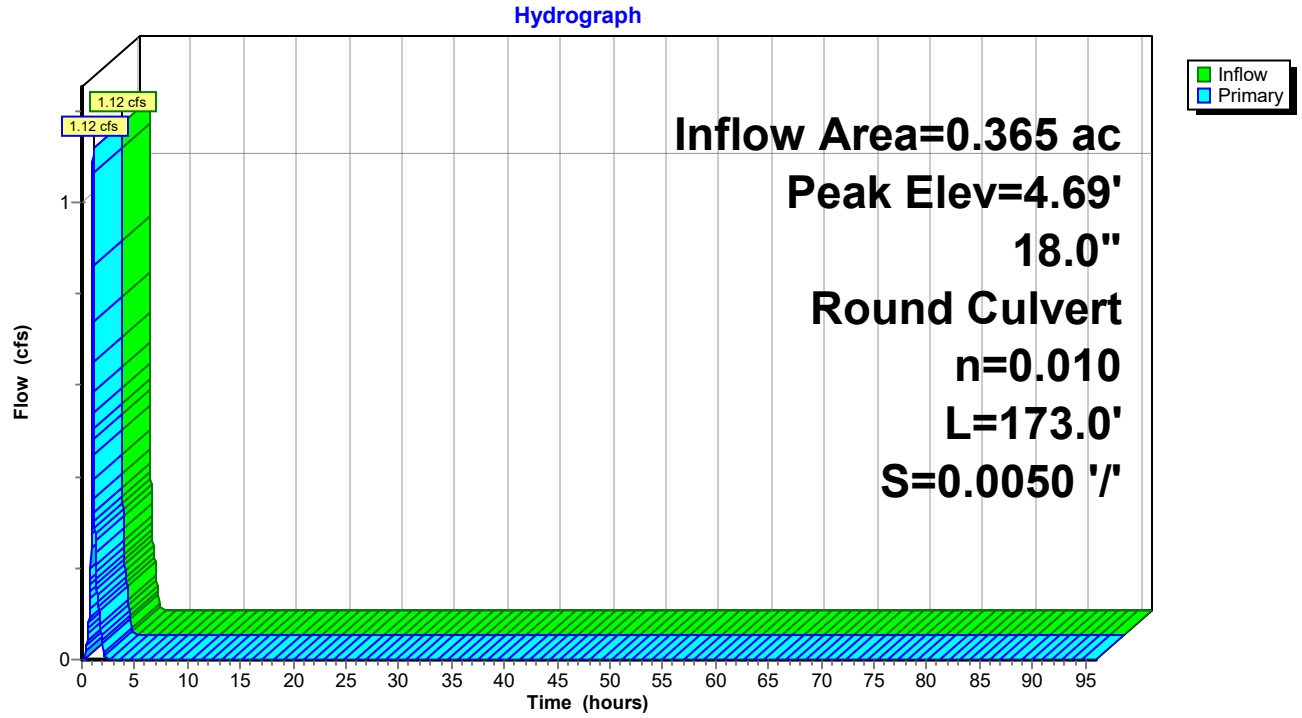
Inflow Area = 0.365 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 1.12 cfs @ 1.08 hrs, Volume= 0.032 af
Outflow = 1.12 cfs @ 1.08 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 1.08 hrs, Volume= 0.032 af
Routed to Pond 85P : INLET-3

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.69' @ 1.08 hrs
Flood Elev= 7.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	4.21'	**18.0" Round Culvert** L= 173.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 4.21' / 3.34' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.12 cfs @ 1.08 hrs HW=4.69' (Free Discharge)
1=Culvert (Barrel Controls 1.12 cfs @ 3.41 fps)

Pond 89P: INLET-4



Summary for Pond 90P: MH-2

[79] Warning: Submerged Pond 88P Primary device # 1 INLET by 1.03'
[81] Warning: Exceeded Pond 99P by 0.60' @ 1.08 hrs

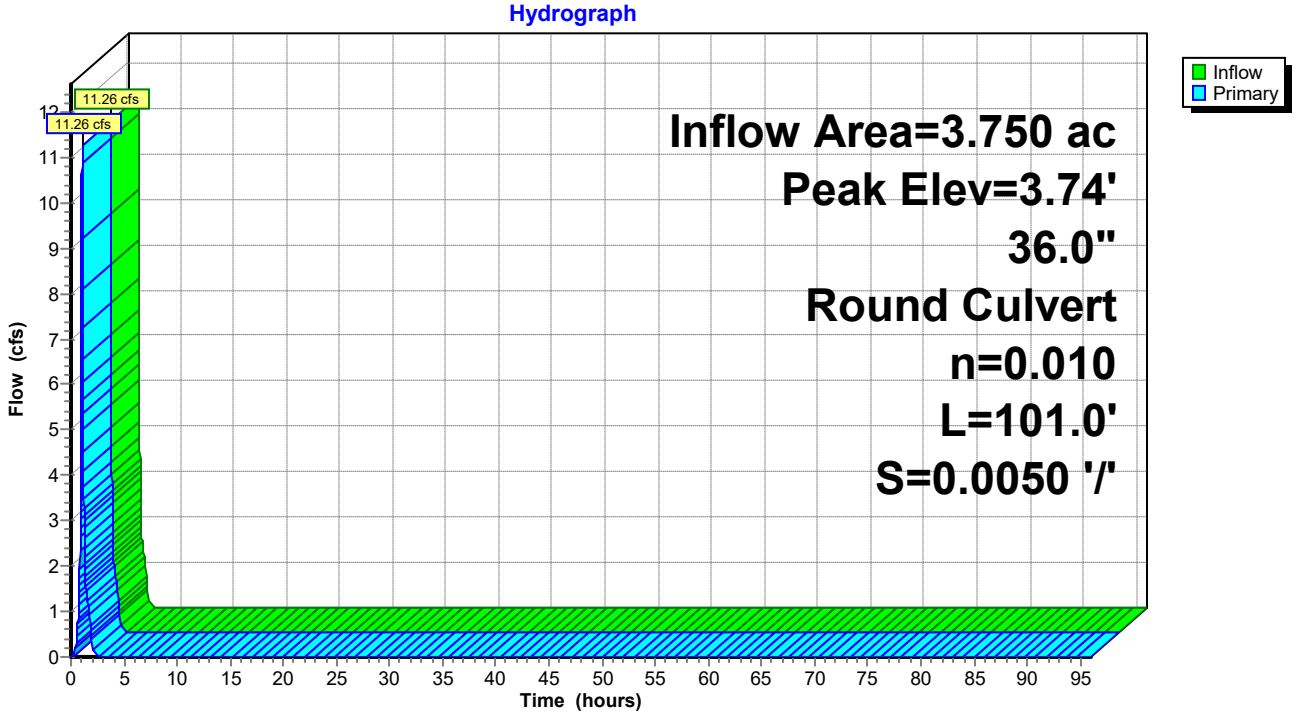
Inflow Area = 3.750 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 11.26 cfs @ 1.08 hrs, Volume= 0.323 af
Outflow = 11.26 cfs @ 1.08 hrs, Volume= 0.323 af, Atten= 0%, Lag= 0.0 min
Primary = 11.26 cfs @ 1.08 hrs, Volume= 0.323 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.74' @ 1.08 hrs
Flood Elev= 10.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.34'	**36.0" Round Culvert** L= 101.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.34' / 1.83' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=11.24 cfs @ 1.08 hrs HW=3.74' (Free Discharge)
└**1=Culvert** (Barrel Controls 11.24 cfs @ 5.12 fps)

Pond 90P: MH-2



Summary for Pond 91P: MH-1

[79] Warning: Submerged Pond 90P Primary device # 1 INLET by 1.20'
[81] Warning: Exceeded Pond 96P by 0.43' @ 1.09 hrs

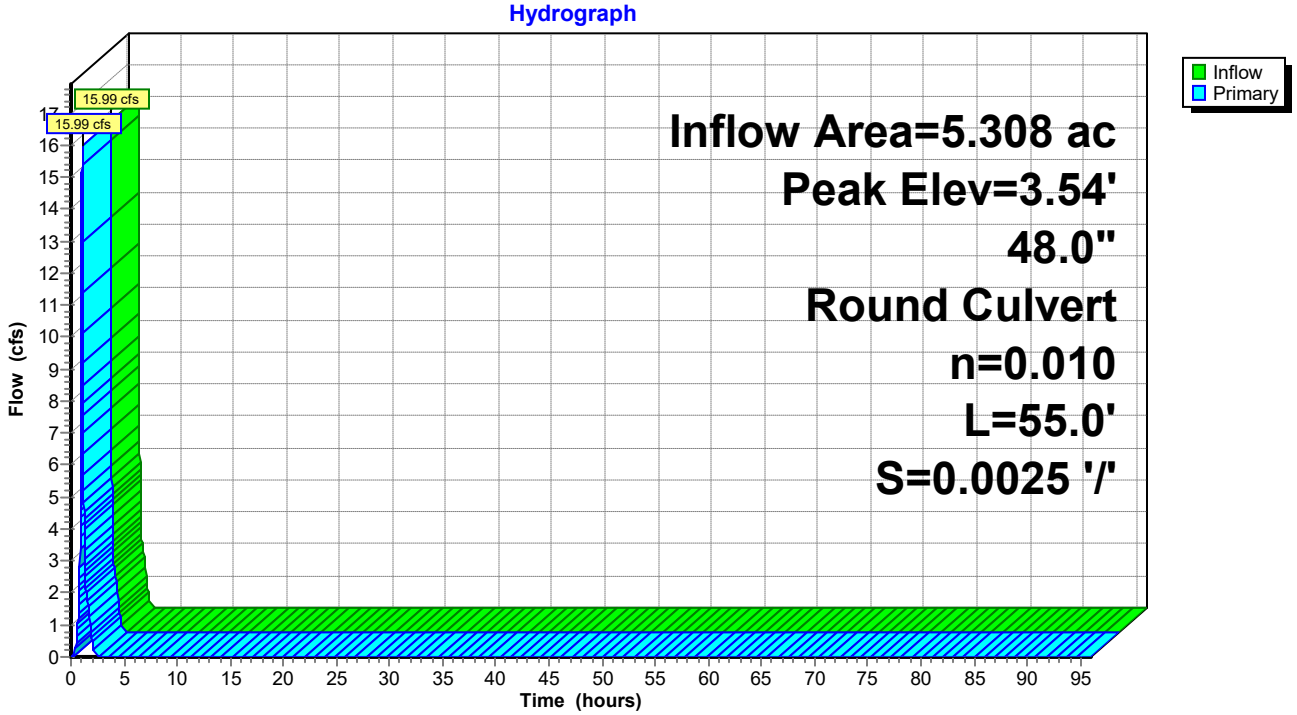
Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 15.99 cfs @ 1.08 hrs, Volume= 0.458 af
Outflow = 15.99 cfs @ 1.08 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min
Primary = 15.99 cfs @ 1.08 hrs, Volume= 0.458 af
Routed to Pond 97P : OUTFALL

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.54' @ 1.08 hrs
Flood Elev= 9.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	1.82'	**48.0" Round Culvert** L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1.82' / 1.68' S= 0.0025 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 12.57 sf

Primary OutFlow Max=15.97 cfs @ 1.08 hrs HW=3.53' (Free Discharge)
└**1=Culvert** (Barrel Controls 15.97 cfs @ 4.58 fps)

Pond 91P: MH-1



Summary for Pond 93P: INLET-9

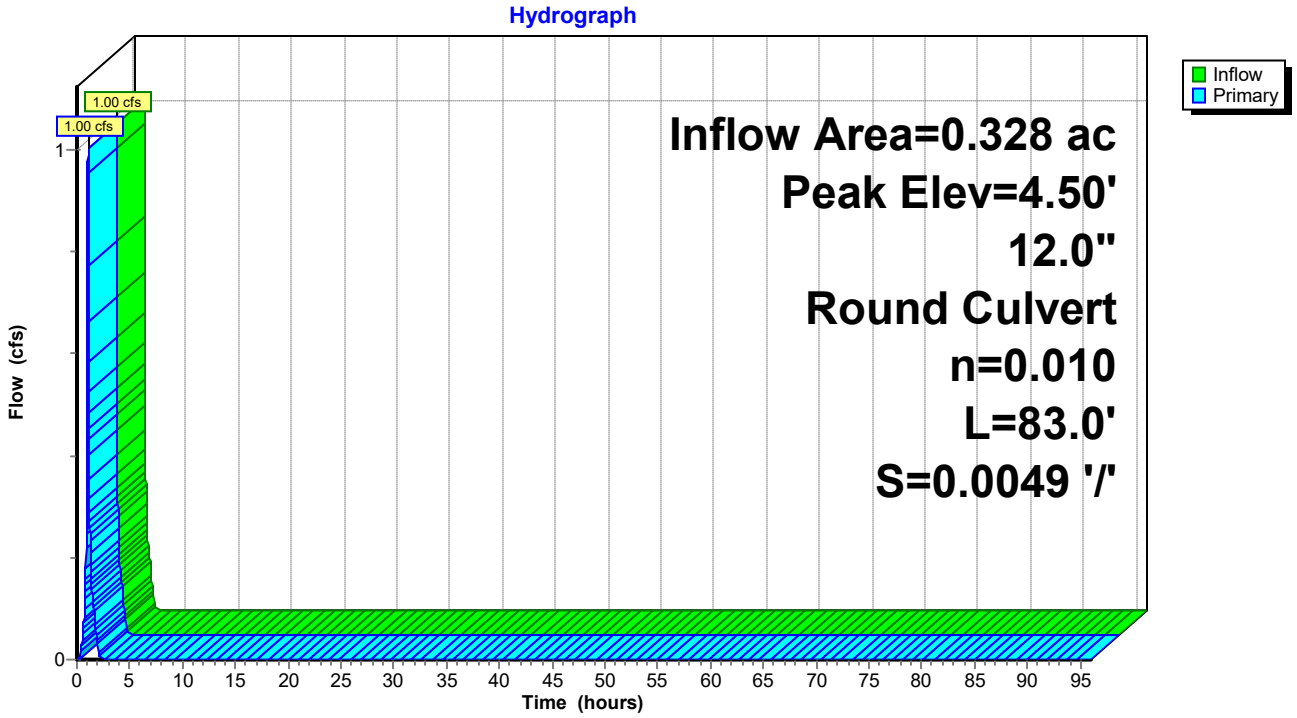
Inflow Area = 0.328 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 1.00 cfs @ 1.08 hrs, Volume= 0.028 af
Outflow = 1.00 cfs @ 1.08 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 1.00 cfs @ 1.08 hrs, Volume= 0.028 af
Routed to Pond 94P : INLET-8

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.50' @ 1.08 hrs
Flood Elev= 6.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.95'	**12.0" Round Culvert** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.95' / 3.54' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.00 cfs @ 1.08 hrs HW=4.50' (Free Discharge)
1=Culvert (Barrel Controls 1.00 cfs @ 3.26 fps)

Pond 93P: INLET-9



Summary for Pond 94P: INLET-8

[79] Warning: Submerged Pond 93P Primary device # 1 INLET by 0.27'

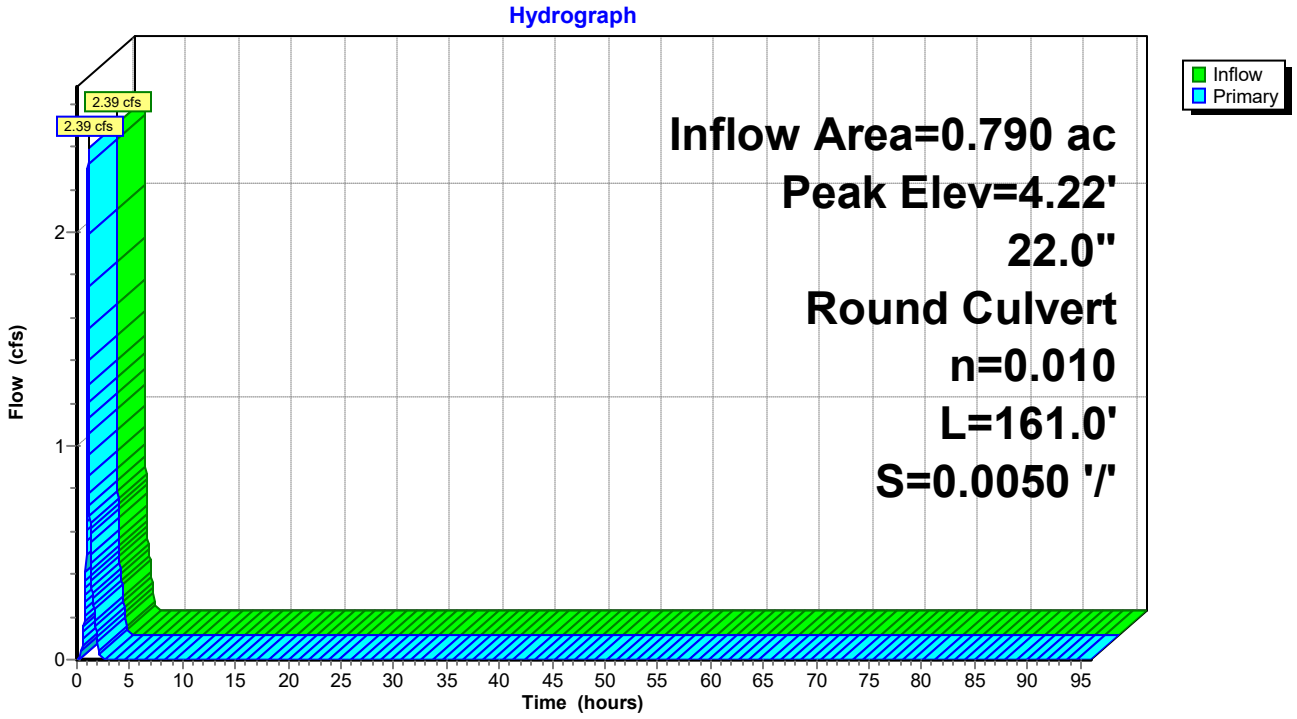
Inflow Area = 0.790 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 2.39 cfs @ 1.08 hrs, Volume= 0.068 af
Outflow = 2.39 cfs @ 1.08 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min
Primary = 2.39 cfs @ 1.08 hrs, Volume= 0.068 af
Routed to Pond 95P : INLET-7

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.22' @ 1.08 hrs
Flood Elev= 7.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.54'	**22.0" Round Culvert** L= 161.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.54' / 2.73' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.64 sf

Primary OutFlow Max=2.39 cfs @ 1.08 hrs HW=4.22' (Free Discharge)
1=Culvert (Barrel Controls 2.39 cfs @ 4.01 fps)

Pond 94P: INLET-8



Summary for Pond 95P: INLET-7

[79] Warning: Submerged Pond 94P Primary device # 1 OUTLET by 0.76'

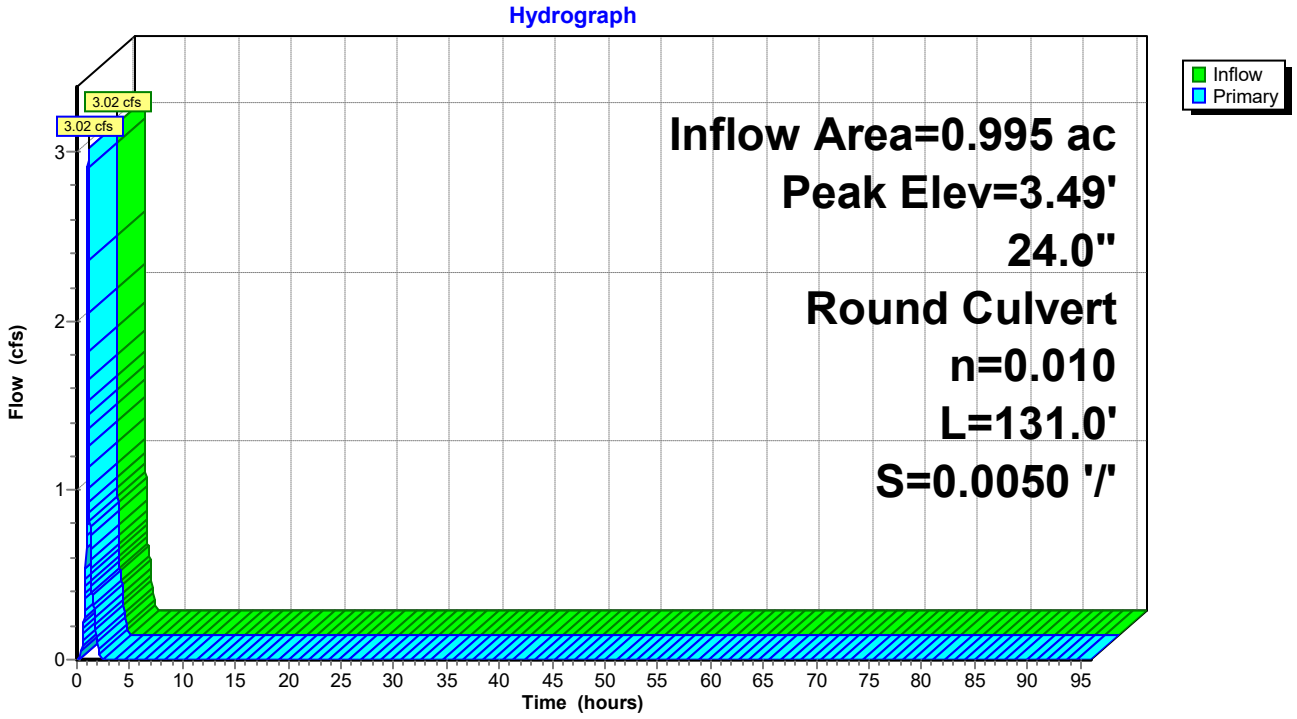
Inflow Area = 0.995 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 3.02 cfs @ 1.08 hrs, Volume= 0.086 af
Outflow = 3.02 cfs @ 1.08 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 3.02 cfs @ 1.08 hrs, Volume= 0.086 af
Routed to Pond 96P : INLET-6

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.49' @ 1.08 hrs
Flood Elev= 8.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.73'	**24.0" Round Culvert** L= 131.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.73' / 2.08' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.02 cfs @ 1.08 hrs HW=3.49' (Free Discharge)
1=Culvert (Barrel Controls 3.02 cfs @ 4.11 fps)

Pond 95P: INLET-7



Summary for Pond 96P: INLET-6

[79] Warning: Submerged Pond 95P Primary device # 1 INLET by 0.38'

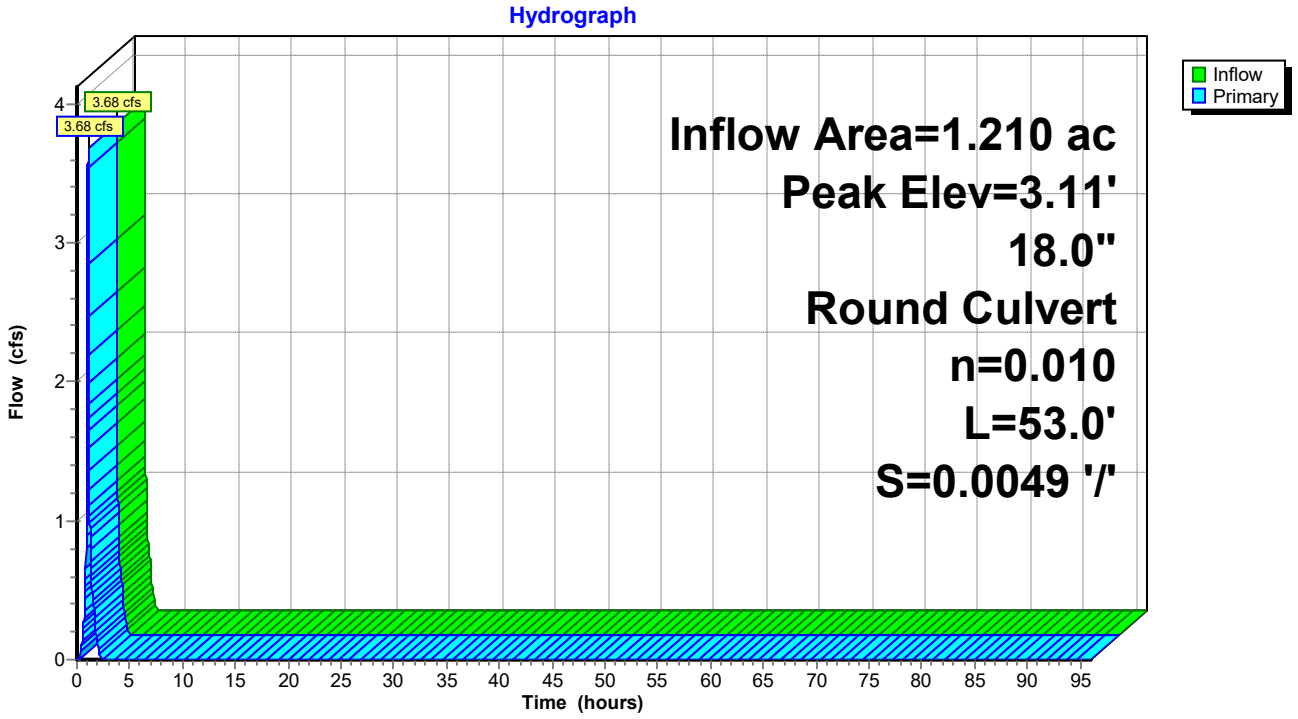
Inflow Area = 1.210 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 3.68 cfs @ 1.08 hrs, Volume= 0.104 af
Outflow = 3.68 cfs @ 1.08 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 3.68 cfs @ 1.08 hrs, Volume= 0.104 af
Routed to Pond 91P : MH-1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.11' @ 1.08 hrs
Flood Elev= 8.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.08'	**18.0" Round Culvert** L= 53.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.08' / 1.82' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.68 cfs @ 1.08 hrs HW=3.11' (Free Discharge)
1=Culvert (Barrel Controls 3.68 cfs @ 4.02 fps)

Pond 96P: INLET-6



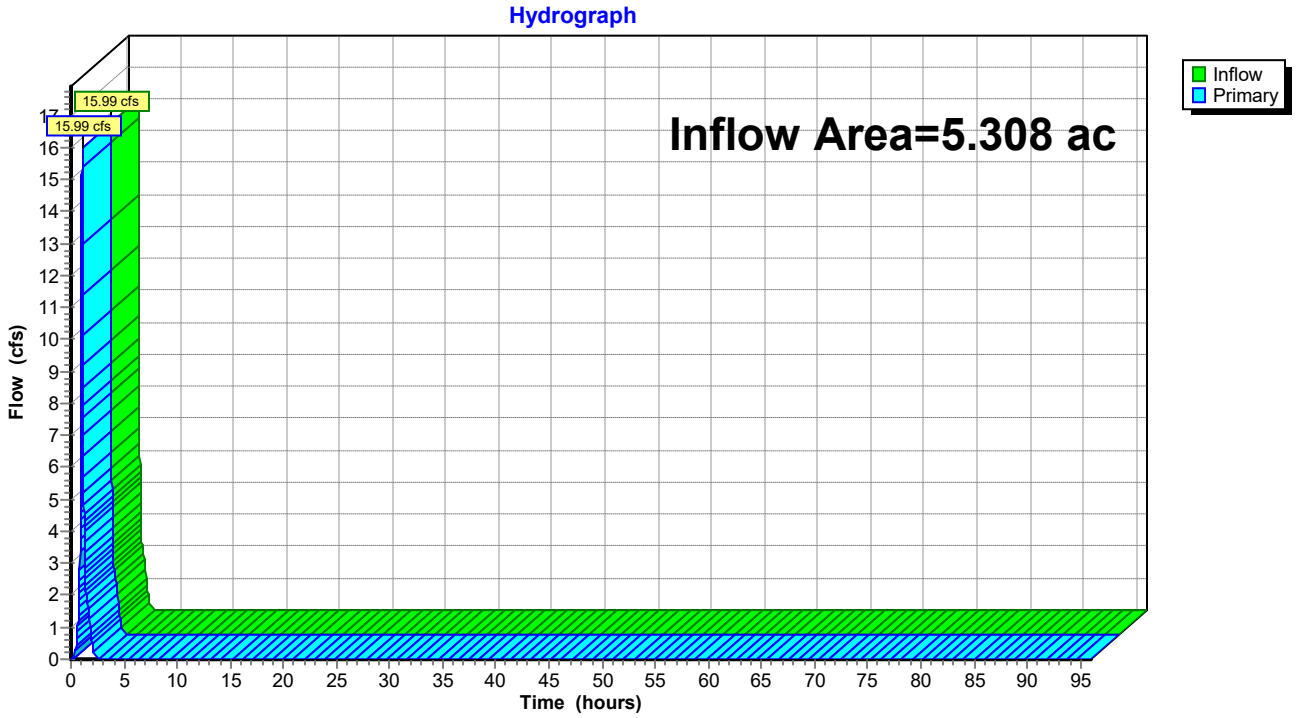
Summary for Pond 97P: OUTFALL

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

Inflow Area = 5.308 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 15.99 cfs @ 1.08 hrs, Volume= 0.458 af
Primary = 15.99 cfs @ 1.08 hrs, Volume= 0.458 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Pond 97P: OUTFALL



Summary for Pond 98P: MH-6

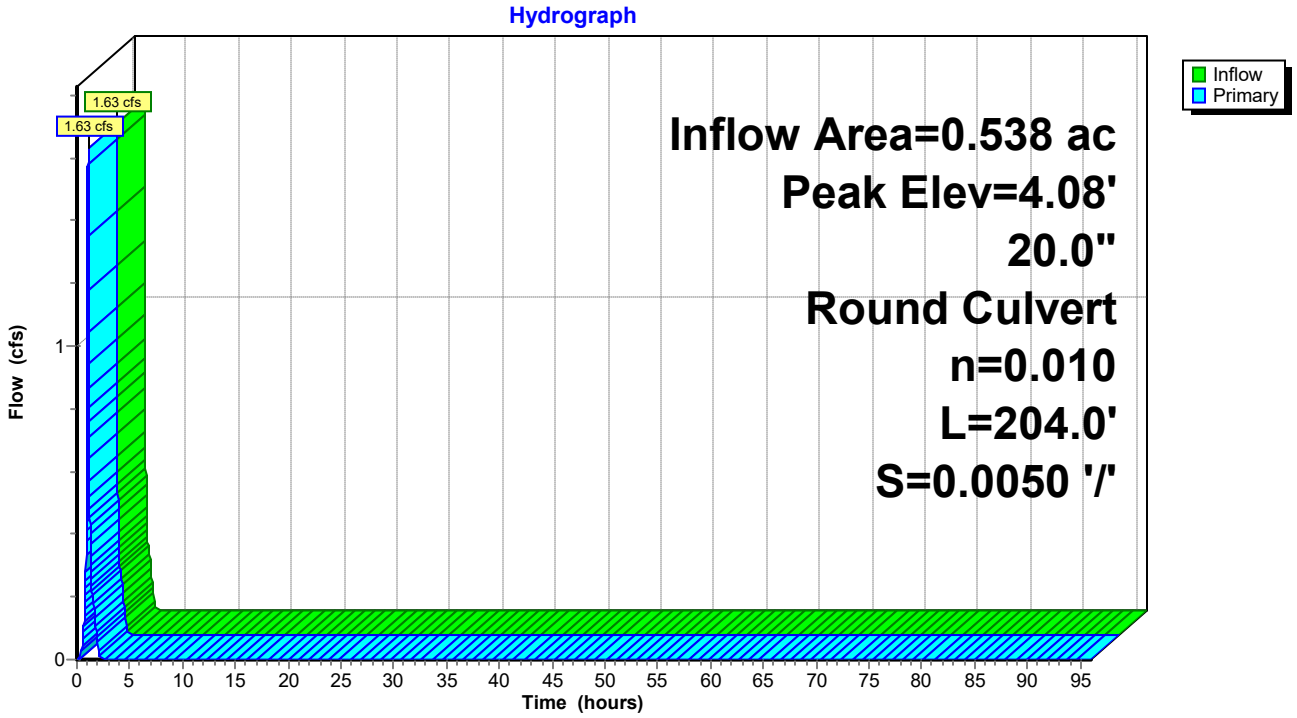
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af
Outflow = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af
Routed to Pond 99P : INLET-5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 4.08' @ 1.08 hrs
Flood Elev= 6.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	3.52'	**20.0" Round Culvert** L= 204.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 3.52' / 2.50' S= 0.0050 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=1.63 cfs @ 1.08 hrs HW=4.08' (Free Discharge)
1=Culvert (Barrel Controls 1.63 cfs @ 3.74 fps)

Pond 98P: MH-6



Summary for Pond 99P: INLET-5

[79] Warning: Submerged Pond 98P Primary device # 1 OUTLET by 0.63'

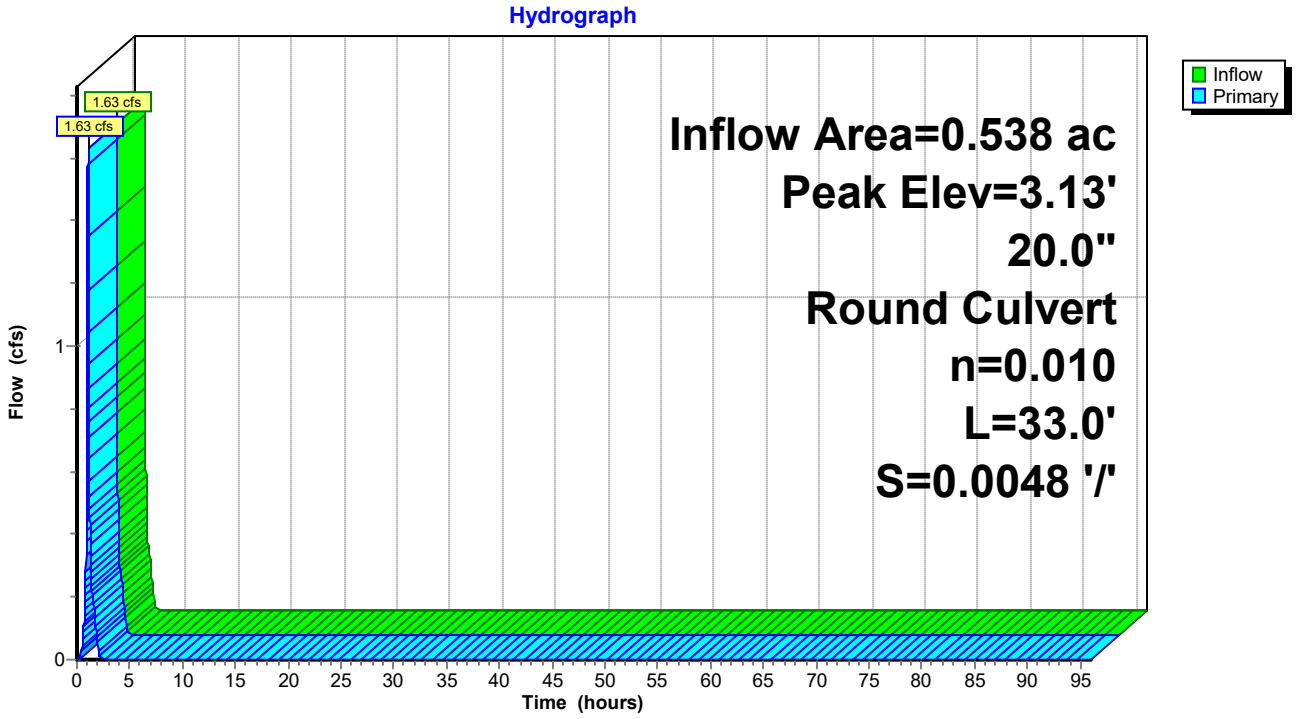
Inflow Area = 0.538 ac,100.00% Impervious, Inflow Depth = 1.03" for WQ Storm event
Inflow = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af
Outflow = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 1.08 hrs, Volume= 0.046 af
Routed to Pond 90P : MH-2

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
Peak Elev= 3.13' @ 1.08 hrs
Flood Elev= 10.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	2.50'	**20.0" Round Culvert** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 2.50' / 2.34' S= 0.0048 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 2.18 sf

Primary OutFlow Max=1.63 cfs @ 1.08 hrs HW=3.13' (Free Discharge)
1=Culvert (Barrel Controls 1.63 cfs @ 3.17 fps)

Pond 99P: INLET-5



STORMWATER FACILITIES MAINTENANCE PLAN

June 17, 2025

BLOCK 102 LOTS 4, 5, & 6
ATLANTIC CITY
ATLANTIC COUNTY, NEW JERSEY

PREPARED BY:

ARTHUR PONZIO CO.

Requirements

The Contractor is responsible for ensuring proper maintenance during the construction of the project site and until final certification of the stormwater facilities and acceptance by the owner. The owner shall assume all responsibilities upon acceptance of the stormwater facilities.

Preventative maintenance will be performed to maintain the function of the stormwater facilities. This preventative maintenance will include all repairs, replacements to stormwater structures; the removal of debris, sediment and organic matter; the restoration of any eroded areas; and any landscaping needs.

The removal of such material routinely throughout the year will result in the proposed storm sewers operating properly. This will result in the site draining in a fashion as it was designed. Improper maintenance may result in the increased occurrence of ponding and potentially flooding. The following is a list of procedures and requirements in order to insure proper stormwater facility function.

Owner / Person Responsible for Maintenance and Corrective Measures:

TO BE PROVIDED BY CLIENT

Specific Maintenance Program Including Schedule of Required Activities:

1. Visual inspection of all components of the stormwater management system shall be performed every 2 months and after every major storm exceeding one inch of rainfall, by owner or owner's consulting engineer.
2. Removal of silt, soil, litter, and other debris from all drainage inlets, manholes, and pipes shall occur once every 3 months or after major storm events as necessary. This work should occur when the basin is thoroughly dry.
3. Trash, debris, etc., will be removed from the basin areas and storm sewer inlets on a weekly basis, or more frequently should it be required.
4. Vegetated areas shall be inspected at least annually for erosion and scour. They shall also be inspected at least annually for unwanted growth, and should be removed within minimum disruption to remaining vegetation.
5. All structural components shall be inspected for cracks, subsidence, spalling, erosion, and deterioration at least annually.
6. Remove any sediment deposition and undesirable plant growth such as woody vegetation, weeds, etc, repair damages from scour, rodents, etc.
7. Equipment required for maintenance of stormwater management facilities may include but shall not be limited to one or all of the following: lawnmower, air blower, rakes, brooms and backhoe (for sediment removal as needed) as well as other standard landscaping items and topsoil, fertilizer and seeds.

8. A written log shall be kept by the owner of all inspections performed on the site, as well as copies of any maintenance related work orders.
9. The person with the maintenance responsibility must retain the above mentioned logs and, upon request, must make available the maintenance plan and associated logs and other records for review by a public entity with administrative, health, environmental, or safety authority over the site including the Township Engineer.

Estimated Maintenance Costs:

General Maintenance including debris removal from stormwater facilities:

2.0 MH/WK x $25/MH x 26 WK/YR = $1,300 /YR

Miscellaneous Repairs:

$4200 x (20%) = $840.00

Annual Maintenance Costs Estimated at $2,140.00

** These cost are based upon anticipated values, actual times may vary.

Estimated Costs shall be utilized for initial annual budget purposes for maintenance of stormwater facilities, and monitored for adequacy of funding annually.

Hazardous Chemicals:

1. No hazardous chemical, other than household cleaning solutions, shall be used on site.
2. During no time shall operations take place on site that will allow the washing of items outside and permit runoff from the action to run into the stormwater inlets.
3. All cleaning chemicals shall be stored inside, and properly disposed of when no longer needed.
4. All chemicals shall be kept in a locked cabinet and shall only be used by authorized personnel.
5. Any spills shall be immediately cleaned up.

Annual Reporting

The Owner is responsible for providing the municipality with an annual report of the stormwater facilities, which shall include, but not be limited to:

1. Copies of all inspection reports
2. Copies of all maintenance logs
3. Copies of all maintenance contracts

MAINTENANCE LOG

Date	Description of maintenance	Initials