STORMWATER MANAGEMENT REPORT

FOR

VENUE AT SUMMERS CORNER
MAJOR SUBDIVISION & SITE PLAN

BLOCK 286 LOTS 3, 5 & 6
BLOCK 287 LOTS 5 & 7

LITTLE EGG HARBOR TOWNSHIP
OCEAN COUNTY, NEW JERSEY

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Last Revised July 25, 2025

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Table of Contents

I. Introduction……1

II. Design Methodology……1

III. Soils……3

IV. Pre-Development Analysis……5

V. *Post-Development Analysis……6*

VI. *Stormwater Management Facilities……8*

VII. *Stormwater Runoff Quality……11*

VIII. *Groundwater Recharge ……13*

IX. *Groundwater Mounding ……13*

X. *Stormwater Conduit System……14*

XI. *Soil Erosion and Sediment Control……14*

XII. *Emergency Spillway Calculations……15*

XIII. *Conclusion……15*

Appendices

Appendix A- Figures

Appendix B- NRCS Web Soil Survey

Appendix C- Soil Analysis

Appendix D- Pre-Development Calculations

Appendix E- Post-Development Calculations

Appendix F- Water Quality Calculations

Appendix G- Groundwater Recharge Calculations

Appendix H – Groundwater Mounding Calculations

Appendix I – Drainage Area Maps

I. Introduction

This Stormwater Management Report describes the hydrologic impact of the proposed site for construction of an age-restricted 415-unit residential community with site amenities. The subject property is situated on Block 286, Lots 3, 5 & 6 and Block 287 Lots 5 & 7 in Little Egg Harbor Township, Ocean County, New Jersey. The project drawings entitled "Major Subdivision & Site Plan" consisting of ninety (90) sheets, last revised July 25, 2025 have been utilized in preparation of this report.

The subject property measures approximately 146.45 acres and has frontage on Center Street (Ocean County Route 103) and U.S. Highway Route 9. Two (2) full movement driveways are proposed on Center St to provide access to the site. No access is provided via Route 9. A roadway stub is proposed along the westerly portion of the site to provide a potential connection to Otis Bog Road.

The entirety of the site is located within a CAFRA Zone (Coastal Suburban Planning Area within a sewer service area, PA-2) and subject to requirements of NJAC 7:7. The development has been designed to limit overall impervious coverage under 30% and preserve over 35% of the existing forested area. The entirety of the existing site is undeveloped, consisting primarily of wooded area. The site is encumbered by limited wetlands and associated transition areas along the westerly and southerly property boundaries. These areas are not disturbed as part of the proposed development.

The Applicant proposes to construct 415 age-restricted residential units (199 single-family and 216 triplex), a clubhouse building and associated site amenities such as landscaping, lighting, roadways, parking and stormwater management facilities. The stormwater management design for this project will include a combination of small- and large-scale infiltration basins, small-scale bioretention basins, drywells and a wet pond, all of which have been designed to comply with NJDEP criteria. Stormwater runoff will be conveyed to these systems via overland flow and a series of subsurface pipes. These design features will be implemented to mitigate the increase in stormwater runoff, degradation of stormwater quality and meet applicable State and Local regulations.

The project meets the definition of a "Major Development" per NJDEP and Township definitions. The net increase in impervious area will be more than ¼ acre and the overall disturbance will exceed one (1) acre; therefore, the project must comply with the Township's Stormwater Management Ordinance (Chapter 212-12.11), the requirements of NJAC 7:8 and the associated Best Management Practices, including the implementation of green infrastructure methodologies. Compliance with these requirements is further outlined in this report.

II. Design Methodology

The pre- and post-development runoff calculations follow the methodology outlined in the Soil Conservation Service Technical Release No. 55 (TR-55). The data to support these calculations was obtained from field survey data, the applicable USGS mapping for the site, and applicable Soil Survey for the site (described further in Section 3 and Appendix C of this report). Appendix 'A' contains figures as follows: Figure 1 – USGS Quad Map and Figure 2 – Tax Map.

The existing and proposed runoff characteristics were modeled using HydroCAD 10.10-7b and utilizes the Delmarva unit hydrograph in accordance with the NRCS New Jersey Technical Bulletin No: 2018-4. The latest 24-hour rainfall frequency data for Ocean County is shown in the table below:

NOAA Atlas 14, Volume 2, Version 3, Distribution - 24 Hour Rainfall Frequency Rate Ocean County

2 Year	3.42 Inches
10 Year	5.33 Inches
100 Year	9.20 Inches

As of July 17, 2023, State regulations have been revised to provide updated precipitation depths based on current and future rainfall projections. Design calculations utilizing both the current and future adjustment factors now must be provided for all major development projects. The designer must multiply the data in the above chart by the adjustment factors provided in N.J.A.C. 7:8-5.7 (c) and (d), to determine the appropriate current and future precipitation depths, respectively. The charts below show the increased depths after the adjustment factors have been implemented:

Current Projected 24-Rainfall Frequency Rate Adjustments based on Table 5-5 in N.J.A.C. 7:8-5.7 (c) for Ocean County

Design Storm	NOAA 24-Hour Rate	Adjustment Factor Per Table 5-5	*Current Precipitation Depth
2 Year	3.42 Inches	1.00	3.42 Inches * 1.00 = 3.42 Inches
10 Year	5.33 Inches	1.01	5.33 Inches * 1.01 = 5.38 Inches
100 Year	9.20 Inches	1.03	9.20 Inches * 1.03 = 9.48 Inches

Future Projected 24-Rainfall Frequency Rate Adjustments based on Table 5-6 in N.J.A.C. 7:8-5.7 (d) for Ocean County

Design Storm	NOAA 24-Hour Rate	Adjustment Factor Per Table 5-6	*Future Precipitation Depth
2 Year	3.42 Inches	1.18	3.42 Inches * 1.18 = 4.04 Inches
10 Year	5.33 Inches	1.19	5.34 Inches * 1.19 = 6.34 Inches
100 Year	9.20 Inches	1.24	9.20 Inches * 1.24 = 11.41 Inches

Hydrograph calculations utilizing the current and future precipitation depths are provided for both the pre- and post-development conditions in the Appendix of this report.

III. Soils

Soils information was taken from the U.S Department of Agriculture, Natural Resources Conservation Service Soil Survey Geographic database for Ocean County, New Jersey. A soils map is included in the figures of Appendix B of this report.

Three (3) soil groups have been identified within the area of the project site, as follows:

Downer loamy sand (DocBO), 0 to 5 percent slopes. This is an "A" type soil as defined by the NRCS.

Hammonton loamy sand, 0 to 5 percent slopes, Northern Tidewater Area. This is a 'B' type soil as defined by the NRCS.

Keyport sandy loam (KemA), 0 to 2 percent slopes. This is an "D" type soil.

Additional soils testing was conducted by Geo-Technology Associates, Inc. in August 2024, March 2025, and April 2025 with a total of 239 test pit excavations situated throughout the site. The full test pit logs and reports can be found in Appendix C. As shown in these reports, groundwater and mottling indicative of the seasonal high-water table (SHWT) were not observed at any location. Permeability rates were generally indicative of K-5 soils throughout the site. A design permeability rate of ½ of the field-tested rate was utilized for all stormwater quantity and drain time calculations.

IV. Pre-Development Analysis

Overall, in the pre-development condition, stormwater runoff is tributary to two (2) points of analysis. Below please find a summary of each:

- DA Willis Creek – stream along the southerly portion of the property. This area consists of approximately 30 acres of runoff, both wooded and open space areas on site. Also included in this analysis is area from the ROW to be disturbed as part of the proposed road widening and runoff from Center St tributary to any proposed basin.
    - DA Wetlands Depression – this area is an existing impoundment along the westerly boundary of the site. Runoff fills up within this area and spills over and runs overland to Willis Creek.
- DA Tuckerton Creek – a low point along Center Street that drains to a swale within the Sunrise Bay Community. This swale is ultimately tributary to the Tuckerton Creek. Approximately 70 acres of runoff from the northerly portion of the site is tributary to this point of analysis.

All drainage areas have been designated with a maximum sheet flow length of 100 feet. The times of concentration for each point of analysis exceed 60 minutes. The points of analysis have been analyzed separately in this study and remain the same points for which stormwater runoff will be discharged in the post development condition. The delineations for the pre-development drainage areas can be found in Appendix L of this report.

The drainage conditions for the property were analyzed using the method described in Technical Release No. 20 (TR-20), published by the U.S. Soil Conservation Service. Soils information utilized in the calculations was based off the NRCS classifications. The modeling done utilizes Type 'A' soils as the classification of the site provided.

As per N.J.A.C. 7:8-5.6(b).3, the stormwater runoff quantity standards are to be met through demonstration that the post-construction peak runoff rates for the current and projected 2-, 10- and 100-year storm events are 50, 75 and 80 percent, respectively, of the pre-construction runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed; therefore, the undisturbed area from the site is not included.

The disturbed and undisturbed flows were utilized to develop the reductions required by the regulations, as summarized in the tables. The hydrographs and calculations for the pre-development conditions can be found in Appendix D.

Summary Table
Current Projected Peak Runoff Flow Rates to DA Willis Creek

Storm Event	Undisturbed Area (5S)	Disturbed Area (4L)	Reduction Requirement In the Post-Development Condition	Allowable Runoff In the Post-Development Condition
	(cfs)	(cfs)	(%)	(cfs)
2 YR	1.16	0.72	50	1.16+(0.72*0.50) =1.520
10 YR	1.83	5.64	75	1.83+(5.64*0.75) =6.060
100 YR	3.24	27.10	80	3.24+(27.10*0.80) =24.92

Summary Table
Current Projected Peak Runoff Flow Rates to DA Tuckerton Creek

Storm Event	Undisturbed Area (7S)	Disturbed Area (5L)	Reduction Requirement In the Post-Development Condition	Allowable Runoff In the Post-Development Condition
	(cfs)	(cfs)	(%)	(cfs)
2 YR	0.00	0.53	50	0.00 + (0.53*0.50) =0.265
10 YR	0.04	0.85	75	0.04+(0.85*0.75) =0.678
100 YR	1.69	13.49	80	1.69+(13.49*0.80) =12.482

Summary Table
Future Projected Peak Runoff Flow Rates to DA Willis Creek

Storm Event	Undisturbed Area (5S)	Disturbed Area (4L)	Reduction Requirement	Allowable Runoff
	(cfs)	(cfs)	(%)	(cfs)
2 YR	1.37	1.76	50	1.37+(1.76*0.50) =2.250
10 YR	2.16	9.58	75	2.16+(9.58*0.75) =9.345
100 YR	3.90	40.26	80	3.90+(40.26*0.80) =36.108

Summary Table
Future Projected Peak Runoff Flow Rates to DA Tuckerton Creek

Storm Event	Undisturbed Area (7S)	Disturbed Area (5L)	Reduction Requirement	Allowable Runoff
	(cfs)	(cfs)	(%)	(cfs)
2 YR	0.00	0.63	50	0.00+(0.63*0.50) =0.315
10 YR	0.14	1.93	75	0.14+(1.31*0.75) =1.123
100 YR	3.71	25.45	80	3.71+(25.45*0.80) =24.07

V. Post-Development Analysis

The proposed development will maintain a similar drainage pattern to pre-development conditions as runoff will continue to drain to the two (2) points of analysis described in Section IV. As with the Pre-Development analysis, the pervious and impervious drainage areas have been routed separately. The Time of Concentration has been determined using the McCuen-Spiess methodology, which reduces the sheet flow length for select pervious flow paths to less than 100 feet. The majority of runoff from the on-site areas will be captured by a series of subsurface inlets along the roadways and yard areas that will convey runoff to the proposed basins. Inlets are also proposed along the Center St frontage to capture runoff from the road widening and improvements within the ROW. Further information regarding the basins is outlined in Section VI of this report.

The following tables represent the post-development runoff calculations and a comparison of the flows to the total allowable runoff rate, as calculated in Section IV of this report. The hydrographs and calculations for the post-development conditions can be found in Appendix E.

Summary Table
Current Projected Peak Runoff Flow Rate Comparison – DA Willis Creek

Storm Event	Allowable Release from Site (Section IV)	Proposed Runoff (15L)	Reduction Met?
	(cfs)	(cfs)	
2 YR	1.520	0.00	YES
10 YR	6.060	0.00	YES
100 YR	24.92	6.48	YES

Summary Table
Current Projected Peak Runoff Flow Rate Comparison – DA Tuckerton Creek

Storm Event	Allowable Release from Site (Section IV)	Proposed Runoff (15L)	Reduction Met?
	(cfs)	(cfs)	
2 YR	0.265	0.21	YES
10 YR	0.678	0.34	YES
100 YR	12.482	8.81	YES

Summary Table
Future Projected Peak Runoff Flow Rate Comparison – DA Willis Creek

Storm Event	Allowable Release from Site (Section IV)	Proposed Runoff (15L)	Reduction Met?
	(cfs)	(cfs)	
2 YR	2.250	0.00	YES
10 YR	9.345	0.00	YES
100 YR	36.108	33.51	YES

Summary Table
Future Projected Peak Runoff Flow Rate Comparison – DA Tuckerton Creek

Storm Event	Allowable Release from Site (Section IV)	Proposed Runoff (87L)	Reduction Met?
	(cfs)	(cfs)	
2 YR	0.315	0.26	YES
10 YR	1.123	0.39	YES
100 YR	24.07	23.87	YES

The information in the above tables indicates that the reduction requirements are satisfied for the 2-, 10- and 100-year storm events for both the current and future projected rainfall data.

VI. Stormwater Management Facilities

Sixteen (16) small-scale infiltration basins, twenty-one (21) small-scale bioretention basins, one (1) large-scale infiltration basin, one (1) wet pond and multiple drywell systems situated within rear yard areas have been designed for this project to mitigate the increased flow rates due to the additional impervious surfaces developed as part of this project. All systems have been designed to meet New Jersey Best Management Practices standards and meet the criteria to be considered "green infrastructure". Below please find a summary of each system:

Small-scale Infiltration Basins:

- Designed as a "small-scale" infiltration basin per NJDEP BMP Chapter 9.8.
- These basins have a 6-inch sand layer at the bottom.
- The lowest elevation of the infiltration basin (the bottom of the sand layer) is at least 2 feet above the seasonal high-water table.
- A factor of safety of 2 was utilized for the design permeability rate (for example, >20"/hour per soils testing, 10.00"/hour used for drain time calculations). Basin systems that have a restrictive layer underneath basin bottom will have soils replaced with K-5 material. The basins that require soil replacement are identified on the
- The basins fully drain the 100-year future projected storm within 72 hours.
- The actual contributory drainage area to each basin does not exceed 2.5 acres. Please note that roof area treated by drywells, runoff treated by upstream basins and the basin area itself does not count towards the actual contributary drainage area. Please see the chart below showing the summary of each contributary drainage area.
- The bottom of each basin is level and shall not be compacted.
- Each basin has been designed with an outlet control structure with the lowest outlet set at the water quality design storm elevation. The maximum runoff depth is two (2') feet. The higher order storm events are routed to the next downstream basin.
- In the case of complete basin failure, each basin is equipped with an emergency spillway to safely route runoff downstream.
- Each basin provides 80% TSS Removal with the capacity to store the entire volume generated by the Water Quality Design Storm tributary to the system.

Large-scale Infiltration Basin:

- Identified as Basin 3
- This basin has been designed in accordance with NJDEP BMP Chapter 10.2
- The basin is not utilized for water quality treatment as no impervious surfaces are directly tributary to it. The sole purpose of this basin is to store and attenuate higher order storms.

- A factor of safety of 2 was utilized for the design permeability rate (for example, >20"/hour per soils testing, 10.00"/hour used for drain time calculations).
- The bottom of each basin is level and shall not be compacted.
- The outlet for Basin 3 is a notch at the top of the retaining wall that routes runoff via overland flow to Willis Creek.

Small-scale Bioretention Basins:

- Designed as a "small-scale" bioretention basin per NJDEP BMP Chapter 9.7.
- These basins have a 24" soil bed with native wet-tolerant plantings along basin bottom.
- The lowest elevation of the bioretention basin (the bottom of the sand layer) is at least 2 feet above the seasonal high-water table.
- A factor of safety of 2 was utilized for the design permeability rate (for example, >20"/hour per soils testing, 10.00"/hour used for drain time calculations).
- The basins fully drain the 100-year future projected storm within 72 hours.
- The actual contributory drainage area to each basin does not exceed 2.5 acres. Please note that roof area treated by drywells, runoff treated by upstream basins and the basin area itself does not count towards the actual contributary drainage area. Please see the chart below showing the summary of each contributary drainage area.
- The bottom of each basin is level and shall not be compacted.
- Each basin has been designed with an outlet control structure with the lowest outlet set at the water quality design storm elevation. The maximum runoff depth is one foot (1'). The higher order storm events are routed to the next downstream basin.
- In the case of complete basin failure, each basin is equipped with an emergency spillway to safely route runoff downstream.
- Each basin provides 80% TSS Removal with the capacity to store the entire volume generated by the Water Quality Design Storm tributary to the system.

Wet Pond (GI):

- Identified as Basin 26
- This basin has been designed in accordance with Section 10.5 of the NJ BMP.
- The wet pond is solely utilized for stormwater quantity control. All stormwater runoff is pretreated prior to entering the wet pond.
- The contributary drainage area to the wet pond exceeds 20 acres (approximately 75 acres)
- The wet pond has a permanent pool depth of 4.5 feet. The permanent pool volume is greater than the water quality design storm volume tributary to the system.
- The wet pond is equipped with two (2) 6' safety ledges for access along the system.
- The elevation of the first outlet is set at the permanent pool elevation. Runoff from the wet pond is released at a controlled rate to an inlet on Center St.
- The surface area of the permanent pool exceeds 0.25 acres.

Drywells

- Select buildings have been designed with rear-yard perforated pipe to recharge volume from the Water Quality Storm event. The systems have been designed in accordance with Chapter 9.2 of the NJDEP BMP.
- The higher order storms will fill up the system and overflow through yard inlets and run via overland to the next downstream conveyance system.
- The drywell systems consist of 24" perforated HDPE pipe within a stone trench.

CONTRIBUTARY DRAINAGE AREA (CDA) SUMMARY

BASIN #	TOTAL AREA (SF)	AREA TREATED BY UPSTREAM BASIN (SF)	BASIN AREA (SF)	OFFSITE RUNOFF (SF)	ACTUAL CDA (SF)	ACTUAL CDA (ACRES)
1	282,617	190,139	8,500	0	83,978	1.93
2	190,139	92,391	11,500	0	86,248	1.98
3	946,886	901,235	35,000	0	10,651	0.24
4	110,033	0	7,700	0	102,333	2.35
5	87,120	0	5,400	0	81,720	1.88
6	62,770	0	3,800	0	58,970	1.35
7	171,104	62,770	7,600	0	100,734	2.31
8	133,337	18,200	7,200	0	107,937	2.48
9	310,713	203,991	9,700	0	97,022	2.23
10	203,991	116,335	8,000	0	79,656	1.83
11	113,735	0	9,500	0	104,235	2.39
12	92,391	0	6,200	0	86,191	1.98
13	88,950	0	11,300	0	77,650	1.78
14	118,832	0	20,600	0	98,232	2.26
15	128,720	7,800	13,200	0	107,720	2.47
16	127,456	14,300	4,800	0	108,356	2.49
17	211,540	127,456	6,100	0	77,984	1.79
18	579,668	459,094	12,000	0	108,574	2.49
19	72,527	0	4,200	0	68,327	1.57
20	179,597	72,527	9,000	0	98,070	2.25
21	112,375	0	3,700	0	108,675	2.49
22	117,594	0	9,200	0	108,394	2.49
23	406,048	297,191	12,900	0	95,957	2.20
24	110,643	0	9,500	0	101,143	2.32
25	630,600	516,691	16,400	0	97,509	2.24

26						
27	131,203	16,200	7,000	0	108,003	2.48
28	75,969	0	4,600	0	71,369	1.64
29	130,114	16,200	8,000	0	105,914	2.43
30	262,232	146,314	9,800	0	106,118	2.44
31	395,264	278,432	8,000	0	108,832	2.50
32	243,718	118,525	19,500	0	105,693	2.43
33	357,061	243,718	13,000	0	100,343	2.30
34	113,125	0	9,400	0	103,725	2.38
35	649,828	0	11,400	541015	97,413	2.24
36	73,922	0	8,200	0	65,722	1.51
37	769,466	723,750	9,900	0	35,816	0.82
38	78,311	0	10,200	0	68,111	1.56
39	113,125	0	6,800	0	106,325	2.44

BASIN PARAMETER SUMMARY

BASIN #	BASIN TYPE	BASIN BOTTOM	WQ STORM ELEVATION	INFILTRATION FOOTPRINT (SF)	DESIGN PERM RATE (IN/HOUR)	UNDER DRAIN?	DRAIN TIME (HOURS)
1	SMALL-SCALE INFILTRATION	36.00	36.81	4,200	10.00[1]	NO	1.10
2	SMALL-SCALE BIORETENTION	38.00	38.69	4,200	N/A	YES	N/A
3	LARGE-SCALE INFILTRATION	24.10	24.10	30,700	2.00	NO	50.40
4	SMALL-SCALE INFILTRATION	32.00	33.06	3,400	9.00	NO	1.72
5	SMALL-SCALE INFILTRATION	31.50	33.32	1,500	10.00	NO	3.34
6	SMALL-SCALE BIORETENTION	34.10	34.86	2,200	10.00	NO	1.03
7	SMALL-SCALE INFILTRATION	31.50	33.05	2,200	10.00[2]	NO	2.74
8	SMALL-SCALE INFILTRATION	32.00	33.73	1,500	10.00[3]	NO	3.10
9	SMALL-SCALE INFILTRATION	33.00	33.93	3,900	10.00[4]	NO	1.30
10	SMALL-SCALE BIORETENTION	35.50	35.48	2,700	N/A	YES	N/A
11	SMALL-SCALE BIORETENTION	38.00	38.99	2,900	N/A	YES	N/A
12	SMALL-SCALE INFILTRATION	39.00	39.26	6,200	7.00	NO	0.47
13	SMALL-SCALE INFILTRATION	33.00	33.50	4,500	8.00	NO	0.83
14	SMALL-SCALE INFILTRATION	30.76	31.16	7,800	2.95	NO	1.70
15	SMALL-SCALE INFILTRATION	30.00	30.86	2,700	10.00	NO	1.24
16	SMALL-SCALE INFILTRATION	31.10	32.19	2,200	10.00	NO	1.57
17	SMALL-SCALE BIORETENTION	27.70	28.39	2,800	6.50	NO	1.44
18	SMALL-SCALE BIORETENTION	26.20	26.76	5,100	0.00	YES	N/A
19	SMALL-SCALE BIORETENTION	36.70	37.67	1,400	0.00	YES	N/A

20	SMALL-SCALE BIORETENTION	35.00	35.84	2,400	2.00	NO	6.96
21	SMALL-SCALE INFILTRATION	31.50	32.86	1,000	6.00	NO	3.75
22	SMALL-SCALE BIORETENTION	34.00	34.95	2,400	10.00[5]	NO	1.39
23	SMALL-SCALE BIORETENTION	33.00	33.80	3,600	10.00[6]	NO	1.09
24	SMALL-SCALE BIORETENTION	30.00	30.71	4,000	2.00	NO	5.03
25	SMALL-SCALE BIORETENTION	24.22	24.60	8,900	0.00	YES	N/A
26	WET POND	22.50	22.55	N/A	0.00	N/A	N/A
27	SMALL-SCALE BIORETENTION	32.50	32.90	3,400	4.20	NO	4.21
28	SMALL-SCALE BIORETENTION	28.50	29.40	2,000	0.00	YES	N/A
29	SMALL-SCALE BIORETENTION	34.00	34.46	4,500	3.90	NO	0.13
30	SMALL-SCALE BIORETENTION	33.00	33.51	3,700	3.00	NO	2.21
31	SMALL-SCALE BIORETENTION	33.00	33.66	3,200	1.10	NO	8.61
32	SMALL-SCALE BIORETENTION	34.00	34.27	8,100	10.00	NO	0.34
33	SMALL-SCALE BIORETENTION	31.00	31.67	3,900	2.10	NO	4.27
34	SMALL-SCALE BIORETENTION	36.00	36.46	5,700	10.00	NO	0.60
35	SMALL-SCALE INFILTRATION	39.00	39.88	5,900	5.00	NO	0.17
36	SMALL-SCALE INFILTRATION	39.00	40.27	4,000	1.00	NO	15.90
37	SMALL-SCALE INFILTRATION	31.00	31.25	3,500	3.60	NO	0.06
38	SMALL-SCALE BIORETENTION	34.00	34.36	4,900	0.00	YES	N/A
39	SMALL-SCALE INFILTRATION	30.24	31.39	3,300	1.10	NO	13.84

NOTES:

(1). REPLACE RESTRICTIVE LAYER DOWN TO EL. 31.50 W/ K5 MATERIAL

(2). REPLACE RESTRICTIVE LAYER FROM EL 33.0 TO 30.0 W/ K5 MATERIAL

(3). REPLACE RESTRICTIVE LAYER FROM EL. 32.00 TO 27.0 W/ K5 MATERIAL

(4). REPLACE RESTRICTIVE LAYER FROM EL. 32.50 TO 27.0 W/ K5 MATERIAL

(5). REPLACE RESTRICTIVE LAYER FROM EL. 30.0 TO 26.0 W/ K5 MATERIAL

(6). REPLACE RESTRICTIVE LAYER FROM EL. 30.0 TO 28.5 W/ K5 MATERIAL

VII. Water Quality

The project generates a net increase in “regulated motor vehicle surface” of over ¼ acre; therefore, it is subject to the water quality standards of NJAC 7:8-5.5. Per these regulations, the development shall be designed to provide 80% removal of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm. The small-scale infiltration and bioretention basins and the drywells for clean roof runoff provide 80% TSS Removal as they all fully infiltrate the entire water quality storm tributary to each respective system. This TSS Removal Rate is based on the NJDEP Stormwater Best Management Practices (BMP) Manual. Compliance with the “green infrastructure” criteria specified in the BMP is displayed

in Section VI above. The water quality calculations for each basin are provided in Appendix F of this report.

VIII. Groundwater Recharge

Groundwater recharge requirements, in accordance with NJ BMP standards, are met by maintaining 100 percent of the site's annual pre-development groundwater recharge volume in the proposed basins. Groundwater recharge calculations are provided in Appendix G of this report and are summarized in the table below:

Summary Table

GROUNDWATER RECHARGE REQUIREMENTS	
PRE-DEVELOPMENT ANNUAL RECHARGE	5,611,226 CF
POST-DEVELOPMENT ANNUAL RECHARGE	3,738,477 CF
POST-DEVELOPMENT ANNUAL RECHARGE DEFICIT	1,872,749 CF
RECHARGE VOLUME PROVIDED (BASIN 3)	935,334 CF
RECHARGE VOLUME PROVIDED (BASIN 18)	475,255 CF
RECHARGE VOLUME PROVIDED (BASIN 25)	587,856 CF
TOTAL POST-DEVELOPMENT ANNUAL RECHARGE	+1,998,454 CF

As shown in the chart above, a total of 1,998,454 cubic feet of recharge is provided in Basins 3, 18 and 25 whereas 1,872,749 cubic feet of recharge is required; therefore, this standard is exceeded.

IX. Groundwater Mounding

A mounding analysis was performed to assess the hydraulic impacts of mounding of the water table resulting from infiltration of stormwater for the proposed BMPs. The stormwater mounding analyses can be found in Appendix H.

Evidence of groundwater or identification of the seasonal high-water table was not found in the total 239 soil profile pits prepared by Geo-Technology Associates. Exfiltration was not utilized in the stormwater quantity calculations found in Appendix E. As a conservative estimate, mounding calculations begin at the depth for which the soil test pits were terminated. The information in the below summary table shows that the mound generated does not encroach upon the basin bottom; therefore, it can be assumed the mounding will not negatively impact basin functionality.

Summary Table
Groundwater Mounding Analysis

Storage	Max Runoff Volume to be Infiltrated (cf)*	Termination of Soil Profile Pit (Elevation)	Groundwater Mounding Height (ft) / {Elevation}	Elevation of Bottom of BMP (Bottom Sand or Stone Layer)	Difference (ft)
Basin 1	3,834	30.00	3.80/{30.00+3.80 =33.80}	37.50	3.70
Basin 4	4,398	19.00	2.79/{19.00+2.79 =21.79}	31.50	9.71
Basin 5	4,180	23.00	4.43/{23.00+4.43 =27.43}	31.50	4.07
Basin 6	1,894	24.00	2.37/{24.00+2.37 =26.37}	33.60	7.23
Basin 9	4,217	29.00	2.96/{29.00+2.96 =31.96}	32.50	0.54
Basin 12	1,690	32.00	1.73/{32.00+1.73 =33.73}	38.50	4.77
Basin 13	2,475	29.00	2.13/{29.00+2.13 =31.13}	32.50	1.37

X. Stormwater Conduit System

A closed conduit pipe system was designed to convey stormwater from the various proposed sub areas to the basin systems. Multiple networks of pipes route stormwater runoff to infall points with scour holes into the proposed basins. The pipe sizing calculations utilize the Rational Method for calculating peak rate of runoff and Manning's Equation to determine capacity. All calculations utilize the 25-year storm event.

XI. Soil Erosion and Sediment Control Design

As required in the New Jersey Soil Erosion and Sediment Control Standards, the site has been provided with soil erosion and sediment control methods to prevent erosion and sedimentation due to the proposed development. Silt fence, stabilized construction access protection, inlet protection and other necessary standards have been incorporated into the design plans. Soil decompaction testing locations and requirements have also been depicted on the plans. At the terminus of each conveyance pipe, conduit outlet protection has been designed to provide a stable area in which the exit velocity from the conduit is reduced to a velocity consistent of a stable condition within the basin and/or downstream channel.

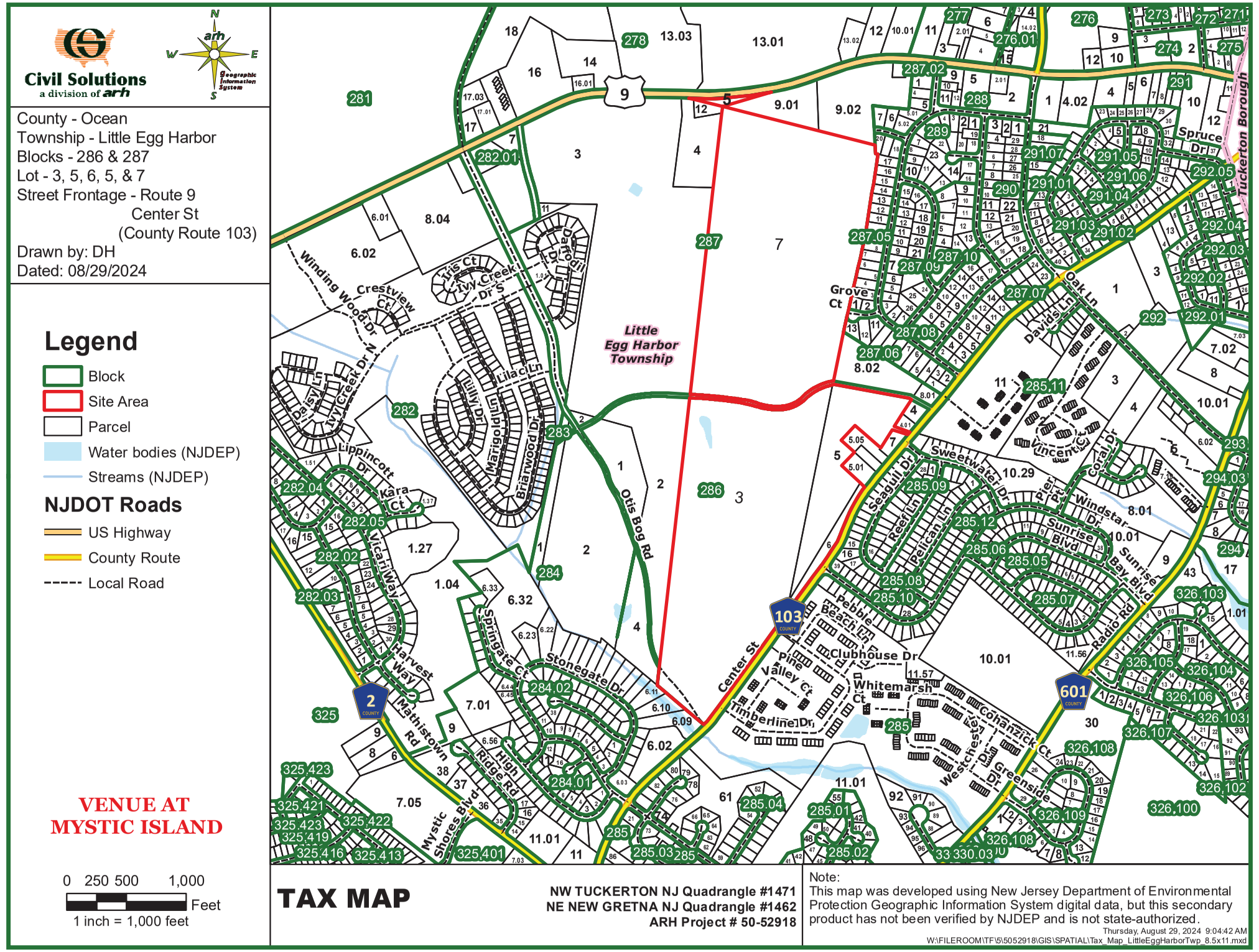
XII. Emergency Spillway Calculations

In the event that all means of discharge from the basin have been clogged or rendered ineffective during the 100-year storm event, naturally grassed emergency spillways have been designed for each of the basins. The velocity over the spillway does not exceed 1.8 feet/second, which is the maximum allowable velocity over sandy soils, per New Jersey Soil Erosion and Sediment Control Calculations, Table 12-1.

XIII. Conclusion

As shown in our calculations, the Stormwater Management System meets the NJDEP stormwater current and future projected reductions for the proposed improvements. Additionally, the calculations demonstrate compliance with the water quality, runoff quantity, and ground water recharge aspects of these regulations. Therefore, the stormwater management system, as designed, complies, and exceeds, all appropriate local, regional and State regulations.

Appendix A – Figures


Civil Solutions
a division of arh
N
W
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S
arh
Geographic Information System
County - Ocean
Township - Little Egg Harbor
Blocks - 286 & 287
Lot - 3, 5, 6, 5, & 7
Street Frontage - Route 9
Center St
(County Route 103)
Drawn by: DH
Dated: 08/29/2024
Legend
Block
Site Area
Parcel
Water bodies (NJDEP)
Streams (NJDEP)
NJDOT Roads
US Highway
County Route
Local Road
VENUE AT
MYSTIC ISLAND
0 250 500 1,000
Feet
1 inch = 1,000 feet
Little
Egg Harbor
Township
Tuckerton Borough
Center St
Otis Bog Rd
Oak Ln
Spruce Dr
Sweetwater Dr
Sunrise Blvd
Clubhouse Dr
Whitemarsh Ct
Colhanzick Ct
Greenside Dr
Westchester Dr
Pebble Beach Dr
Pine Valley Ct
Timberline Dr
Stonegate Dr
Springate Ct
Harvest Way
Mathistown Rd
High Ridge Rd
Mystic Shores Blvd
Vicari Way
Kara Ct
Lippincott Dr
Daisy Ln
Ivy Creek Dr N
Ivy Creek Dr S
Tris Ct
Daffodil Dr
Crestview Ct
Winding Wood Dr
Lilac Ln
Marigold Ln
Lilly Dr
Briarwood Dr
Grove Ct
Davids Ln
Vincent Ct
Coral Dr
Pier Pt
Windstar Dr
Sunrise Bay Blvd
Radio Rd
Seagull Dr
Reefrun
Pelican Ln
TAX MAP
NW TUCKERTON NJ Quadrangle #1471
NE NEW GRETNA NJ Quadrangle #1462
ARH Project # 50-52918
Note:
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.
Thursday, August 29, 2024 9:04:42 AM
W:\FILEROOM\TF\5\5052918\GIS\SPATIAL\Tax_Map_LittleEggHarborTwp_8.5x11.mxd

Civil Solutions
a division of arh

County - Ocean
Township - Little Egg Harbor
Blocks - 286 & 287
Lot - 3, 5, 6, 5, & 7
Street Frontage - Route 9
Center St
(County Route 103)
Drawn by: DH
Dated: 08/29/2024

Legend

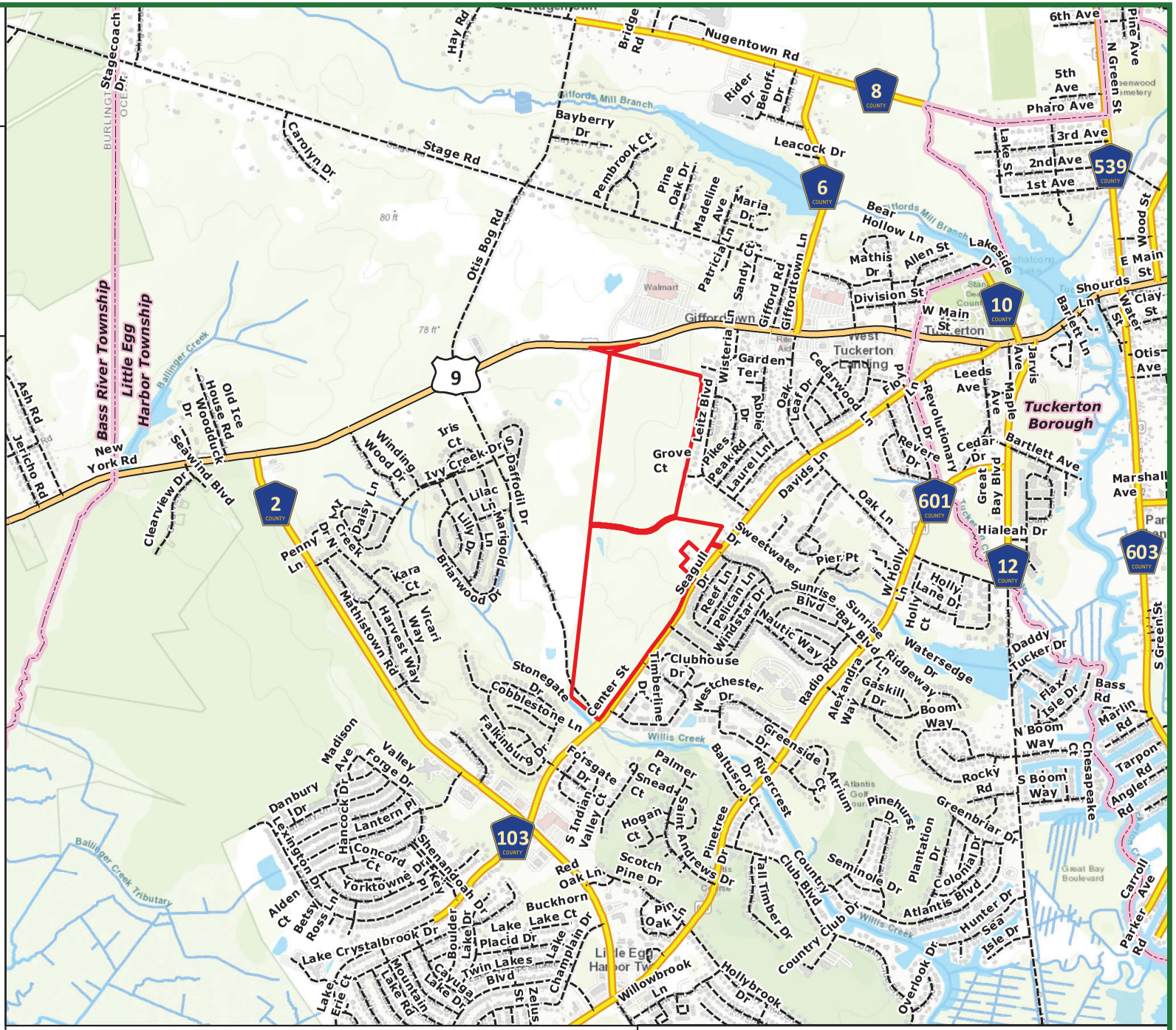
- Site Area
- Municipal Boundary

NJDOT Roads

- US Highway
- County Route
- Local Road

VENUE AT MYSTIC ISLAND

0 1,000 2,000 Feet
1 inch = 2,000 feet



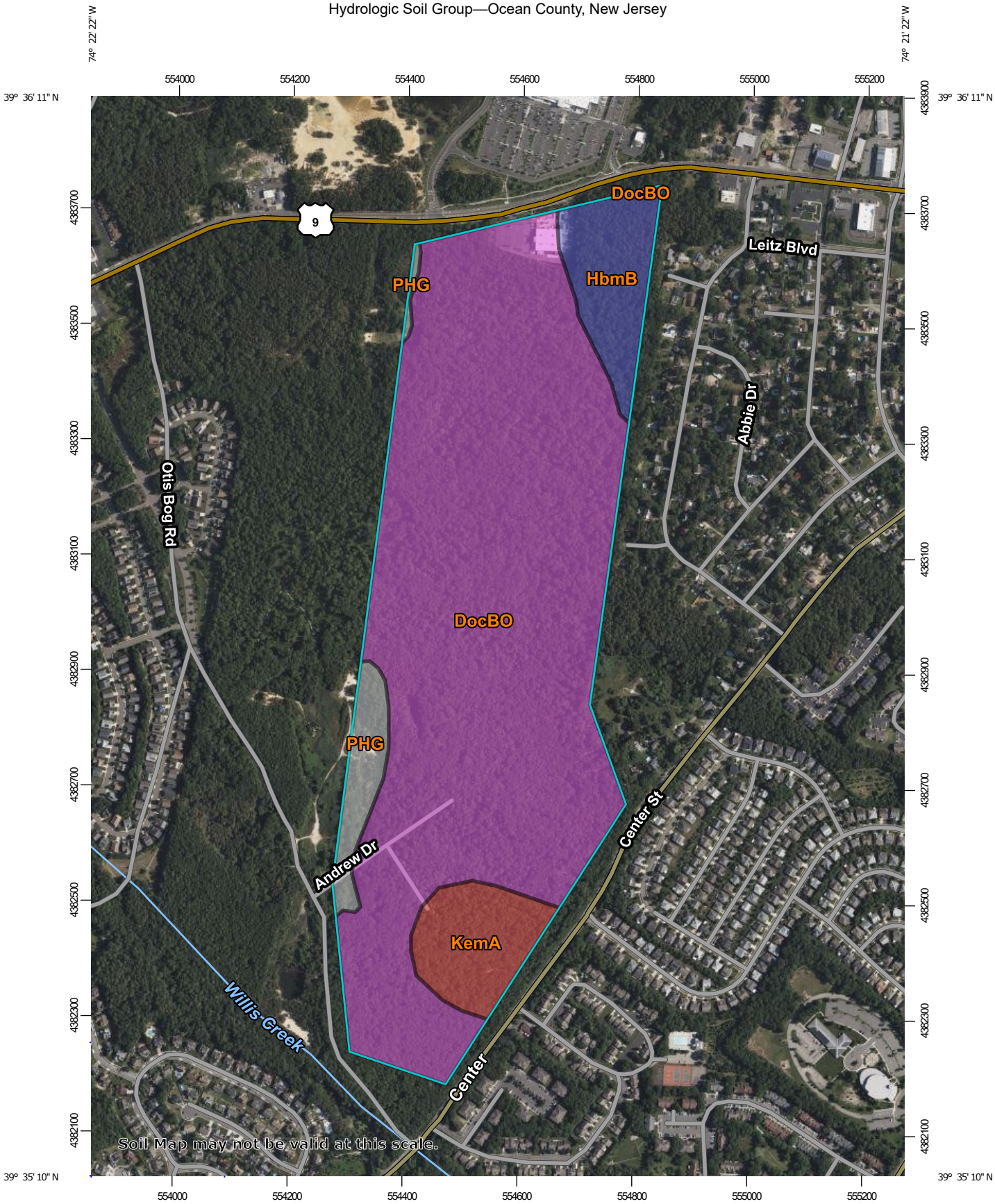
USGS MAP

NW TUCKERTON NJ Quadrangle #1471
NE NEW GRETNA NJ Quadrangle #1462
ARH Project # 50-52918

Note:
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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Appendix B – NRCS Web Soil Survey



Map Scale: 1:9,120 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Ocean County, New Jersey
Survey Area Data: Version 21, Aug 29, 2023

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

Date(s) aerial images were photographed: Apr 13, 2021—Sep 14, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DocBO	Downer loamy sand, 0 to 5 percent slopes, Northern Tidewater Area	A	119.9	82.2%
HbmB	Hammonton loamy sand, 0 to 5 percent slopes	B	10.3	7.1%
KemA	Keyport sandy loam, 0 to 2 percent slopes	D	9.8	6.7%
PHG	Pits, sand and gravel		5.8	4.0%
Totals for Area of Interest			**145.9**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix C – Soils Analysis

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm

April 7, 2025
Revised May 14, 2025

US Home, LLC (dba Lennar)
2465 Kuser Road, Floor 3
Hamilton, New Jersey 08690

Attn: Mr. Wayne Birchler, PE

Re: Stormwater Management Testing
Venue at Mystic Island
Little Egg Harbor Township, Ocean County, New Jersey

Dear Wayne:

Geo-Technology Associates, Inc. (GTA) was requested by US Home, LLC (dba Lennar; Client) to perform test pits and in-situ infiltration testing for the planning and design of stormwater management (SWM) facilities related to the construction of a proposed residential development in Little Egg Harbor Township, Ocean County, New Jersey. The approximately 147.1-acre site is located on the southern side of U.S Route 9, west of Center Street, and is identified as Lots 3, 5, and 6 in Block 286 and Lot 7 in Block 287 on the Little Egg Harbor Township tax map.

A 60% progress civil plan set prepared by Adams, Rehmann & Heggan Associates, Inc. (ARH), titled "Preliminary & Final Major Site Plan" (66 pages) and 14 sheets titled "Grading Plan" all dated 2025 was provided to GTA. The plans indicate the site boundaries, existing and proposed topography, and the layout of the proposed site improvements. The proposed development will include 256 single-family dwellings on individual building lots and 162 residential units contained within 54 triplex buildings. The proposed development will also include amenities such as a clubhouse building, swimming pool, pickleball courts, and bocce ball courts. The plans indicate the development will include 41 stormwater management (SWM) basins throughout the site.

The "Overall Layout Plan" was marked up by ARH to show the requested locations of 57 test pits within the proposed SWM basin areas. GTA was also provided with an additional mark up prepared by Lennar on February 20, 2025 indicating the requested locations of 2 additional test pits located near the proposed clubhouse building. Based on our review of the grading plans, GTA recommended an

additional 23 test pits within the proposed basin areas throughout the site to meet the testing requirements outlined in Chapter 12 of the New Jersey Stormwater Best Management Practices Manual.

Following our initial exploration, GTA was requested by Lennar to perform additional test pits with infiltration testing due to changes in the SWM design. GTA was provided with a plan prepared by ARH titled "Additional SWM Testing Info" dated March 27, 2025. The plan indicates the requested locations of 39 additional test pits, and provides the existing ground surface elevation, proposed finished grade, and requested test pit depth at each location. This report has been revised to include the results of the additional testing.

Test Pit Explorations

In August of 2024, GTA performed a preliminary geotechnical exploration at the site, the results of which were presented in a report dated August 26, 2024. The preliminary exploration included 12 test pits with infiltration testing throughout the site, the results of which are also incorporated into this letter.

Between March 3 and March 21, 2025, GTA observed and logged the excavation of 82 additional test pits within the proposed basin locations throughout the development (numbered ITP-4A, ITP-9A, and ITP-101 through ITP-180). GTA revisited the site on April 14 through 22, 2025 to observe and log the 39 additional test pits requested by Lennar (numbered ITP-201 through ITP-239). At the time of our explorations, the site was heavily wooded. The test pits were excavated by Neighbors Property Management using a Bobcat E60 excavator and extended to depths ranging from approximately 10 to 17 feet below the existing ground surface. In-situ infiltration testing was performed adjacent to 80 of the 94 total test pit locations using a double-ring infiltrometer. Based on our conversations with ARH, we understand infiltration testing was not required at Test Pits ITP-111, ITP-112, ITP-131, and ITP-132 as these explorations were located within proposed "wet ponds."

The locations for Test Pits ITP-101 through ITP-157 and ITP-201 through ITP-239 were selected by ARH, Test Pits ITP-158 and ITP-159 were selected by Lennar, and the remaining test pit locations were selected by GTA. Test Pits ITP-1 though ITP-12 and ITP-101 through ITP-159 were staked in the field by ARH, and the remaining locations were located in the field by GTA using a hand-held GPS unit. 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 topographic contours shown on the grading plans and should be considered approximate.

Subsurface Conditions

An approximately 6- to 18-inch-thick layer of topsoil was encountered at the ground surface in the test pits performed for our studies. Below the topsoil, the test pits encountered native soils that consisted predominantly of interlayered sandy loams, loamy sands, and sands. Layers of fine-grained clay, sandy clay, sandy clay loam, and silt loam were encountered in 54 of the 133 test pits and generally ranged from about 1 foot to 9 feet in thickness.

Groundwater and mottling indicative of the seasonal high water table (SHWT) were not observed in the test pits performed for this study. Long-term groundwater readings were not obtained because the test pits were backfilled upon completion for safety considerations. Test Pits ITP-4A, ITP-9A, ITP-101 through ITP-180, and ITP-201 through ITP-239 were performed during the "wet season" defined by the NJDEP as January through April. Therefore, we believe the depth to the SHWT at these explored locations is below the depths excavated in the test pits.

Infiltration Testing

In-situ infiltration tests were performed at 129 of the 133 test pit locations using a double-ring infiltrometer in general accordance with Chapter 12 of the NJDEP Stormwater Best Management Practices Manual (Chapter 12). A table summarizing the results of the infiltration testing performed for this study is attached.

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 profile at the site predominantly consisted of interlayered sandy loam, loamy sand, and sand soils, and less commonly layers of clay, sandy clay, sandy clay loam, and silt loam were encountered in the soil profile.

Please refer to the attached table summarizing the infiltration test results for more detailed information pertaining to the measured infiltration rates at each test pit location.

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 US Home, LLC (dba Lennar; Client) 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.

Allison Tether, P.G.	Kyle T. Plaza, P.E.	Robert Dykstra, P.E.
Senior Project Manager	Associate	Vice President

Attachments:

Site Location Map
Test Pit Location Plan
Summary of Infiltration Test Results (4 pages)
Logs of Test Pits (133 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.

VENUE AT MYSTIC ISLAND

Little Egg Harbor Township,
Ocean County, New Jersey

Prepared For:
US Home Corporation (dba Lennar)

SOURCE: Google Maps		
SCALE: NTS	DATE: AUG. 2024	PROJECT #: 31241688

Figure 1

SUMMARY OF INFILTRATION TEST RESULTS

Test Pit No.	Ground Surface Elevation (ft.)	Basin Bottom Elevation (ft.)	Approximate Test Depth (ft.)	Approximate Test Elevation (ft.)	USDA Classification	Measured Infiltration Rate (in/hr)
ITP-1	32	31	4	28	Sandy Clay	0.5
ITP-2	33	29	4	29	Silt Loam	1.0
ITP-3	40	--	4	36	Loamy Sand	30
ITP-4	55	47	8	47	Sandy Loam	18
ITP-4A	55	47	8	47	Loamy Sand	24
ITP-5	51	48	4	47	Loamy Sand	24
ITP-6	29	30	4	25	Silt Loam	4.0
ITP-7	24	26	4	20	Loamy Sand	36+
ITP-8	24	--	7	17	Clay	0.0
ITP-9	45	38	5	40	Sandy Loam	21
ITP-9A	45	38	7	38	Loamy Sand	24
ITP-10	42	38	4	38	Sandy Loam	36+
ITP-11	34	--	4	30	Loamy Sand	36+
ITP-12	27	--	4	23	Gravelly Loamy Sand	36+
ITP-101	30	30	1.5	28.5	Loamy Sand	18
ITP-102	29	33	1	28	Sandy Loam	6.0
ITP-102	29	33	2	27	Loamy Sand	36+
ITP-103	29	33	1	28	Sandy Loam	6.0
ITP-104	29	26	3	26	Sand	36+
ITP-105	30	26	4	26	Loamy Sand	36+
ITP-106	34	33	7	27	Loamy Sand	2.0
ITP-107	37	35	2	35	Sand	36+
ITP-108	38	35	5	33	Sandy Clay	0.5
ITP-109	39	35	6	33	Sandy Loam	2.0
ITP-110	33	33	4	29	Sandy Clay	0.0
ITP-110	33	33	7	26	Loamy Sand	6.0
ITP-113	39.5	36	4	35.5	Loamy Sand	36+
ITP-113	39.5	36	8	31.5	Sandy Clay	0.0
ITP-114	46	38	8	38	Loamy Sand	36+
ITP-115	47	38	9	38	Loamy Sand	36+
ITP-116	43	38	9	34	Sandy Clay	0.5
ITP-117	39.5	36	4	35.5	Sandy Loam	1.5
ITP-118	37.5	35	4	33.5	Silt Loam	0.0
ITP-119	40	34	6	34	Sand	36+
ITP-120	34	30	4	30	Sand	36+
ITP-121	31	30	1.5	29.5	Loamy Sand	36+
ITP-122	32	34	1.5	30.5	Sandy Loam	4.0
ITP-123	32	33	1.5	30.5	Sandy Loam	18
ITP-124	29	28	1.5	27.5	Sandy Loam	12
ITP-125	28	28	2	26	Loamy Sand	18

Test Pit No.	Ground Surface Elevation (ft.)	Basin Bottom Elevation (ft.)	Approximate Test Depth (ft.)	Approximate Test Elevation (ft.)	USDA Classification	Measured Infiltration Rate (in/hr)
ITP-126	27	30	1.5	25.5	Sandy Loam	9.0
ITP-127	26.5	29	4	22.5	Silt Loam	0.2
ITP-128	25.5	29	4	21.5	Silt Loam	0.5
ITP-129	24	26	1.5	22.5	Sandy Loam	6.0
ITP-130	24	27	1.5	22.5	Sandy Clay Loam	0.2
ITP-133	32	30	2	30	Sandy Loam	9.0
ITP-134	29.5	30	1.5	28	Sandy Loam	6.0
ITP-135	36	35	5	31	Sandy Loam	0.2
ITP-136	55	49	6	49	Sandy Loam	1.5
ITP-137	49	48	2	47	Loamy Sand	36+
ITP-138	43	43	1.5	41.5	Sandy Loam	12
ITP-139	45	43	2	43	Sandy Loam	2.0
ITP-140	37	36	1.5	35.5	Sandy Loam	18
ITP-141	35.5	36	1.5	34	Sandy Loam	6.0
ITP-142	33	34	1.5	31.5	Sandy Loam	9.0
ITP-143	33.5	34	1.5	32	Sandy Loam	6.0
ITP-144	35	29	6	29	Sandy Loam	3.0
ITP-145	35	34	1.5	33.5	Sandy Clay Loam	0.0
ITP-146	31.5	31	5.5	26	Sandy Clay	0.0
ITP-147	32	31	5	27	Sandy Clay	0.0
ITP-148	37	39	1.5	35.5	Sandy Loam	6.0
ITP-149	51	47	4	47	Sandy Loam	12
ITP-150	43	47	1.5	41.5	Loamy Sand	24
ITP-151	46	47	2	44	Sandy Loam	2.0
ITP-152	49	49	1.5	47.5	Sandy Loam	6.0
ITP-153	46	43	3	43	Loamy Sand	18
ITP-154	44	43	1.5	42.5	Loamy Sand	24
ITP-155	41.5	37	4.5	37	Sand	36+
ITP-156	39	38	1.5	37.5	Sandy Loam	3.0
ITP-157	37.5	38	1.5	36	Sandy Loam	12
ITP-158	31.5	--	4	27.5	Silt Loam	0.2
ITP-159	32.5	--	4	28.5	Silt Loam	0.5
ITP-160	41	37	4	37	Loamy Sand	36+
ITP-161	38	34	4	34	Sandy Clay Loam	0.1
ITP-162	39	39	1.5	37.5	Sandy Loam	6.0
ITP-163	46	49	2	44	Sandy Clay Loam	1.0
ITP-163	46	49	5	41	Loamy Sand	36+
ITP-164	55	49	6	49	Loamy Sand	36+
ITP-165	34	35	4	30	Sandy Clay Loam	0.2
ITP-166	37	35	4	33	Silt Loam	0.0
ITP-167	40	34	6	34	Loamy Sand	36+
ITP-168	24	27	4	20	Silt Loam	0.0

Test Pit No.	Ground Surface Elevation (ft.)	Basin Bottom Elevation (ft.)	Approximate Test Depth (ft.)	Approximate Test Elevation (ft.)	USDA Classification	Measured Infiltration Rate (in/hr)
ITP-169	40	36	4	36	Loamy Sand	36+
ITP-169	40	36	9	31	Sandy Clay	0.0
ITP-170	45	38	7	38	Sand	36+
ITP-170	45	38	8	37	Sandy Loam	1.0
ITP-171	46.5	38	8.5	38	Loamy Sand	1.0
ITP-171	46.5	38	13	33.5	Sandy Clay	0.0
ITP-172	46.5	38	8.5	38	Sandy Loam	1.0
ITP-172	46.5	38	12	34.5	Sandy Clay	0.0
ITP-173	39.5	36	4	35.5	Sandy Loam	3.0
ITP-174	33	33	2.5	30.5	Sandy Clay	0.0
ITP-175	36	35	1.5	34.5	Loamy Sand	24
ITP-176	35	33	2	33	Sandy Loam	4.0
ITP-177	29	30	1.5	27.5	Sandy Loam	18
ITP-178	30	26	4	26	Sand	36+
ITP-179	31	30	1	30	Sandy Loam	4.0
ITP-180	30	30	1.5	28.5	Sandy Loam	4.0
ITP-201	34	34	1	33	Sandy Loam	4.6
ITP-202	33	31	2	31	Sandy Loam	8.1
ITP-203	37	31	6	31	Sand	36+
ITP-204	37	32	5	32	Sandy Clay	0.0
ITP-205	37	32	5	32	Sandy Clay	0.0
ITP-206	37	33	4	33	Sandy Clay	0.0
ITP-207	37	33	4	33	Sandy Clay	0.0
ITP-208	42	38	4	38	Loamy Sand	36+
ITP-209	38	35	7	31	Sandy Loam	16
ITP-209	38	35	9	29	Sandy Clay	0.0
ITP-210	39	36	4	35	Sandy Clay Loam	5.9
ITP-211	38	36	2	36	Loamy Sand	36+
ITP-212	36	36	1	35	Loamy Sand	36+
ITP-213	27	30	1	26	Sandy Loam	25
ITP-214	29	30	1	28	Sandy Loam	13
ITP-215	38	34	4	34	Loamy Sand	36+
ITP-216	28	30	4.5	23.5	Silt Loam	0.2
ITP-217	27	28	4.5	22.5	Silt Loam	0.2
ITP-218	28	28	4	24	Silt Loam	0.4
ITP-219	32	33	1.5	30.5	Sandy Loam	8.4
ITP-220	33	33	1.5	31.5	Sandy Loam	7.8
ITP-221	35	32	6	29	Sandy Loam	2.2
ITP-222	36	35	1.5	34.5	Sandy Loam	2.2
ITP-223	36	35	1.5	34.5	Sandy Loam	2.2
ITP-224	37	33	4	33	Sandy Loam	4.2
ITP-225	39	33	6	33	Sandy Loam	16
ITP-226	39	34	5	34	Sandy Clay Loam	0.2

Test Pit No.	Ground Surface Elevation (ft.)	Basin Bottom Elevation (ft.)	Approximate Test Depth (ft.)	Approximate Test Elevation (ft.)	USDA Classification	Measured Infiltration Rate (in/hr)
ITP-227	35	36	1.5	33.5	Sandy Loam	7.2
ITP-228	36	36	1.5	34.5	Sandy Loam	7.5
ITP-229	42	41	1.5	40.5	Sandy Loam	10
ITP-230	43	41	2	41	Sandy Loam	16
ITP-231	42	36	6	36	Loamy Sand	36+
ITP-232	41	36	5	36	Gravelly Loamy Sand	36+
ITP-233	42	40	3	39	Loamy Sand	14
ITP-234	44	40	7	37	Sandy Clay	0.0
ITP-235	43	38	8	35	Sandy Clay Loam	0.0
ITP-236	47	42	10	37	Clay	0.0
ITP-237	44	38	10	34	Clay	0.0
ITP-238	37	37	1.5	35.5	Sandy Loam	10
ITP-239	35	37	5	30	Silt Loam	0.2

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

LOG OF TEST PIT NO. ITP-1

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **08/13/24**
DATE COMPLETED: **08/13/24**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0			6 In. of Topsoil	
32.5		SM		Yellow-brown (10YR 5/4), moist, single grain, loose, Sandy Loam	
30.5		CL		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Sandy Clay	- Infiltration Rate = 0.5 in/hr at 4 Ft.
27.5	5	SM		Pale brown (2.5Y 7/3), moist, single grain, loose, Sandy Loam	
23.0	10	SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-1

LOG OF TEST PIT NO. ITP-2

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/13/25**
DATE COMPLETED: **08/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0			6 In. of Topsoil	
32.5		SC		Yellow-brown (10YR 5/5), moist, single grain, loose, Sandy Clay Loam	
29.5		ML		Very pale brown (10YR 7/3), moist, subangular blocky to single grain, friable to loose, Silt Loam	- Infiltration Rate = 1.0 in/hr at 4 Ft.
25.0	5	SM		Pale brown (2.5Y 7/3), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-2

LOG OF TEST PIT NO. ITP-3

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/13/25**
DATE COMPLETED: **08/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **40 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
40.0	0			6 In. of Topsoil	
39.5		SM		Yellow-brown (10YR 5/4), moist, 20% gravel, single grain, loose, Sandy Loam	
37.0		SP-SM		Red-yellow (7.5YR 6/6), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 30 in/hr at 4 Ft.
	5				
	10			- Very pale brown (10YR 7/4) at 10 Ft.	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-3

LOG OF TEST PIT NO. ITP-4

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/13/25**
DATE COMPLETED: **08/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **55 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0			6 In. of Topsoil	
54.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
				- Strong brown (7.5YR 5/8) at 2-1/2 Ft.	
				- 10% gravel at 3-1/2 Ft.	- Infiltration Rate = 18 in/hr at 4 Ft.
	5				
	10			- Brown-yellow (10YR 6/8) at 10 Ft.	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-4

LOG OF TEST PIT NO. ITP-4A

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **55 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0			6 In. of Topsoil	
54.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
52.5		SP-SM		Strong brown (7.5YR 5/8), moist, single grain loose, Loamy Sand	
	5			- Yellow-brown (10YR 5/8) at 5 Ft.	
	10			- Brown-yellow (10YR 6/6) at 12 Ft.	- Infiltration Rate = 24 in/hr at 8 Ft.
	15			Test pit complete at 14-1/2 Ft. due to sidewall collapse.	
	20				

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

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LOG OF TEST PIT NO. ITP-4A

LOG OF TEST PIT NO. ITP-5

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/12/25**
DATE COMPLETED: **08/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **51 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
51.0	0			6 In. of Topsoil	
50.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
49.0		SP-SM		Red-yellow (7.5YR 6/6), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 24 in/hr at 4 Ft.
	5				
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-5

LOG OF TEST PIT NO. ITP-6

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **08/12/25**
DATE COMPLETED: **08/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0			6 In. of Topsoil	
28.5		SM		Yellow-brown (10YR 5/4), moist, single grain, loose, Sandy Loam	
26.0		ML		White (2.5Y 8/1), moist, single grain, loose, Silt Loam	- Infiltration Rate = 4.0 in/hr at 4 Ft.
	5				
22.0		SP-SM		Strong brown (7.5YR 6/6), moist, single grain, loose, Loamy Sand	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-6

LOG OF TEST PIT NO. ITP-7

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/12/25**
DATE COMPLETED: **08/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **24 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
24.0	0			6 In. of Topsoil	
23.5		SP-SM		Light yellow-brown (10YR 6/4), moist, 20% gravel, single grain, loose, Loamy Sand - Light olive-brown (2.5YR 5/6), 5% gravel at 2-1/2 Ft.	- Infiltration Rate = 36+ in/hr at 4 Ft.
19.0	5	SP		Pale brown (2.5Y 7/4), moist, single grain, loose, Sand	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-7

LOG OF TEST PIT NO. ITP-8

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/12/25**
DATE COMPLETED: **08/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **24 Ft.**
DATUM: **TOPO**
LOGGED BY: **VP**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
24.0	0				
				12 In. of Topsoil	
23.0		SC		Dark gray-brown (10YR 4/2), moist, single grain, loose, Sandy Clay Loam	
21.0		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
	5				
17.0		CL		Light brown-gray (10YR 6/2), moist, subangular blocky, friable, Clay	- Infiltration Rate = 0.0 in/hr at 7 Ft.
15.5		SM		Olive yellow (2.5Y 6/6), moist, single grain, loose, Sandy Loam	
	10				
12.0		CL		Light brown-gray (10YR 6/2), moist, subangular blocky, friable, Clay	
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-8

LOG OF TEST PIT NO. ITP-9

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/06/25**
DATE COMPLETED: **08/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **45 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
45.0	0			6 In. of Topsoil	
44.5		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
	5			- Strong brown (7.5YR 5/8), 5% gravel at 4 Ft. - Strong brown (7.5YR 4/6) gravel grades out at 5 Ft.	- Infiltration Rate = 21 in/hr at 5 Ft.
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-9

LOG OF TEST PIT NO. ITP-9A

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **45 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
45.0	0			6 In. of Topsoil	
44.5		SM		Yellow-brown (10YR 5/8) , moist, single grain, loose, Sandy Loam	
41.0		SP-SM		Strong brown (7.5YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand - gravel grades out at 5 Ft.	- Infiltration Rate = 24 in/hr at 7 Ft.
	5				
	10			- Yellow-brown (10YR 5/8) at 12 Ft.	
	15			Test pit complete at 15 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-10

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/05/25**
DATE COMPLETED: **08/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **42 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
42.0	0				
41.3				8 In. of Topsoil	
		SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Sandy Loam	
				- Brown-yellow (10YR 6/8) at 3 Ft.	- Infiltration Rate = 36+ in/hr at 4 Ft.
	5				
	10			- wet at 10 Ft.	- Perched water seepage at 10 Ft. Dissipated as excavation advanced.
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-10

LOG OF TEST PIT NO. ITP-11

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/05/25**
DATE COMPLETED: **08/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **34 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
34.0	0			7 In. of Topsoil	
33.4		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
31.5		SP-SM		Strong brown (7.5YR 4/6), moist, 10% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 4 Ft.
	5				
				- Brown-yellow (10YR 6/8), 5% gravel at 8 Ft.	
				- Brown-yellow (10YR 6/6) at 9 Ft.	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-12

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **08/06/25**
DATE COMPLETED: **08/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **27 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **KTP**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
27.0	0			6 In. of Topsoil	
26.5		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
24.0		GM		Yellow-brown (10YR 5/6), moist, single grain, loose, Gravelly Loamy Sand	- Infiltration Rate = 36+ in/hr at 4 Ft.
22.0	5	SP-SM		Very pale brown (10YR 7/4), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-12

LOG OF TEST PIT NO. ITP-101 (Stake #600)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/05/25**
DATE COMPLETED: **03/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **30 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
30.0	0			18 In. of Topsoil	- Infiltration Rate = 18 in/hr at 1-1/2 Ft.
28.5		SP-SM		Dark yellow-brown (10YR 3/6), moist, 10% gravel, single grain, loose, Loamy Sand	
27.0		SP		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Sand	
	5				
	10				
				Test pit complete at 11 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-101 (Stake #600)

LOG OF TEST PIT NO. ITP-102 (Stake #601)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0				
				8 In. of Topsoil	
28.3		SM		Dark yellow-brown (10YR 3/6), moist, 5% gravel, single grain, loose, Sandy Loam	- Infiltration Rate = 6.0 in/hr at 1 Ft.
27.0		SP-SM		Yellow-brown (10YR 5/8), moist, 15% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 2 Ft.
24.0	5	SP		Yellow-brown (10YR 5/8), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-102 (Stake #601)

LOG OF TEST PIT NO. ITP-103 (Stake #602)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0				
				8 In. of Topsoil	
28.3		SM		Dark yellow-brown (10YR 3/6), moist, 5% gravel, single grain to subangular blocky, Sandy Loam	- Infiltration Rate = 6.0 in/hr at 1 Ft.
26.5		SP-SM		Yellow-brown (10YR 5/8), moist, 15% gravel, single grain, loose, Loamy Sand	
	5				
23.5		SP		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Sand - with clay nodules at 9 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-103 (Stake #602)

LOG OF TEST PIT NO. ITP-104 (Stake #603)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0			10 In. of Topsoil	
28.2		SM		Dark yellow-brown (10YR 3/6), moist, single grain, loose, Sandy Loam	
26.0		SP		Strong brown (7.5YR 5/8), moist, 15% gravel, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 3 Ft.
	5			- Light yellow-brown (10YR 6/4), with 5% gravel at 5 Ft.	
	10			- Yellow-brown (10YR 5/8), with clay nodules at 9 Ft.	
				Test pit complete at 11 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-104 (Stake #603)

LOG OF TEST PIT NO. ITP-105 (Stake #604)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **30 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
30.0	0			6 In. of Topsoil	- Infiltration Rate = 36+ in/hr at 4 Ft.
29.5		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
27.0		SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, single grain, loose, Loamy Sand	
	5				
24.5		SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-105 (Stake #604)

LOG OF TEST PIT NO. ITP-106 (Stake #605)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/03/25**
DATE COMPLETED: **03/03/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **34 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
34.0	0				
33.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, subangular blocky, loose to friable, Sandy Loam - with 15% gravel at 2 Ft.	
30.0		SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand - with cemented sands and clay nodules at 7 Ft. - Yellow (10YR 7/6) at 8 Ft.	- Infiltration Rate = 2.0 in/hr at 7 Ft.
	5				
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-106 (Stake #605)

LOG OF TEST PIT NO. ITP-107 (Stake #606)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/05/25**
DATE COMPLETED: **03/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				12 In. of Topsoil	
36.0		SM		Dark yellow-brown (10YR 4/6), moist, 10% gravel, single grain to subangular blocky, loose, Sandy Loam	
35.0		SP		Yellow-brown (10YR 5/8), moist, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 2 Ft.
	5				
				- with clay nodules at 9 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-107 (Stake #606)

LOG OF TEST PIT NO. ITP-108 (Stake #607)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/03/25**
DATE COMPLETED: **03/03/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **38 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
38.0	0			12 In. of Topsoil	
37.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
34.0		SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand	
33.0	5	CL		Brown-yellow (10YR 6/8), moist, massive, firm, Sandy Clay	- Infiltration Rate = 0.5 in/hr at 5 Ft.
30.5		SP-SM		Strong brown (7.5YR 5/8) moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-108 (Stake #607)

LOG OF TEST PIT NO. ITP-109 (Stake #608)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/03/25**
DATE COMPLETED: **03/03/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0				
38.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain to subangular blocky, loose, Sandy Loam - with 15% gravel at 3 Ft.	
	5				
33.0		SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Sandy Loam with clay nodules	- Infiltration Rate = 2.0 in/hr at 6 Ft.
30.0		SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand - Light yellow-brown (10YR 6/4) at 10 Ft.	
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-109 (Stake #608)

LOG OF TEST PIT NO. ITP-110 (Stake #609)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/03/25**
DATE COMPLETED: **03/03/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0				
32.3				8 In. of Topsoil	
		CL		Yellow-brown (10YR 5/6), moist, subangular blocky, friable, Sandy Clay	
				- Light brown-gray (10YR 6/2), massive, firm at 2-1/2 Ft.	- Infiltration Rate = 0.0 in/hr at 4 Ft.
	5				
27.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand with clay nodules	
25.0		SP		Brown-yellow (10YR 6/8), moist, single grain, loose, Sand	- Infiltration Rate = 6.0 in/hr at 7 Ft.
	10			- with clay nodules at 11 Ft.	
				Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-110 (Stake #609)

LOG OF TEST PIT NO. ITP-111 (Stake #610)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.5	0			10 In. of Topsoil	
36.7		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
34.5		CL		Light yellow-brown (10YR 6/4) and yellow-brown (10YR 5/8), moist, massive, firm, Clay Loam	
	5				
29.0		ML		Very pale brown (10YR 7/4), moist, subangular blocky, firm, Loam - Brown-yellow (10YR 6/6), friable at 11 Ft.	
	10				
25.5		SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand	
24.5		SP		Brown-yellow (10YR 6/8), moist, single grain, loose, Sand	
	15				
				Test pit complete at 17 Ft.	
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-111 (Stake #610)

LOG OF TEST PIT NO. ITP-112 (Stake #611)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0			12 In. of Topsoil	
38.0		SM		Dark yellow-brown (10YR 3/6), moist, 15% gravel, single grain, loose, Sandy Loam	
36.0		SP-SM		Dark yellow-brown (10YR 4/6), moist, 20% gravel, single grain, loose, Loamy Sand	
34.0	5	CL		Very pale brown (10YR 7/4) and yellow-brown (10YR 5/8), moist, massive, firm, Sandy Clay	
	10				
28.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	
27.0		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
25.0		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
	15			Test pit complete at 15-1/2 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-112 (Stake #611)

LOG OF TEST PIT NO. ITP-113 (Stake #612)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/04/25**
DATE COMPLETED: **03/04/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.5	0			12 In. of Topsoil	
38.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	
				- with 15% gravel at 4 Ft.	- Infiltration Rate = 36+ in/hr at 4 Ft.
34.0	5	SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
31.5		CL		Light gray (10YR 7/1), moist, massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 8 Ft.
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-113 (Stake #612)

LOG OF TEST PIT NO. ITP-114 (Stake #613)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/05/25**
DATE COMPLETED: **03/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.0	0				
				10 In. of Topsoil	
45.2		SM		Dark yellow-brown (10YR 4/6), moist, subangular blocky to single grain, loose, Sandy Loam	
	5				
40.0		SP-SM		Yellow-brown (10YR 6/4), moist, single grain, loose, Loamy Sand - with clay nodules at 7 Ft.	- Infiltration Rate = 36+ in/hr at 8 Ft.
	10				
	15			Test pit complete at 15-1/2 Ft.	
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-114 (Stake #613)

LOG OF TEST PIT NO. ITP-115 (Stake #614)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/05/25**
DATE COMPLETED: **03/05/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **47 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
47.0	0				
46.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, Sandy Loam	
44.0		SP-SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	
43.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
	5				
40.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 9 Ft.
	10				
33.0		CL		Light yellow-brown (10YR 6/4), moist, massive, firm, Sandy Clay	
	15				
				Test pit complete at 17 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-115 (Stake #614)

LOG OF TEST PIT NO. ITP-116 (Stake #615)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **43 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
43.0	0				
42.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
				- with 15% gravel at 3 Ft.	
38.0	5	SP-SM		Yellow-brown (10YR 5/8), moist, 10% gravel, single grain, loose, Loamy Sand	
34.0		CL		Light gray (10YR 7/1), moist, subangular blocky, firm, Sandy Clay	- Infiltration Rate = 0.5 in/hr at 9 Ft.
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-116 (Stake #615)

LOG OF TEST PIT NO. ITP-117 (Stake #616)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.5	0				
38.8				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
				- Brown-yellow (10YR 6/8), 5% gravel, single grain at 2 Ft.	
				- with clay nodules at 4 Ft.	- Infiltration Rate = 1.5 in/hr at 4 Ft.
34.5	5	SP-SM		Yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Loamy Sand	
	10				
28.0		CL		Light gray (10YR 7/1), moist, massive, firm, Sandy Clay	- Moderate perched water seepage at 11 Ft.
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-117 (Stake #616)

LOG OF TEST PIT NO. ITP-118 (Stake #617)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.5	0				
				12 In. of Topsoil	
36.5		SM		Yellow-brown (10YR 5/8), moist, single grain to subangular blocky, loose, Sandy Loam	
34.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.0 in/hr at 4 Ft.
	5				
30.5		SM		Very pale brown (10YR 7/4), moist, single grain, loose, Sandy Loam with clay nodules	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-118 (Stake #617)

LOG OF TEST PIT NO. ITP-119 (Stake #618)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **40 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
40.0	0			12 In. of Topsoil	
39.0		SM		Yellow-brown (10YR 5/4), moist, single grain to subangular blocky, loose, Sandy Loam - Pale brown (10YR 6/3) subangular blocky, friable at 4 Ft.	
34.0	5	SP		Light yellow-brown (10YR 6/4), moist, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 6 Ft.
	10			Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-119 (Stake #618)

LOG OF TEST PIT NO. ITP-120 (Stake #619)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **34 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
34.0	0				
				8 In. of Topsoil	
33.3		SP-SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Loamy Sand	
30.0		SP		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 4 Ft.
	5				
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-120 (Stake #619)

LOG OF TEST PIT NO. ITP-121 (Stake #620)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **31 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
31.0	0				
				18 In. of Topsoil	
29.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 1-1/2 Ft.
28.0		SP		Yellow-brown (10YR 5/8), moist, single grain, loose, Sand	
	5			- Brown-yellow (10YR 6/8) at 6 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-121 (Stake #620)

LOG OF TEST PIT NO. ITP-122 (Stake #621)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.0	0			12 In. of Topsoil	- Infiltration Rate = 4.0 in/hr at 1-1/2 Ft.
31.0		SM		Dark yellow-brown (10YR 4/6), moist, subangular blocky, loose to subangular blocky, Sandy Loam	
	5			- Yellow-brown (10YR 5/8) at 5 Ft.	
25.0		ML		Pale brown (10YR 6/3), moist, subangular blocky, friable, Silt Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-122 (Stake #621)

LOG OF TEST PIT NO. ITP-123 (Stake #622)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.0	0			12 In. of Topsoil	- Infiltration Rate = 18 in/hr at 1-1/2 Ft.
31.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
29.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	
28.0	5	SM		Very pale brown (10YR 7/4), moist, single grain, loose, Sandy Loam	
26.0		SP		Brown-yellow (10YR 5/8), moist, single grain, loose, Sand	
23.5		SM		Very pale brown (10YR 7/4), moist, subangular blocky, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-123 (Stake #622)

LOG OF TEST PIT NO. ITP-124 (Stake #623)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0				
				18 In. of Topsoil	
27.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 12.0 in/hr at 1-1/2 Ft.
25.5		SP		Yellow-brown (10YR 5/8), loose, single grain, Sand	
	5			- Strong brown (7.5YR 5/8) at 7 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-124 (Stake #623)

LOG OF TEST PIT NO. ITP-125 (Stake #624)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **28 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
28.0	0			12 In. of Topsoil	
27.0		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 18 in/hr at 2 Ft.
25.0		SP		Yellow-brown (10YR 5/8), moist, single grain, loose, Sand	
	5				
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-125 (Stake #624)

LOG OF TEST PIT NO. ITP-126 (Stake #625)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **27 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
27.0	0				
				12 In. of Topsoil	
26.0		SM		Dark yellow-brown (10YR 3/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 9.0 in/hr at 1-1/2 Ft.
				- Light yellow-brown (10YR 6/4) at 4 Ft.	
	5				
21.5		SP		Brown-yellow (10YR 6/8), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-126 (Stake #625)

LOG OF TEST PIT NO. ITP-127 (Stake #626)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **26.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
26.5	0			12 In. of Topsoil	
25.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose, Sandy Loam	
22.5	5	ML		White (10YR 8/1), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.2 in/hr at 4 Ft.
20.5		SP		Brown-yellow (10YR 6/8), moist, single grain, loose, Sand - Yellow-brown (10YR 5/8) at 8 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-127 (Stake #626)

LOG OF TEST PIT NO. ITP-128 (Stake #627)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **25.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
25.5	0				
				12 In. of Topsoil	
24.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
21.5		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	– Infiltration Rate = 0.5 in/hr at 4 Ft.
20.5	5	SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand	
18.5		ML		Brown-yellow (10YR 6/8), moist, subangular blocky, friable, Silt Loam	
17.5		SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-128 (Stake #627)

LOG OF TEST PIT NO. ITP-129 (Stake #628)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **24 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
24.0	0			8 In. of Topsoil	
23.3		SM		Dark yellow-brown (10YR 4/6), moist, subangular blocky, loose, Sandy Loam	- Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
20.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
14.5	10	ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	
				Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-129 (Stake #628)

LOG OF TEST PIT NO. ITP-130 (Stake #629)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **24 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
24.0	0			10 In. of Topsoil	
23.2		SC		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Clay Loam	- Infiltration Rate = 0.2 in/hr at 1-1/2 Ft.
21.5		SP-SM		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand	
	5			- Light yellow-brown (10YR 6/4) at 8 Ft.	
14.0	10	ML		Pale brown (10YR 6/3), moist, subangular blocky, friable, Silt Loam Test pit complete at 10-1/2 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-130 (Stake #629)

LOG OF TEST PIT NO. ITP-131 (Stake #630)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **22 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
22.0	0				
				18 In. of Topsoil	
20.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, single grain, loose, Loamy Sand	
18.5		SP		Yellow-brown (10YR 5/8), moist, single grain, loose, Sand	
	5			- Light gray (10YR 7/1) 5 Ft.	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-131 (Stake #630)

LOG OF TEST PIT NO. ITP-132 (Stake #631)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **23 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
23.0	0				
				18 In. of Topsoil	
21.5		SP		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Sand	
18.0	5	CL		Pale brown (10YR 6/3) and yellow-brown (10YR 5/8), moist, massive, firm, Sandy Clay	- Perched water seepage at 5 Ft.
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-132 (Stake #631)

LOG OF TEST PIT NO. ITP-133 (Stake #632)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.0	0			12 In. of Topsoil	
31.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 9.0 in/hr at 2 Ft.
	5			- Yellow-brown (10YR 5/8), with clay nodules at 5 Ft.	
				- Brown-yellow (10YR 6/6) at 7 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-133 (Stake #632)

LOG OF TEST PIT NO. ITP-134 (Stake #633)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.5	0			12 In. of Topsoil	- Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
28.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose, Sandy Loam - Yellow-brown (10YR 5/4) at 4 Ft.	
22.5	5	SP-SM		Pale brown (10YR 6/3), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-134 (Stake #633)

LOG OF TEST PIT NO. ITP-135 (Stake #634)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0				
				12 In. of Topsoil	
35.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
33.0		SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, single grain, loose, Loamy Sand	
31.5	5	SM		Light yellow-brown (10YR 6/4), moist, single grain to subangular blocky, loose, Sandy Loam with cemented sands	– Infiltration Rate = 0.2 in/hr at 5 Ft.
28.0		SP-SM		Brown-yellow (10YR 5/8), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-135 (Stake #634)

LOG OF TEST PIT NO. ITP-136 (Stake #635)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/18/25**
DATE COMPLETED: **03/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **55 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0				
				12 In. of Topsoil	
54.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
				- Brown-yellow (10YR 6/8) at 3 Ft.	
	5			- Strong brown (7.5YR 5/8) at 6 Ft.	– Infiltration Rate = 1.5 in/hr at 6 Ft.
45.0	10	SP		Yellow-brown (10YR 5/6), moist, single grain, loose, Sand	
				Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-136 (Stake #635)

LOG OF TEST PIT NO. ITP-137 (Stake #636)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/18/25**
DATE COMPLETED: **03/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **49 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
49.0	0				
				18 In. of Topsoil	
47.5		SP-SM		Yellow-brown (10YR 5/8), moist, 15% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 2 Ft.
	5			- gravel grades out at 5 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-137 (Stake #636)

LOG OF TEST PIT NO. ITP-138

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/18/25**
DATE COMPLETED: **03/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **43 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
43.0	0			12 In. of Topsoil	– Infiltration Rate = 12 in/hr at 1-1/2 Ft.
42.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
40.5		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
	5				
	10			Test pit complete at 9 Ft. due to sidewall collapse.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-138

LOG OF TEST PIT NO. ITP-139 (Stake #638)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/18/25**
DATE COMPLETED: **03/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **45 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
45.0	0			12 In. of Topsoil	– Infiltration Rate = 2.0 in/hr at 2 Ft.
44.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
41.5		SP-SM		Light yellow-brown (10YR 6/4), moist, single grain, loose, Loamy Sand - Yellow-brown (10YR 5/6) at 5-1/2 Ft.	
	5				
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-139 (Stake #638)

LOG OF TEST PIT NO. ITP-140 (Stake #639)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/17/25**
DATE COMPLETED: **03/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0			12 In. of Topsoil	– Infiltration Rate = 18 in/hr and 1-1/2 Ft.
36.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
34.0		SP-SM		Yellow-brown (10YR 5/8), moist, 15% gravel, single grain, loose, Loamy Sand - with cemented sands at 8 Ft.	
28.0	10	SM		Very pale brown (10YR 7/4) and and light yellow-brown (10YR 6/4), moist, subangular blocky, loose to friable, Sandy Loam	
				Test pit complete at 11 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-140 (Stake #639)

LOG OF TEST PIT NO. ITP-141 (Stake #640)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.5	0			12 In. of Topsoil	- Infiltration rate = 6.0 in/hr at 1-1/2 Ft.
34.5		SM		Dark yellow-brown (10YR 446), moist, single grain to subangular blocky, loose, Sandy Loam	
31.5	5	SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, single grain, Loamy Sand	
29.0		SM		Pale brown (10YR 6/3), moist, single grain, loose, Sandy Loam with clay nodules	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-141 (Stake #640)

LOG OF TEST PIT NO. ITP-142 (Stake #641)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0			12 In. of Topsoil	– Infiltration Rate = 9.0 in/hr at 1-1/2 Ft.
32.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
	5			- Brown-yellow (10YR 6/8), single grain to subangular blocky at 4 Ft.	
	10			- Strong brown (10YR 5/8) at 8 Ft.	
				Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-142 (Stake #641)

LOG OF TEST PIT NO. ITP-143 (Stake #642)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.5	0			12 In. of Topsoil	– Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
32.5		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, Sandy Loam	
30.5		SP-SM		Yellow-brown (10YR 5/6), moist, 15% gravel, single grain, Loamy Sand	
	5				
	10			- Very pale brown (10YR 7/4) at 9-1/2 Ft. Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-143 (Stake #642)

LOG OF TEST PIT NO. ITP-144 (Stake #643)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/21/25**
DATE COMPLETED: **03/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0				
				10 In. of Topsoil	
34.2		SM		Yellow-brown (10YR 5/8), moist, single grain, Sandy Loam	
				- Dark yellow brown (10YR 4/6), 5% gravel at 3 Ft.	
	5			- Brown-yellow (10YR 6/6) at 5 Ft.	– Infiltration Rate = 3.0 in/hr at 6 Ft.
	10				
				Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-144 (Stake #643)

LOG OF TEST PIT NO. ITP-145 (Stake #644)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/21/25**
DATE COMPLETED: **03/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0			8 In. of Topsoil	– Infiltration Rate = 0.0 in/hr at 1-1/2 Ft.
34.3		SC		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose to friable, Sandy Clay Loam	
	5				
29.0		SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Sandy Loam	
	10				
				Test pit complete at 11 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-145 (Stake #644)

LOG OF TEST PIT NO. ITP-146 (Stake #645)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **31.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
31.5	0			12 In. of Topsoil	
30.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
27.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	
26.0	5	CL		Light gray (10YR 7/1) and brown-yellow (10YR 6/8), moist, massive, firm, Sandy Clay	– Infiltration Rate = 0.0 in/hr at 5-1/2 Ft.
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-146 (Stake #645)

LOG OF TEST PIT NO. ITP-147 (Stake #646)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.0	0				
				10 In. of Topsoil	
31.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
				- Yellow-red (7.5YR 6/8) at 3 Ft.	
27.5	5	CL		Light gray (10YR 7/1) and brown-yellow (10YR 6/8), moist, subangular blocky, firm, Sandy Clay	– Infiltration Rate = 0.0 in/hr at 5 Ft.
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-147 (Stake #646)

LOG OF TEST PIT NO. ITP-148 (Stake #647)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				12 In. of Topsoil	
36.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	– Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
				- Dark yellow-brown (10YR 4/6) at 3 Ft.	
	5				
31.5		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-148 (Stake #647)

LOG OF TEST PIT NO. ITP-149 (Stake #648)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **51 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
51.0	0			12 In. of Topsoil	– Infiltration Rate = 12 in/hr at 4 Ft.
50.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
	5			- with 15% gravel at 4-1/2 Ft.	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-149 (Stake #648)

LOG OF TEST PIT NO. ITP-150 (Stake #649)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **43 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
43.0	0			12 In. of Topsoil	– Infiltration Rate = 24 in/hr at at 1-1/2 Ft.
42.0		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand	
	5			- Light yellow-brown (10YR 6/4) at 4-1/2 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-150 (Stake #649)

LOG OF TEST PIT NO. ITP-151 (Stake #650)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.0	0				
45.2				10 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	– Infiltration Rate = 2.0 in/hr at 2 Ft.
42.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
	5				
40.0		SM		Light yellow-brown (10YR 6/4), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-151 (Stake #650)

LOG OF TEST PIT NO. ITP-152 (Stake #651)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **49 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
49.0	0			10 In. of Topsoil	– Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
48.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose, Sandy Loam	
	5			- Brown-yellow (10YR 6/8), single grain at 4-1/2 Ft.	
42.0		SP-SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-152 (Stake #651)

LOG OF TEST PIT NO. ITP-153 (Stake #652)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.0	0				
				10 In. of Topsoil	
45.2		SM		Dark yellow-brown (10YR 4/4), moist, 10% gravel, single grain, loose, Sandy Loam	
43.5		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	– Infiltration Rate = 18 in/hr at 3 Ft.
	5				
	10			Test pit complete at 10 Ft. due to sidewall collapse.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-153 (Stake #652)

LOG OF TEST PIT NO. ITP-154 (Stake #653)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **44 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
44.0	0				
43.3				8 In. of Topsoil	
		SP-SM		Dark yellow-brown (10YR 4/4), moist, 10% gravel, single grain, loose, Loamy Sand	– Infiltration Rate = 24 in/hr at 1-1/2 Ft.
	5			- Yellow-brown (10YR 5/8) at 3 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-154 (Stake #653)

LOG OF TEST PIT NO. ITP-155 (Stake #654)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/17/25**
DATE COMPLETED: **03/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **41.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
41.5	0				
				12 In. of Topsoil	
40.5		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
38.5		SP		Strong brown (7.5YR 5/8), moist, 15% gravel, single grain, loose, Sand	– Infiltration Rate = 36+ in/hr at 4-1/2 Ft.
	5				
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-155 (Stake #654)

LOG OF TEST PIT NO. ITP-156 (Stake #655)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/17/25**
DATE COMPLETED: **03/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0			12 In. of Topsoil	
38.0		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	– Infiltration Rate = 3.0 in/hr and 1-1/2 Ft.
	5				
30.0		SP-SM		Brown-yellow (10YR 6/8), moist, 10% gravel, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-156 (Stake #655)

LOG OF TEST PIT NO. ITP-157

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/17/25**
DATE COMPLETED: **03/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.5	0			12 In. of Topsoil	– Infiltration Rate = 12 in/hr at 1-1/2 Ft.
36.5		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
34.5		SP-SM		Strong brown (7.5YR 5/6), moist, single grain, loose, Loamy Sand	
	5				
29.5		SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Sandy Loam with clay nodules	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-158 (Stake #657)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **31.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
31.5	0				
				12 In. of Topsoil	
30.5		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, Sandy Loam	
27.5		ML		Brown-yellow (10YR 6/6), moist, subangular blocky, friable, Silt Loam	– Infiltration Rate = 0.2 in/hr at 4 Ft.
	5				
24.5		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-158 (Stake #657)

LOG OF TEST PIT NO. ITP-159 (Stake #658)

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/14/25**
DATE COMPLETED: **03/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.5	0				
				12 In. of Topsoil	
31.5		SM		Dark yellow-brown (10YR 4/4), moist, subangular blocky to single grain, loose, Sandy Loam	
30.0		ML		Brown-yellow (10YR 6/6), moist, subangular blocky, friable, Loam	– Infiltration Rate = 0.5 in/hr at 4 Ft.
	5				
27.0		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
25.0		SP-SM		Very pale brown (10YR 7/3), moist, single grain, loose, Loamy Sand	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-159 (Stake #658)

LOG OF TEST PIT NO. ITP-160

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/17/25**
DATE COMPLETED: **03/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **41 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
41.0	0			12 In. of Topsoil	
40.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
37.0	5	SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, loose, Loamy Sand	– Infiltration Rate = 36+ in/hr at 4 Ft.
	10			- Brown-yellow (10YR 6/6) at 8 Ft. - 25% gravel at 10 Ft.	
	15			Test pit complete at 12 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-161

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/21/25**
DATE COMPLETED: **03/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **38 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
38.0	0				
37.2				10 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose to friable, Sandy Loam	
34.0	5	SC		Yellow-brown (10YR 5/6), moist, subangular blocky, friable, Sandy Clay Loam	- Infiltration Rate = 0.1 in/hr at 4 Ft.
31.0		SM		Strong brown (7.5YR 5/8), moist, single grain to subangular blocky, loose to friable, Sandy Loam	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-161

LOG OF TEST PIT NO. ITP-162

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/20/25**
DATE COMPLETED: **03/20/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0			12 In. of Topsoil	– Infiltration Rate = 6.0 in/hr at 1-1/2 Ft.
38.0		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
36.0		SP-SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Loamy Sand	
	5				
31.0		SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Sandy Loam	
29.5		CL		Very pale brown (10YR 7/3), moist, subangular blocky, firm, Sandy Clay	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-162

LOG OF TEST PIT NO. ITP-163

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/19/25**
DATE COMPLETED: **03/19/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.0	0			6 In. of Topsoil	
45.5		SC		Dark yellow-brown (10YR 4/4), moist, subangular blocky, friable, Sandy Clay Loam	– Infiltration Rate = 1.0 in/hr at 2 Ft.
41.0	5	SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	– Infiltration Rate = 36+ in/hr at 5 Ft.
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-163

LOG OF TEST PIT NO. ITP-164

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/18/25**
DATE COMPLETED: **03/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **55 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
55.0	0			12 In. of Topsoil	
54.0		SC		Yellow-brown (10YR 5/8), moist, subangular blocky, friable, Sandy Clay Loam	
51.5		SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Sandy Loam - Very pale brown (10YR 7/3) at 4-1/2 Ft.	
49.0	5	SP-SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Loamy Sand - with cemented sands at 7 Ft.	- Infiltration Rate = 36+ in/hr at 6 Ft.
	10			Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-165

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **34 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
34.0	0				
				12 In. of Topsoil	
33.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
30.0		SC		Very pale brown (10YR 7/3), moist, subangular blocky, friable, Sandy Clay Loam	– Infiltration Rate = 0.2 in/hr at 4 Ft.
	5				
26.0		SM		Very pale brown (10YR 7/3) and brown-yellow (10YR 6/6), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-166

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/12/25**
DATE COMPLETED: **03/12/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				12 In. of Topsoil	
36.0		SM		Yellow-brown (10YR 5/8), moist, single grain to subangular blocky, loose, Sandy Loam	
33.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, Silt Loam	- Infiltration Rate = 0.0 in/hr at 4 Ft.
	5				
31.0		SM		White (10YR 8/1), moist, single grain, loose, Sandy Loam with clay nodules	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-166

LOG OF TEST PIT NO. ITP-167

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/13/25**
DATE COMPLETED: **03/13/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **40 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
40.0	0				
				12 In. of Topsoil	
39.0		SM		Yellow-brown (10YR 5/4), moist, single grain to subangular blocky, loose, Sandy Loam	
37.0		SP-SM		Yellow-brown (10YR 5/4), moist, single grain, loose, Loamy Sand	
	5			- Pale brown (10YR 6/3) at 5-1/2 Ft.	- Infiltration Rate = 36+ in/hr at 6 Ft.
32.0		SP		Very pale brown (10YR 7/3), moist, single grain, loose, Sand	
	10				
				Test pit complete at 11 Ft. due to sidewall collapse.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-167

LOG OF TEST PIT NO. ITP-168

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **24 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
24.0	0				
				18 In. of Topsoil	
22.5		SM		Yellow-brown (10YR 5/8), moist, subangular blocky, loose, Sandy Loam	
20.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.0 in/hr at 4 feet
17.5	5	SP		White (10YR 8/1), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-168

LOG OF TEST PIT NO. ITP-169

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **40 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
40.0	0			12 In. of Topsoil	
39.0		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand - with 15% gravel at 3 Ft.	- Infiltration Rate = 36+ in/hr at 4 Ft.
34.0	5	SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	
31.0	10	CL		Pale brown (10YR 6/3), moist, massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 9 Ft.
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-169

LOG OF TEST PIT NO. ITP-170

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/11/25**
DATE COMPLETED: **03/11/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **45 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
45.0	0				
				12 In. of Topsoil	
44.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
				- Yellow-brown (10YR 5/8) at 4 Ft.	
40.0	5	SP		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Sand	
37.0		SM		Dark yellow-brown (10YR 4/6), moist, subangular blocky, loose to friable, Sandy Loam	- Infiltration Rate = 36+ in/hr at 7 Ft. - Infiltration Rate = 1.0 in/hr at 8 Ft.
	10			- Light yellow-brown (10YR 6/4) at 13-1/2 Ft.	
	15			Test pit complete at 15 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-170

LOG OF TEST PIT NO. ITP-171

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.5	0				
				12 In. of Topsoil	
45.5		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
				- with 20% gravel at 3 Ft.	
	5				
				- gravel grades out at 8 Ft.	- Infiltration Rate = 1.0 in/hr at 8-1/2 Ft.
	10				
35.5		SP-SM		Yellow-brown (10YR 5/8), moist, 10% gravel, single grain, loose, Loamy Sand	
33.5		CL		Pale brown (10YR 6/3), moist, massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 13 Ft.
	15				
				Test pit complete at 16-1/2 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-171

LOG OF TEST PIT NO. ITP-172

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **46.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
46.5	0				
				12 In. of Topsoil	
45.5		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Sandy Loam	
				- with 15% gravel at 3 Ft.	
	5			- with 25% gravel at 5 Ft.	
				- gravel grades out at 8 Ft.	
				- with 15% gravel at 9-1/2 Ft.	- Infiltration Rate = 1.0 in/hr at 8-1/2 Ft.
34.5	10	CL		Very pale brown (10YR 7/3), moist, massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 12 Ft.
	15				
				Test pit complete at 16-1/2 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-172

LOG OF TEST PIT NO. ITP-173

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/06/25**
DATE COMPLETED: **03/06/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39.5 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.5	0			8 In. of Topsoil	- Infiltration Rate = 3.0 in/hr at 4 Ft.
38.8		SM		Dark yellow-brown (10YR 4/4), moist, single grain to subangular blocky, loose, Sandy Loam - Yellow-brown (10YR 5/8), 5% gravel, single grain, with clay nodules at 3 Ft.	
34.5	5	SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
28.5	10	CL		Light gray (10YR 7/1), moist, massive, firm, Sandy Clay	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-173

LOG OF TEST PIT NO. ITP-174

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0				
				12 In. of Topsoil	
32.0		CL		Yellow-brown (10YR 5/8), moist, massive, firm, Sandy Clay	
				- Pale brown (10YR 6/3) at 2-1/2 Ft.	- Infiltration Rate = 0.0 in/hr at 2-1/2 Ft.
	5				
25.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-174

LOG OF TEST PIT NO. ITP-175

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0				
				18 In. of Topsoil	
34.5		SP-SM		Dark yellow-brown (10YR 4/6), moist, 15% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 24 in/hr at 1-1/2 Ft.
	5			- gravel grades out at 7 feet	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-176

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/07/25**
DATE COMPLETED: **03/07/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0				
				8 In. of Topsoil	
34.3		CL		Dark yellow-brown (10YR 4/4), moist, massive, firm, Sandy Clay	
33.0		SM		Dark yellow-brown (10YR 4/6), moist, 10% gravel, single grain, loose, Sandy Loam	- Infiltration Rate = 4.0 in/hr at 2 Ft.
30.0	5	SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	
	10			Test pit complete at 10-1/2 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-176

LOG OF TEST PIT NO. ITP-177

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/10/25**
DATE COMPLETED: **03/10/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0				
				10 In. of Topsoil	
28.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 18 in/hr at 1-1/2 Ft.
26.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
	5			- with cemented sands and clay nodules at 6 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-177

LOG OF TEST PIT NO. ITP-178

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/07/25**
DATE COMPLETED: **03/07/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **30 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
30.0	0				
29.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
26.0		SP		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 4 Ft.
	5			- with 10% gravel and clay nodules at 7 Ft.	
	10				
				Test pit complete at 11 Ft. due to sidewall collapse.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-178

LOG OF TEST PIT NO. ITP-179

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/07/25**
DATE COMPLETED: **03/07/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **31 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
31.0	0				
30.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 4.0 in/hr at 1 Ft.
28.0		SP-SM		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand	
	5			- with clay nodules at 7 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-179

LOG OF TEST PIT NO. ITP-180

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **03/07/25**
DATE COMPLETED: **03/07/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **30 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
30.0	0				
				12 In. of Topsoil	
29.0		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 4.0 in/hr at 1-1/2 Ft.
27.0		SP-SM		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand	
	5			- with clay nodules at 8 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-180

LOG OF TEST PIT NO. ITP-201

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/14/25**
DATE COMPLETED: **04/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **34 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
34.0	0				
				8 In. of Topsoil	
33.3		SM		Dark yellow-brown (10YR 4/6), moist, 10% gravel, single grain, loose, Sandy Loam	- Infiltration Rate = 4.6 in/hr at 1 Ft.
31.0		SP-SM		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand	
30.0		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
	5				
28.0		SP		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Loamy Sand	
				- Yellow-brown (10YR 5/6) at 9 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-201

LOG OF TEST PIT NO. ITP-202

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/14/25**
DATE COMPLETED: **04/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0				
				8 In. of Topsoil	
32.3		SM		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 8.1 in/hr at 2 Ft.
30.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
	5				
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-202

LOG OF TEST PIT NO. ITP-203

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/14/25**
DATE COMPLETED: **04/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				8 In. of Topsoil	
36.3		SM		Dark yellow-brown (10YR 4/4), single grain, loose, Sandy Loam	
34.0		SP-SM		Yellow-brown (10YR 5/8), moist, 5% gravel, single grain, loose, Loamy Sand	
33.0		SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	- Infiltration Rate = 36+ in/hr at 6 Ft.
	5				
	10				
	15			Test pit complete at 14 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-204

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/14/25**
DATE COMPLETED: **04/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				10 In. of Topsoil	
36.2		SM		Dark yellow-brown (10YR 4/6), moist, single grain to subangular blocky, loose, Sandy Loam	
33.0	5	CL		Yellow-brown (10YR 5/8) and very pale brown (10YR 7/4), moist, angular blocky, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 5 Ft.
30.0		SP		Yellow-red (5YR 5/8), moist, single grain, loose, Sand - Strong brown (7.5YR 5/8) at 8 Ft.	
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-204

LOG OF TEST PIT NO. ITP-205

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/14/25**
DATE COMPLETED: **04/14/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
36.3				8 In. of Topsoil	
		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand	
32.0	5	CL		Light gray (10YR 7/1) and yellow-red (5YR 5/8), moist, angular blocky to massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 5 Ft.
27.0	10	SP-SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Loamy Sand	
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-205

LOG OF TEST PIT NO. ITP-206

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				8 In. of Topsoil	
36.0		CL		Yellow-brown (10YR 5/8), moist, angular blocky to massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 4 Ft.
	5				
27.0	10	SP-SM		Light yellow-brown (10YR 6/4), moist, single grain, loose, Loamy Sand	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-206

LOG OF TEST PIT NO. ITP-207

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				10 In. of Topsoil	
36.2		SP-SM		Yellow-brown (10YR 5/8),moist, single grain, loose, Loamy Sand	
33.0		CL		Light gray (1YR 7/1) and yellow-red (5YR 5/8), moist, angular blocky to massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 4 Ft.
	5				
27.0	10	SP-SM		Light yellow-brown (10YR 6/4), moist, single grain, loose, Loamy Sand	
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-207

LOG OF TEST PIT NO. ITP-208

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **42 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
42.0	0				
				10 In. of Topsoil	
41.2		SP-SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Loamy Sand	
				- Yellow-brown (10YR 5/6) at 3 Ft.	
	5				- Infiltration Rate = 36+ in/hr at 4 Ft.
36.0		SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	
	10				
				Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-208

LOG OF TEST PIT NO. ITP-209

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **38 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
38.0	0				
				1 Ft. of Topsoil	
37.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam - Yellow-brown (10YR 5/8) at 2 Ft.	
33.0	5	SP		Very pale brown (10YR 7/3), moist, single grain, loose, Sand	
31.0		SM		Brown-yellow (10YR 5/8), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 16 in/hr at 7 Ft.
29.0	10	CL		Light gray (10YR 7/1) and yellow-brown (10YR 5/8), subangular blocky to massive, firm, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 9 Ft.
				Test pit complete at 11 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-209

LOG OF TEST PIT NO. ITP-210

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0				
				11 In. of Topsoil	
38.1		SP-SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Loamy Sand	
35.0		SC		Yellow-red (5YR 5/6), moist, subangular blocky, friable, Sandy Clay Loam	- Infiltration Rate = 5.9 in/hr at 4 Ft.
34.0	5	SP-SM		Strong brown (7.5YR 5/8), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 11 Ft.	
	15				
	20				

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. ITP-210

LOG OF TEST PIT NO. ITP-211

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **38 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
38.0	0				
				1 Ft. of Topsoil	
37.0		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 2 Ft.
	5			- Yellow-brown (10YR 5/8) at 4 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-211

LOG OF TEST PIT NO. ITP-212

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/15/25**
DATE COMPLETED: **04/15/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0			12 In. of Topsoil	
35.0		SP-SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Loamy Sand - Yellow-brown (10YR 5/8) at 3 Ft.	- Infiltration Rate = 36+ in/hr at 1 Ft.
	5				
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-212

LOG OF TEST PIT NO. ITP-213

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **27 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
27.0	0				
				9 In. of Topsoil	
26.3		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Sandy Loam	- Infiltration Rate = 25 in/hr at 1 Ft.
22.0	5	SP-SM		Yellow-brown (10YR 6/4), moist, single grain, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-213

LOG OF TEST PIT NO. ITP-214

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **29 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
29.0	0				
				9 In. of Topsoil	
28.3		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Sandy Loam	- Infiltration Rate = 13 in/hr at 1 Ft.
	5			- Yellow-brown (10 YR 6/4), with clay nodules at 5 Ft.	
22.0		SP		Yellow-brown (10YR 6/4), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-214

LOG OF TEST PIT NO. ITP-215

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **38 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
38.0	0			12 In. of Topsoil	– Infiltration Rate = 36+ in/hr at 4 Ft.
37.0		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, single grain, loose, Sandy Loam	
34.5		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Loamy Sand	
32.5	5	SP		Brown-yellow (10YR 6/8), moist, single grain, loose, Sand	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-216

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **28 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
28.0	0				
				12 In. of Topsoil	
27.0		SC		Dark yellow-brown (10YR 4/4), moist, subangular blocky, loose to friable, Sandy Clay Loam	
24.0		ML		Pale brown (10YR 6/3), moist, subangular blocky, friable, Silt Loam	- Infiltration rate = 0.2 in/hr at 4-1/2 Ft.
	5				
21.0		SM		White (10YR 8/1), moist, single grain, loose, Sandy Loam	
				- Yellow-brown (10YR 5/8) at 9 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-216

LOG OF TEST PIT NO. ITP-217

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **27 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
27.0	0				
				12 In. of Topsoil	
26.0		SM		Dark yellow-brown (10YR 4/4), moist, 25% gravel, single grain, loose, Gravelly Sandy Loam	
22.5	5	ML		Brown-yellow (10YR 6/8), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.2 in/hr at 4-1/2 Ft.
21.0		SM		Light yellow-brown (10YR 6/4), moist, single grain, loose, Sandy Loam	
	10			- Yellow-brown (10YR 5/8) at 9 Ft.	
				Test pit complete at 10 Ft.	
	15				
	20				

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

GEO-TECHNOLOGY ASSOCIATES, INC.
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LOG OF TEST PIT NO. ITP-218

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/17/25**
DATE COMPLETED: **04/17/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **28 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
28.0	0				
				12 In. of Topsoil	
27.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
24.0		ML		Light yellow-brown (10YR 6/4), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.4 in/hr at 4 Ft.
22.0	5	SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Sandy Loam - White (10YR 8/1) at 8 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-218

LOG OF TEST PIT NO. ITP-219

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/18/25**
DATE COMPLETED: **04/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **32 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
32.0	0			12 In. of Topsoil	– Infiltration Rate = 8.4 in/hr at 1-1/2 Ft.
31.0		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
	5				
26.0		SP-SM		Pale brown (10YR 6/3), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-219

LOG OF TEST PIT NO. ITP-220

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/18/25**
DATE COMPLETED: **04/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **33 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
33.0	0			12 In. of Topsoil	– Infiltration Rate = 7.8 in/hr at 1-1/2 Ft.
32.0		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
29.0	5	SP-SM		Brown-yellow (10YR 6/8), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-220

LOG OF TEST PIT NO. ITP-221

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/18/25**
DATE COMPLETED: **04/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0				
34.3				9 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
	5			- Light yellow-brown (10YR 6/4), subangular blocky, with clay nodules at 6 Ft.	– Infiltration Rate = 2.2 in/hr at 6 Ft.
	10			- Pale brown (10YR 6/3), single grain at 9 Ft.	
				Test pit complete at 11 Ft.	
	15				
	20				

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

GEO-TECHNOLOGY ASSOCIATES, INC.
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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-221

LOG OF TEST PIT NO. ITP-222

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/18/25**
DATE COMPLETED: **04/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0				
				12 In. of Topsoil	
35.0		SM		Dark yellow-brown (10YR 4/4), moist, 10% gravel, single grain, loose, Sandy Loam	– Infiltration Rate = 2.2 in/hr at 1-1/2 Ft.
33.0		SP-SM		Yellow-brown (10YR 5/8), moist, 15% gravel, loose, Loamy Sand	
	5				
29.0		SP		Dark yellow-brown (10YR 4/6), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-222

LOG OF TEST PIT NO. ITP-223

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/18/25**
DATE COMPLETED: **04/18/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0			12 In. of Topsoil	– Infiltration Rate = 2.2 in/hr at 1-1/2 Ft.
35.0		SM		Dark yellow-brown (10YR 4/4), moist, 10% gravel, single grain, loose, Sandy Loam - Yellow-brown (10YR 5/8) at 3-1/2 Ft.	
29.0	5	SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-223

LOG OF TEST PIT NO. ITP-224

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/21/25**
DATE COMPLETED: **04/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
36.3				8 In. of Topsoil	
		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 4.2 in/hr at 4 Ft.
	5			- Yellow-brown (10YR 5/6) and brown-yellow (10YR 6/6) at 6 Ft.	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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. ITP-224

LOG OF TEST PIT NO. ITP-225

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/21/25**
DATE COMPLETED: **04/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0			10 In. of Topsoil	
38.2		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
35.5		SP-SM		Dark yellow-brown (10YR 4/4), moist, 10% gravel, single grain, loose, Loamy Sand	
33.0	5	SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 16 in/hr at 6 Ft.
	10			Test pit complete at 14 Ft.	
	15				
	20				

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. ITP-226

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/21/25**
DATE COMPLETED: **04/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **39 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
39.0	0				
				10 In. of Topsoil	
38.2		SM		Dark yellow-brown (10YR 4/4), moist, 15% gravel, single grain, loose, Sandy Loam	
35.0		SC		Yellow-brown (10YR 5/6), moist, subangular blocky, friable, Sandy Clay Loam	
	5				- Infiltration Rate = 0.2 in/hr at 5 Ft.
33.0		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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. ITP-226

LOG OF TEST PIT NO. ITP-227

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0			12 In. of Topsoil	- Infiltration Rate = 7.2 in/hr at 1-1/2 Ft.
34.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
31.5	5	SP-SM		Yellow-brown (10YR 5/6), moist, 15% gravel, single grain, loose, Loamy Sand	
28.0		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-227

LOG OF TEST PIT NO. ITP-228

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **36 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
36.0	0				
				12 In. of Topsoil	
35.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 7.5 in/hr at 1-1/2 Ft.
32.0		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
	5				
29.0		SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Sandy Loam	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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. ITP-229

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **42 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
42.0	0				
				10 In. of Topsoil	
41.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 10 in/hr at 1-1/2 Ft.
				- with 25% gravel at 3 Ft.	
	5			- Brown-yellow (10YR 6/6) and yellow-brown (10YR 5/6) at 4 Ft.	
36.0		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-229

LOG OF TEST PIT NO. ITP-230

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **43 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
43.0	0				
				10 In. of Topsoil	
42.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 16 in/hr at 2 Ft.
				- with 25% gravel at 3 Ft.	
	5			- Brown-yellow (10YR 6/6), gravel grades out at 4 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-231

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/21/25**
DATE COMPLETED: **04/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **42 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
42.0	0				
41.3				8 In. of Topsoil	
		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	
39.5		SP-SM		Yellow-brown (10YR 5/6), moist, 10% gravel, single grain, loose, Loamy Sand	- Infiltration Rate = 36+ in/hr at 6 Ft.
	5				
	10			- Dark yellow-brown (10YR 4/6) at 11 Ft.	
				- Brown-yellow (10YR 6/6) at 13 Ft.	
				Test pit complete at 14 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-231

LOG OF TEST PIT NO. ITP-232

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/21/25**
DATE COMPLETED: **04/21/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **41 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
41.0	0				
				8 In. of Topsoil	
40.3		SM		Dark yellow-brown (10YR 4/4), moist, 5% gravel, single grain, loose, Sandy Loam	
39.0		SP-SM		Brown-yellow (10YR 6/6), moist, 45% gravel, single grain, loose, Gravelly Loamy Sand	
	5			- Dark yellow-brown (10YR 4/6) at 6 Ft.	- Infiltration Rate = 36+ in/hr at 5 Ft.
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-232

LOG OF TEST PIT NO. ITP-233

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

PROJECT NO: **31241688**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **42 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
42.0	0				
				10 In. of Topsoil	
41.2		SM		Dark yellow-brown (10YR 4/6), moist, 5% gravel, loose, Sandy Loam	
39.0		SP-SM		Yellow-brown (10YR 5/6), moist, single grain, loose, Loamy Sand	- Infiltration Rate = 14 in/hr at 3 Ft.
	5				
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-233

LOG OF TEST PIT NO. ITP-234

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **44 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
44.0	0				
43.3				9 In. of Topsoil	
		SM		Light yellow-brown (10YR 6/4), moist, single grain to subangular blocky, loose, Sandy Loam - Yellow-brown (10YR 5/8) at 3 Ft.	
	5				
37.0		CL		Yellow-brown (10YR 5/8) and light gray (10YR 7/1), moist, subangular blocky, friable, Sandy Clay	- Infiltration Rate = 0.0 in/hr at 7 Ft.
35.0		SP-SM		Brown-yellow (10YR 6/6), moist, 10% gravel, loose, Loamy Sand	
	10			Test pit complete at 12 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-234

LOG OF TEST PIT NO. ITP-235

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **43 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
43.0	0			6 In. of Topsoil	
42.5		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
40.0		SP		Brown-yellow (10YR 6/6), moist, single grain, loose, Sand	
	5				
35.0		SC		Brown-yellow (10YR 6/6), moist, subangular blocky, friable, Sandy Clay Loam with clay nodules	- Infiltration Rate = 0.0 in/hr at 8 Ft.
	10				
				Test pit complete at 13 Ft.	
	15				
	20				

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

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LOG OF TEST PIT NO. ITP-235

LOG OF TEST PIT NO. ITP-236

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **47 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
47.0	0			9 In. of Topsoil	
46.3		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam - Yellow-brown (10YR 5/6) at 2 Ft. - with 15% gravel at 6 Ft.	
37.0	10	CL		Light gray (10YR 7/1) and yellow-brown (10YR 5/6), moist, massive, firm, Clay	- Infiltration Rate = 0.0 in/hr at 10 Ft.
36.0		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
				Test pit complete at 13 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-236

LOG OF TEST PIT NO. ITP-237

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/16/25**
DATE COMPLETED: **04/16/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E50**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **44 Ft.**
DATUM: **TOPO**
LOGGED BY: **CT**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
44.0	0			12 In. of Topsoil	
43.0		SP-SM		Brown-yellow (10YR 6/6), moist, single grain, loose, Loamy Sand	
	5				
38.0		SM		Yellow-brown (10YR 5/8), moist, single grain, loose, Sandy Loam	
34.0	10	CL		Light gray (10YR 7/1) and yellow-brown (10YR 5/6), moist, massive, firm, Clay	- Infiltration Rate = 0.0 in/hr at 10 Ft.
	15			Test pit complete at 14 Ft.	
	20				

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

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LOG OF TEST PIT NO. ITP-237

LOG OF TEST PIT NO. ITP-238

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **37 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
37.0	0				
				12 In. of Topsoil	
36.0		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam	- Infiltration Rate = 10 in/hr at 1-1/2 Ft.
				- Brown-yellow (10YR 6/6), 10% gravel at 3 Ft.	
	5				
29.0		SP-SM		Yellow-brown (10YR 5/8), moist, single grain, 15% gravel, Loamy Sand	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Somerset, NJ 08873

LOG OF TEST PIT NO. ITP-238

LOG OF TEST PIT NO. ITP-239

PROJECT: **Venue at Mystic Island**
PROJECT LOCATION: **Little Egg Harbor Township, NJ**
CLIENT: **US Home, LLC (Lennar)**

PROJECT NO: **31241688**

DATE STARTED: **04/22/25**
DATE COMPLETED: **04/22/25**
CONTRACTOR: **Neighbors Property Management**
EQUIPMENT: **Bobcat E60**

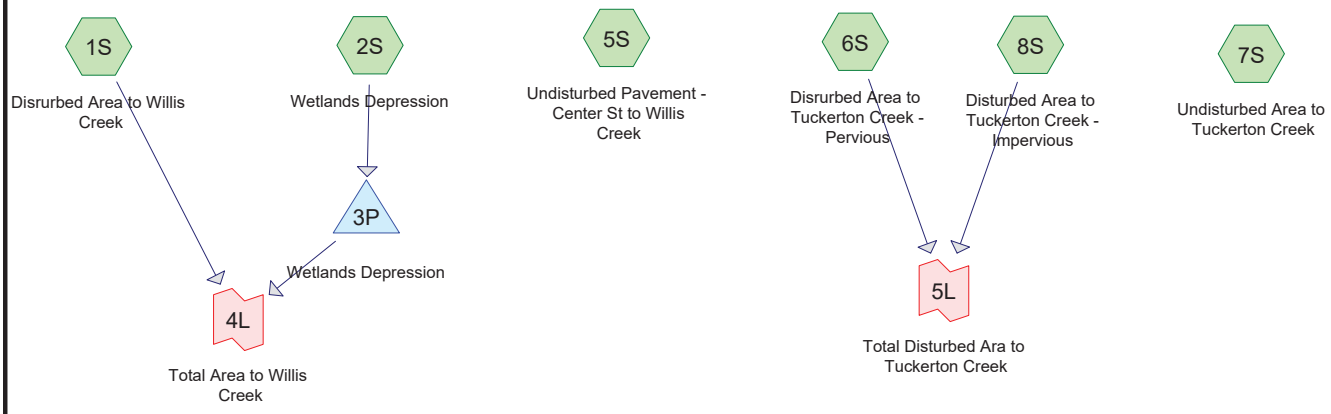
GROUNDWATER ENCOUNTERED: **N/E**
GROUNDSURFACE ELEVATION: **35 Ft.**
DATUM: **TOPO**
LOGGED BY: **AFS**
CHECKED BY: **AMT**

ELEVATION (ft)	DEPTH (ft)	USCS	GRAPHIC SYMBOL	DESCRIPTION	REMARKS
35.0	0				
				10 In. of Topsoil	
34.2		SM		Dark yellow-brown (10YR 4/4), moist, single grain, loose, Sandy Loam - Brown-yellow (10YR 6/6) at 3 Ft.	
30.0	5	ML		Brown-yellow (10YR 6/6) and pale brown (10YR 6/3), moist, subangular blocky, friable, Silt Loam	- Infiltration Rate = 0.2 in/hr at 5 Ft.
28.5		SP-SM		Brown-yellow, moist, single grain, loose, Loamy Sand - Yellow-brown (10YR 5/8) at 9 Ft.	
	10			Test pit complete at 10 Ft.	
	15				
	20				

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

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Appendix D – Pre-Development Calculations



Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 4/28/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	3.42	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

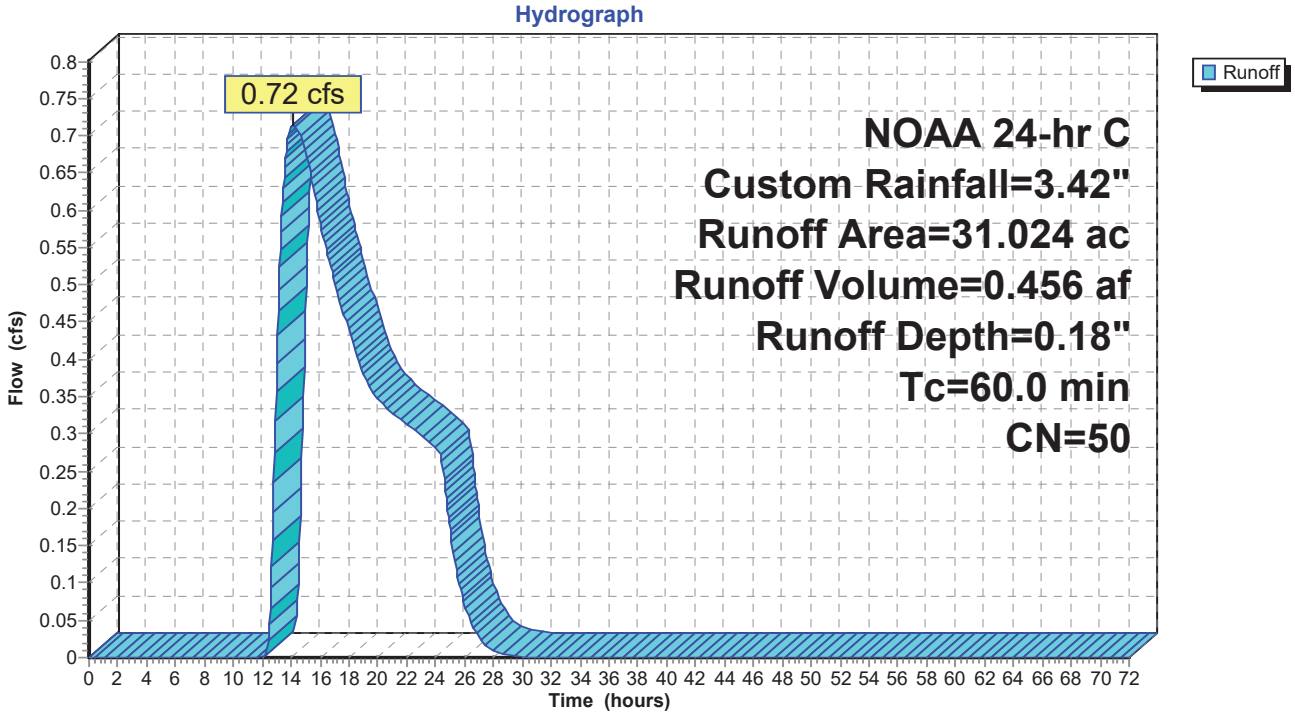
Runoff = 0.72 cfs @ 14.14 hrs, Volume= 0.456 af, Depth= 0.18"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

[45] Hint: Runoff=Zero

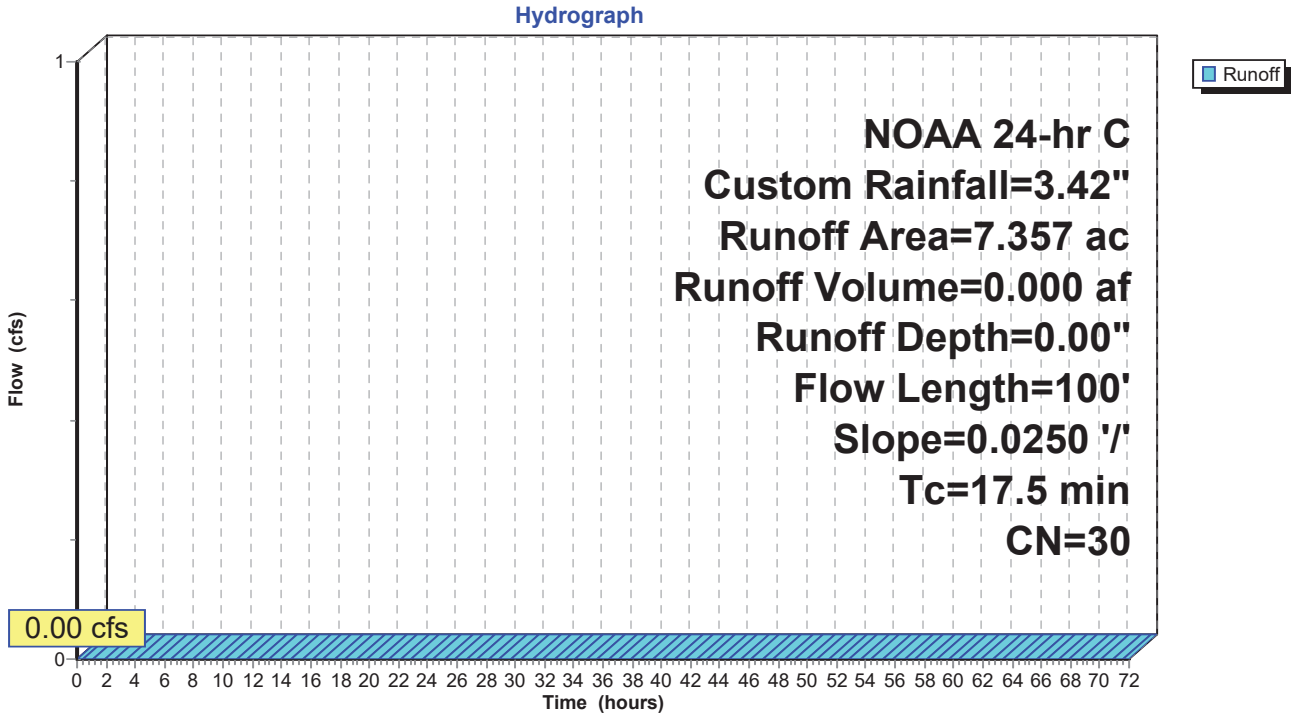
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.00' @ 0.00 hrs Surf.Area= 405 sf Storage= 0 cf

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

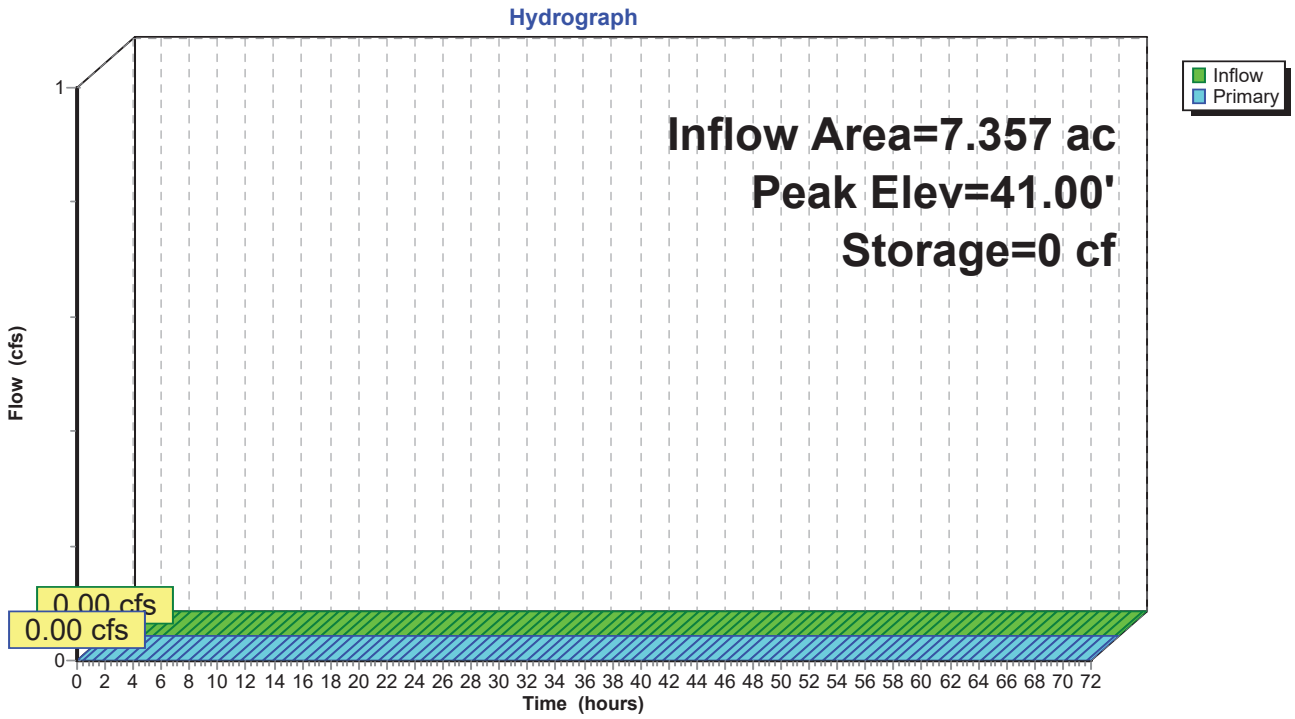
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Wetlands Depression

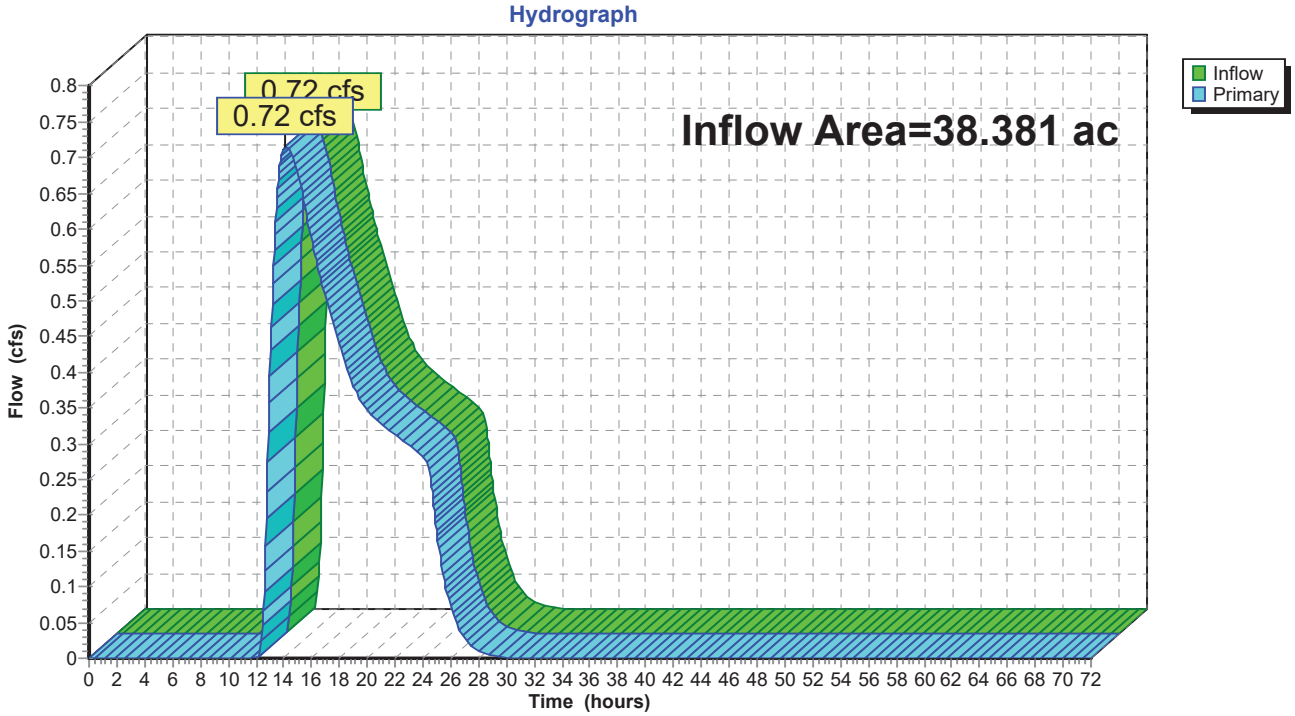


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 0.14" for Custom event
Inflow = 0.72 cfs @ 14.14 hrs, Volume= 0.456 af
Primary = 0.72 cfs @ 14.14 hrs, Volume= 0.456 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

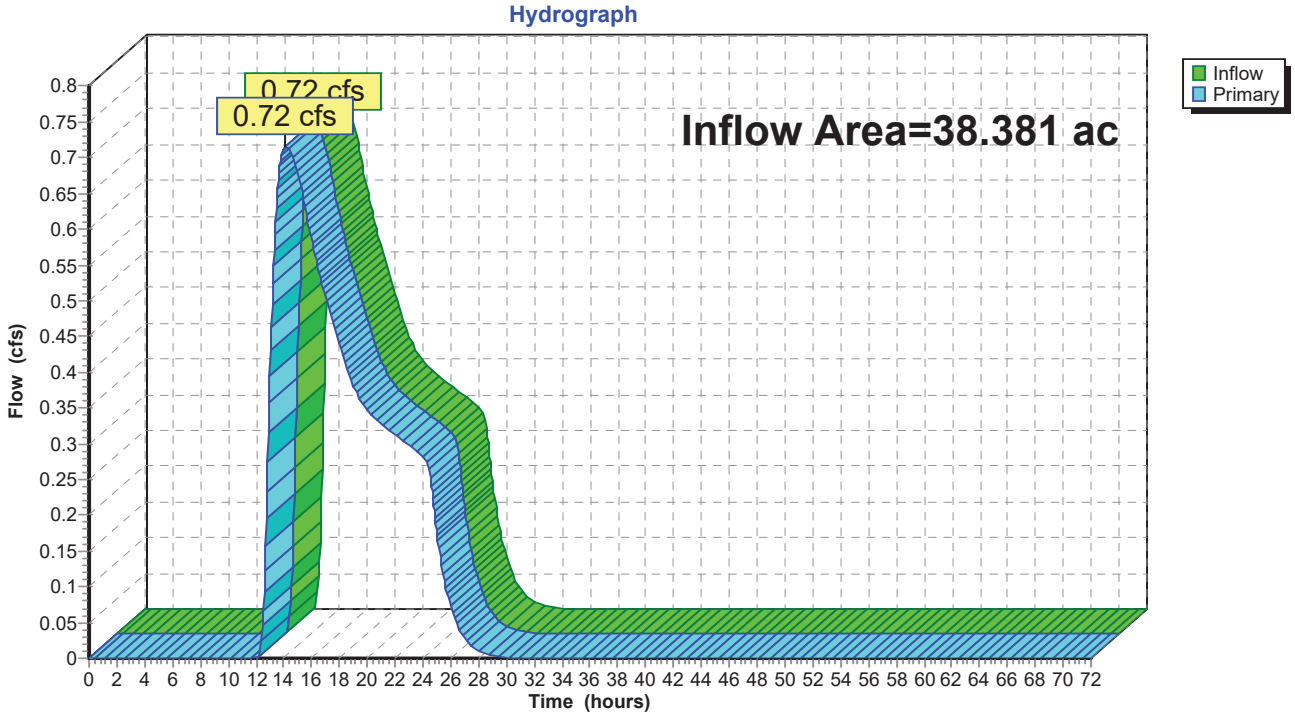


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 0.14" for Custom event
Inflow = 0.72 cfs @ 14.14 hrs, Volume= 0.456 af
Primary = 0.72 cfs @ 14.14 hrs, Volume= 0.456 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

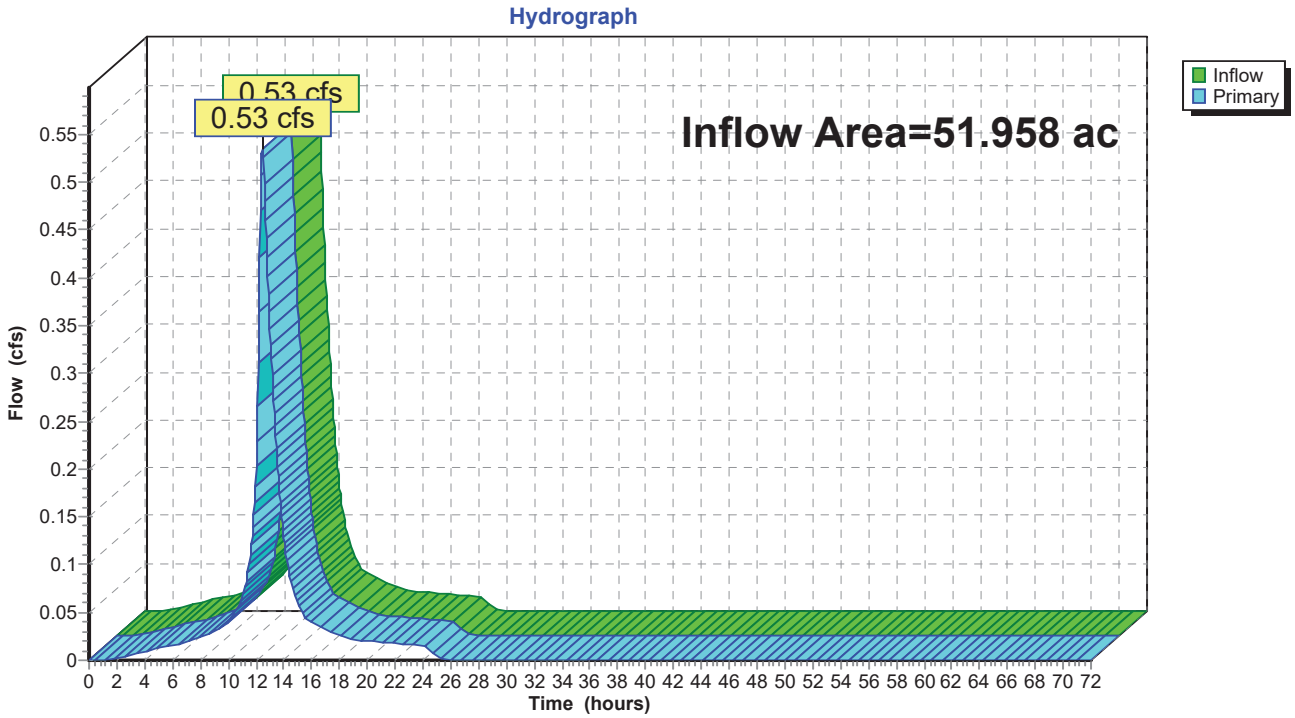


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 0.02" for Custom event
Inflow = 0.53 cfs @ 12.44 hrs, Volume= 0.104 af
Primary = 0.53 cfs @ 12.44 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

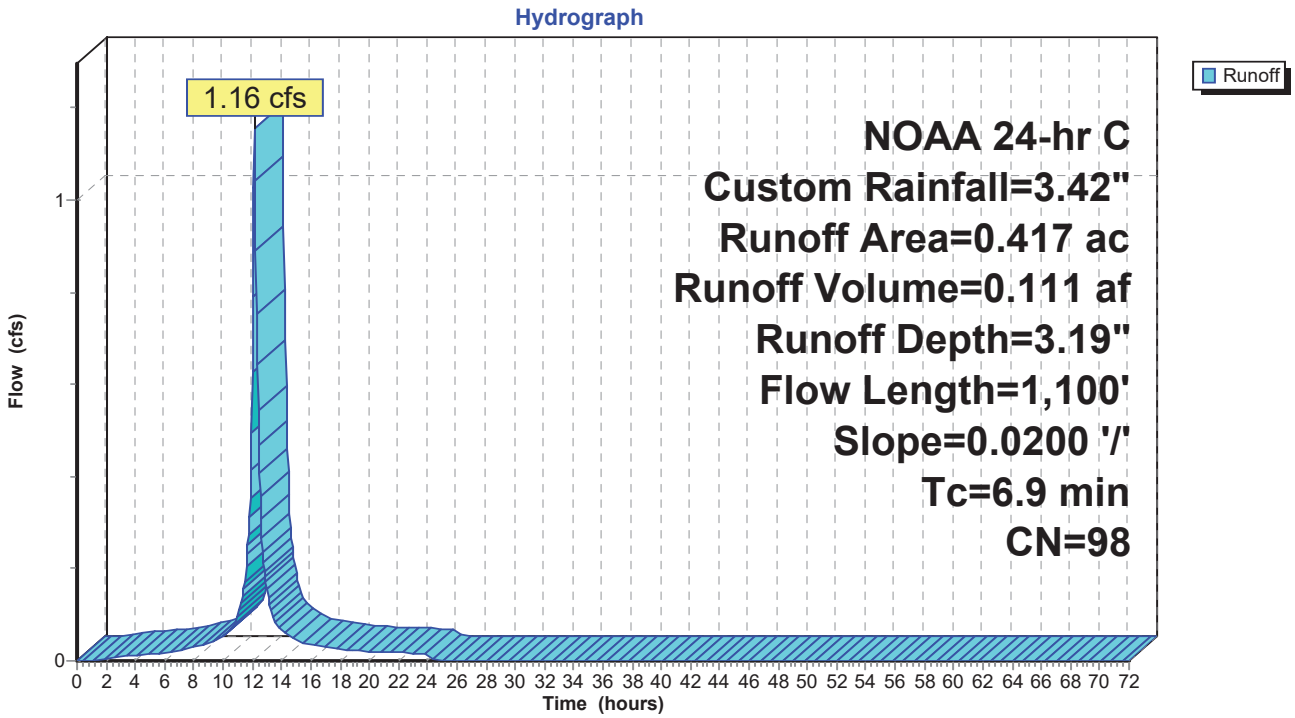
Runoff = 1.16 cfs @ 12.15 hrs, Volume= 0.111 af, Depth= 3.19"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

[45] Hint: Runoff=Zero

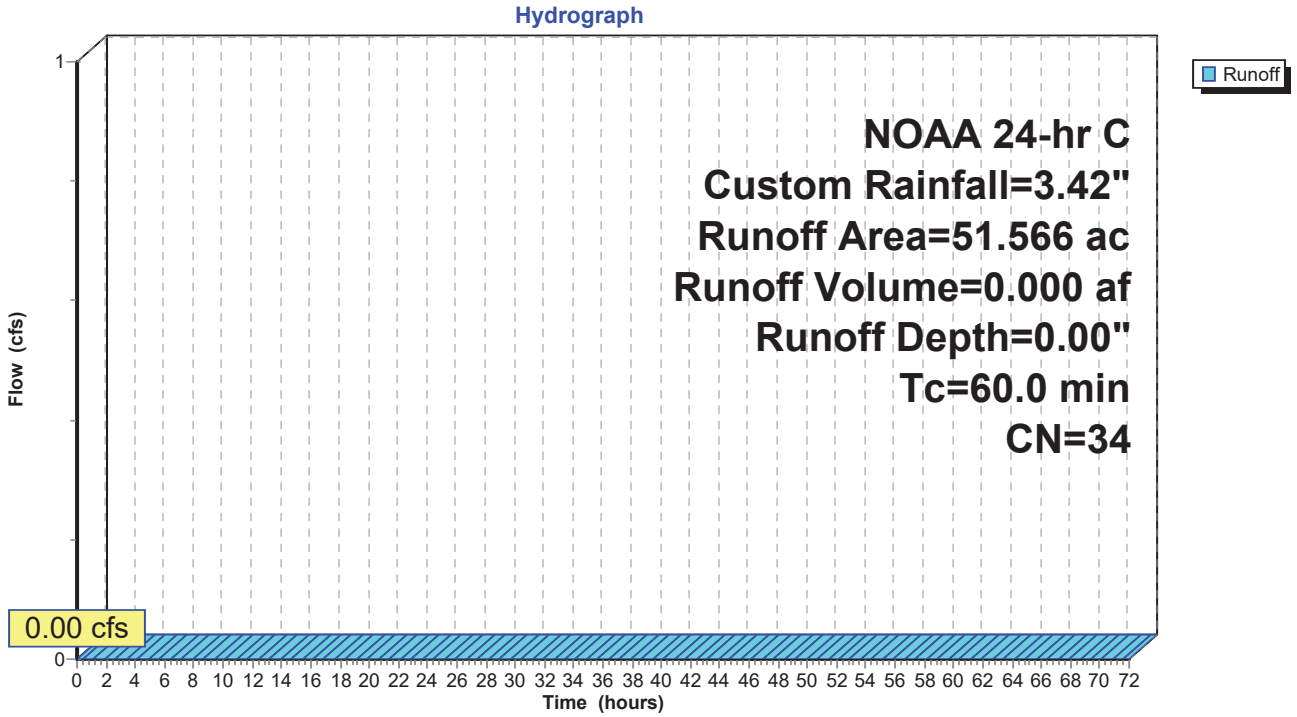
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

[45] Hint: Runoff=Zero

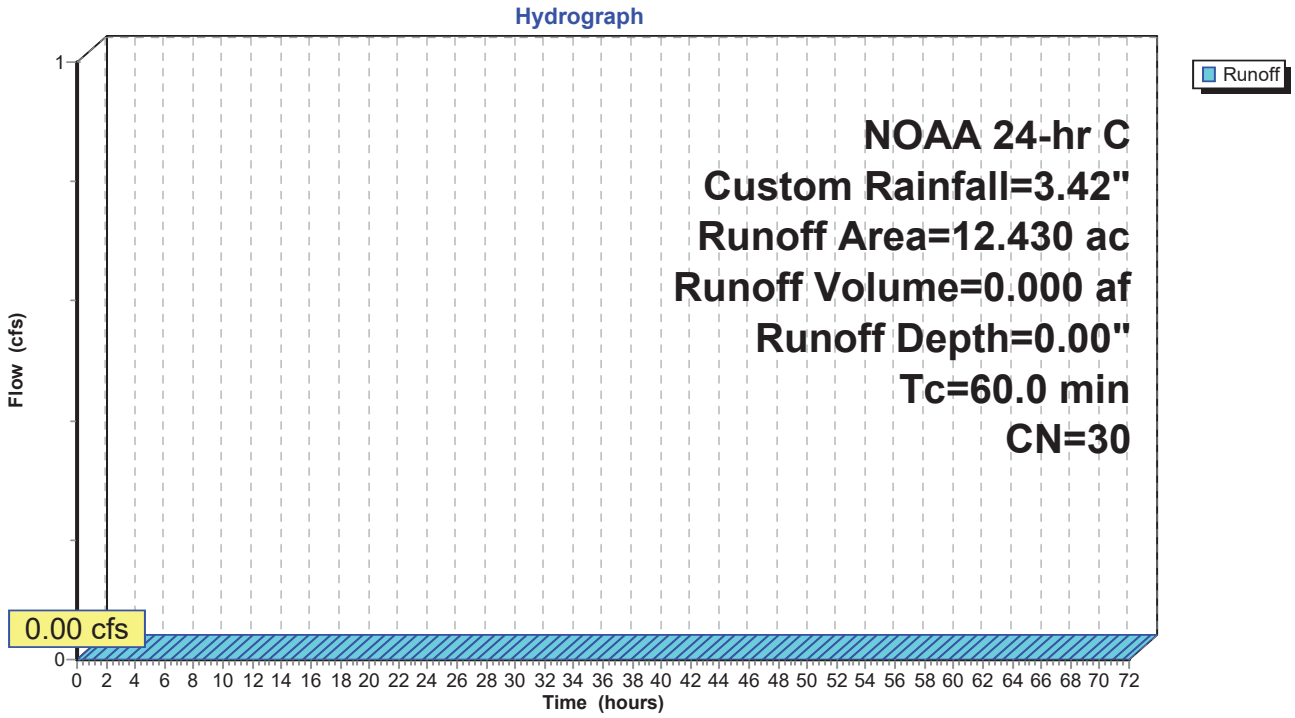
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

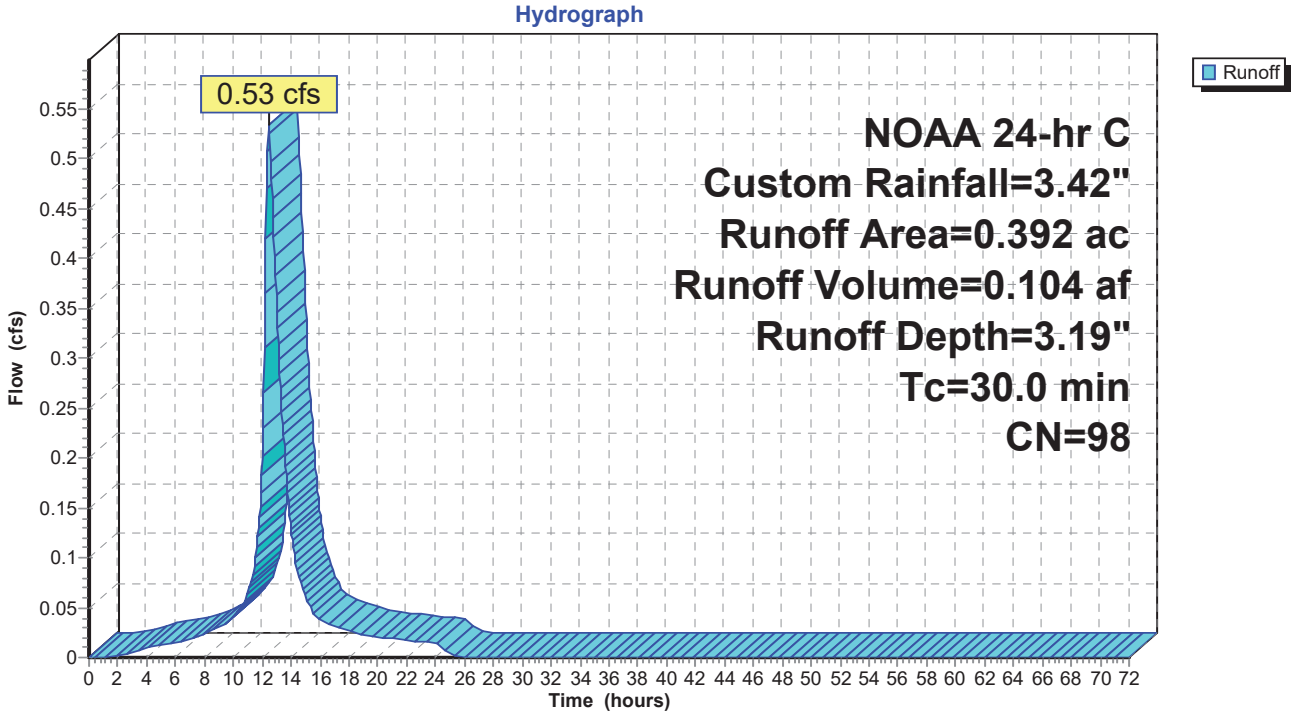
Runoff = 0.53 cfs @ 12.44 hrs, Volume= 0.104 af, Depth= 3.19"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

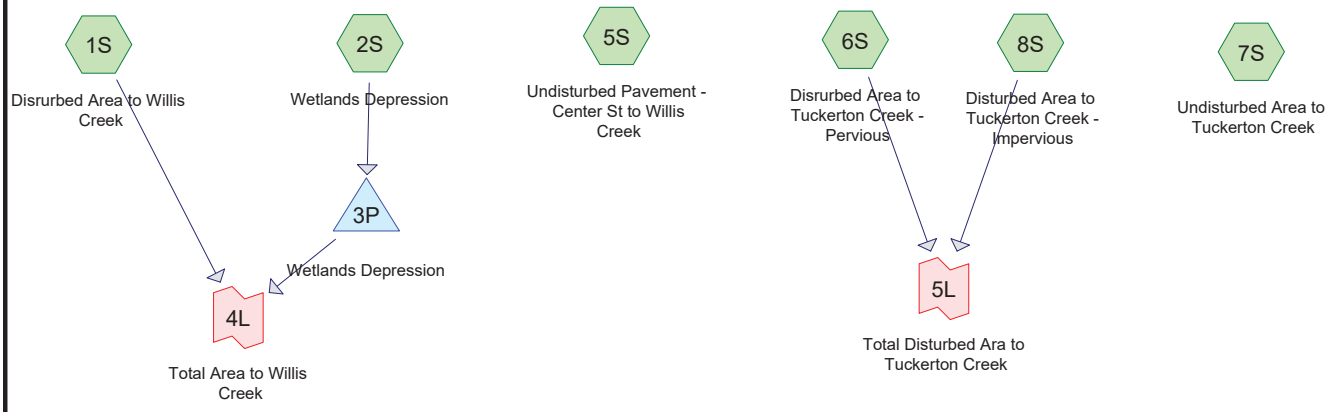
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 4/28/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	4.04	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

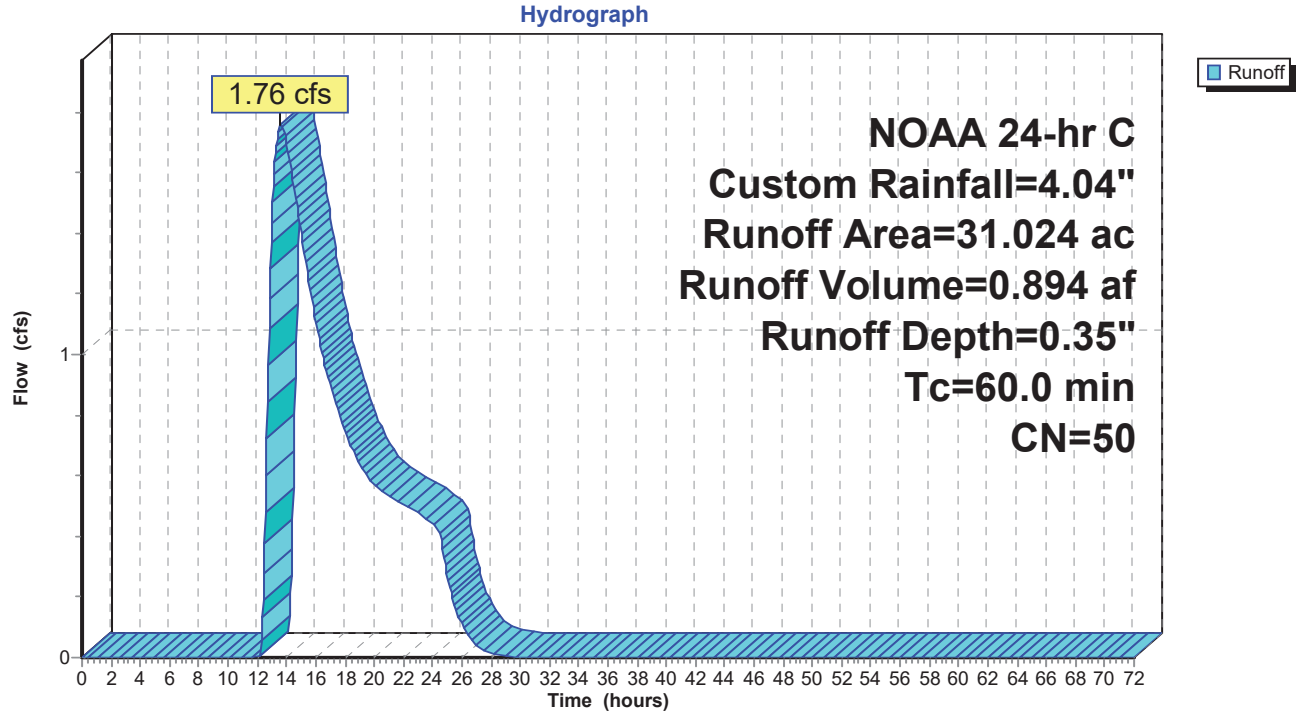
Runoff = 1.76 cfs @ 13.62 hrs, Volume= 0.894 af, Depth= 0.35"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

[45] Hint: Runoff=Zero

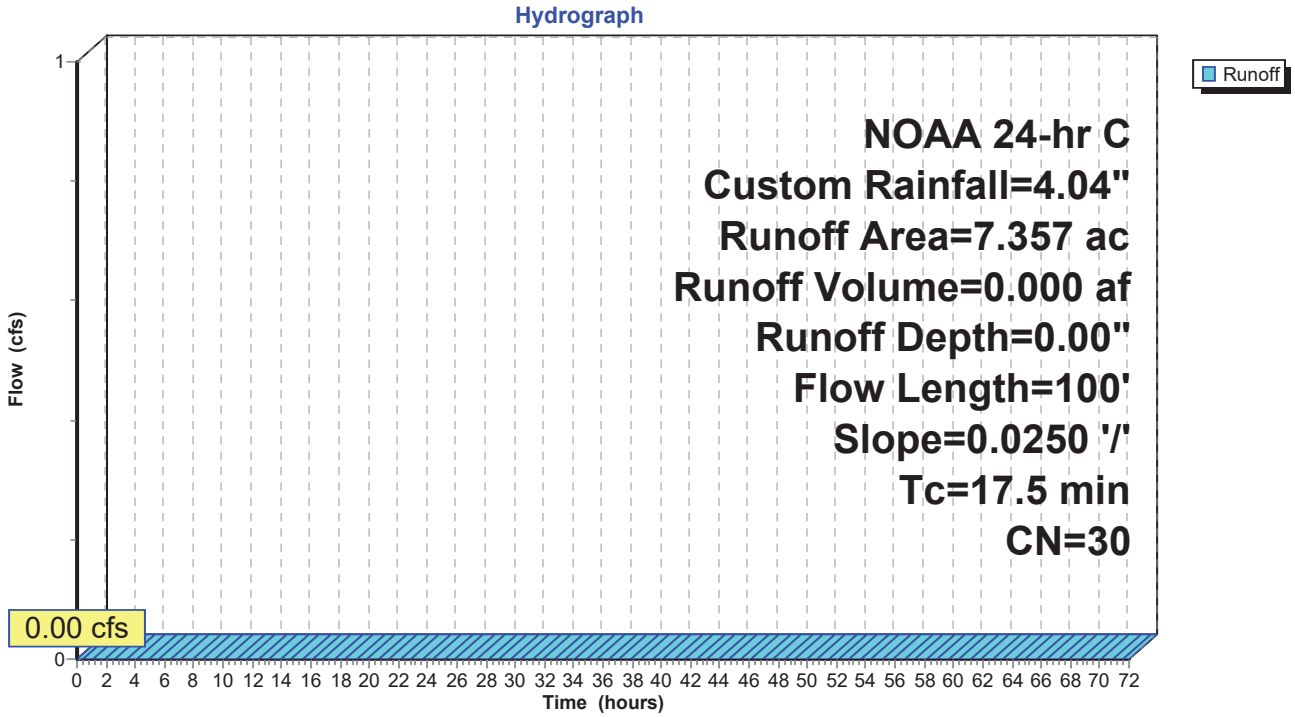
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.00' @ 0.00 hrs Surf.Area= 405 sf Storage= 0 cf

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

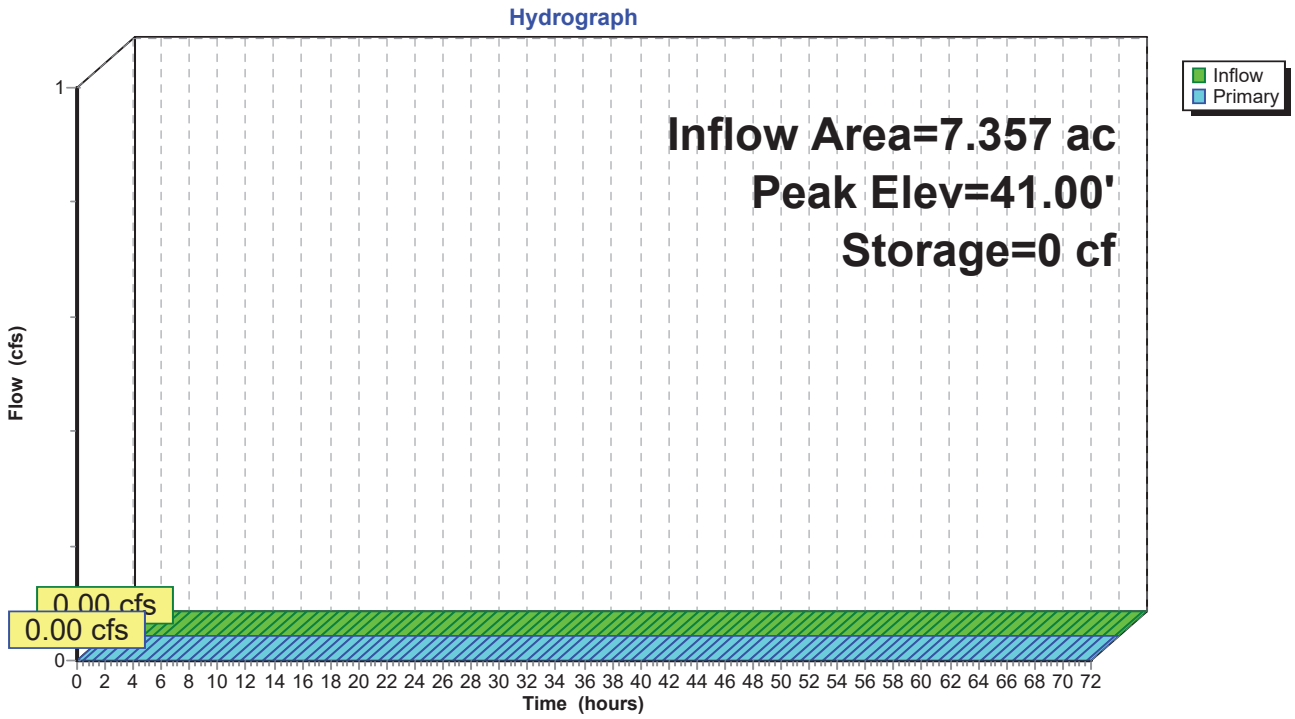
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Wetlands Depression

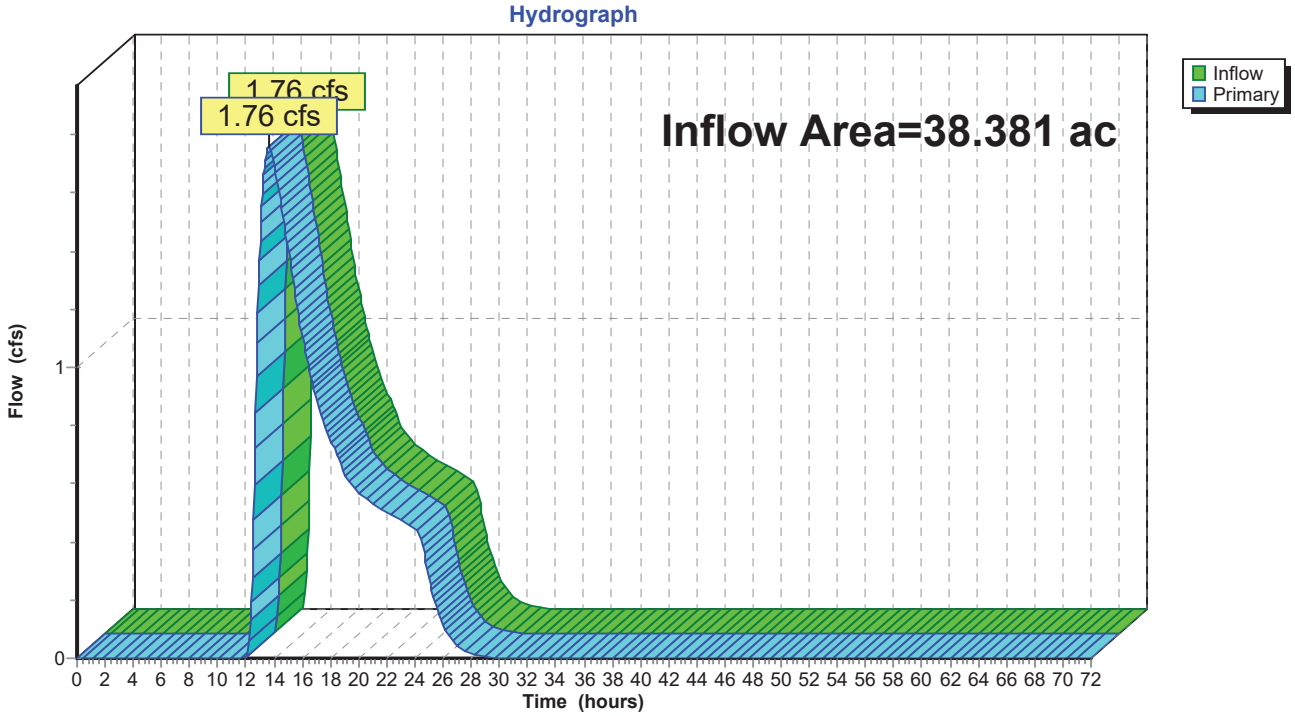


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 0.28" for Custom event
Inflow = 1.76 cfs @ 13.62 hrs, Volume= 0.894 af
Primary = 1.76 cfs @ 13.62 hrs, Volume= 0.894 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

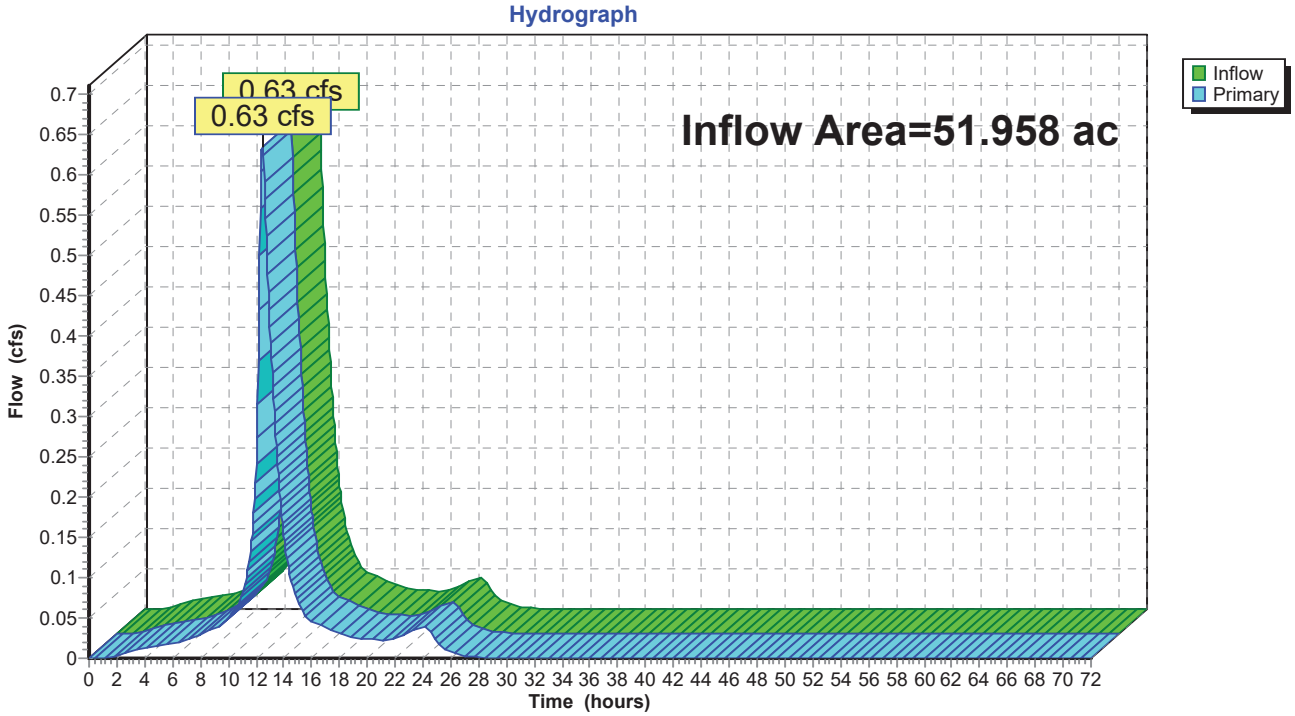


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 0.03" for Custom event
Inflow = 0.63 cfs @ 12.44 hrs, Volume= 0.130 af
Primary = 0.63 cfs @ 12.44 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

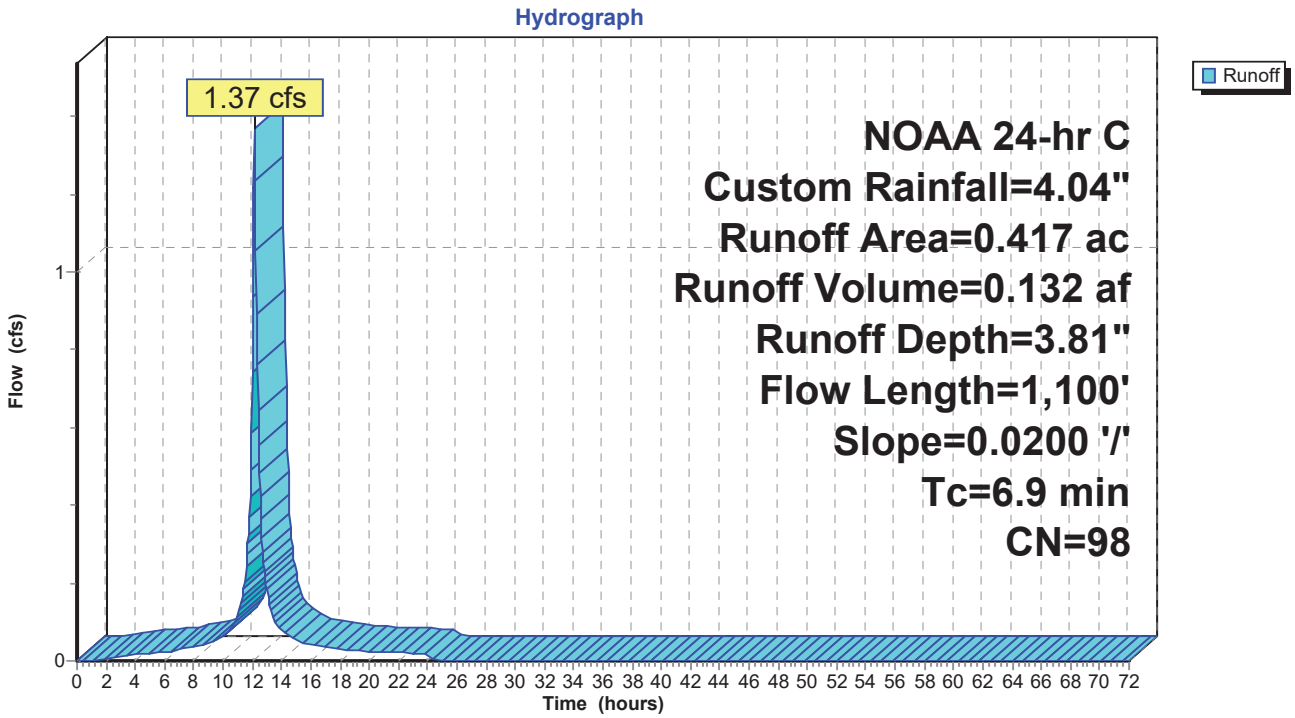
Runoff = 1.37 cfs @ 12.15 hrs, Volume= 0.132 af, Depth= 3.81"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

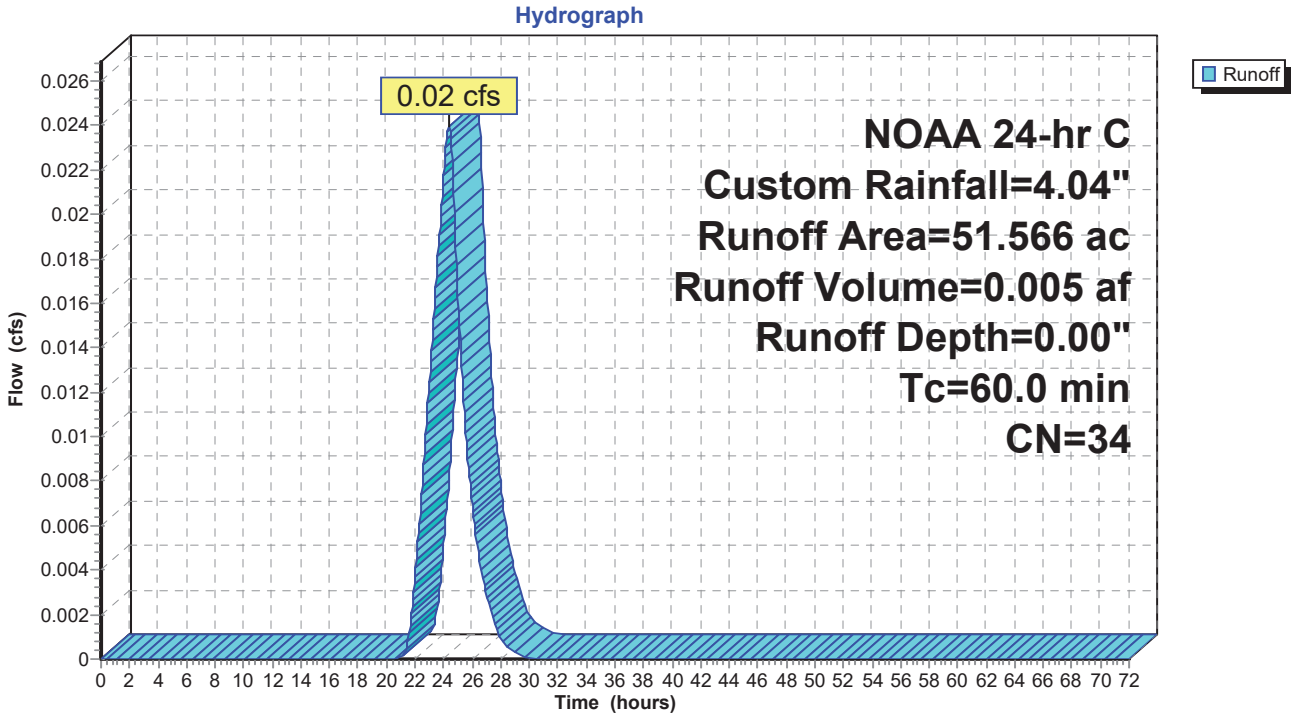
Runoff = 0.02 cfs @ 24.38 hrs, Volume= 0.005 af, Depth= 0.00"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

[45] Hint: Runoff=Zero

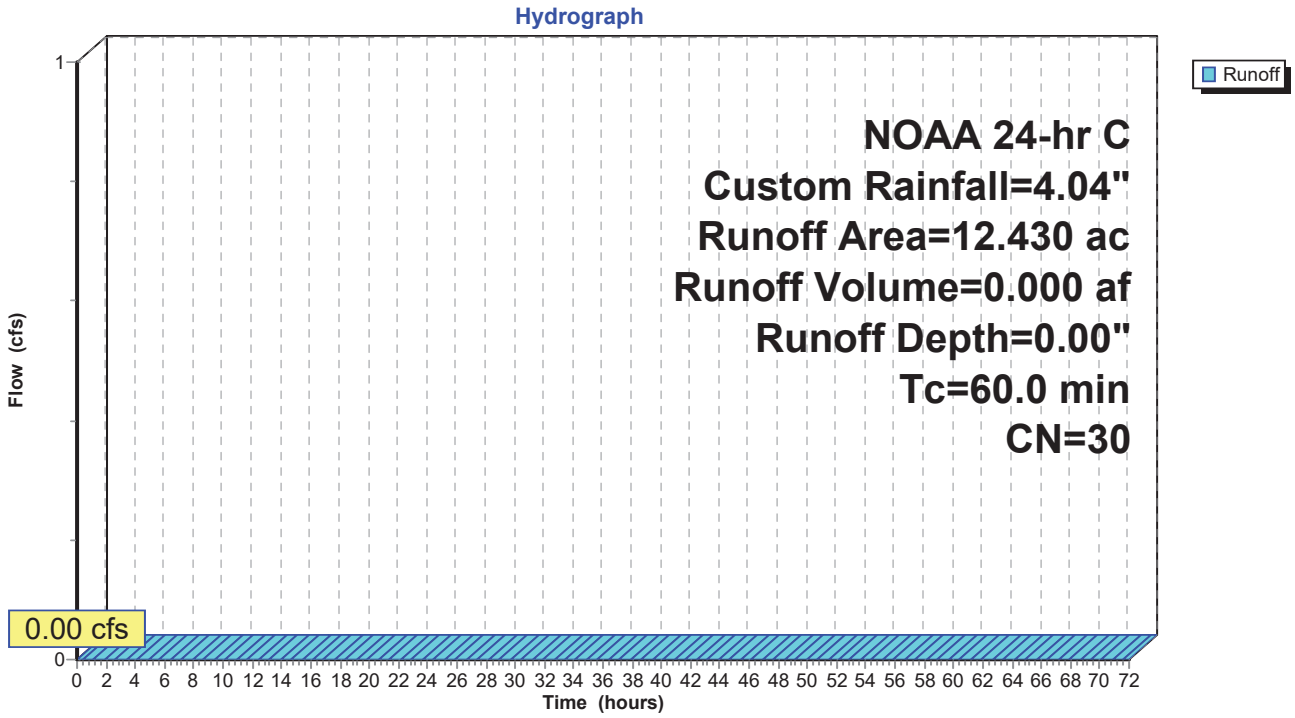
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

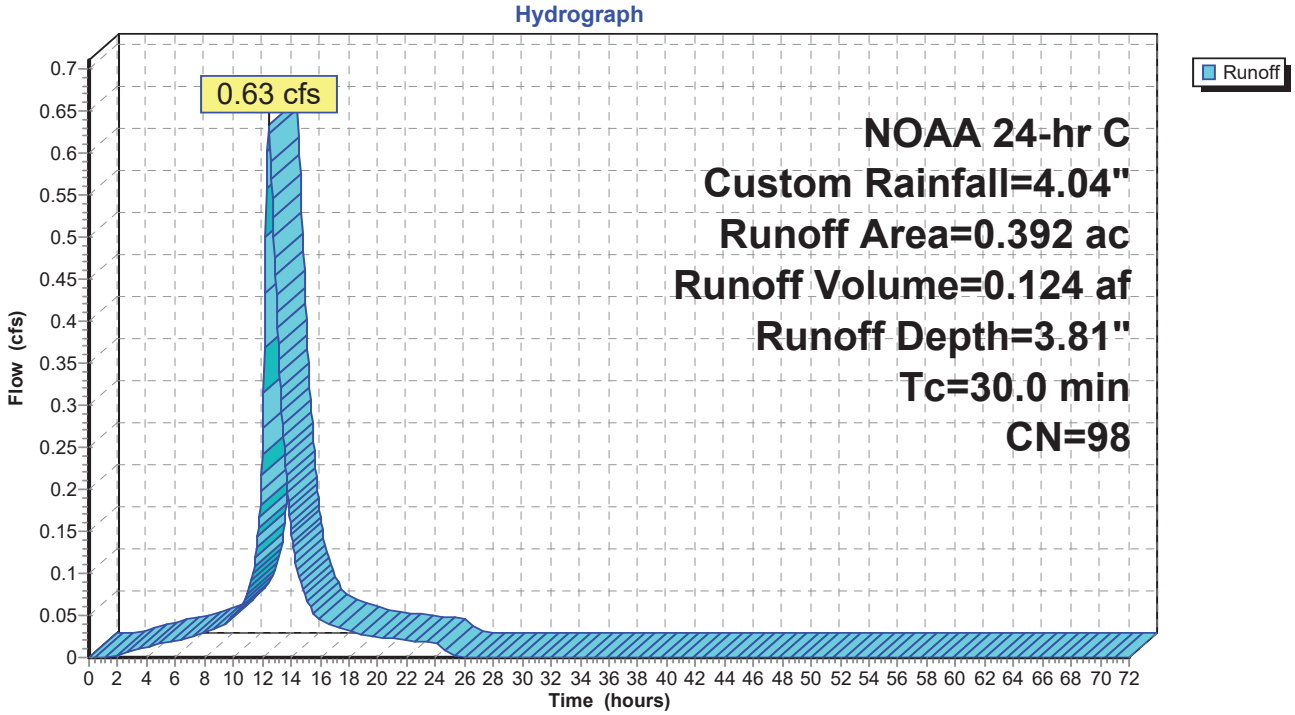
Runoff = 0.63 cfs @ 12.44 hrs, Volume= 0.124 af, Depth= 3.81"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

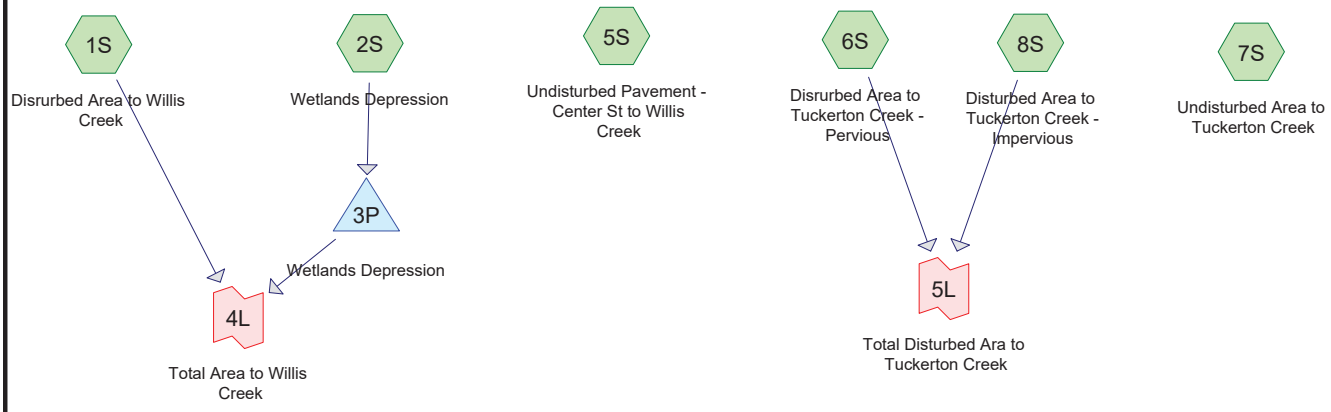
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 4/28/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	5.38	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

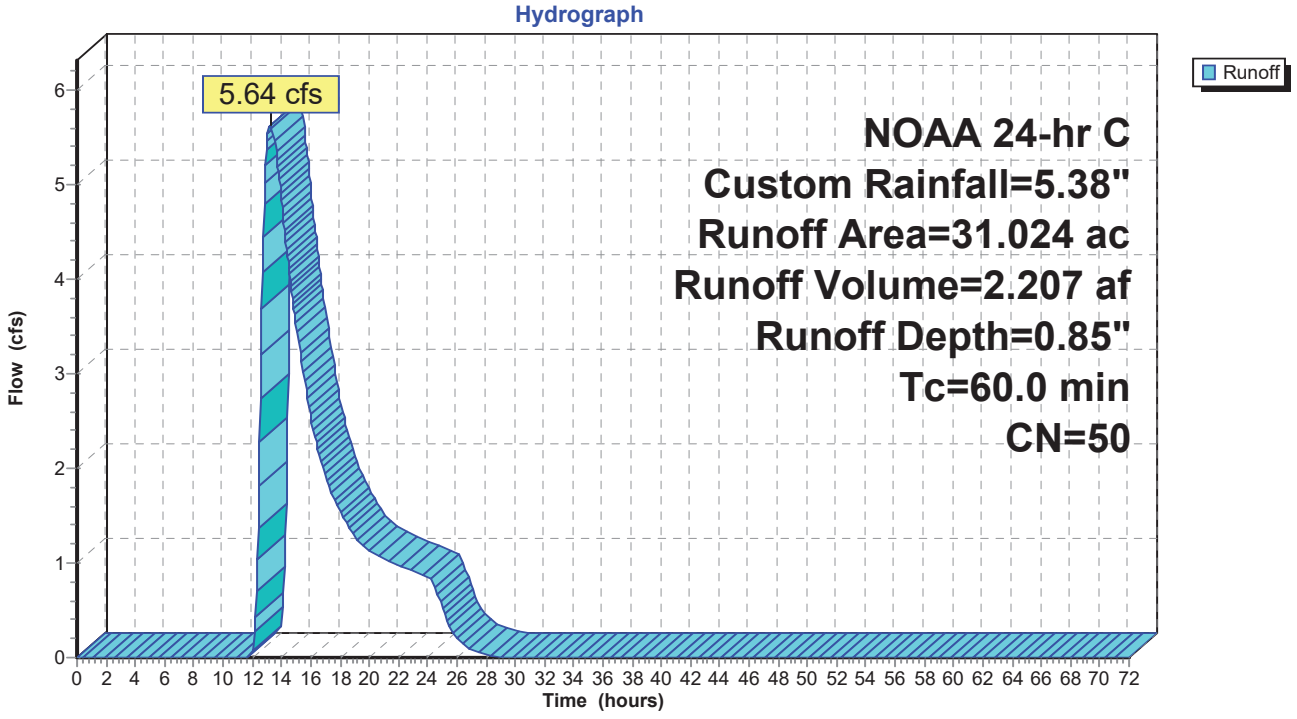
Runoff = 5.64 cfs @ 13.21 hrs, Volume= 2.207 af, Depth= 0.85"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

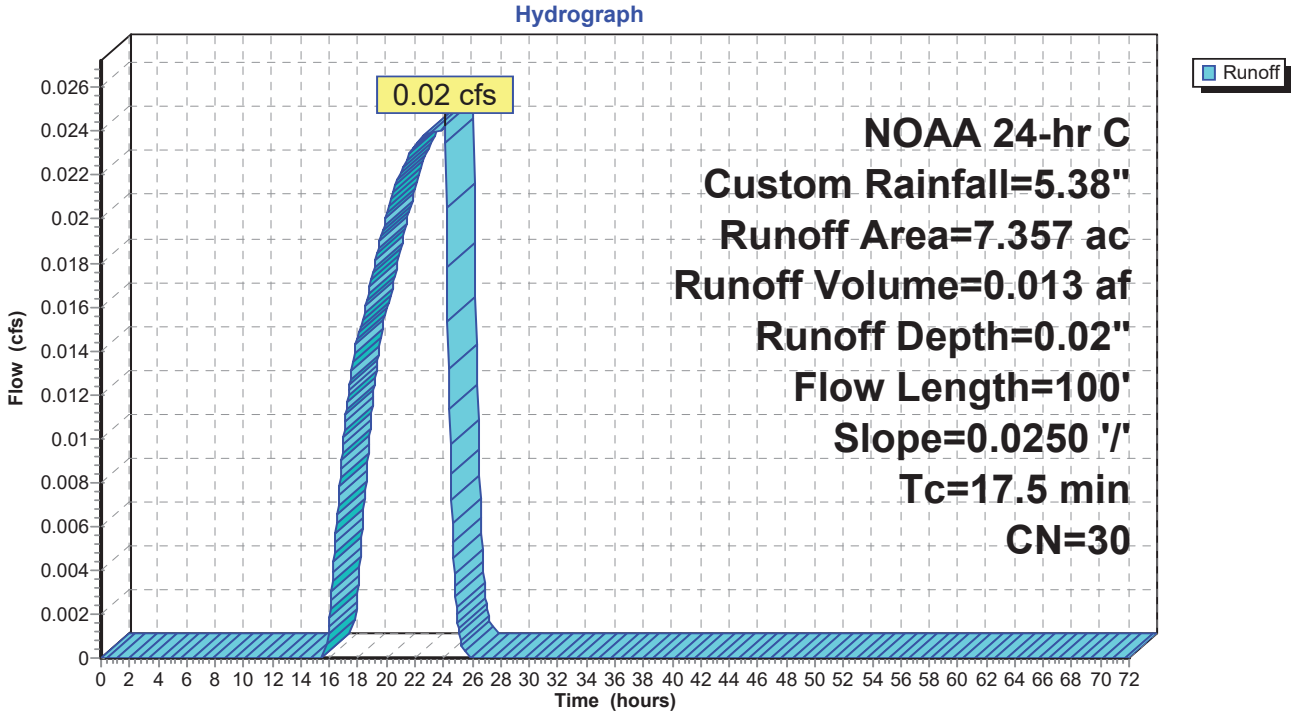
Runoff = 0.02 cfs @ 24.05 hrs, Volume= 0.013 af, Depth= 0.02"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 0.02" for Custom event
Inflow = 0.02 cfs @ 24.05 hrs, Volume= 0.013 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.33' @ 26.00 hrs Surf.Area= 2,994 sf Storage= 565 cf

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

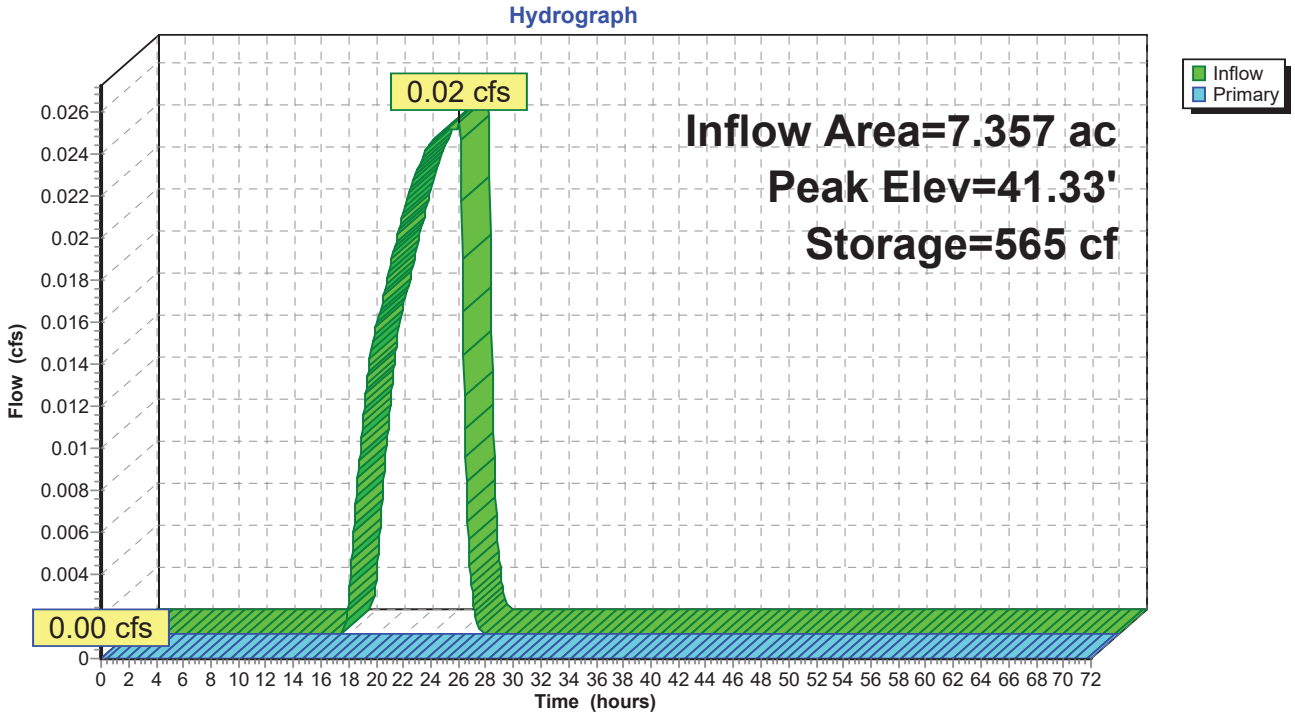
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Wetlands Depression

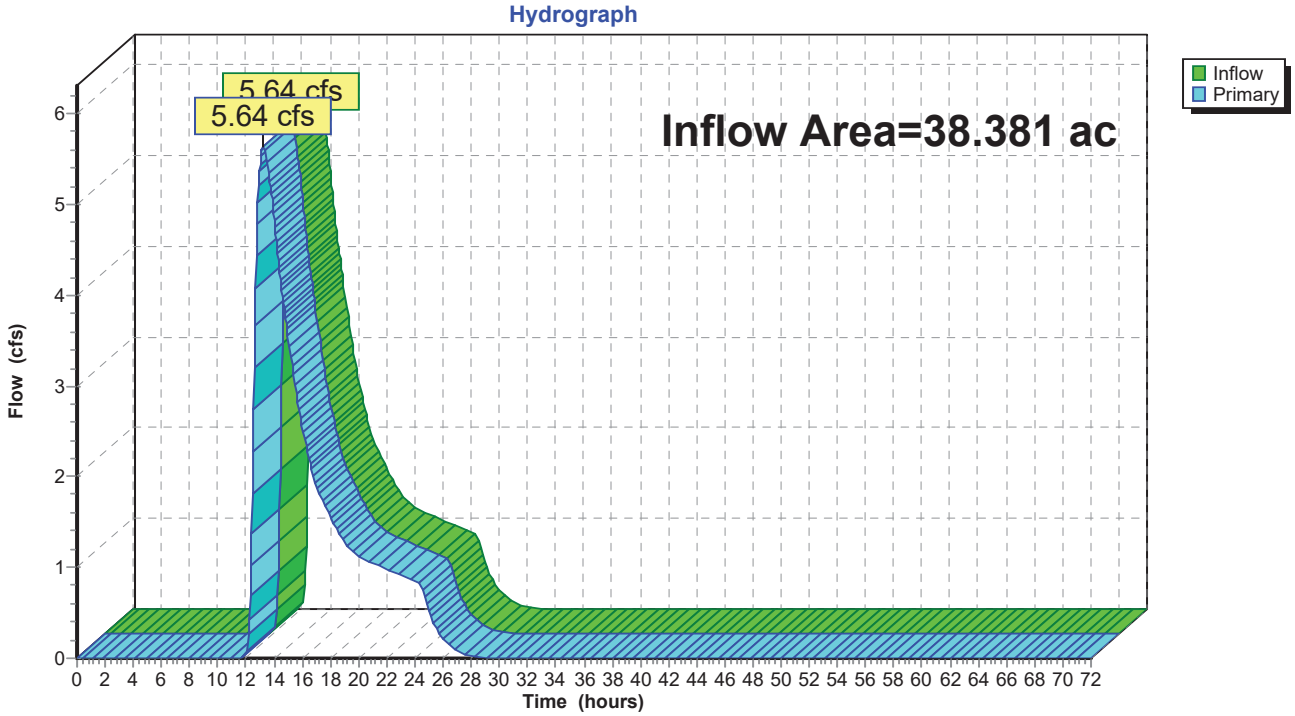


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 0.69" for Custom event
Inflow = 5.64 cfs @ 13.21 hrs, Volume= 2.207 af
Primary = 5.64 cfs @ 13.21 hrs, Volume= 2.207 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

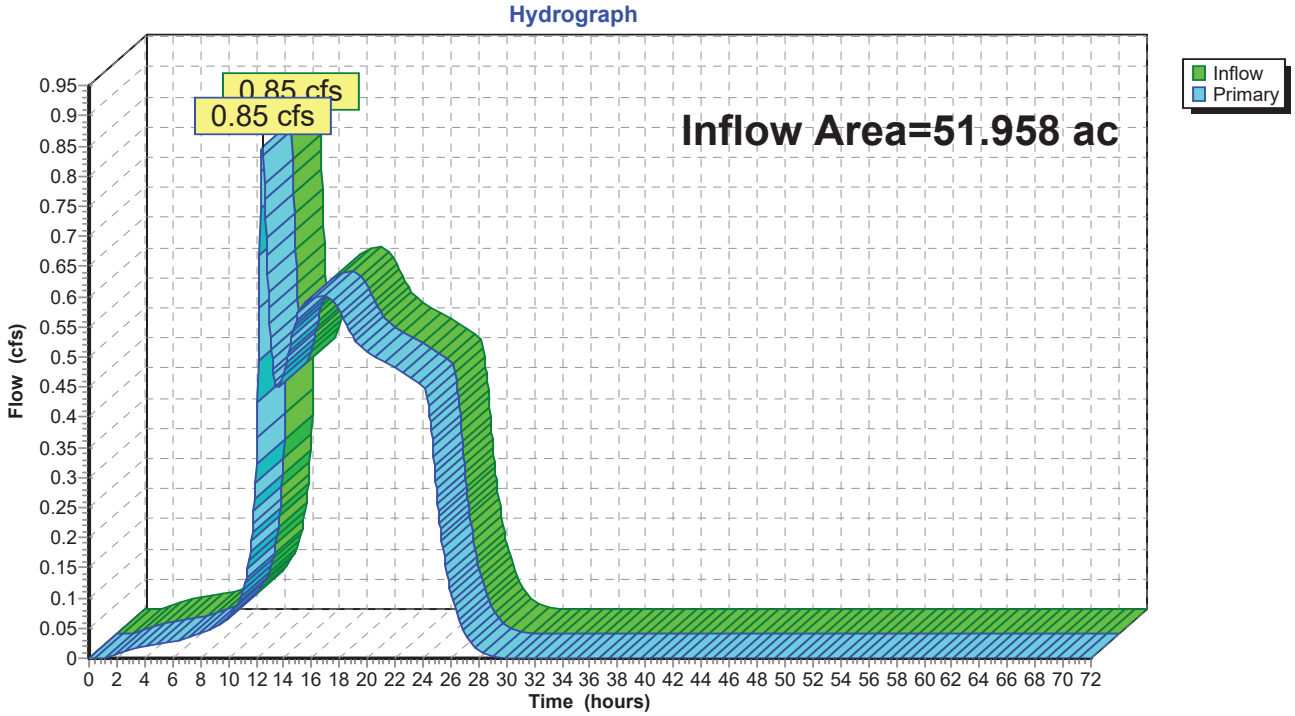


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 0.15" for Custom event
Inflow = 0.85 cfs @ 12.44 hrs, Volume= 0.629 af
Primary = 0.85 cfs @ 12.44 hrs, Volume= 0.629 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

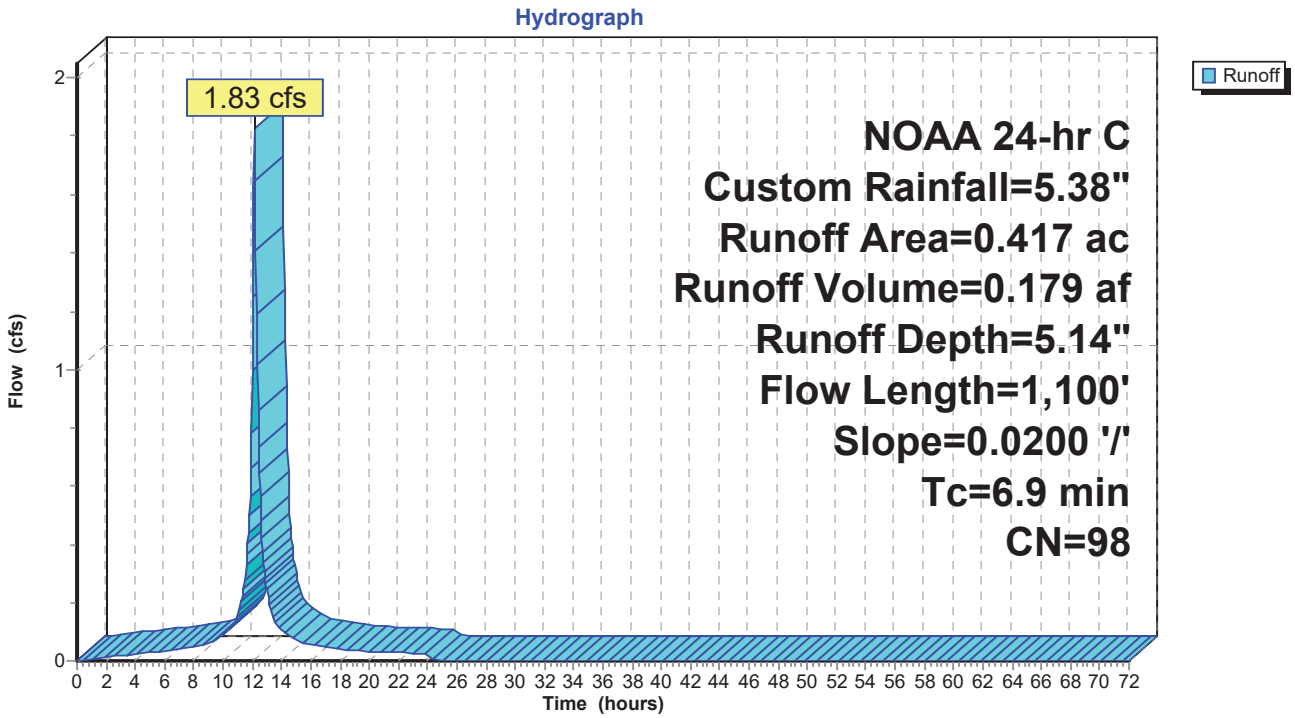
Runoff = 1.83 cfs @ 12.15 hrs, Volume= 0.179 af, Depth= 5.14"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

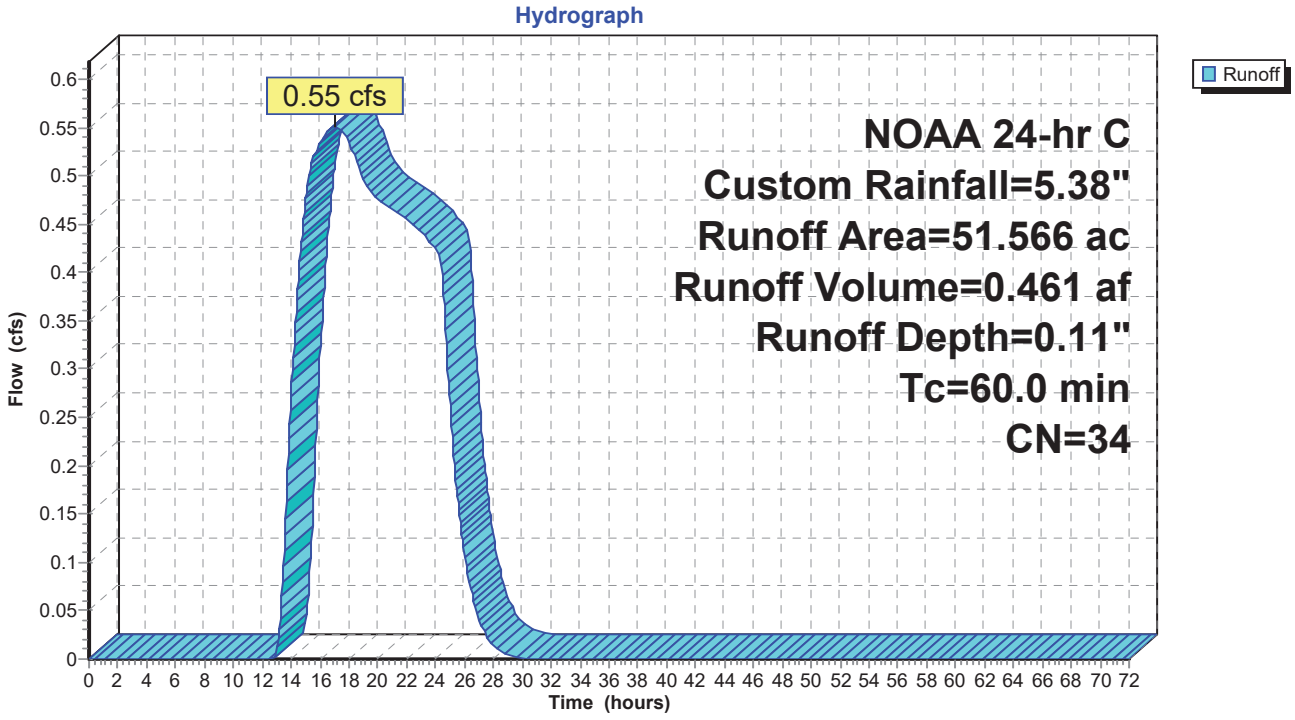
Runoff = 0.55 cfs @ 17.03 hrs, Volume= 0.461 af, Depth= 0.11"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

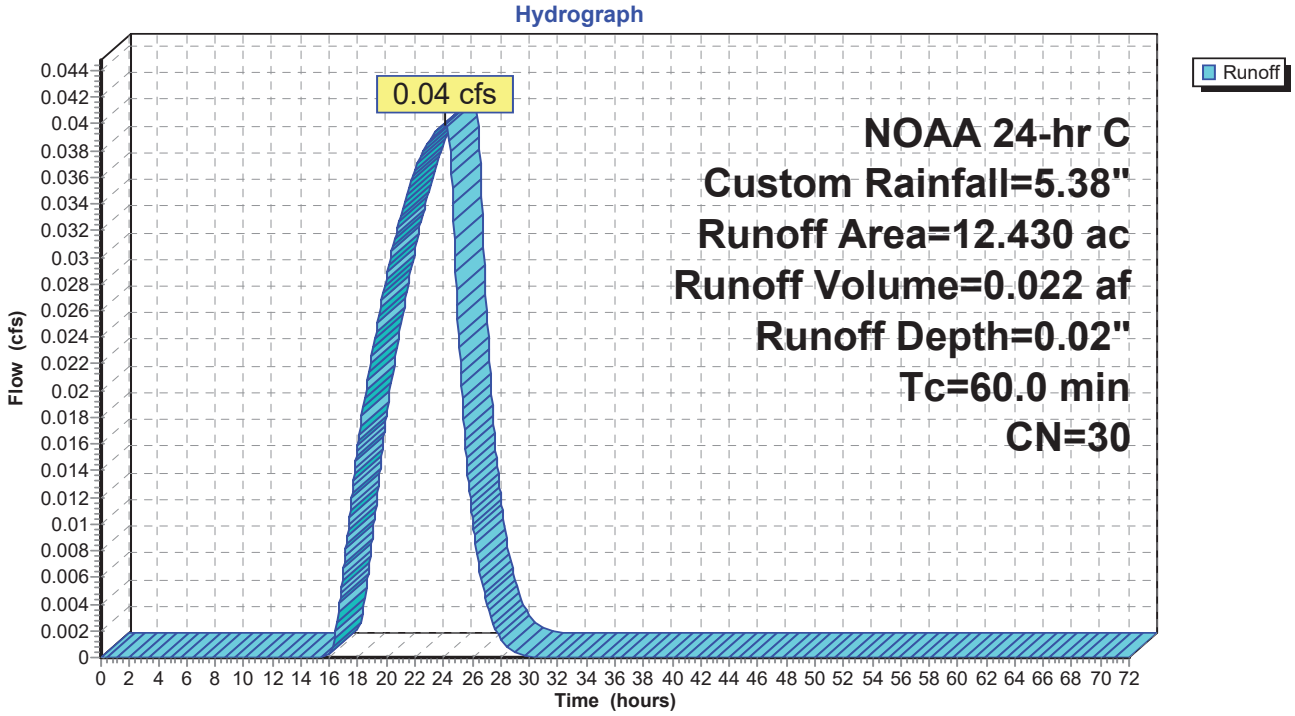
Runoff = 0.04 cfs @ 24.13 hrs, Volume= 0.022 af, Depth= 0.02"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

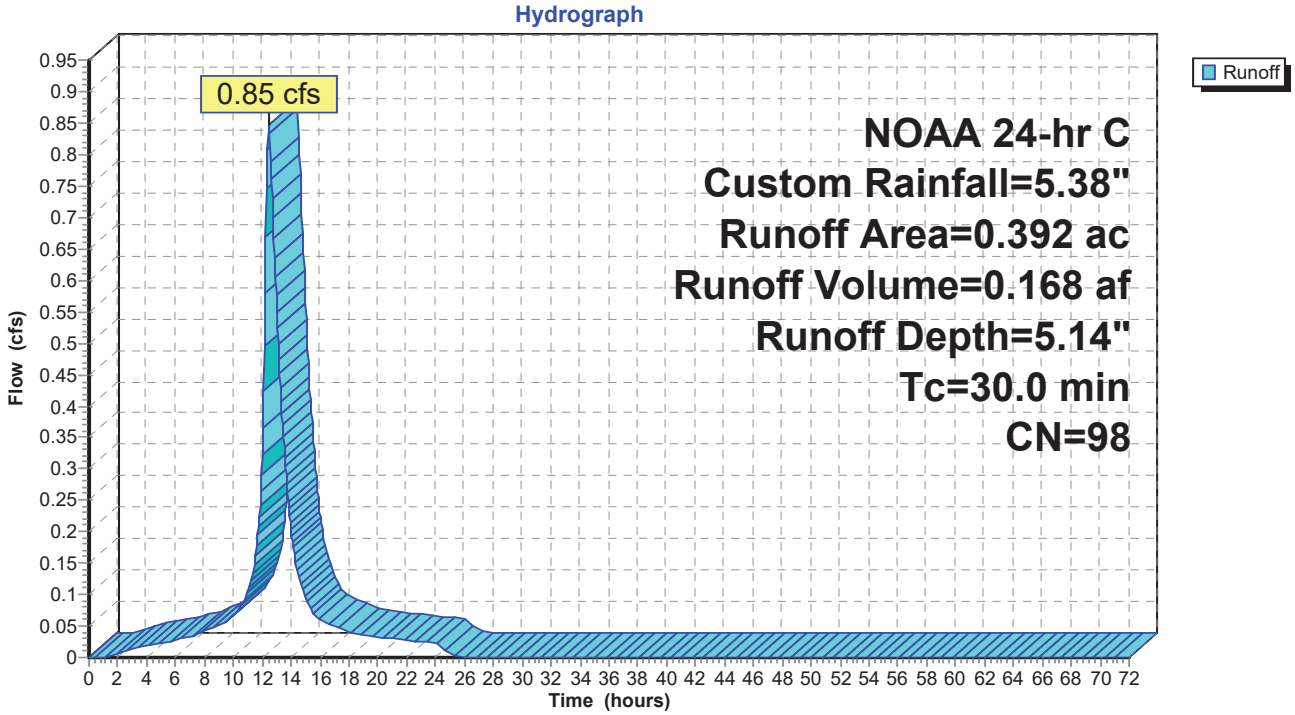
Runoff = 0.85 cfs @ 12.44 hrs, Volume= 0.168 af, Depth= 5.14"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

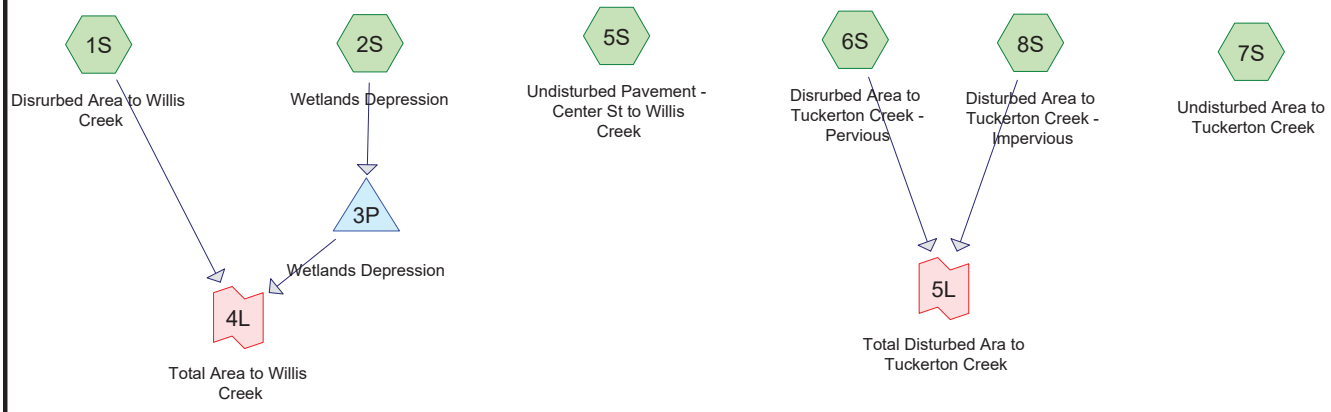
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 4/28/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	6.34	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

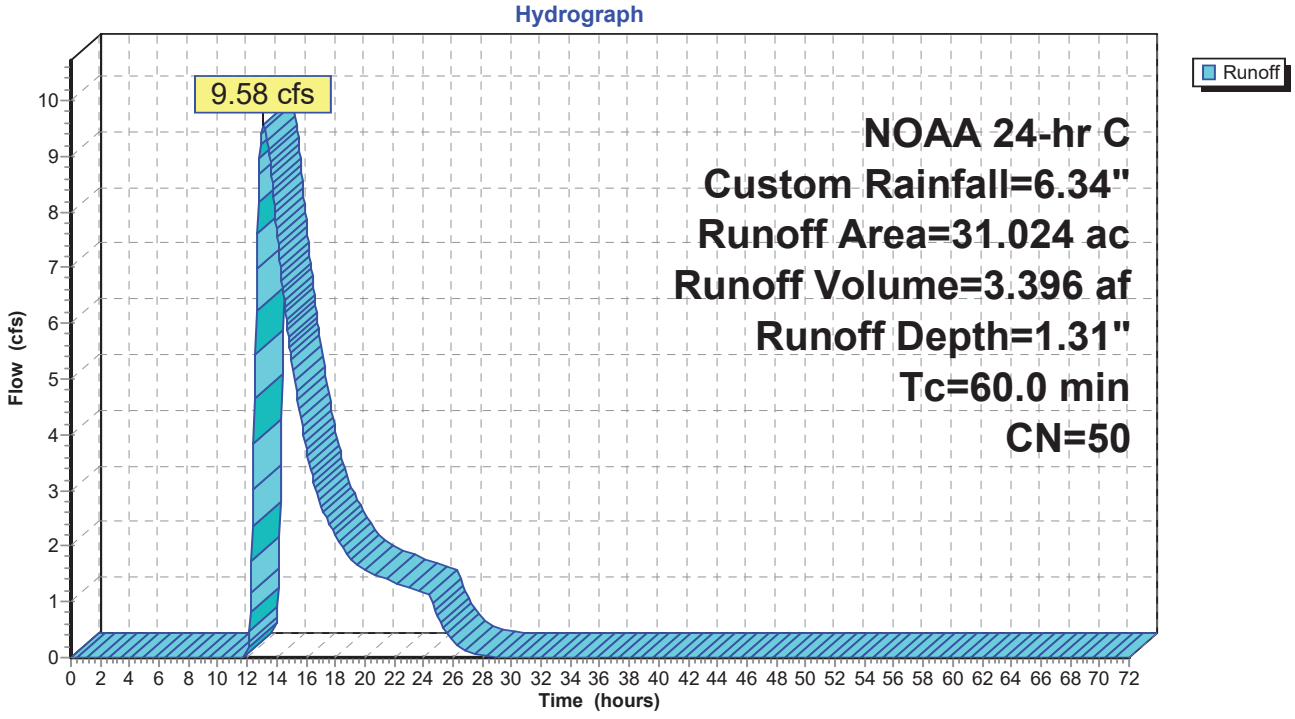
Runoff = 9.58 cfs @ 13.10 hrs, Volume= 3.396 af, Depth= 1.31"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

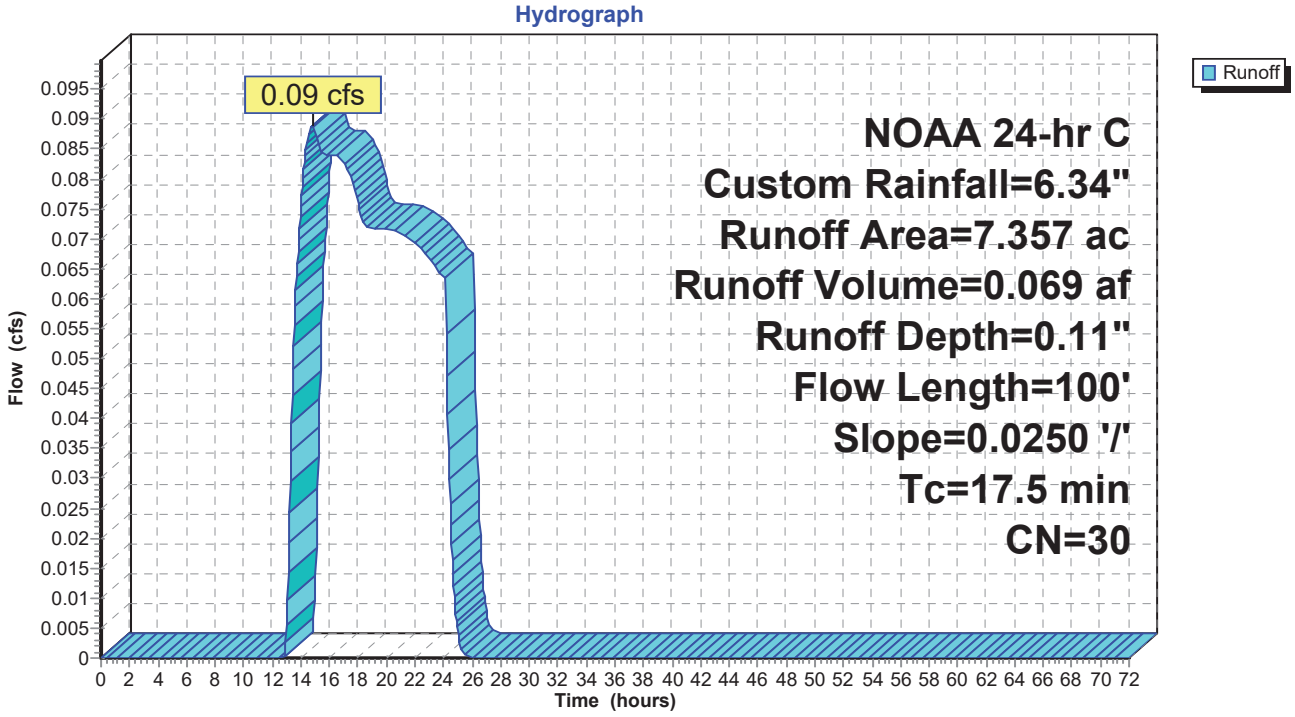
Runoff = 0.09 cfs @ 14.80 hrs, Volume= 0.069 af, Depth= 0.11"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 0.11" for Custom event
Inflow = 0.09 cfs @ 14.80 hrs, Volume= 0.069 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.77' @ 26.00 hrs Surf.Area= 9,113 sf Storage= 2,990 cf

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

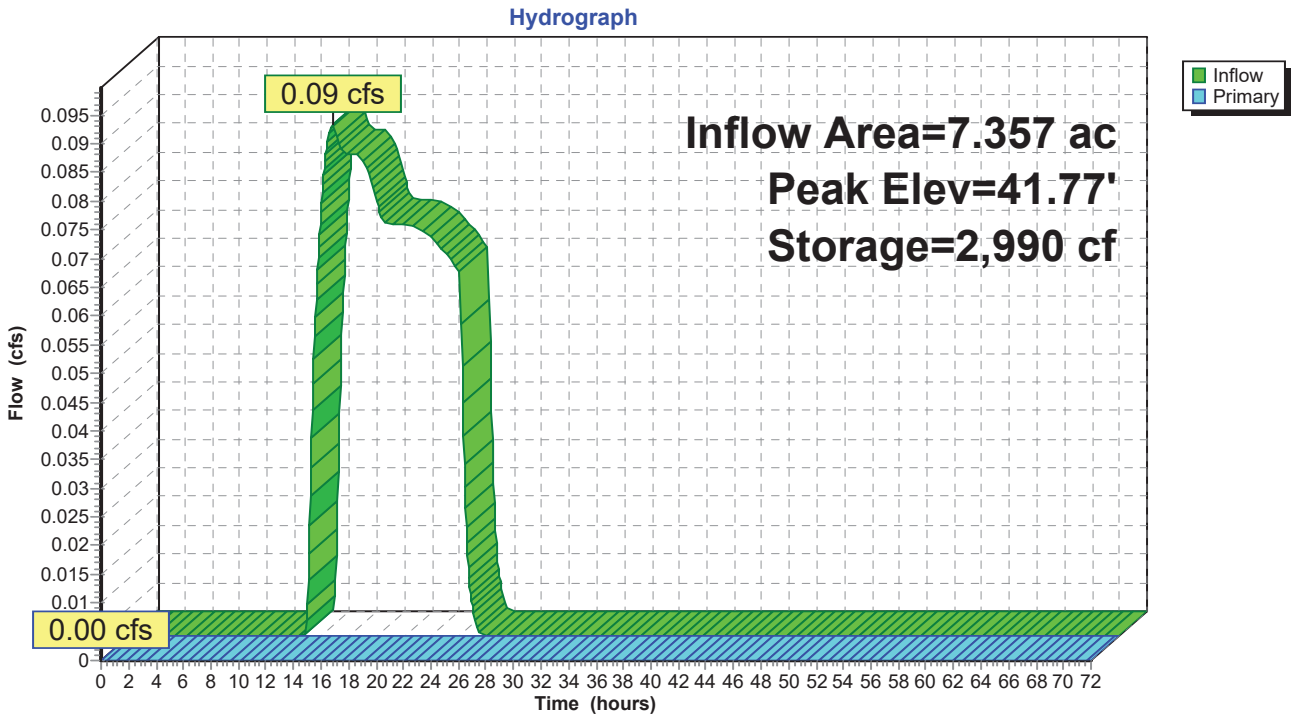
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=41.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 3P: Wetlands Depression

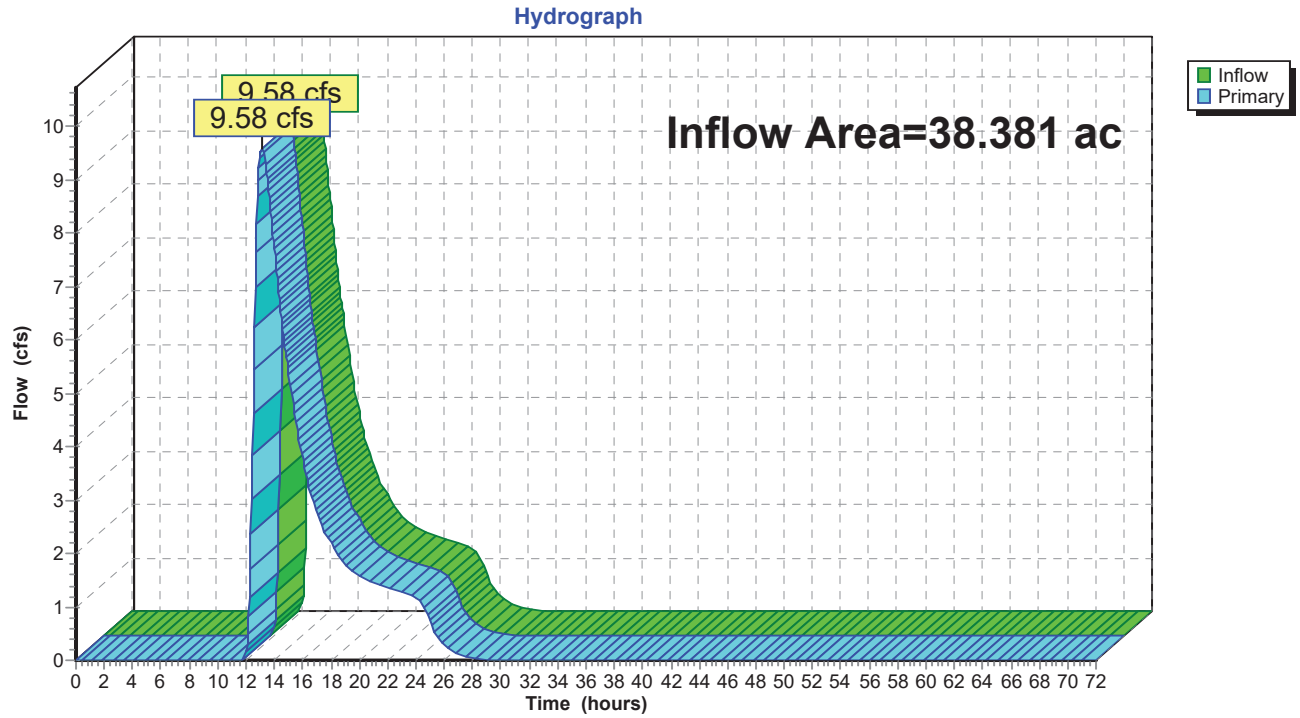


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 1.06" for Custom event
Inflow = 9.58 cfs @ 13.10 hrs, Volume= 3.396 af
Primary = 9.58 cfs @ 13.10 hrs, Volume= 3.396 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

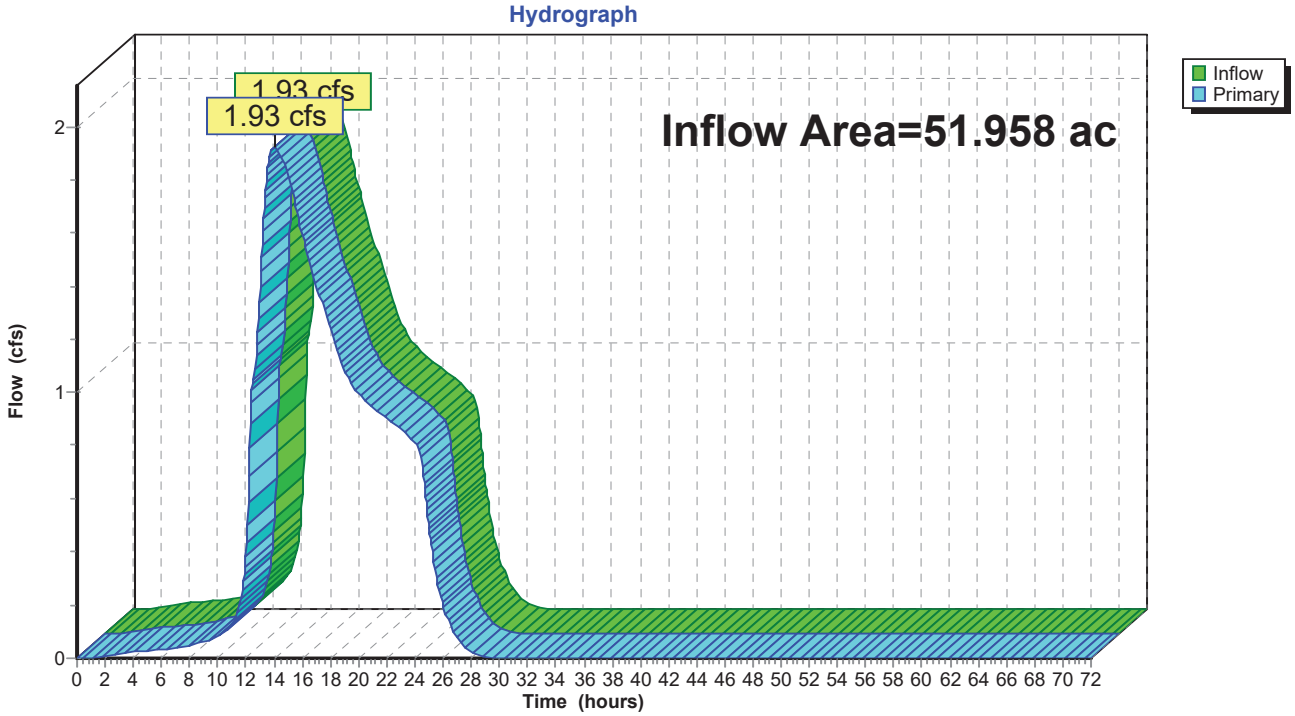


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 0.32" for Custom event
Inflow = 1.93 cfs @ 13.99 hrs, Volume= 1.386 af
Primary = 1.93 cfs @ 13.99 hrs, Volume= 1.386 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

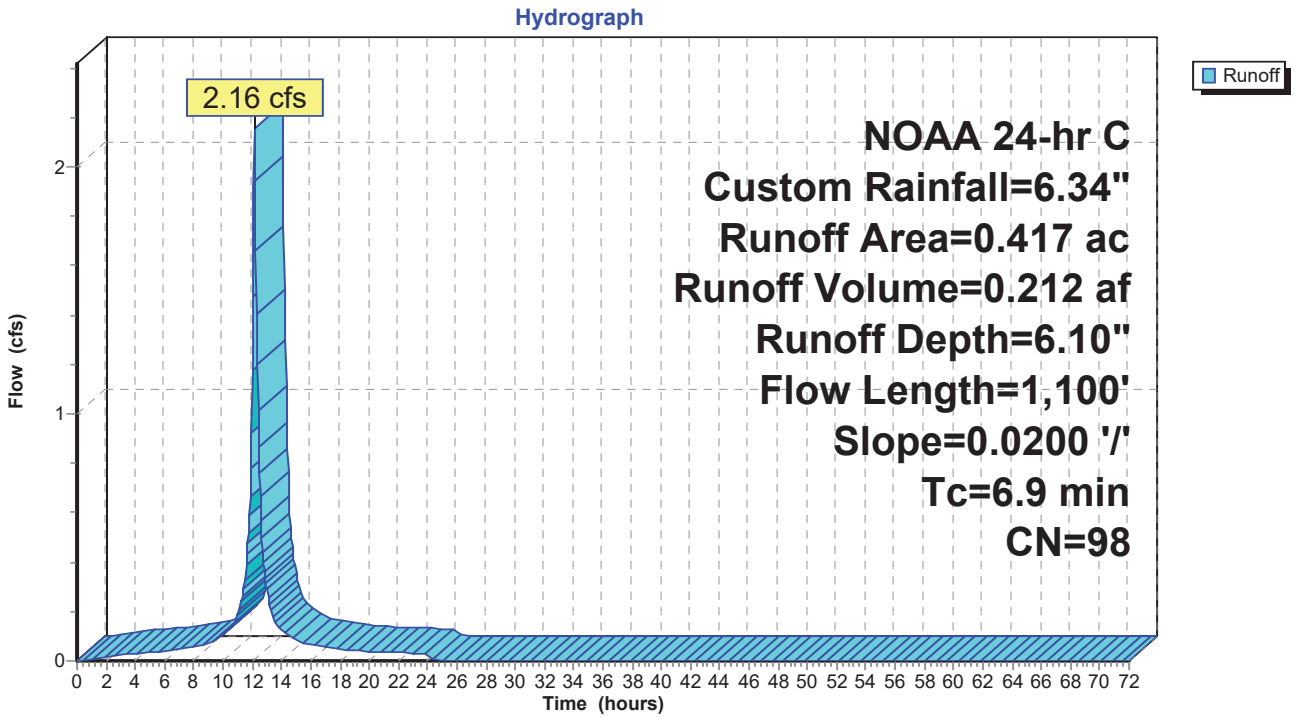
Runoff = 2.16 cfs @ 12.15 hrs, Volume= 0.212 af, Depth= 6.10"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

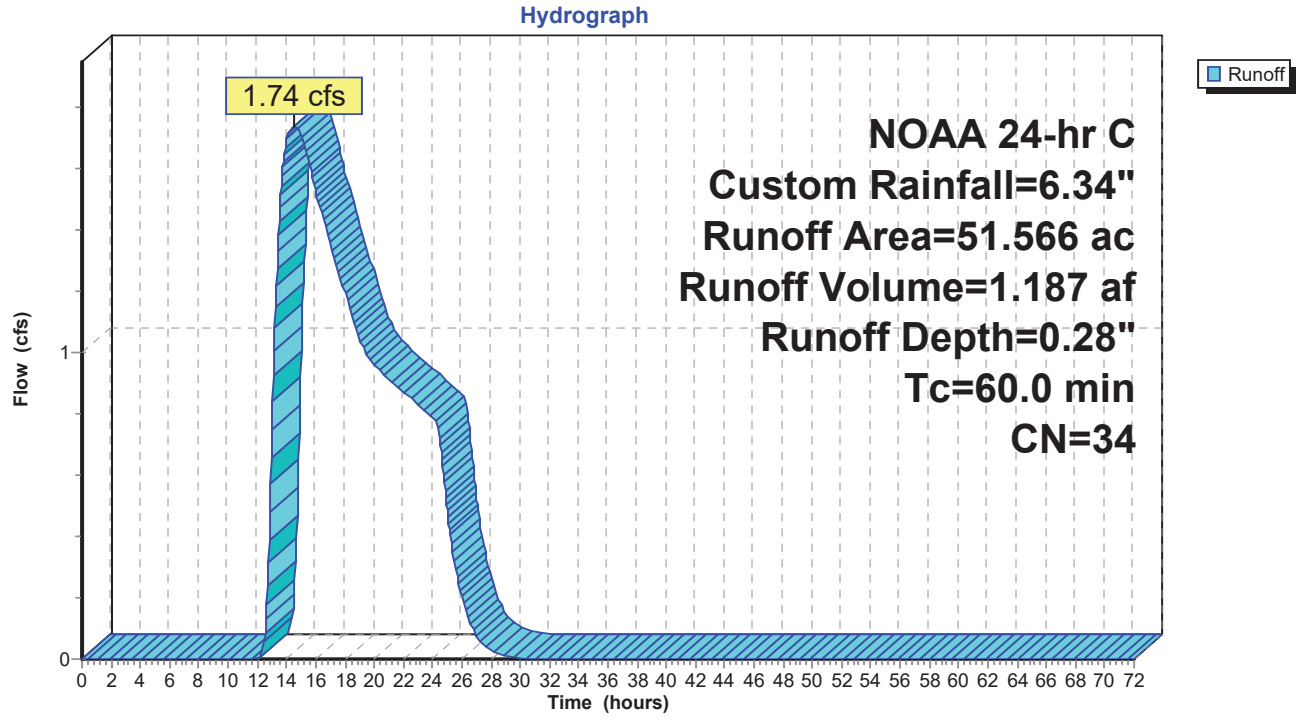
Runoff = 1.74 cfs @ 14.57 hrs, Volume= 1.187 af, Depth= 0.28"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

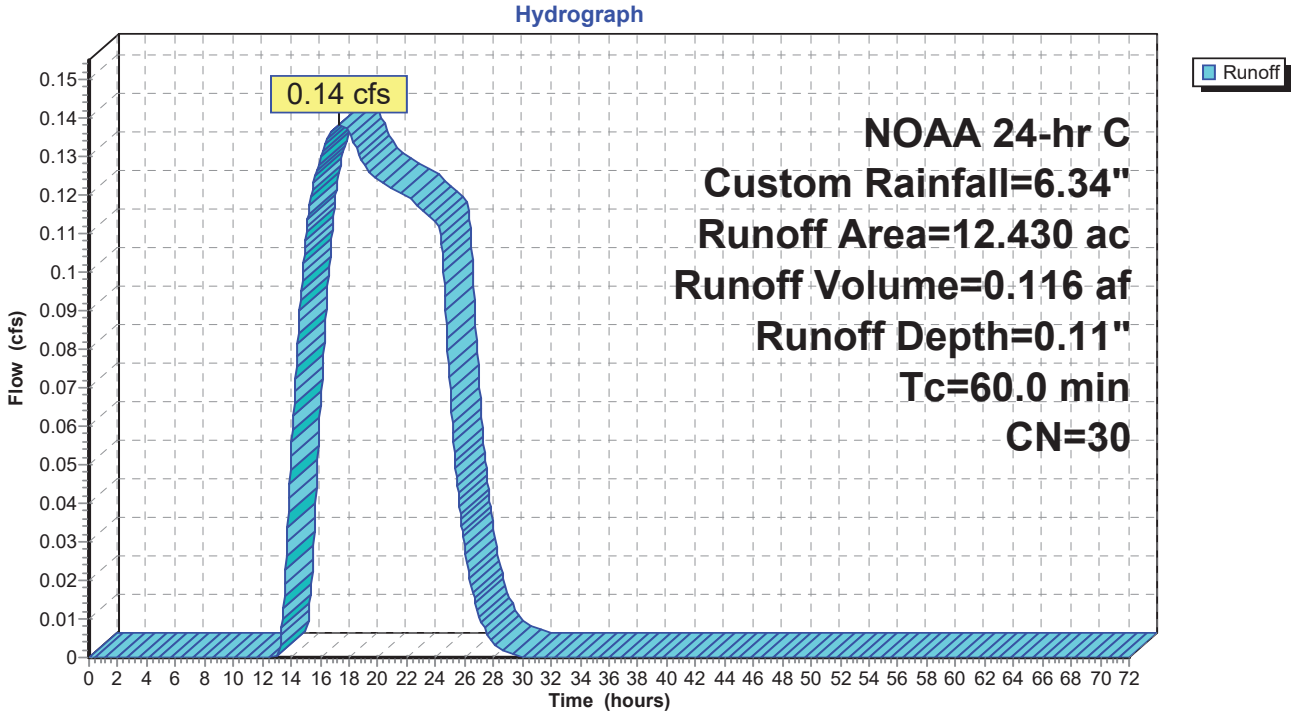
Runoff = 0.14 cfs @ 17.35 hrs, Volume= 0.116 af, Depth= 0.11"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

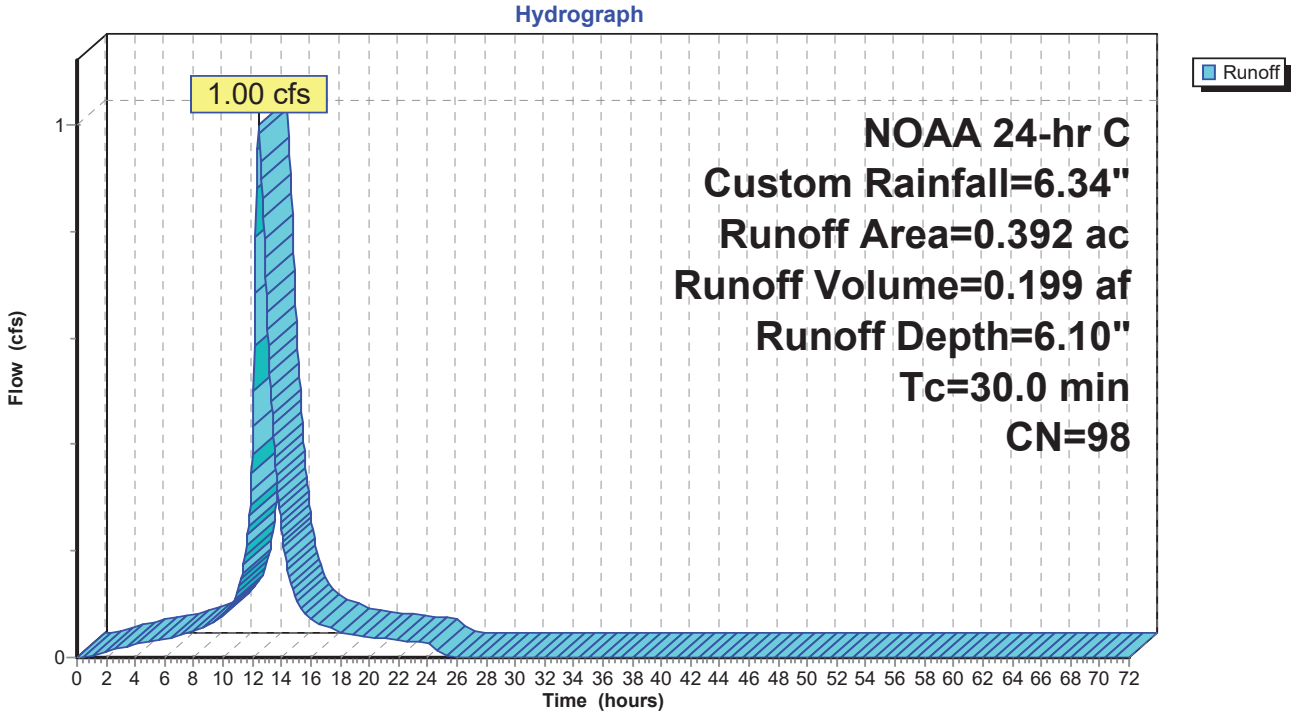
Runoff = 1.00 cfs @ 12.44 hrs, Volume= 0.199 af, Depth= 6.10"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 7/23/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	9.48	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

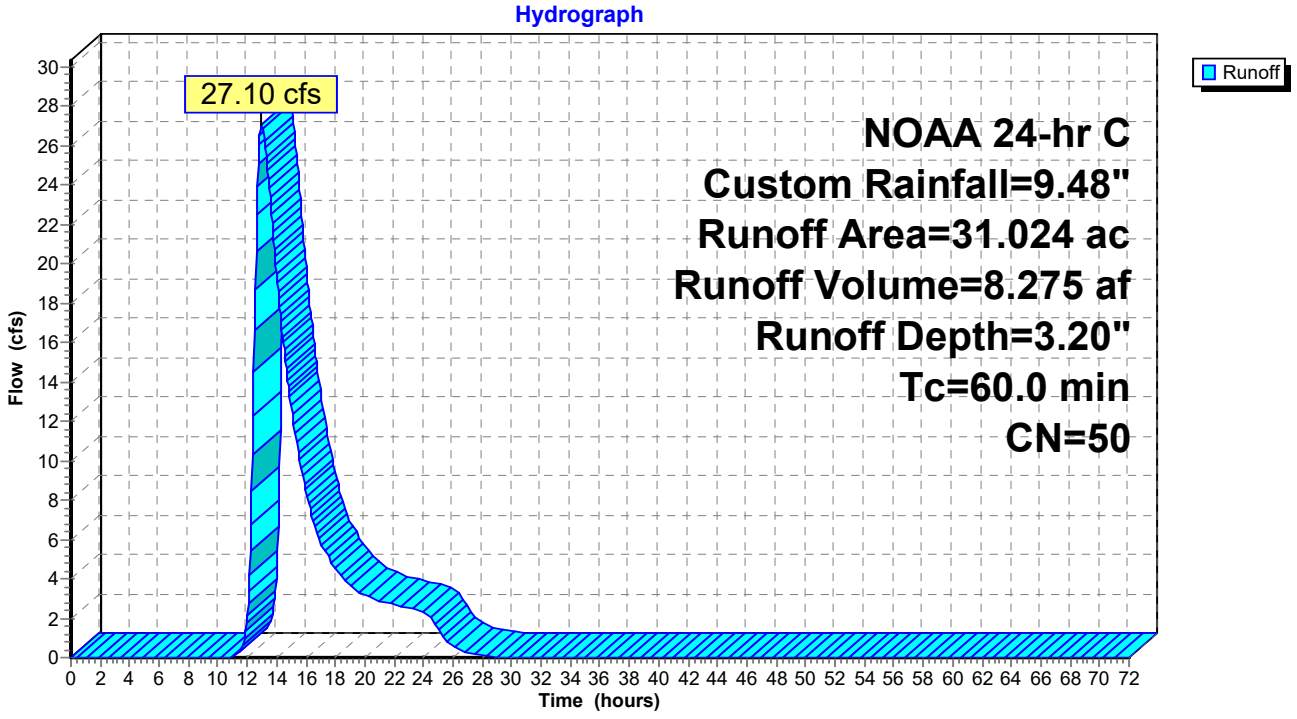
Runoff = 27.10 cfs @ 12.96 hrs, Volume= 8.275 af, Depth= 3.20"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

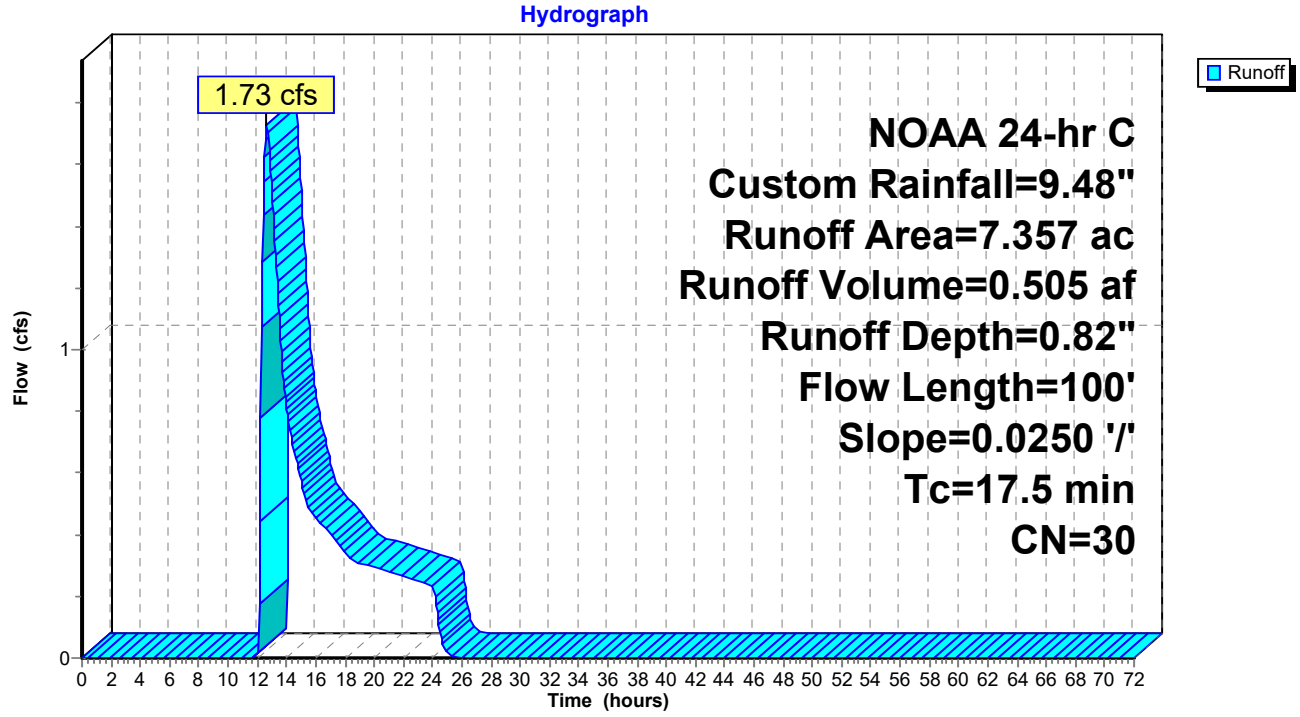
Runoff = 1.73 cfs @ 12.64 hrs, Volume= 0.505 af, Depth= 0.82"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 0.82" for Custom event
Inflow = 1.73 cfs @ 12.64 hrs, Volume= 0.505 af
Outflow = 0.45 cfs @ 16.10 hrs, Volume= 0.248 af, Atten= 74%, Lag= 207.6 min
Primary = 0.45 cfs @ 16.10 hrs, Volume= 0.248 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 42.32' @ 16.10 hrs Surf.Area= 25,030 sf Storage= 11,709 cf

Plug-Flow detention time= 374.5 min calculated for 0.248 af (49% of inflow)
Center-of-Mass det. time= 199.2 min (1,174.5 - 975.3)

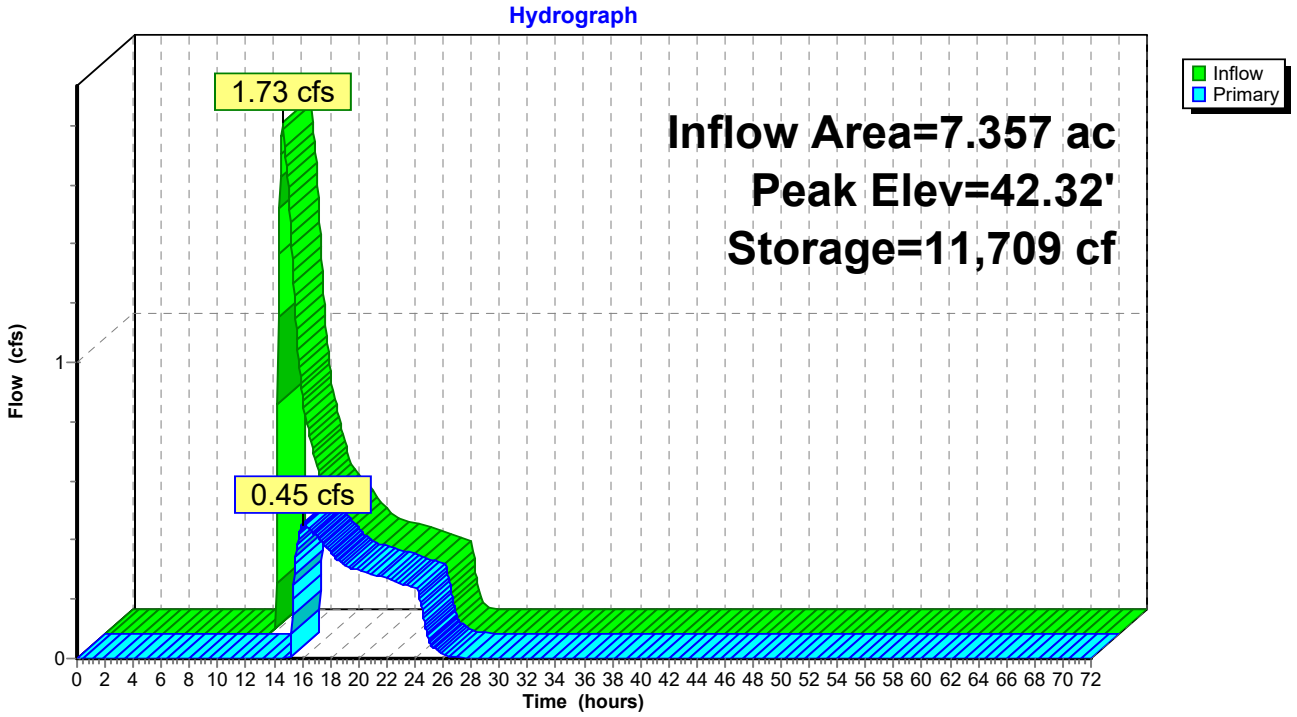
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.44 cfs @ 16.10 hrs HW=42.32' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.44 cfs @ 0.40 fps)

Pond 3P: Wetlands Depression

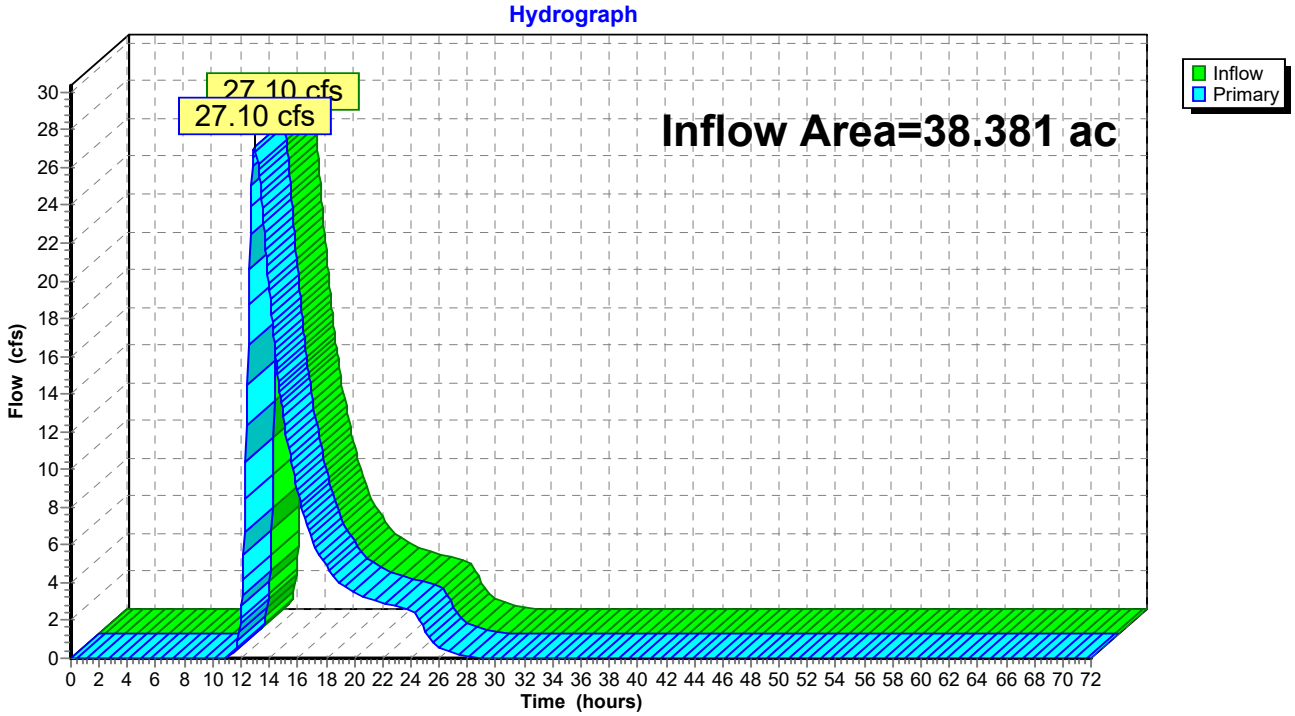


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 2.66" for Custom event
Inflow = 27.10 cfs @ 12.96 hrs, Volume= 8.524 af
Primary = 27.10 cfs @ 12.96 hrs, Volume= 8.524 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

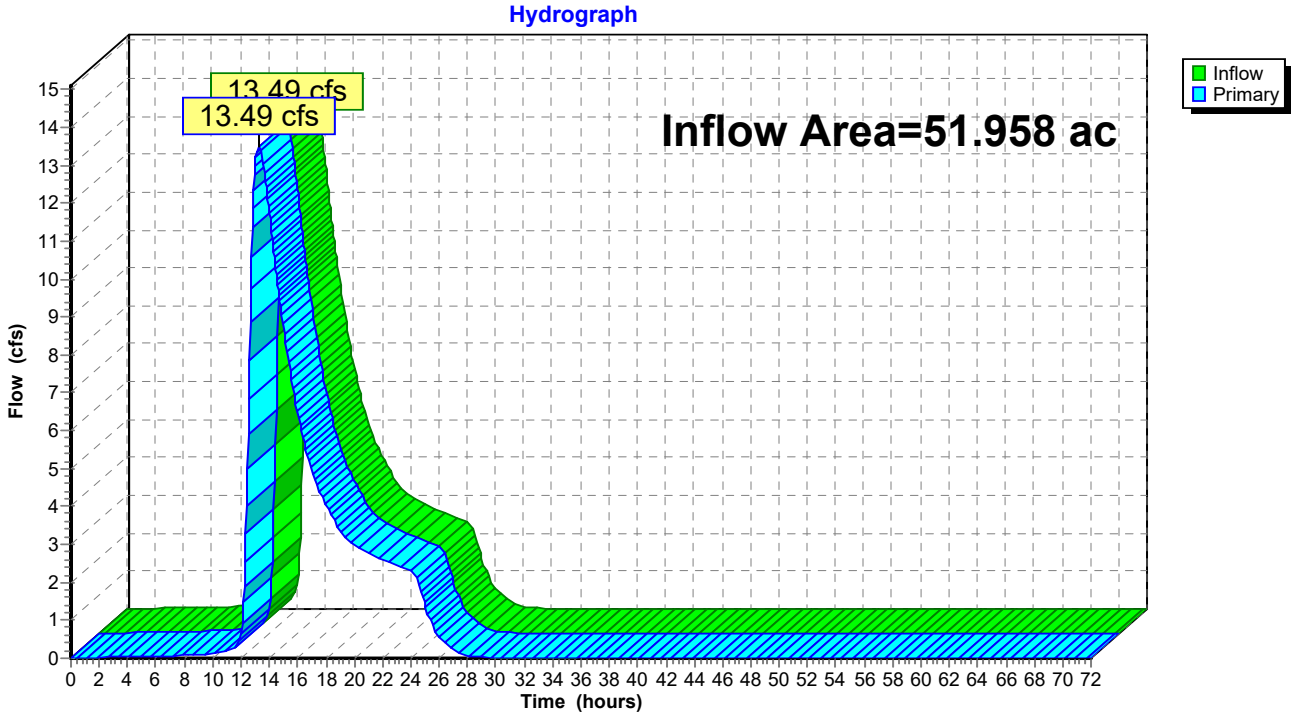


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 1.31" for Custom event
Inflow = 13.49 cfs @ 13.22 hrs, Volume= 5.686 af
Primary = 13.49 cfs @ 13.22 hrs, Volume= 5.686 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

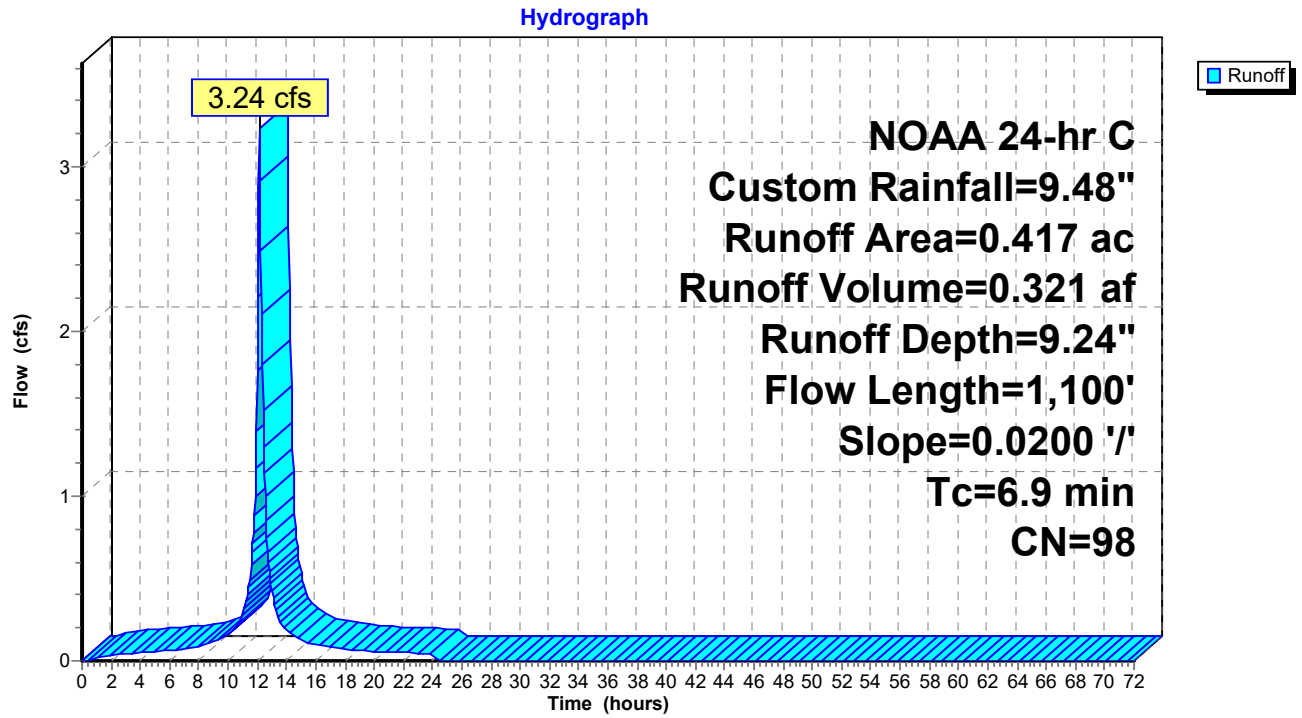
Runoff = 3.24 cfs @ 12.15 hrs, Volume= 0.321 af, Depth= 9.24"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

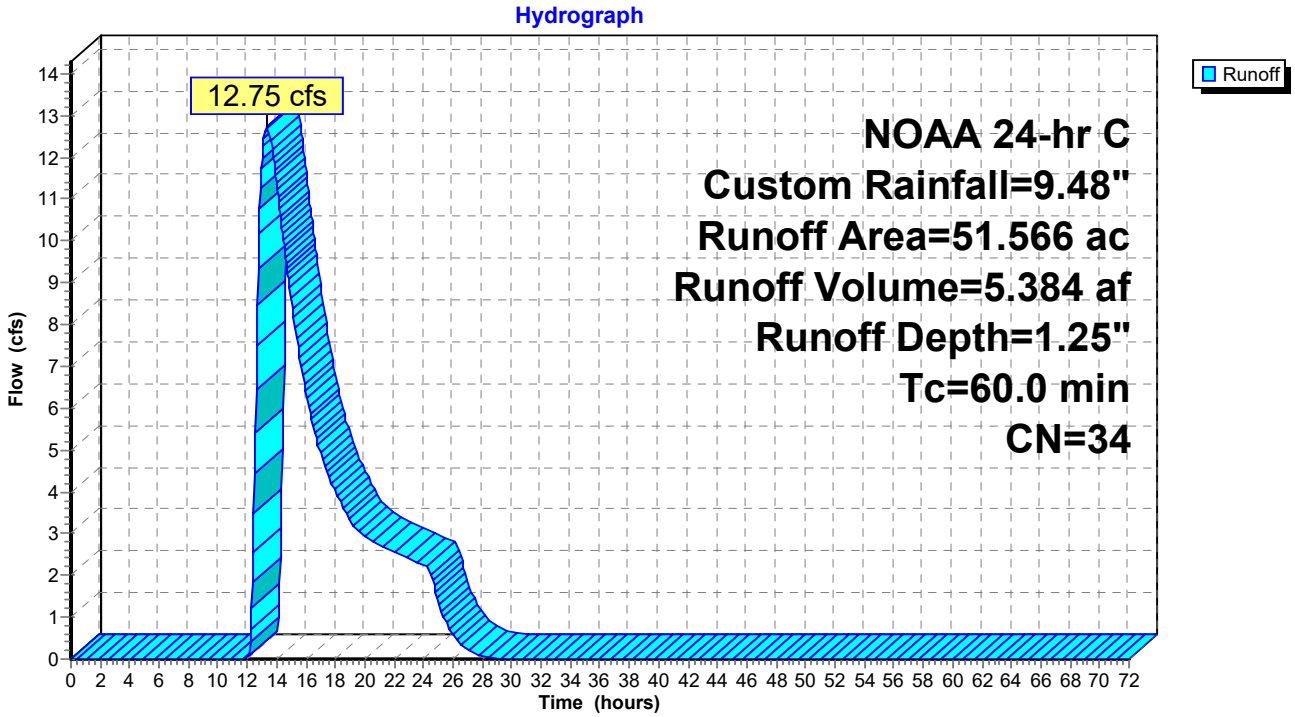
Runoff = 12.75 cfs @ 13.33 hrs, Volume= 5.384 af, Depth= 1.25"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

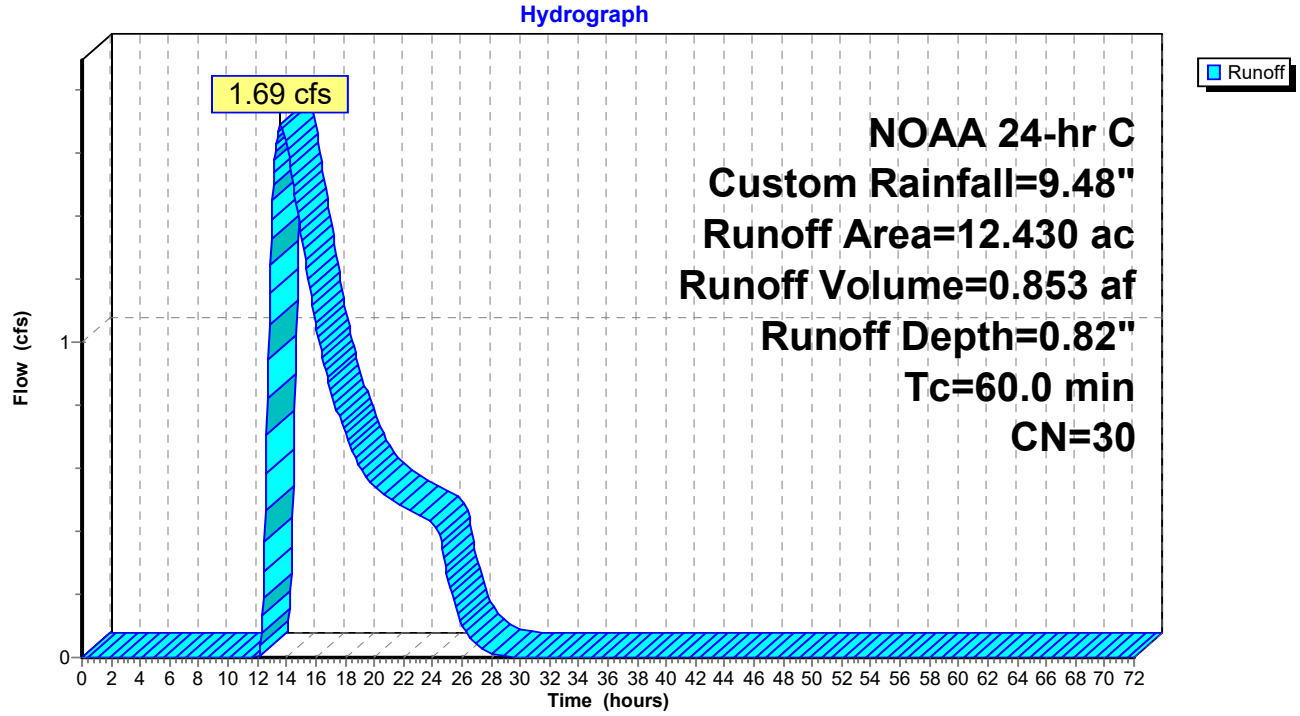
Runoff = 1.69 cfs @ 13.61 hrs, Volume= 0.853 af, Depth= 0.82"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

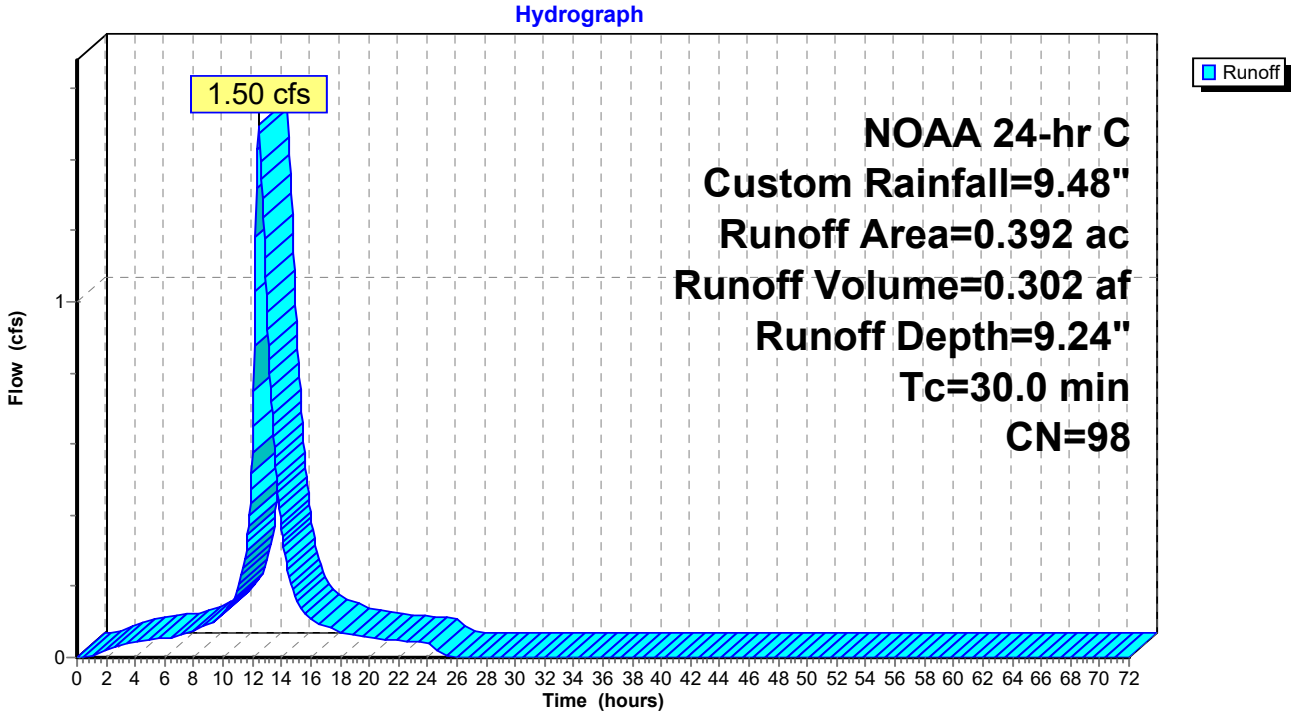
Runoff = 1.50 cfs @ 12.44 hrs, Volume= 0.302 af, Depth= 9.24"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

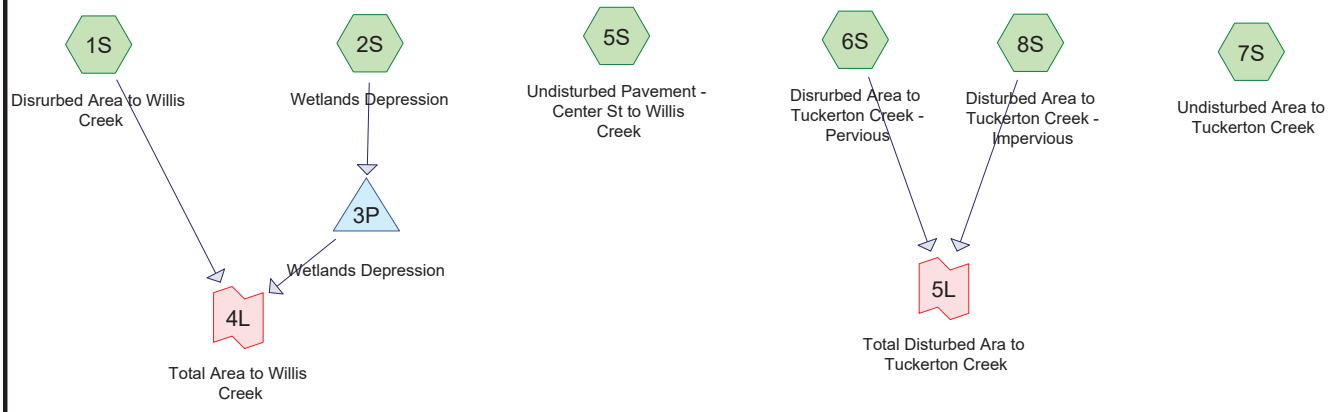
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious





Subcat Reach Pond Link

Routing Diagram for Existing Conditions
Prepared by ARH Associates, Printed 4/28/2025
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	C	Default	24.00	1	11.41	2

Summary for Subcatchment 1S: Disrurbed Area to Willis Creek

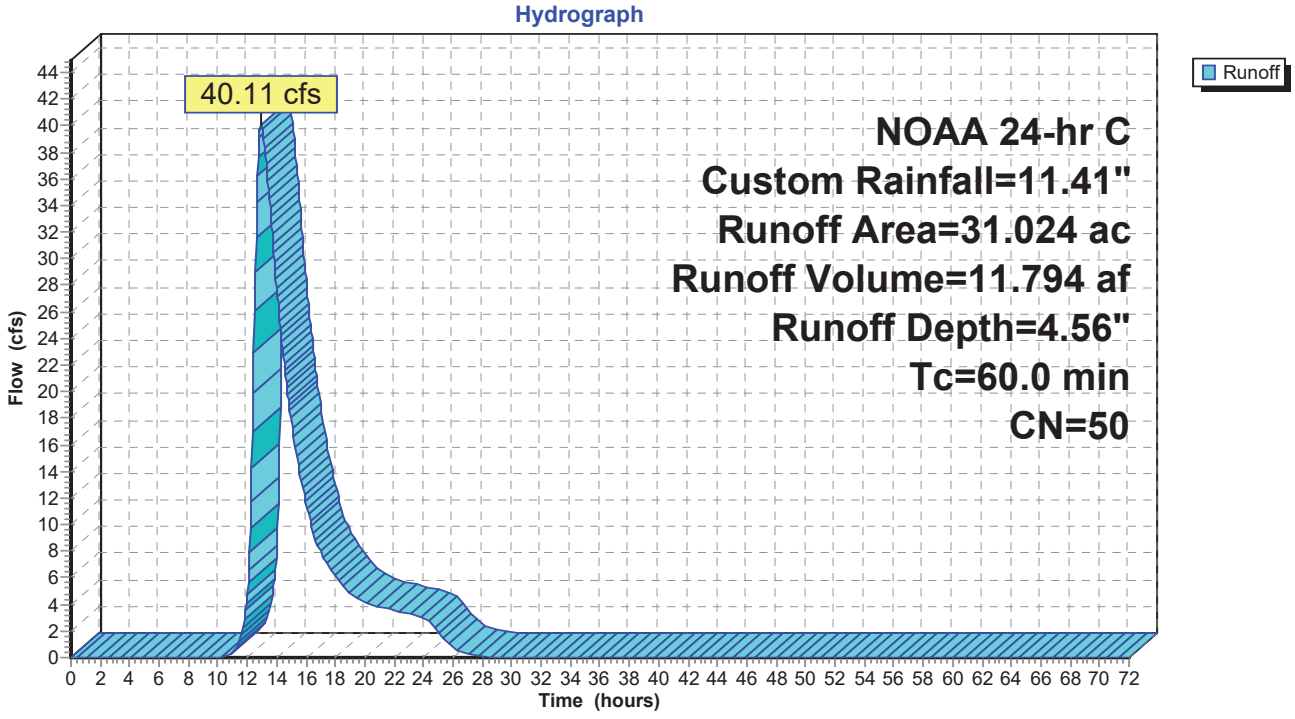
Runoff = 40.11 cfs @ 12.95 hrs, Volume= 11.794 af, Depth= 4.56"
Routed to Link 4L : Total Area to Willis Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

Area (ac)	CN	Description
9.133	77	Woods, Good, HSG D
14.020	30	Woods, Good, HSG A
4.977	39	>75% Grass cover, Good, HSG A
2.894	80	>75% Grass cover, Good, HSG D
31.024	50	Weighted Average
31.024		100.00% Pervious Area

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

Subcatchment 1S: Disrurbed Area to Willis Creek



Summary for Subcatchment 2S: Wetlands Depression

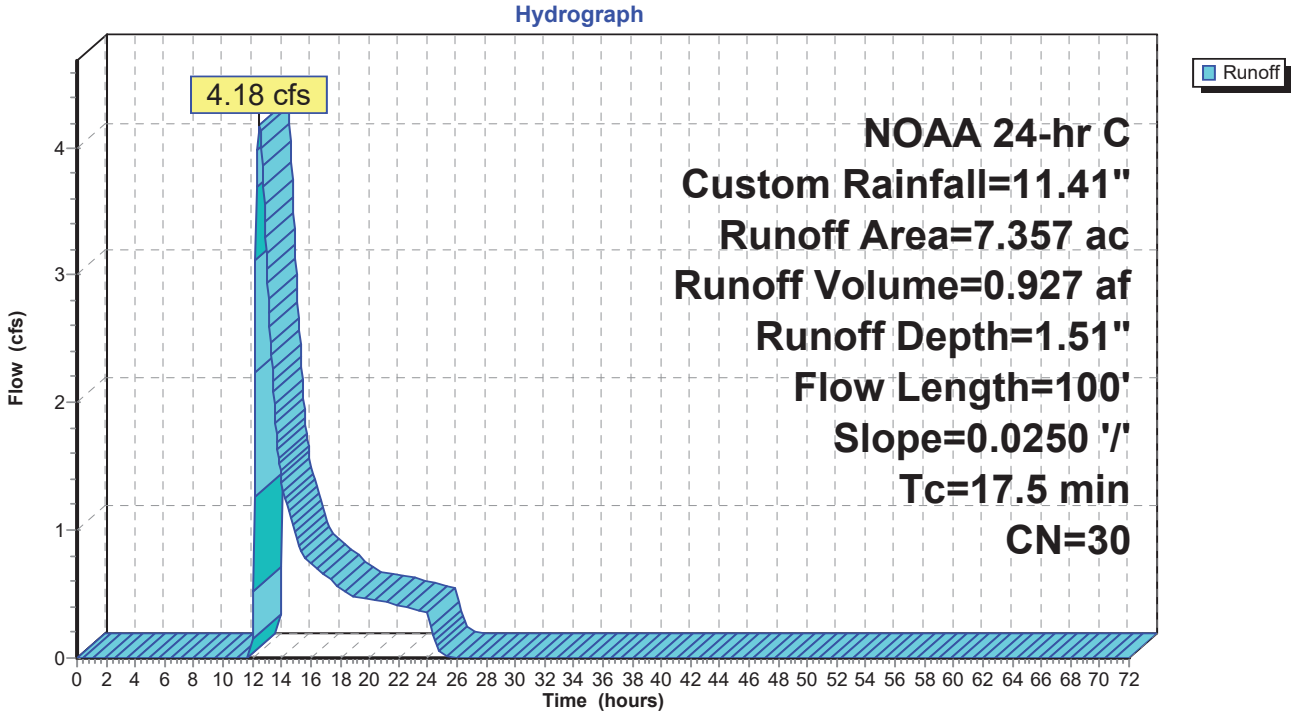
Runoff = 4.18 cfs @ 12.47 hrs, Volume= 0.927 af, Depth= 1.51"
Routed to Pond 3P : Wetlands Depression

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

Area (ac)	CN	Description
7.357	30	Woods, Good, HSG A
7.357		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0250	0.10		**Sheet Flow, A to B** Woods: Light underbrush n= 0.400 P2= 4.04"

Subcatchment 2S: Wetlands Depression



Summary for Pond 3P: Wetlands Depression

Inflow Area = 7.357 ac, 0.00% Impervious, Inflow Depth = 1.51" for Custom event
Inflow = 4.18 cfs @ 12.47 hrs, Volume= 0.927 af
Outflow = 2.18 cfs @ 13.40 hrs, Volume= 0.671 af, Atten= 48%, Lag= 55.6 min
Primary = 2.18 cfs @ 13.40 hrs, Volume= 0.671 af
Routed to Link 4L : Total Area to Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 42.36' @ 13.40 hrs Surf.Area= 26,569 sf Storage= 12,791 cf

Plug-Flow detention time= 204.1 min calculated for 0.671 af (72% of inflow)
Center-of-Mass det. time= 90.0 min (1,034.3 - 944.4)

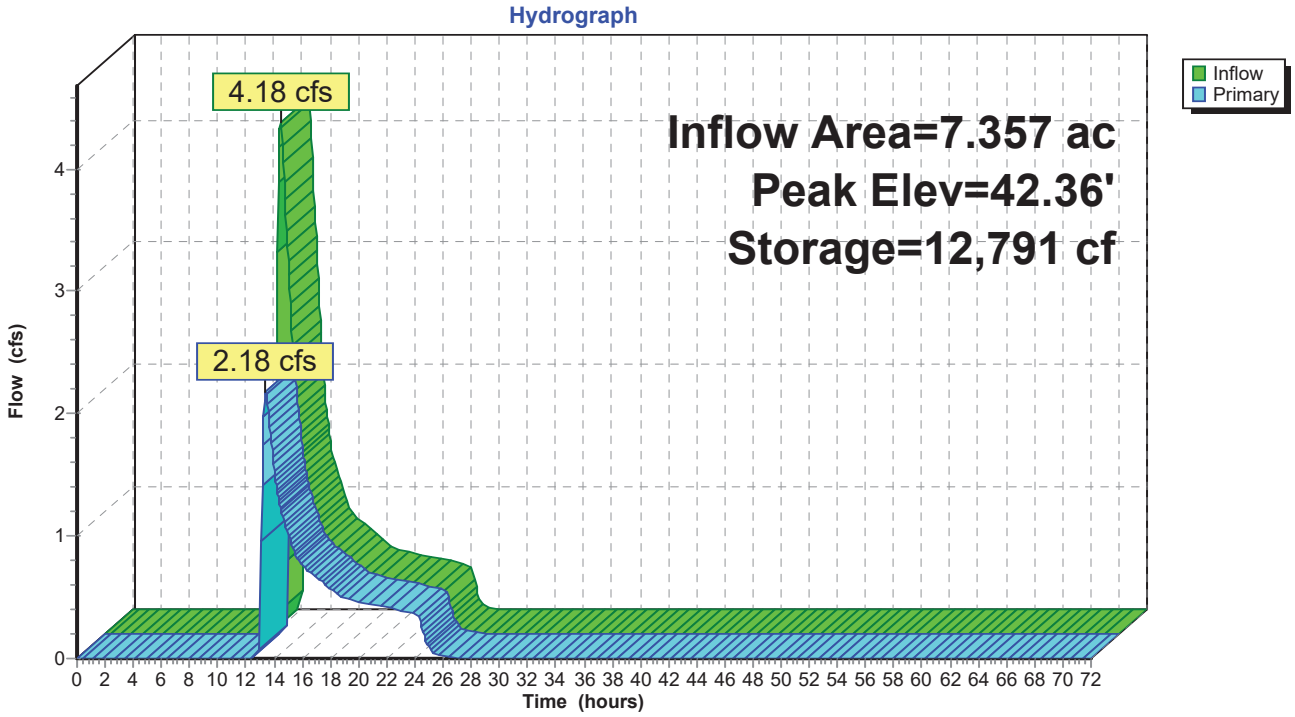
Volume	Invert	Avail.Storage	Storage Description
#1	41.00'	16,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
41.00	405	0	0
41.50	4,300	1,176	1,176
42.00	13,200	4,375	5,551
42.50	31,560	11,190	16,741

Device	Routing	Invert	Outlet Devices
#1	Primary	42.30'	**50.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.17 cfs @ 13.40 hrs HW=42.36' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.17 cfs @ 0.68 fps)

Pond 3P: Wetlands Depression

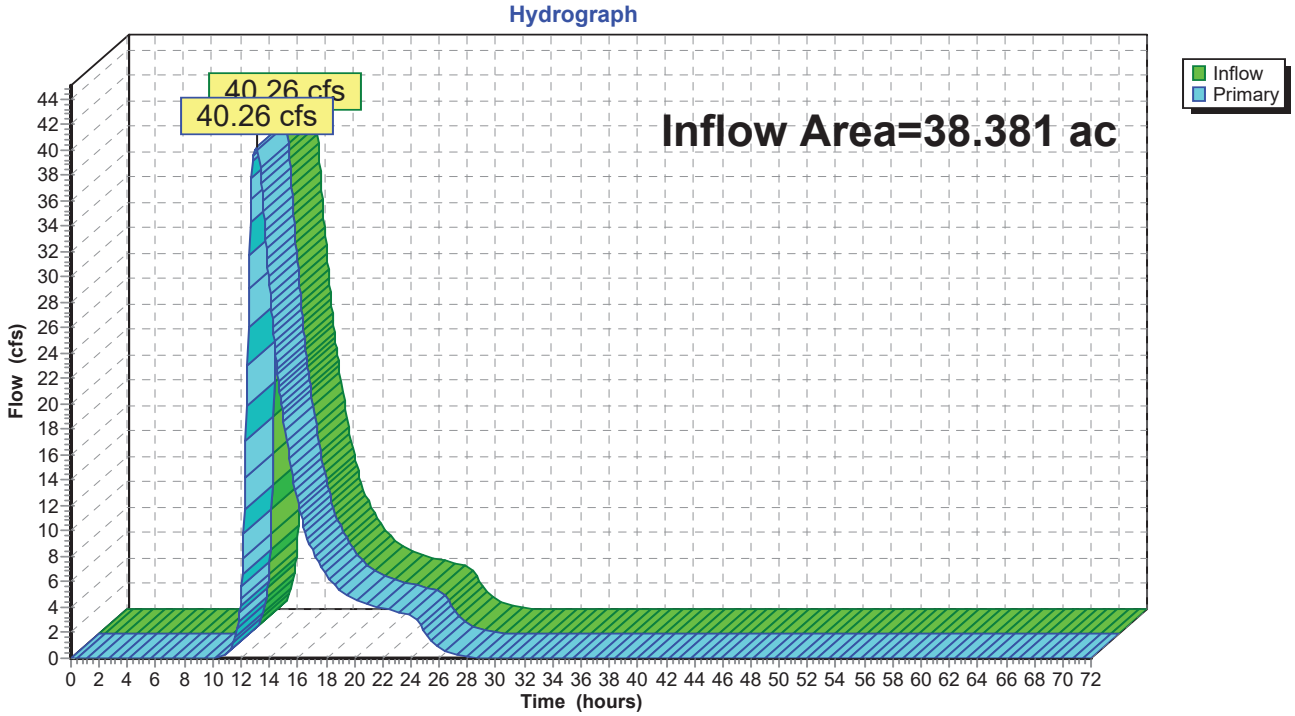


Summary for Link 4L: Total Area to Willis Creek

Inflow Area = 38.381 ac, 0.00% Impervious, Inflow Depth = 3.90" for Custom event
Inflow = 40.26 cfs @ 13.12 hrs, Volume= 12.465 af
Primary = 40.26 cfs @ 13.12 hrs, Volume= 12.465 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 4L: Total Area to Willis Creek

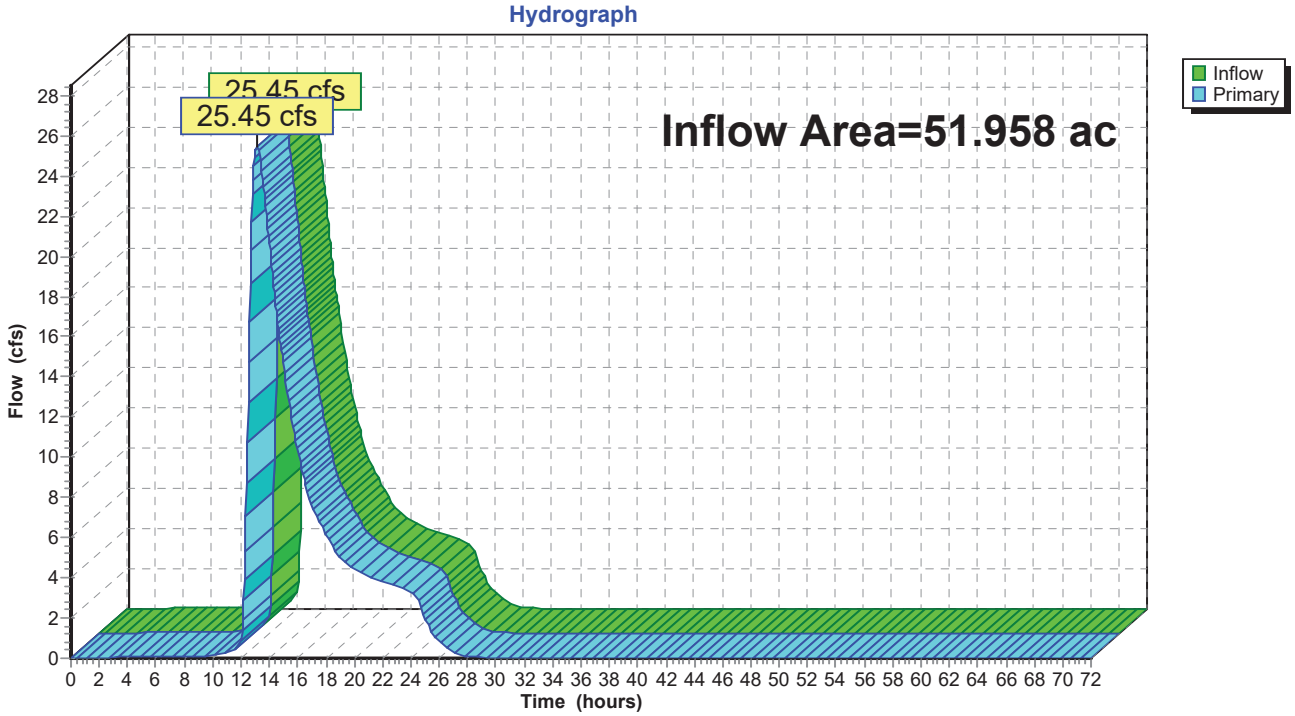


Summary for Link 5L: Total Disturbed Ara to Tuckerton Creek

Inflow Area = 51.958 ac, 0.75% Impervious, Inflow Depth = 2.17" for Custom event
Inflow = 25.45 cfs @ 13.11 hrs, Volume= 9.404 af
Primary = 25.45 cfs @ 13.11 hrs, Volume= 9.404 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 5L: Total Disturbed Ara to Tuckerton Creek



Summary for Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek

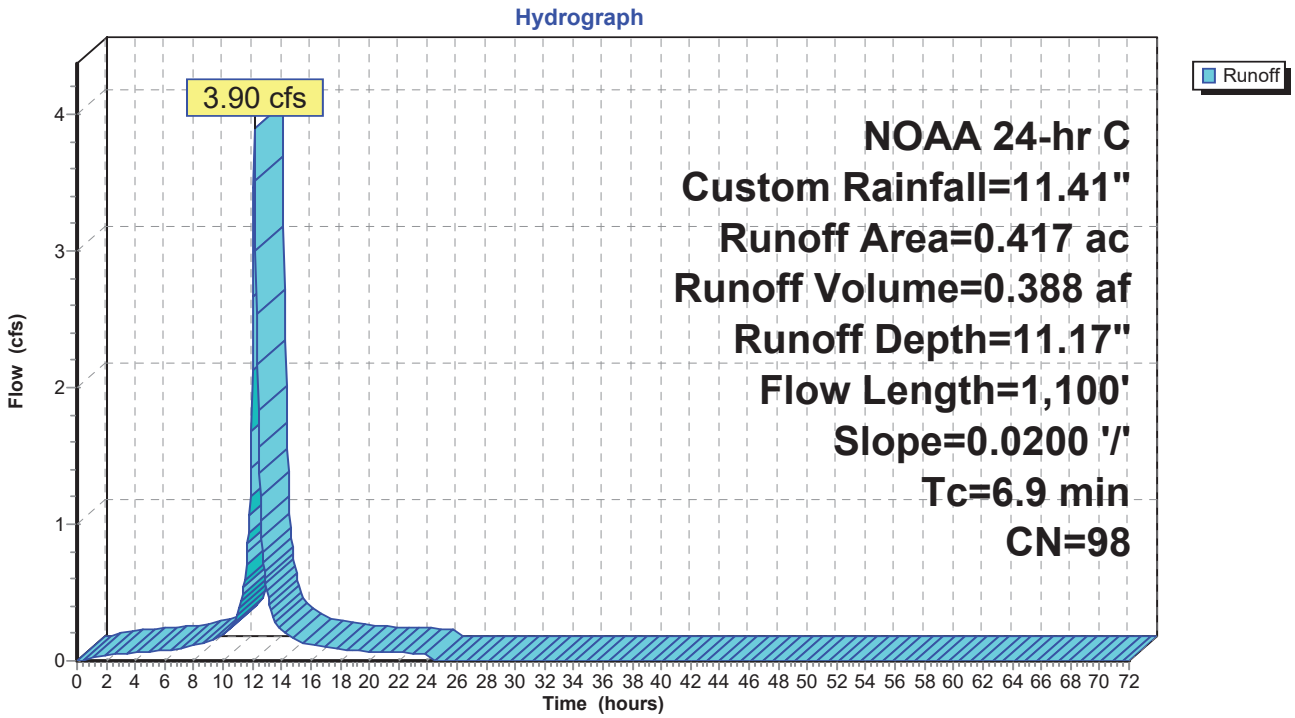
Runoff = 3.90 cfs @ 12.15 hrs, Volume= 0.388 af, Depth=11.17"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.417	98	Half Width
	0.417		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	100	0.0200	1.55		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
5.8	1,000	0.0200	2.87		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
6.9	1,100	Total			

Subcatchment 5S: Undisturbed Pavement - Center St to Willis Creek



Summary for Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious

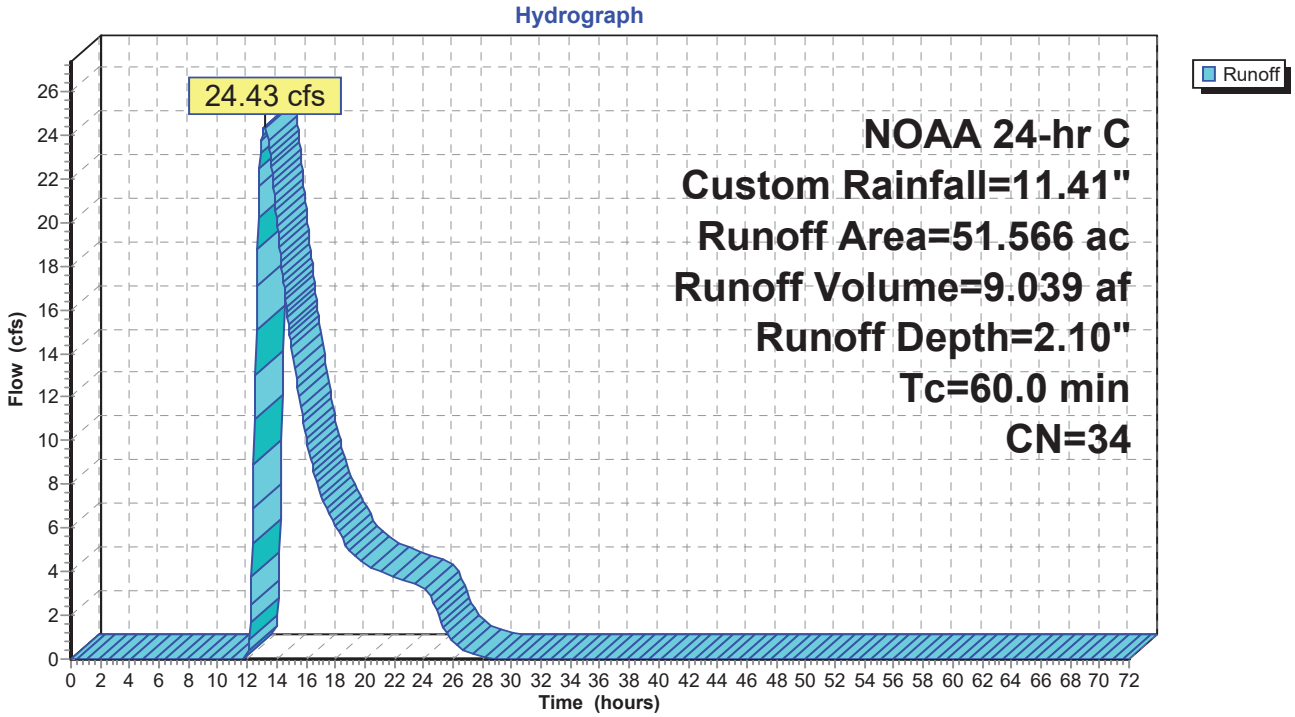
Runoff = 24.43 cfs @ 13.18 hrs, Volume= 9.039 af, Depth= 2.10"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

Area (ac)	CN	Description
34.075	30	Woods, Good, HSG A
14.231	39	>75% Grass cover, Good, HSG A
3.260	55	Woods, Good, HSG B
51.566	34	Weighted Average
51.566		100.00% Pervious Area

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

Subcatchment 6S: Disrurbed Area to Tuckerton Creek - Pervious



Summary for Subcatchment 7S: Undisturbed Area to Tuckerton Creek

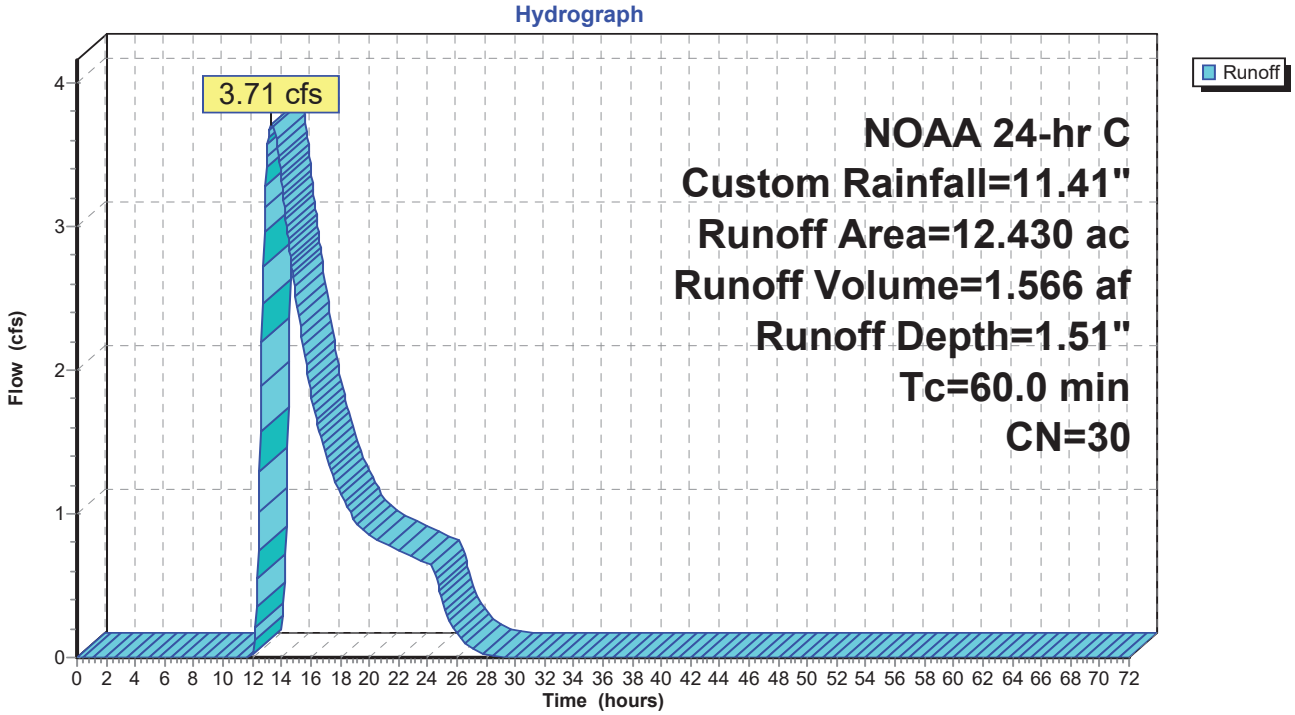
Runoff = 3.71 cfs @ 13.33 hrs, Volume= 1.566 af, Depth= 1.51"
Routed to nonexistent node 6L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

Area (ac)	CN	Description
12.430	30	Woods, Good, HSG A
12.430		100.00% Pervious Area

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

Subcatchment 7S: Undisturbed Area to Tuckerton Creek



Summary for Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious

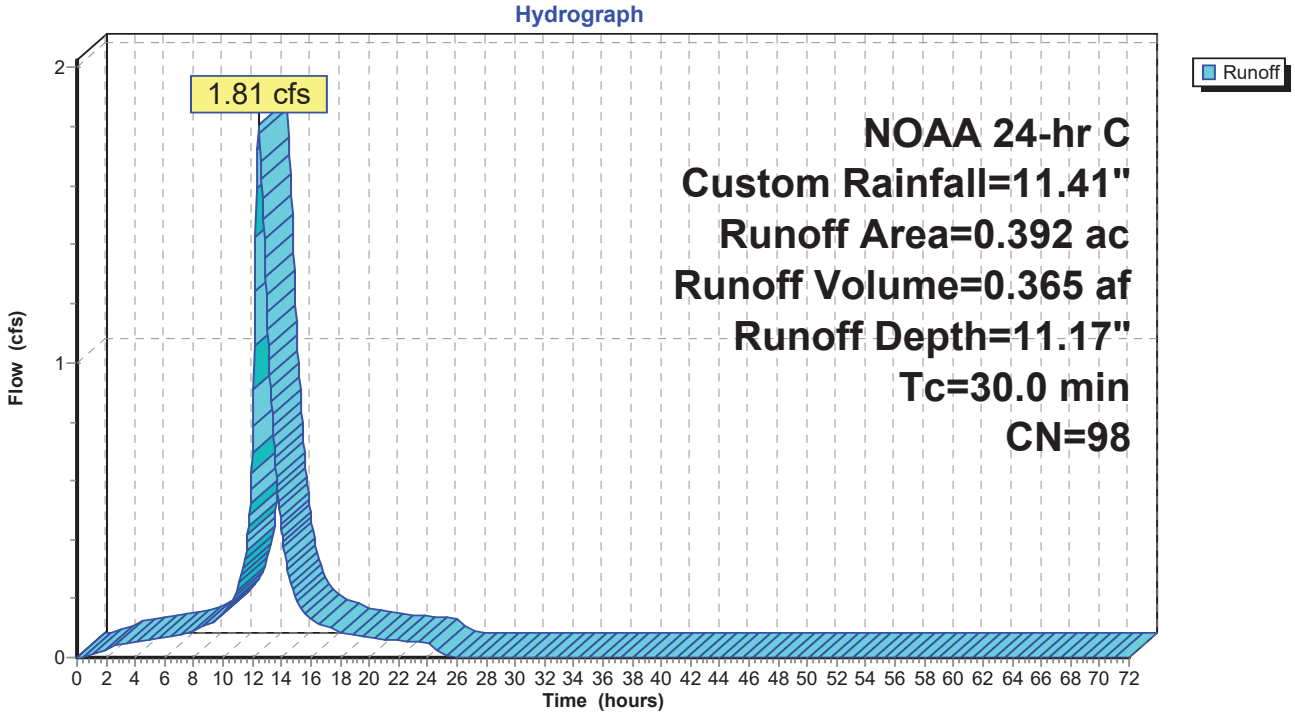
Runoff = 1.81 cfs @ 12.44 hrs, Volume= 0.365 af, Depth=11.17"
Routed to Link 5L : Total Disturbed Ara to Tuckerton Creek

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr C Custom Rainfall=11.41"

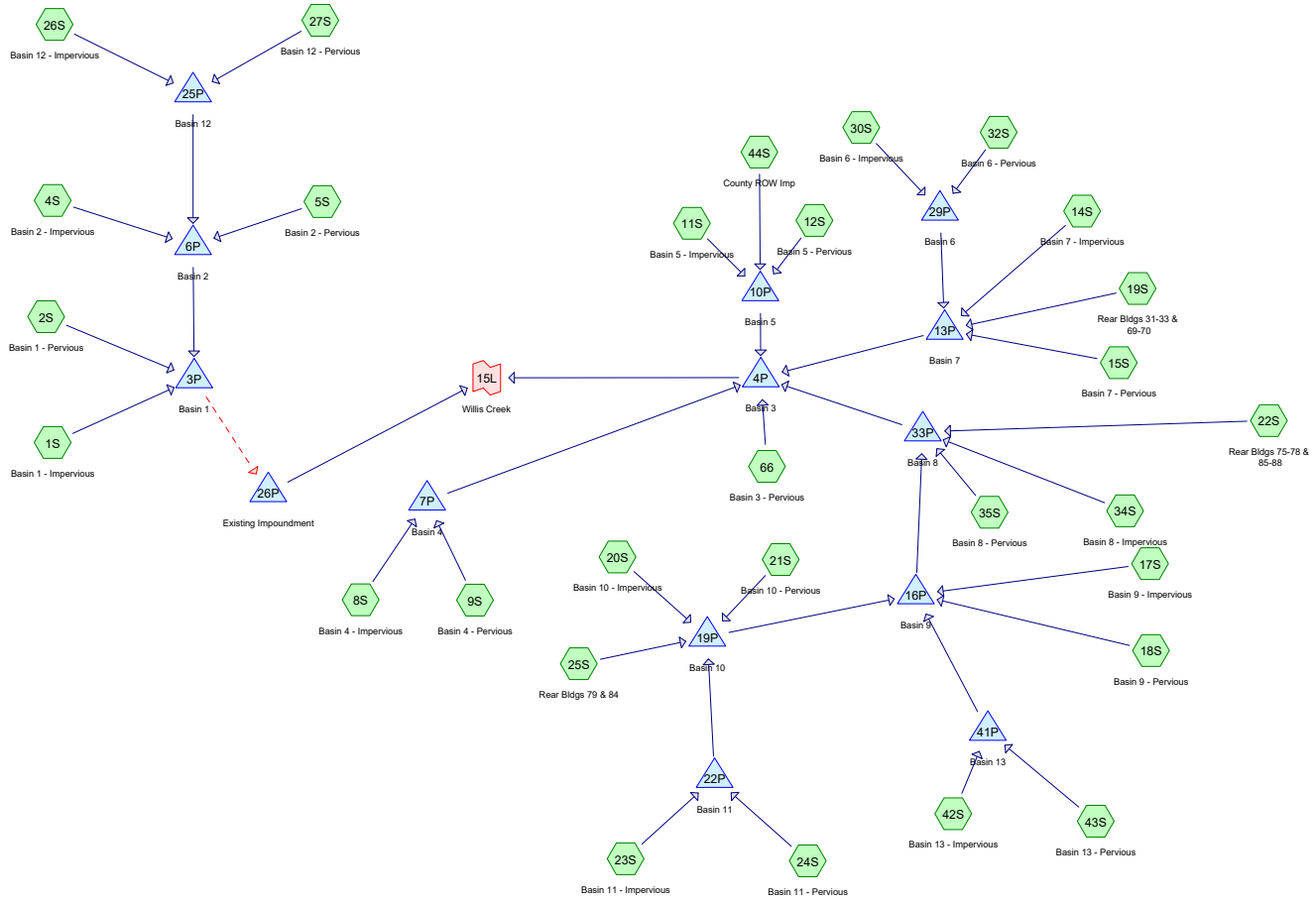
	Area (ac)	CN	Description
*	0.392	98	Impervious
	0.392		100.00% Impervious Area

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

Subcatchment 8S: Disturbed Area to Tuckerton Creek - Impervious



Appendix E – Post-Development Calculations



Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	3.42	2

Summary for Subcatchment 1S: Basin 1 - Impervious

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

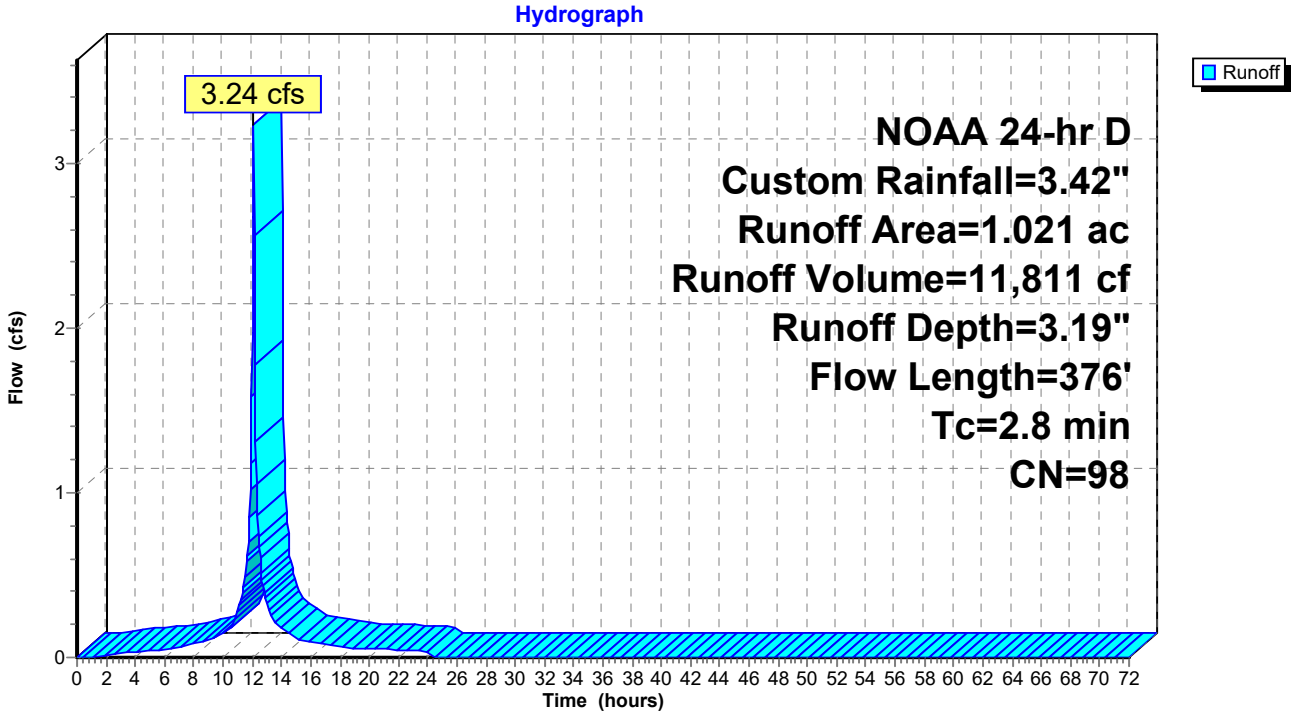
Runoff = 3.24 cfs @ 12.10 hrs, Volume= 11,811 cf, Depth= 3.19"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

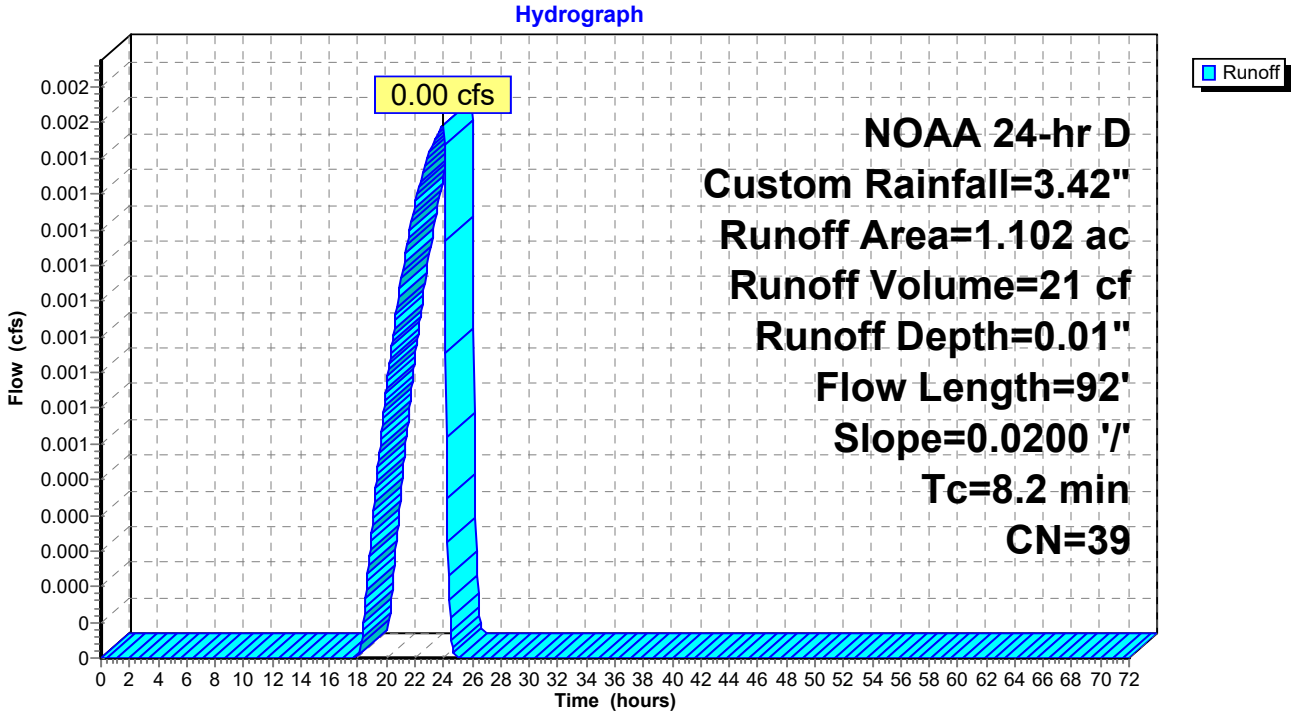
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 21 cf, Depth= 0.01"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 0.94" for Custom event
Inflow = 3.34 cfs @ 12.10 hrs, Volume= 22,214 cf
Outflow = 0.50 cfs @ 13.01 hrs, Volume= 18,214 cf, Atten= 85%, Lag= 54.6 min
Primary = 0.18 cfs @ 13.01 hrs, Volume= 14,829 cf
Secondary = 0.32 cfs @ 13.01 hrs, Volume= 3,386 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.54' @ 13.01 hrs Surf.Area= 6,419 sf Storage= 8,073 cf

Plug-Flow detention time= 538.3 min calculated for 18,202 cf (82% of inflow)
Center-of-Mass det. time= 368.5 min (1,393.7 - 1,025.2)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

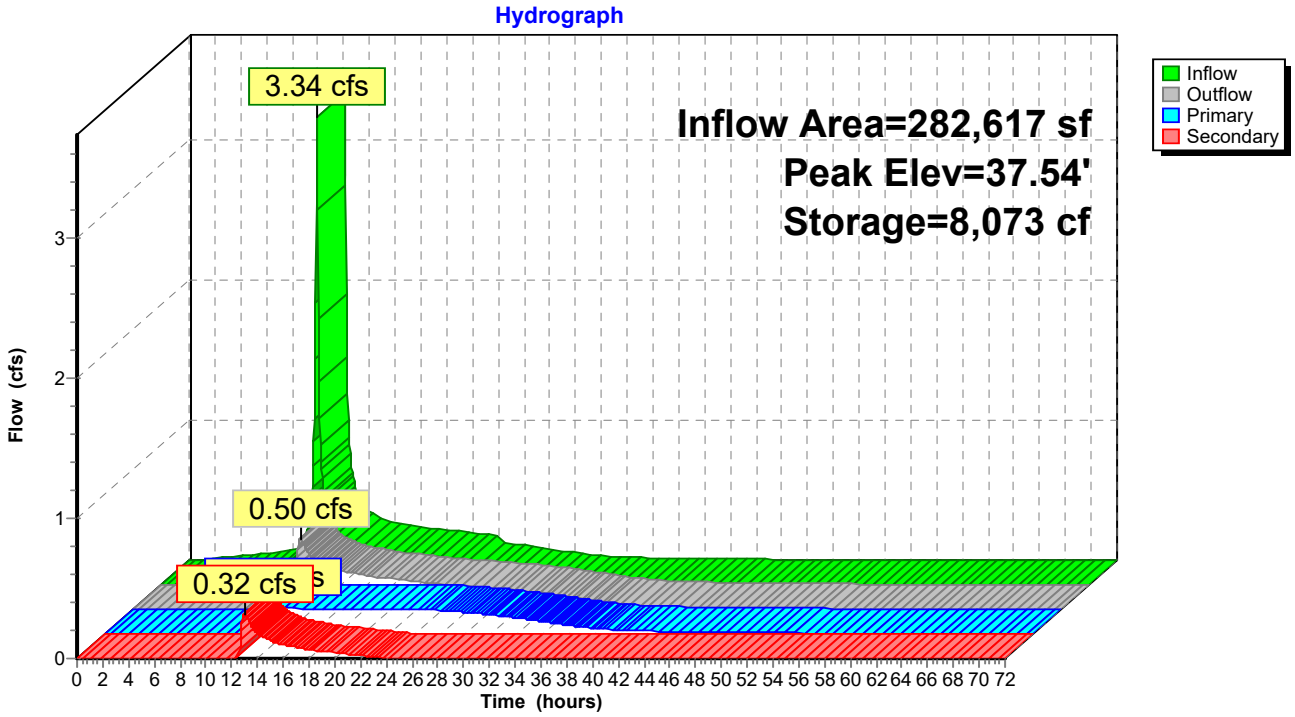
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 13.01 hrs HW=37.54' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.18 cfs @ 3.75 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.31 cfs @ 13.01 hrs HW=37.54' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.31 cfs @ 0.50 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 1.16" for Custom event
Inflow = 18.38 cfs @ 12.25 hrs, Volume= 91,504 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 26.06' @ 72.00 hrs Surf.Area= 47,139 sf Storage= 91,503 cf

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

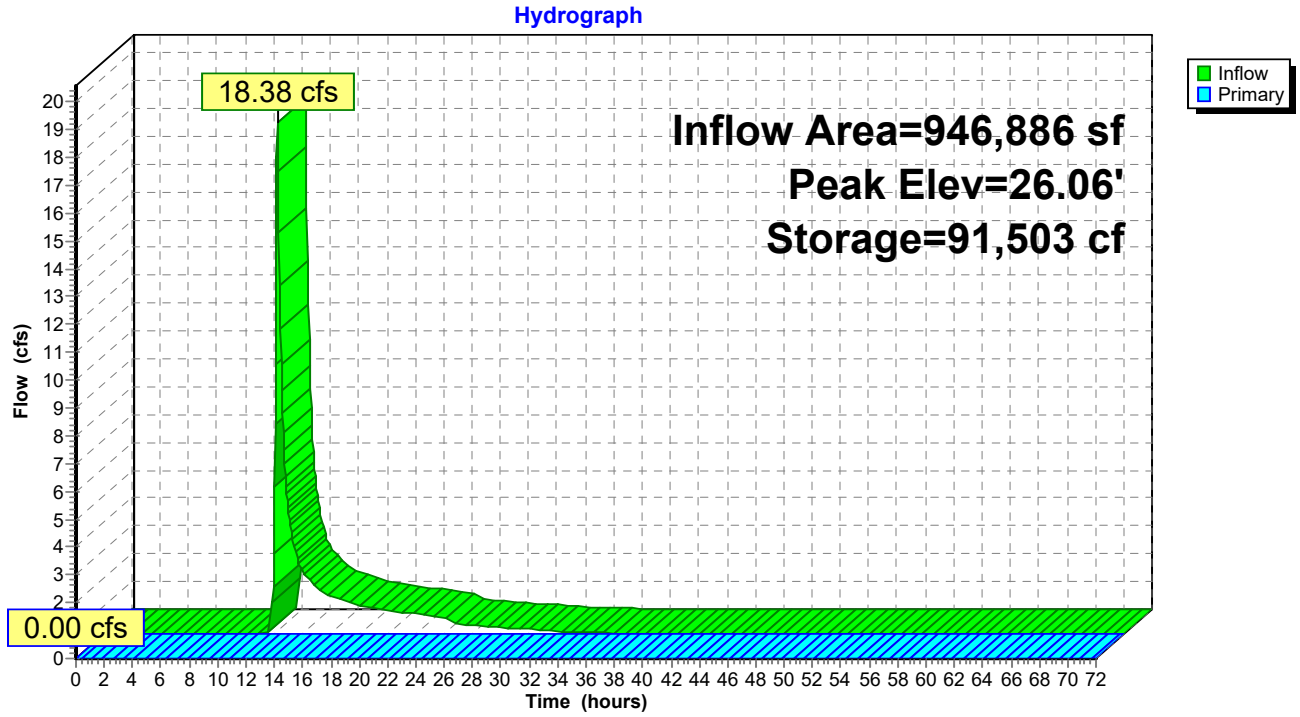
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

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

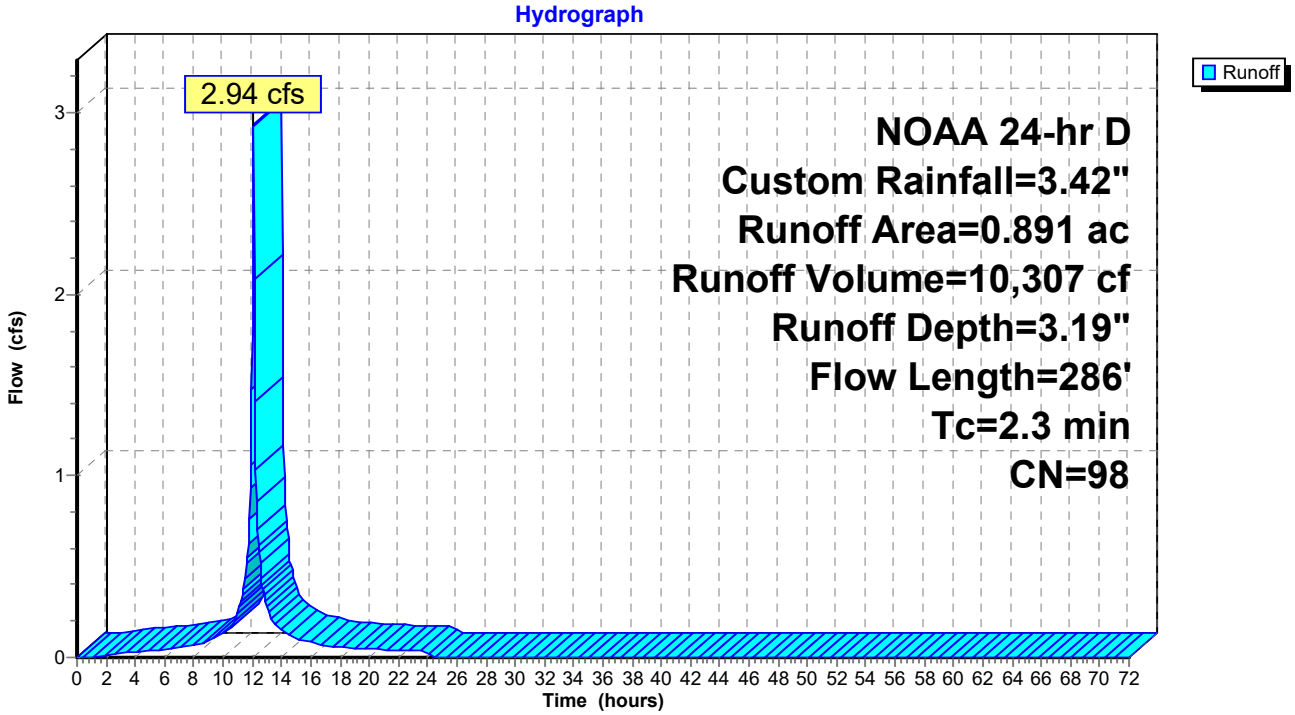
Runoff = 2.94 cfs @ 12.09 hrs, Volume= 10,307 cf, Depth= 3.19"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

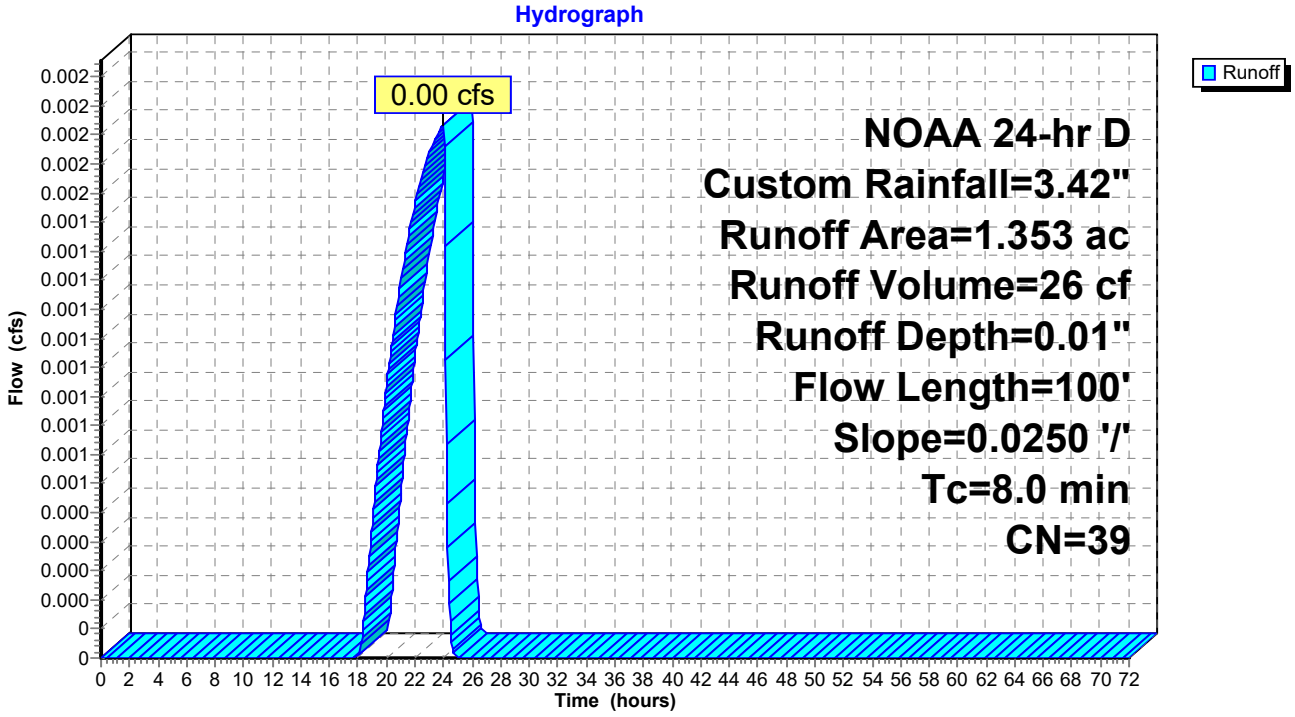
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 26 cf, Depth= 0.01"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[79] Warning: Submerged Pond 25P Primary device # 1 by 0.14'

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 0.87" for Custom event
Inflow = 2.97 cfs @ 12.09 hrs, Volume= 13,817 cf
Outflow = 0.18 cfs @ 15.12 hrs, Volume= 10,382 cf, Atten= 94%, Lag= 181.4 min
Primary = 0.18 cfs @ 15.12 hrs, Volume= 10,382 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.40' @ 15.12 hrs Surf.Area= 6,794 sf Storage= 7,641 cf

Plug-Flow detention time= 616.6 min calculated for 10,382 cf (75% of inflow)
Center-of-Mass det. time= 451.4 min (1,331.3 - 879.8)

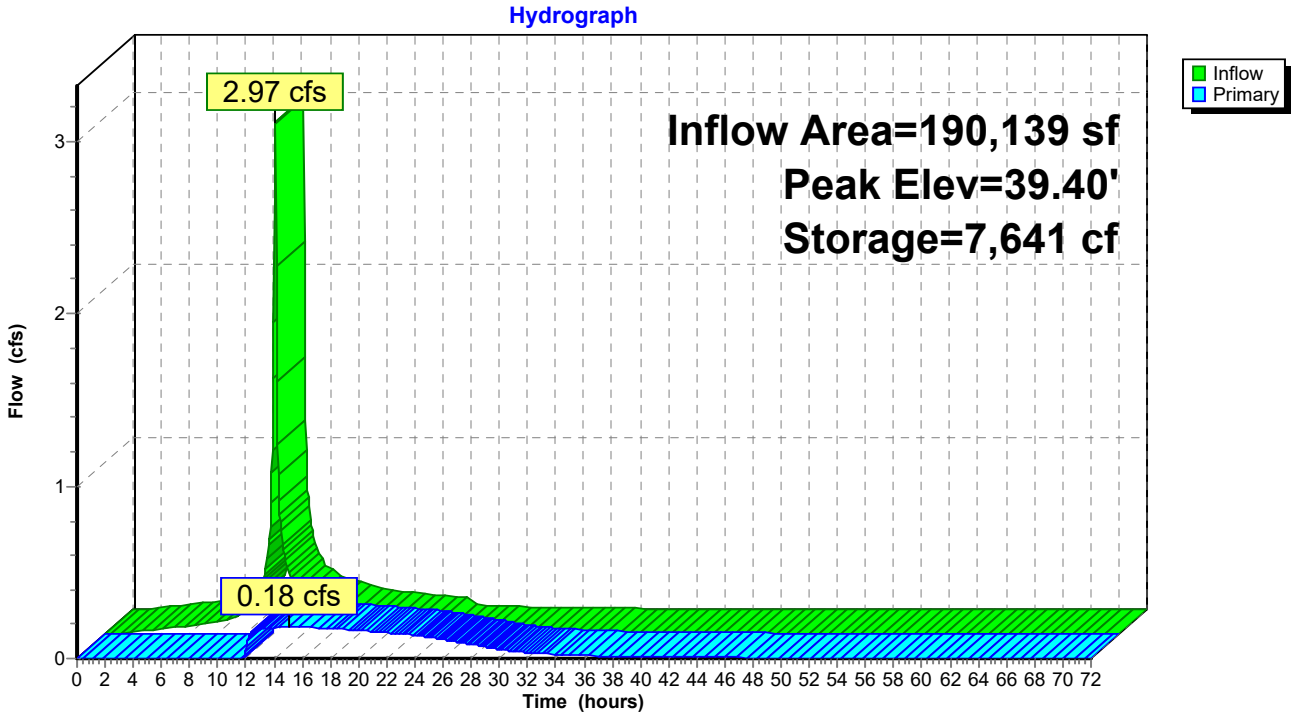
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 15.12 hrs HW=39.40' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.18 cfs @ 3.67 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 1.48" for Custom event
Inflow = 3.55 cfs @ 12.11 hrs, Volume= 13,572 cf
Outflow = 0.21 cfs @ 13.85 hrs, Volume= 9,124 cf, Atten= 94%, Lag= 104.9 min
Primary = 0.21 cfs @ 13.85 hrs, Volume= 9,124 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.94' @ 13.85 hrs Surf.Area= 6,120 sf Storage= 9,247 cf

Plug-Flow detention time= 538.8 min calculated for 9,117 cf (67% of inflow)
Center-of-Mass det. time= 432.2 min (1,189.8 - 757.6)

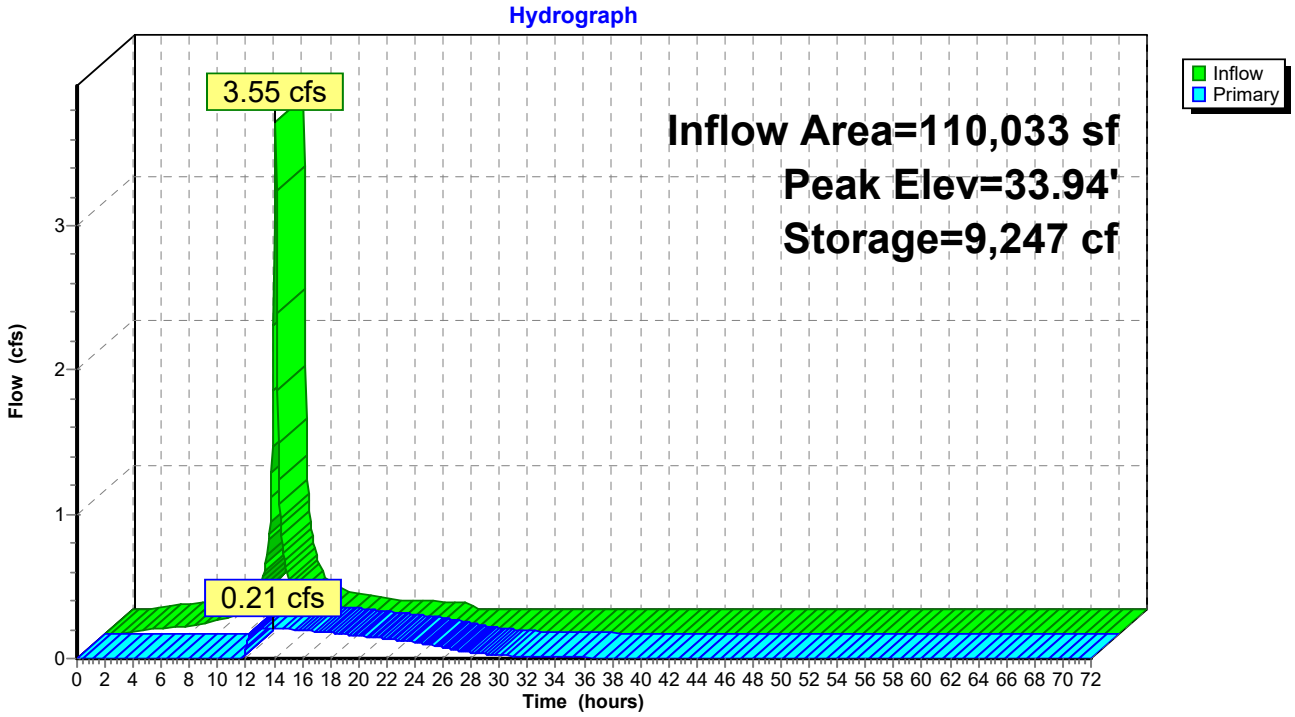
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 13.85 hrs HW=33.94' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.19 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

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

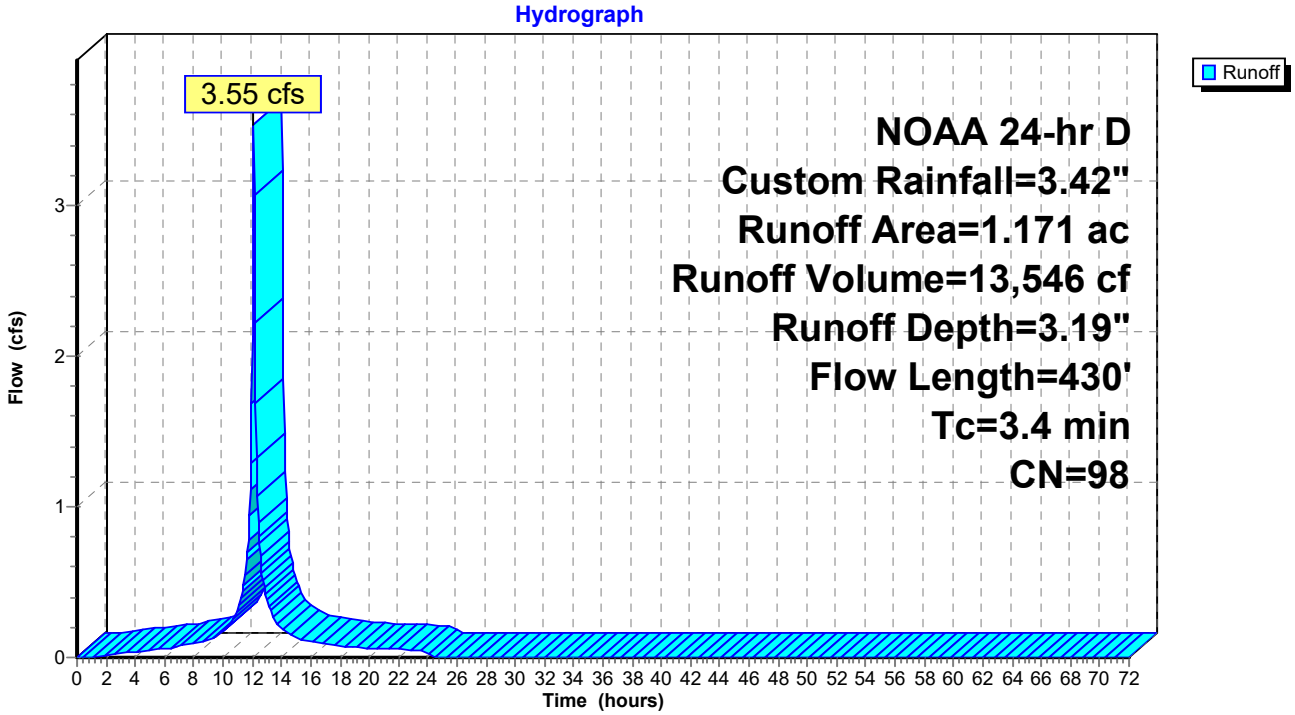
Runoff = 3.55 cfs @ 12.11 hrs, Volume= 13,546 cf, Depth= 3.19"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

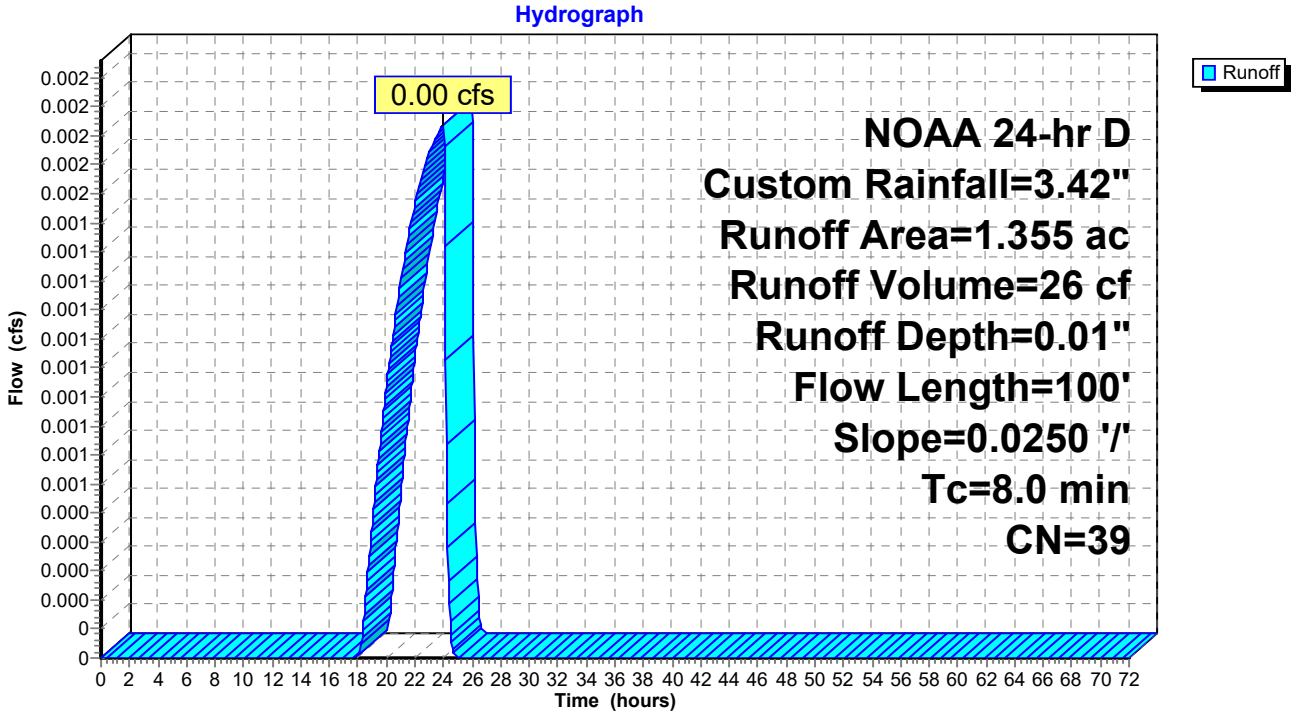
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 26 cf, Depth= 0.01"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 1.86" for Custom event
Inflow = 3.56 cfs @ 12.09 hrs, Volume= 13,526 cf
Outflow = 3.15 cfs @ 12.13 hrs, Volume= 8,523 cf, Atten= 11%, Lag= 2.2 min
Primary = 3.15 cfs @ 12.13 hrs, Volume= 8,523 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.71' @ 12.13 hrs Surf.Area= 3,827 sf Storage= 5,575 cf

Plug-Flow detention time= 233.9 min calculated for 8,523 cf (63% of inflow)
Center-of-Mass det. time= 112.7 min (879.7 - 767.0)

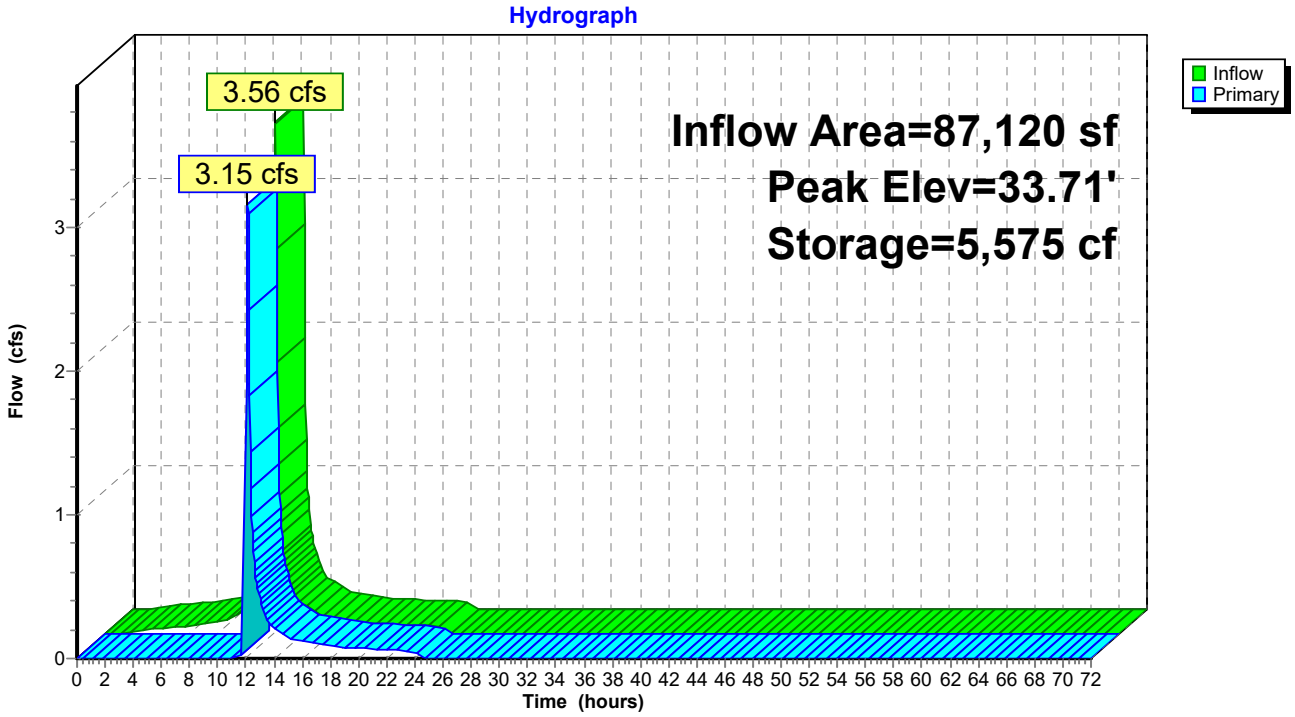
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.05 cfs @ 12.13 hrs HW=33.71' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.05 cfs @ 1.27 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

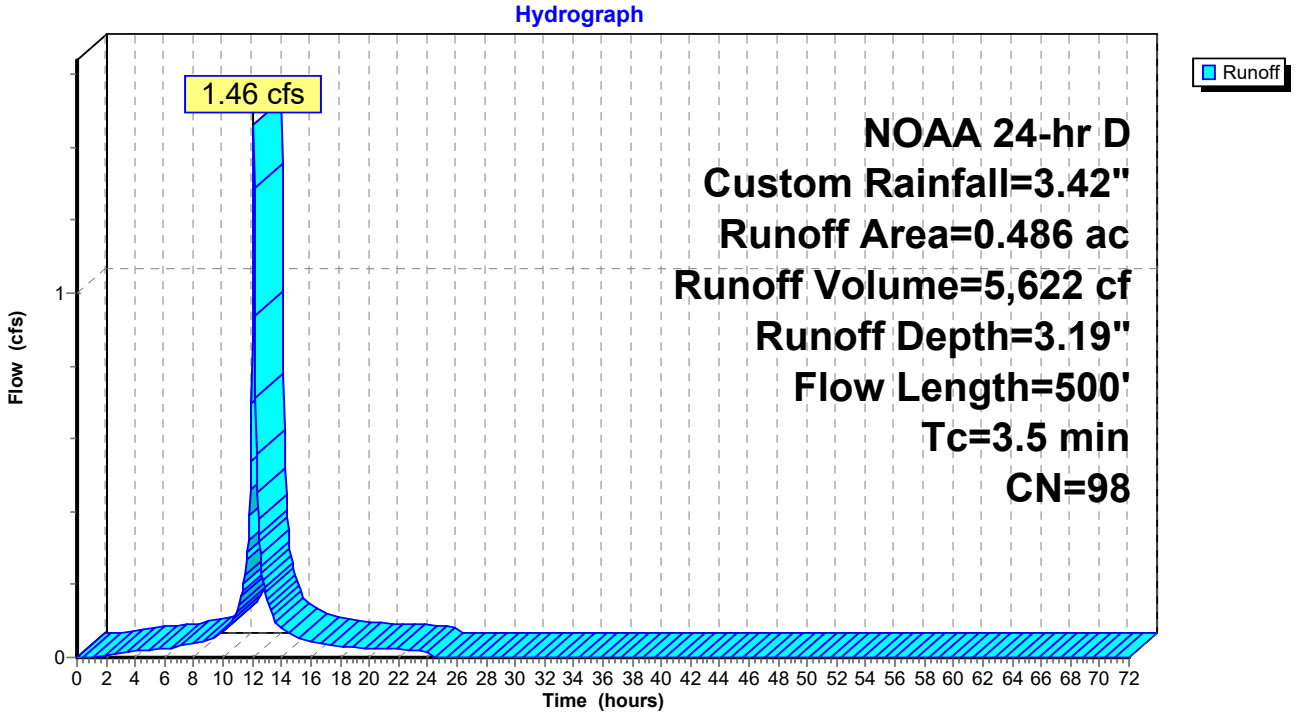
Runoff = 1.46 cfs @ 12.11 hrs, Volume= 5,622 cf, Depth= 3.19"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

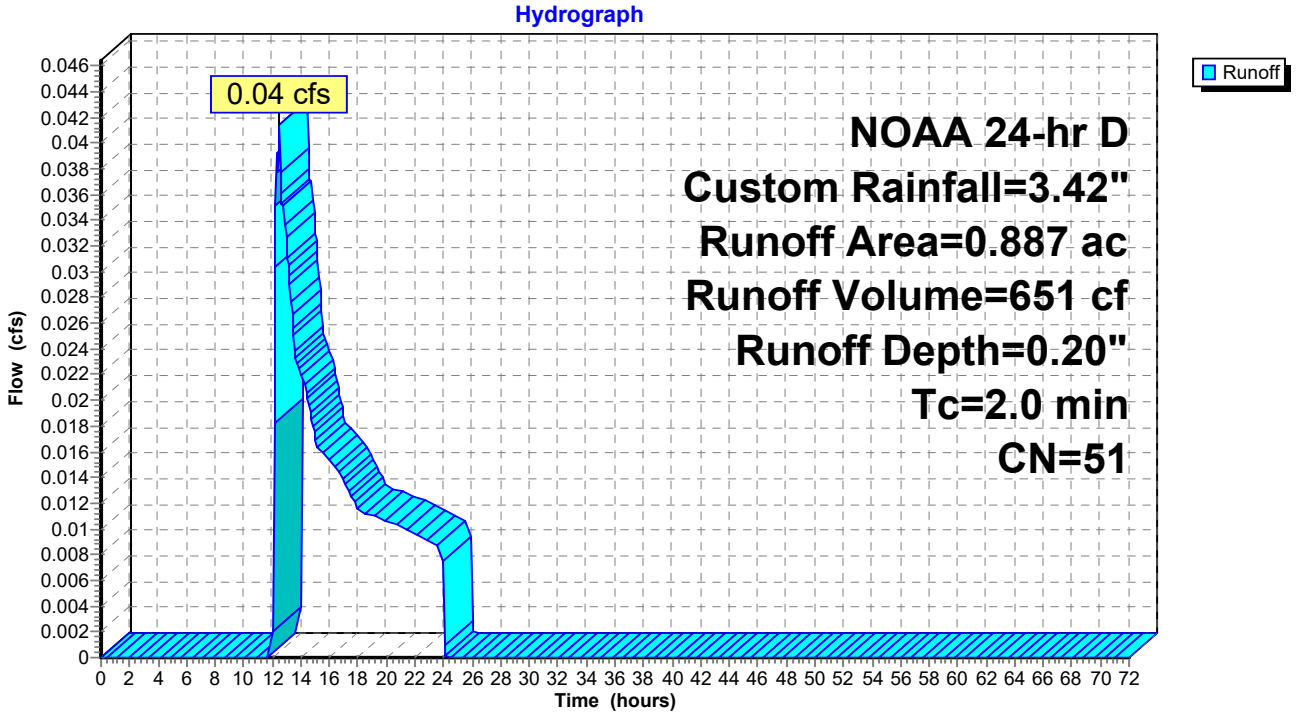
Runoff = 0.04 cfs @ 12.49 hrs, Volume= 651 cf, Depth= 0.20"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 1.97" for Custom event
Inflow = 6.33 cfs @ 12.17 hrs, Volume= 29,309 cf
Outflow = 6.06 cfs @ 12.21 hrs, Volume= 24,267 cf, Atten= 4%, Lag= 2.6 min
Primary = 6.06 cfs @ 12.21 hrs, Volume= 24,267 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.30' @ 12.21 hrs Surf.Area= 4,965 sf Storage= 6,168 cf

Plug-Flow detention time= 135.9 min calculated for 24,267 cf (83% of inflow)
Center-of-Mass det. time= 56.9 min (872.3 - 815.3)

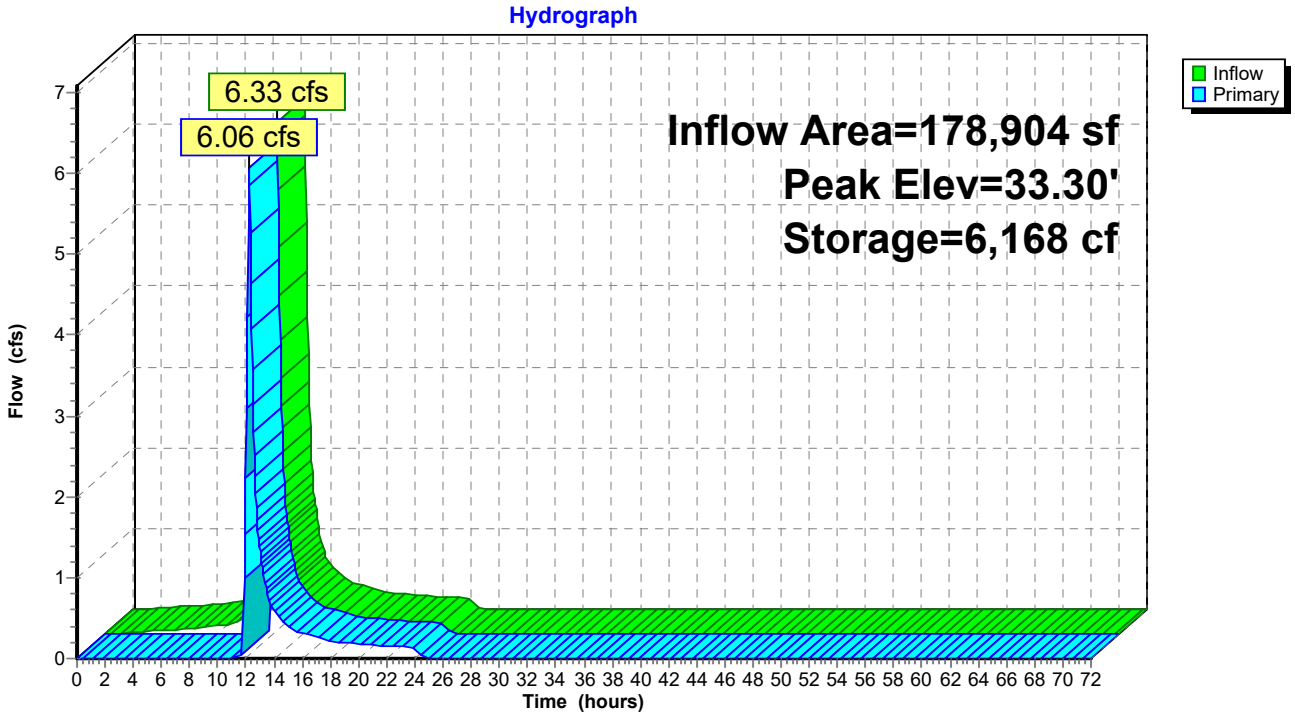
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.98 cfs @ 12.21 hrs HW=33.30' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 5.98 cfs @ 1.59 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

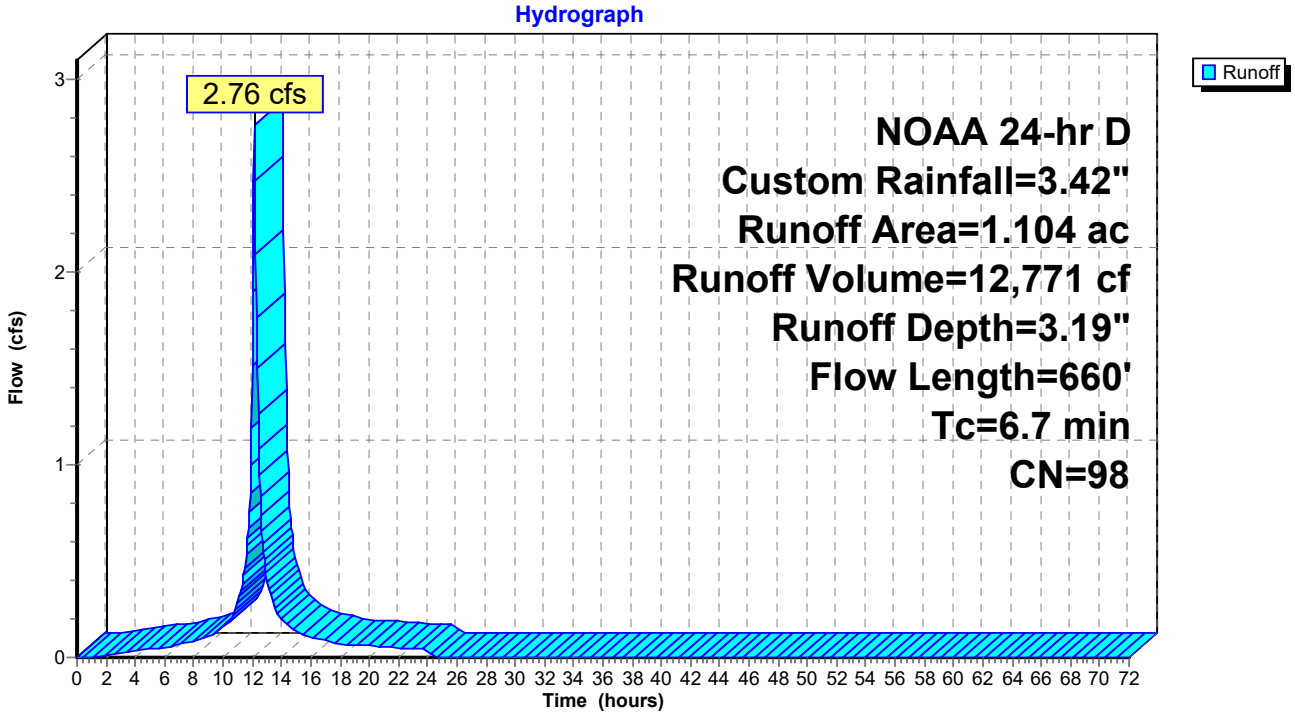
Runoff = 2.76 cfs @ 12.15 hrs, Volume= 12,771 cf, Depth= 3.19"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

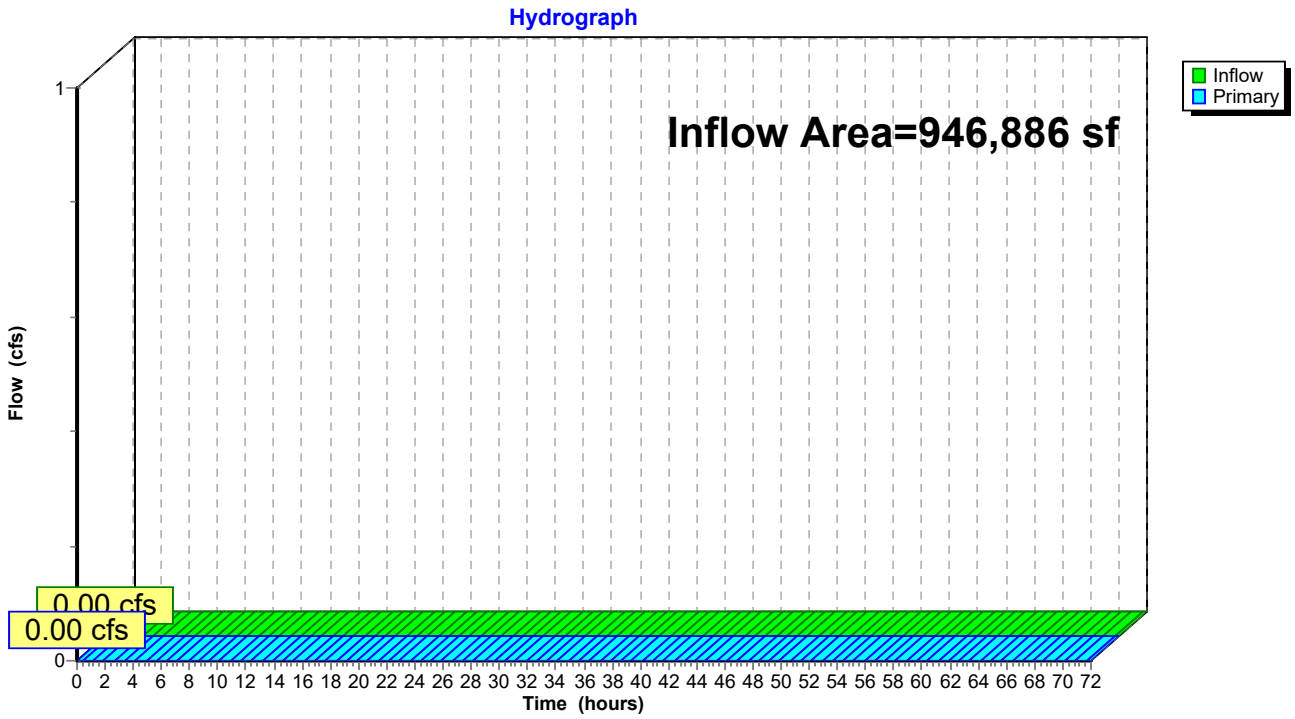


Summary for Link 15L: Willis Creek

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

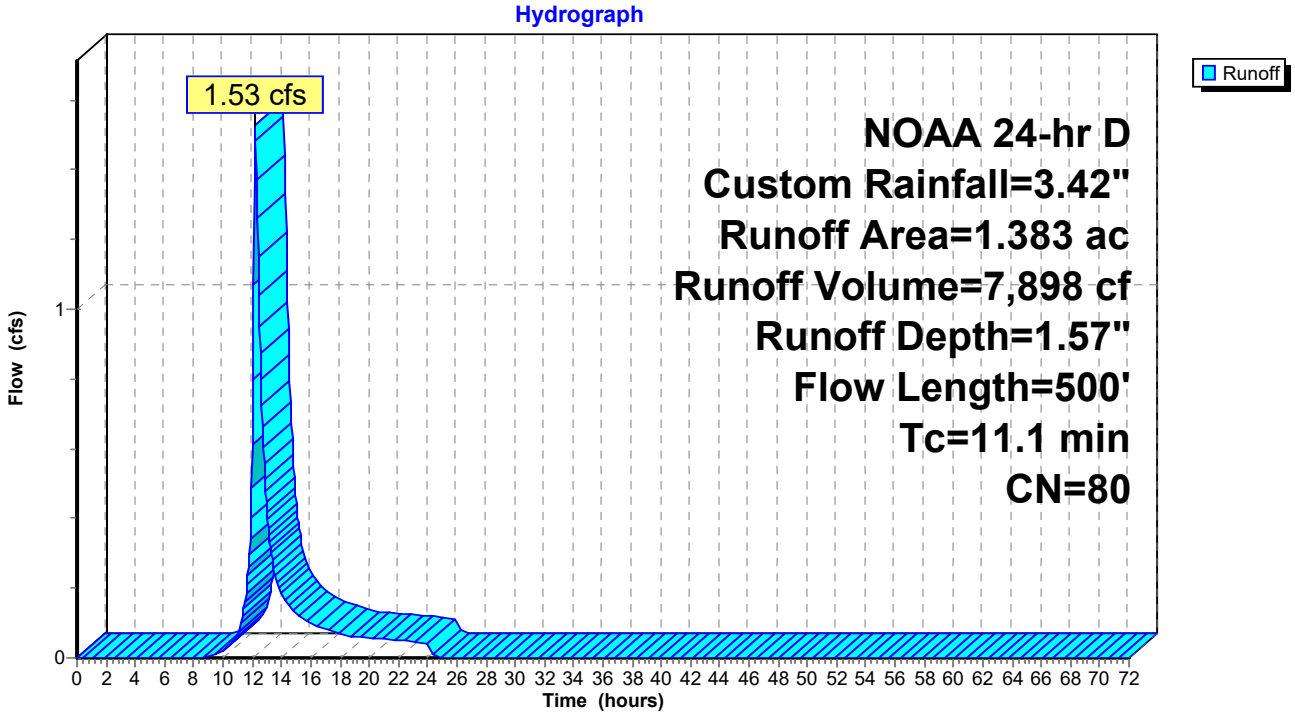
Runoff = 1.53 cfs @ 12.21 hrs, Volume= 7,898 cf, Depth= 1.57"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.47' @ 12.15 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 1.07" for Custom event
Inflow = 7.98 cfs @ 12.16 hrs, Volume= 35,716 cf
Outflow = 7.34 cfs @ 12.20 hrs, Volume= 31,484 cf, Atten= 8%, Lag= 2.9 min
Primary = 7.34 cfs @ 12.20 hrs, Volume= 31,484 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.20' @ 12.20 hrs Surf.Area= 5,540 sf Storage= 5,683 cf

Plug-Flow detention time= 124.4 min calculated for 31,462 cf (88% of inflow)
Center-of-Mass det. time= 49.6 min (935.6 - 886.0)

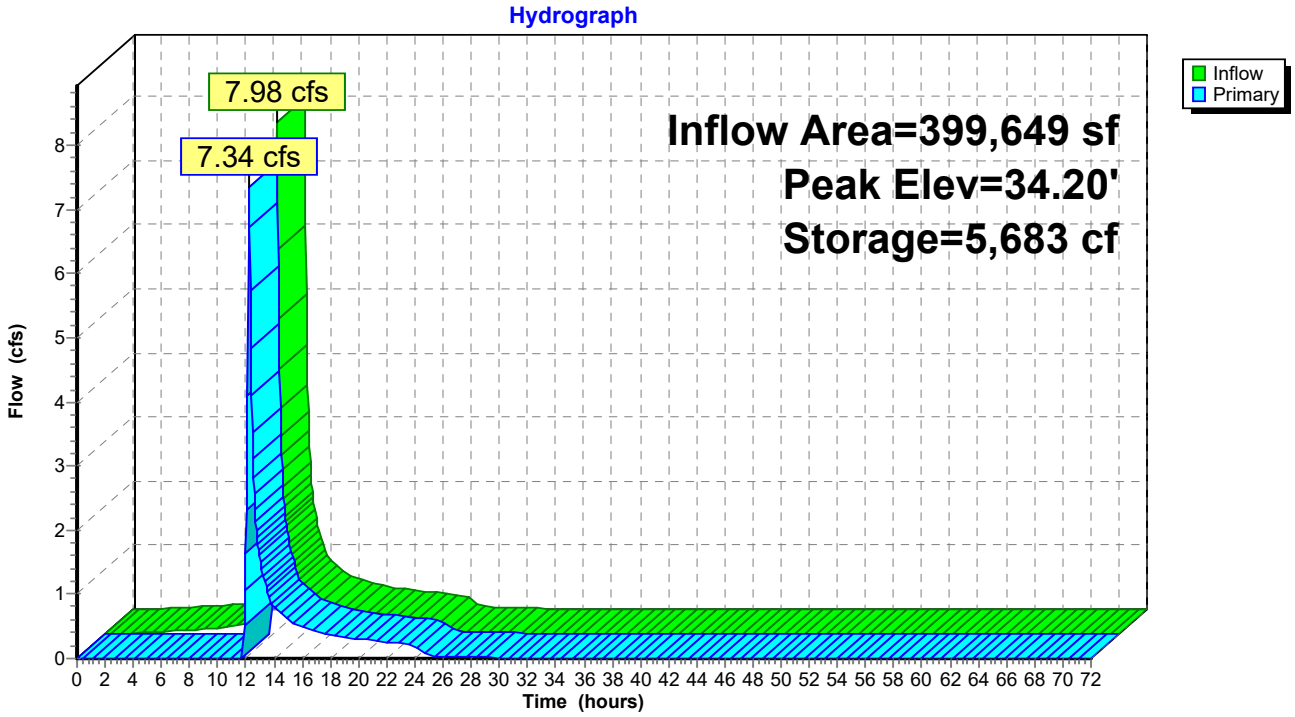
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.28 cfs @ 12.20 hrs HW=34.20' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 7.28 cfs @ 1.69 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

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

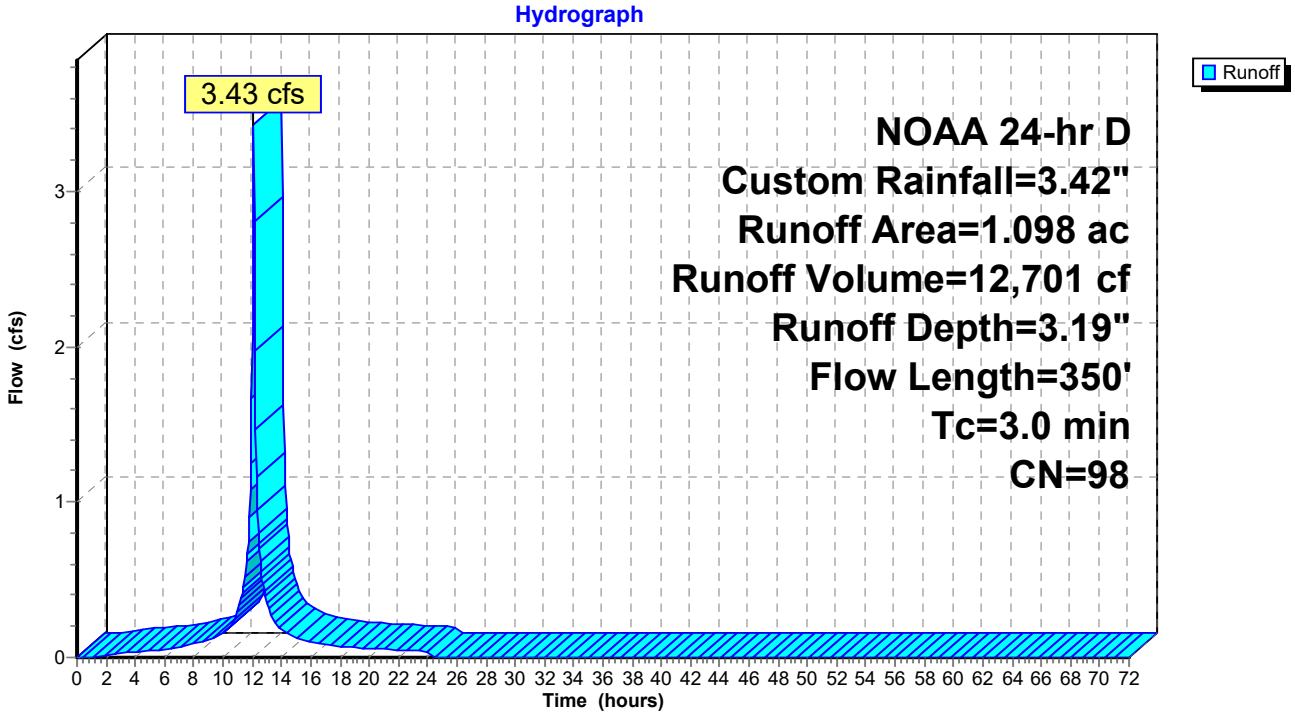
Runoff = 3.43 cfs @ 12.10 hrs, Volume= 12,701 cf, Depth= 3.19"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

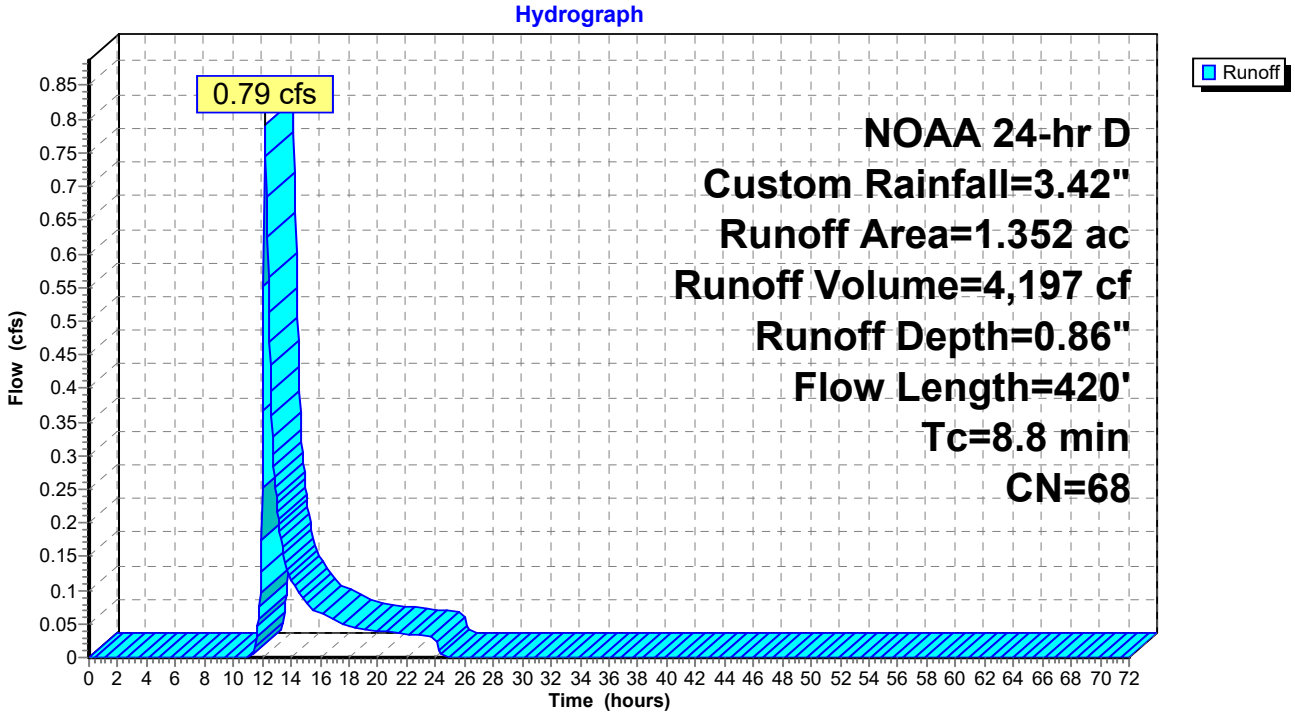
Runoff = 0.79 cfs @ 12.20 hrs, Volume= 4,197 cf, Depth= 0.86"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 1.11" for Custom event
Inflow = 5.11 cfs @ 12.11 hrs, Volume= 18,946 cf
Outflow = 4.55 cfs @ 12.17 hrs, Volume= 13,728 cf, Atten= 11%, Lag= 3.7 min
Primary = 4.55 cfs @ 12.17 hrs, Volume= 13,728 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.17' @ 12.17 hrs Surf.Area= 4,767 sf Storage= 6,114 cf

Plug-Flow detention time= 187.3 min calculated for 13,718 cf (72% of inflow)
Center-of-Mass det. time= 80.5 min (890.5 - 810.0)

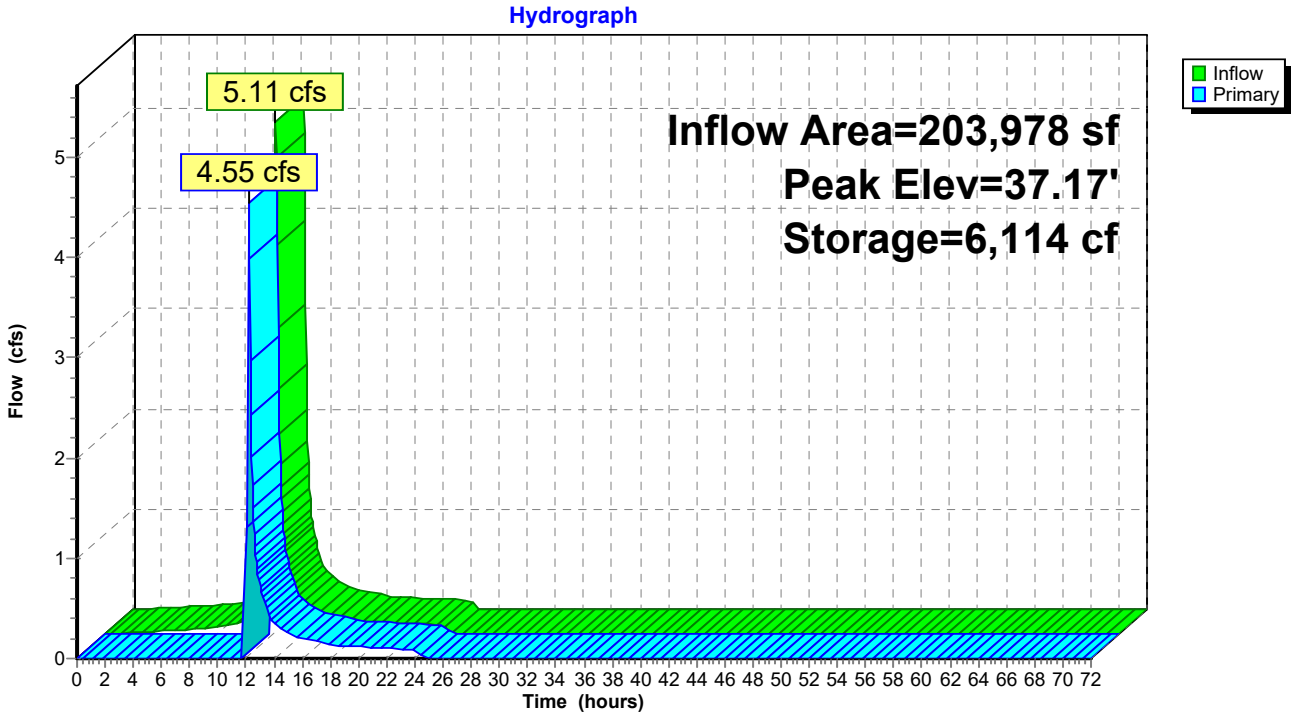
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.33 cfs @ 12.17 hrs HW=37.16' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.33 cfs @ 1.42 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

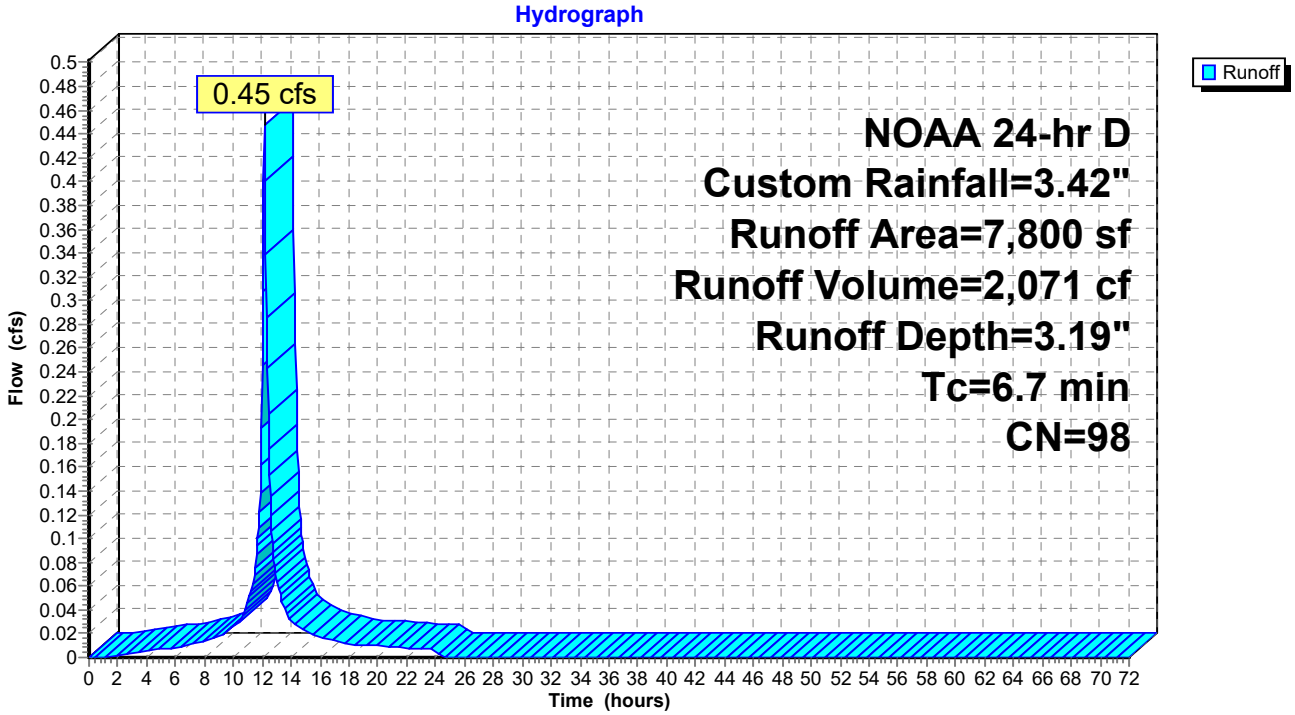
Runoff = 0.45 cfs @ 12.15 hrs, Volume= 2,071 cf, Depth= 3.19"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

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

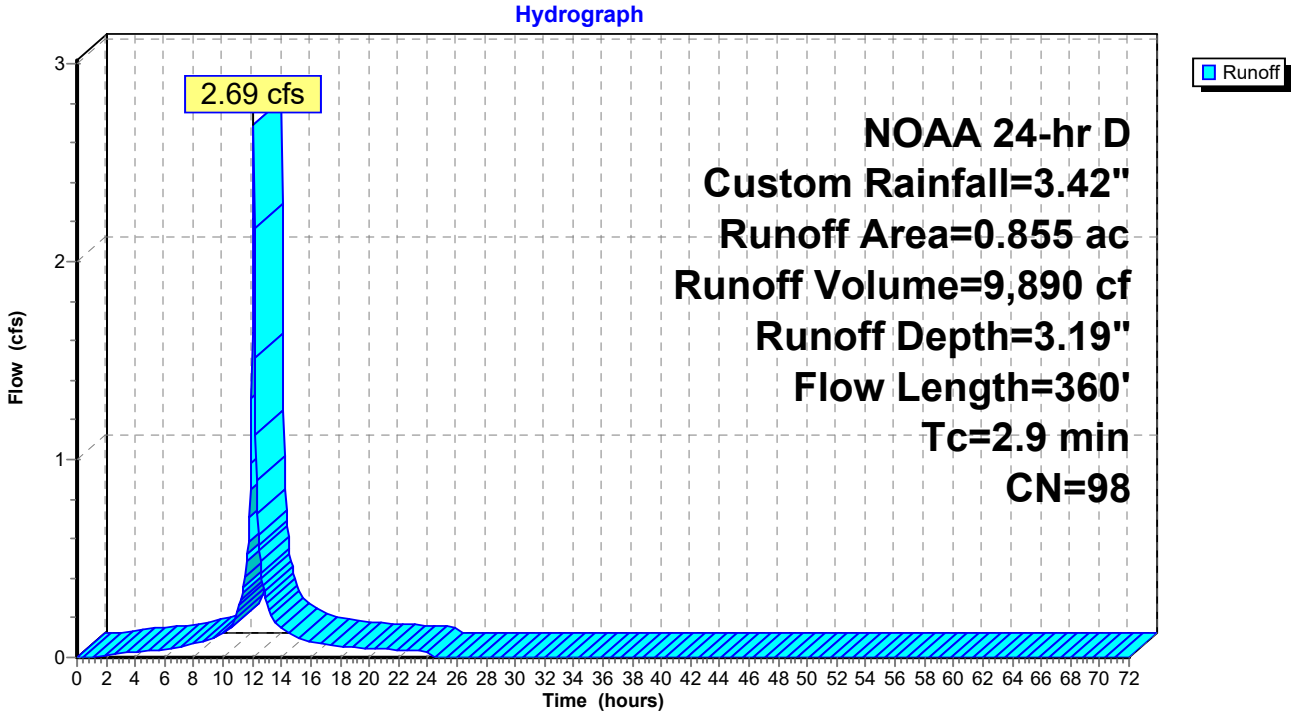
Runoff = 2.69 cfs @ 12.10 hrs, Volume= 9,890 cf, Depth= 3.19"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

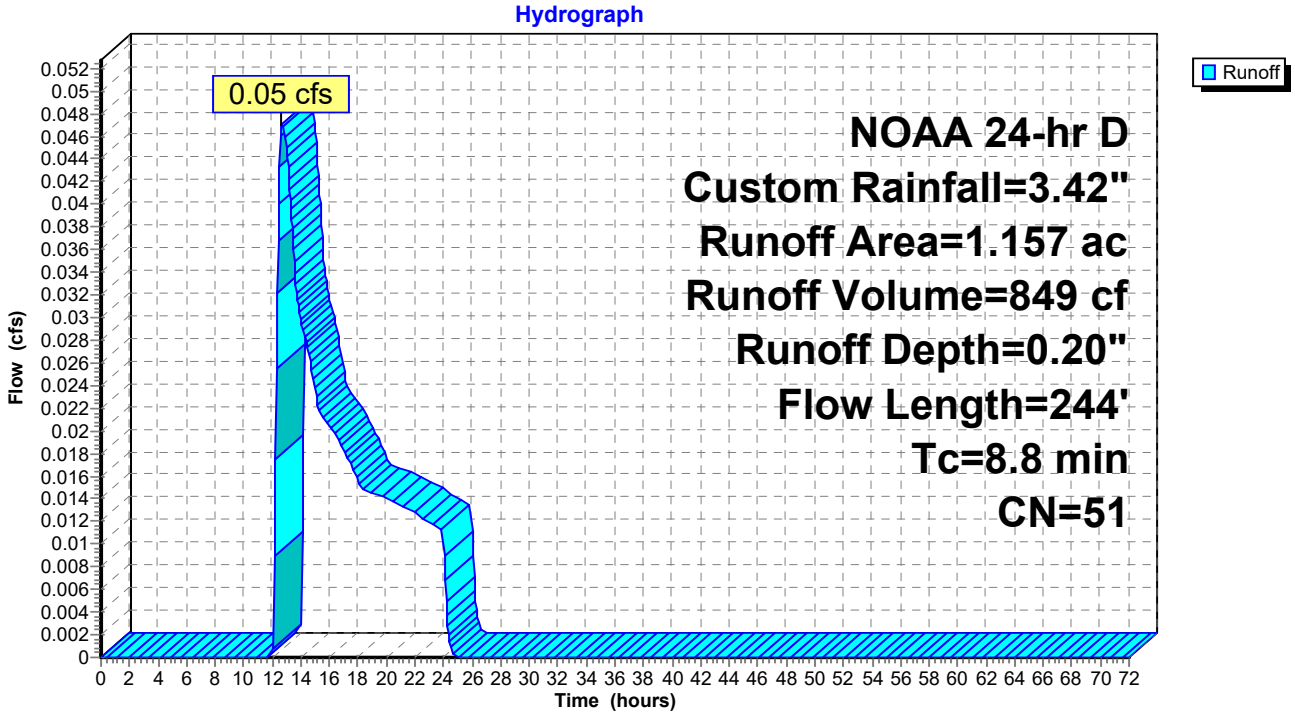
Runoff = 0.05 cfs @ 12.60 hrs, Volume= 849 cf, Depth= 0.20"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 1.17" for Custom event
Inflow = 2.78 cfs @ 12.11 hrs, Volume= 11,074 cf
Outflow = 2.52 cfs @ 12.15 hrs, Volume= 7,516 cf, Atten= 9%, Lag= 2.6 min
Primary = 2.52 cfs @ 12.15 hrs, Volume= 7,516 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.12' @ 12.15 hrs Surf.Area= 4,618 sf Storage= 4,145 cf

Plug-Flow detention time= 213.5 min calculated for 7,516 cf (68% of inflow)
Center-of-Mass det. time= 102.3 min (864.4 - 762.1)

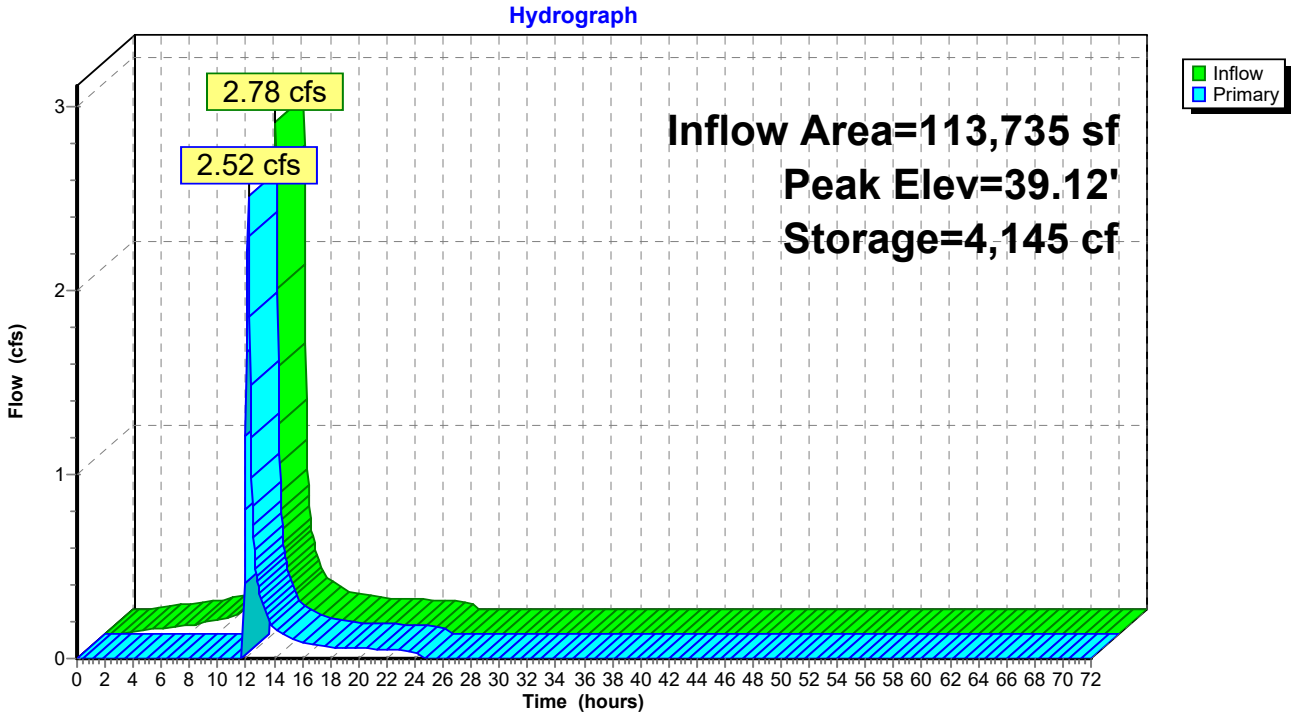
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.50 cfs @ 12.15 hrs HW=39.12' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.50 cfs @ 1.19 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

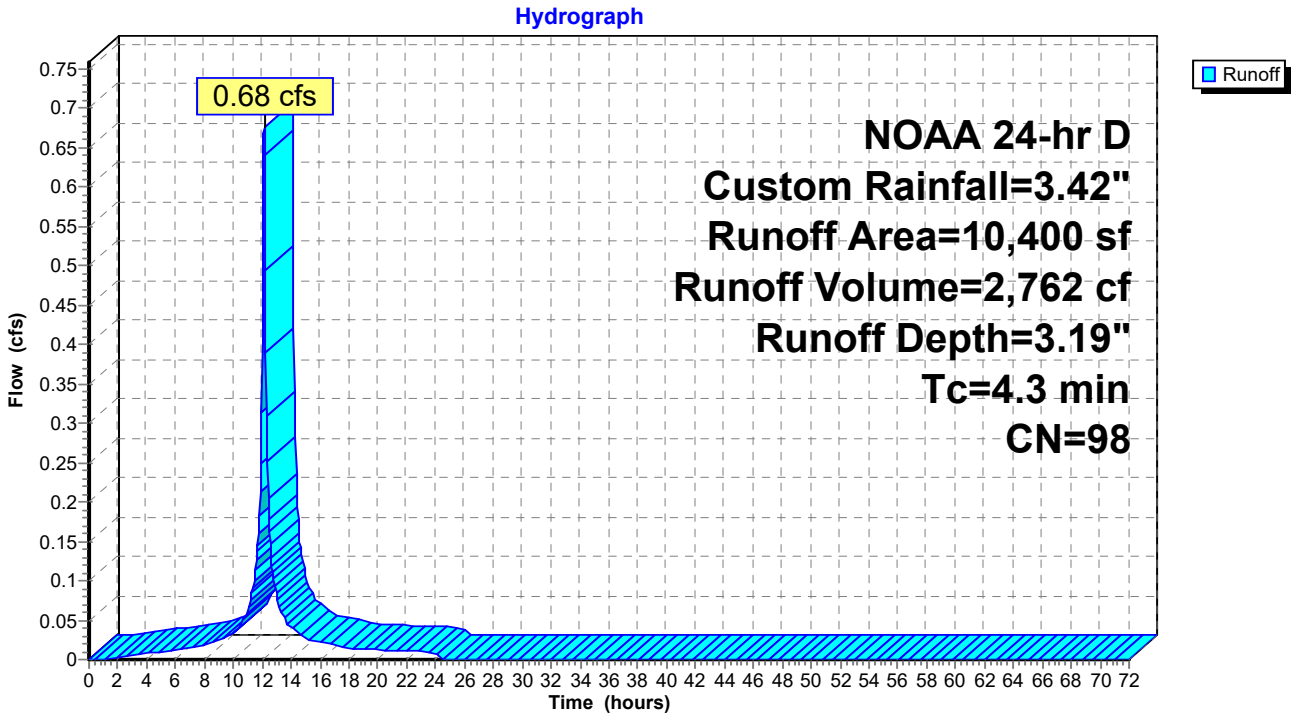
Runoff = 0.68 cfs @ 12.12 hrs, Volume= 2,762 cf, Depth= 3.19"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

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

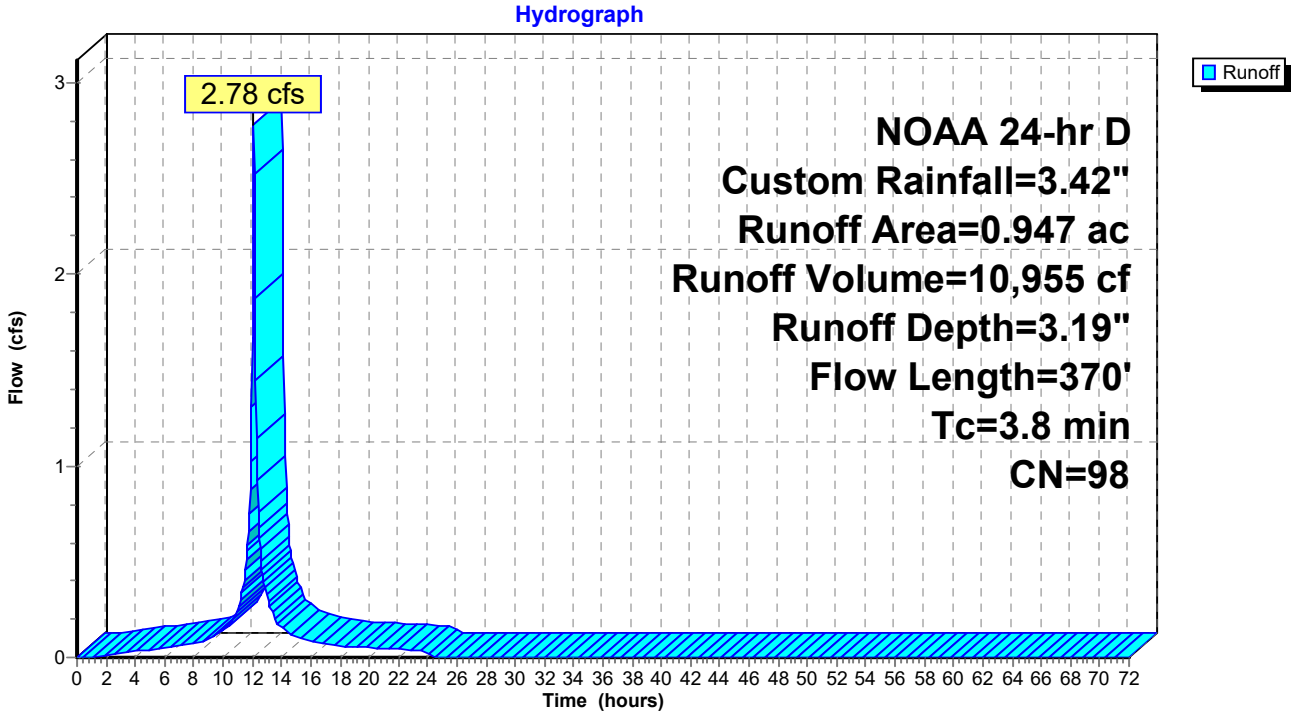
Runoff = 2.78 cfs @ 12.11 hrs, Volume= 10,955 cf, Depth= 3.19"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

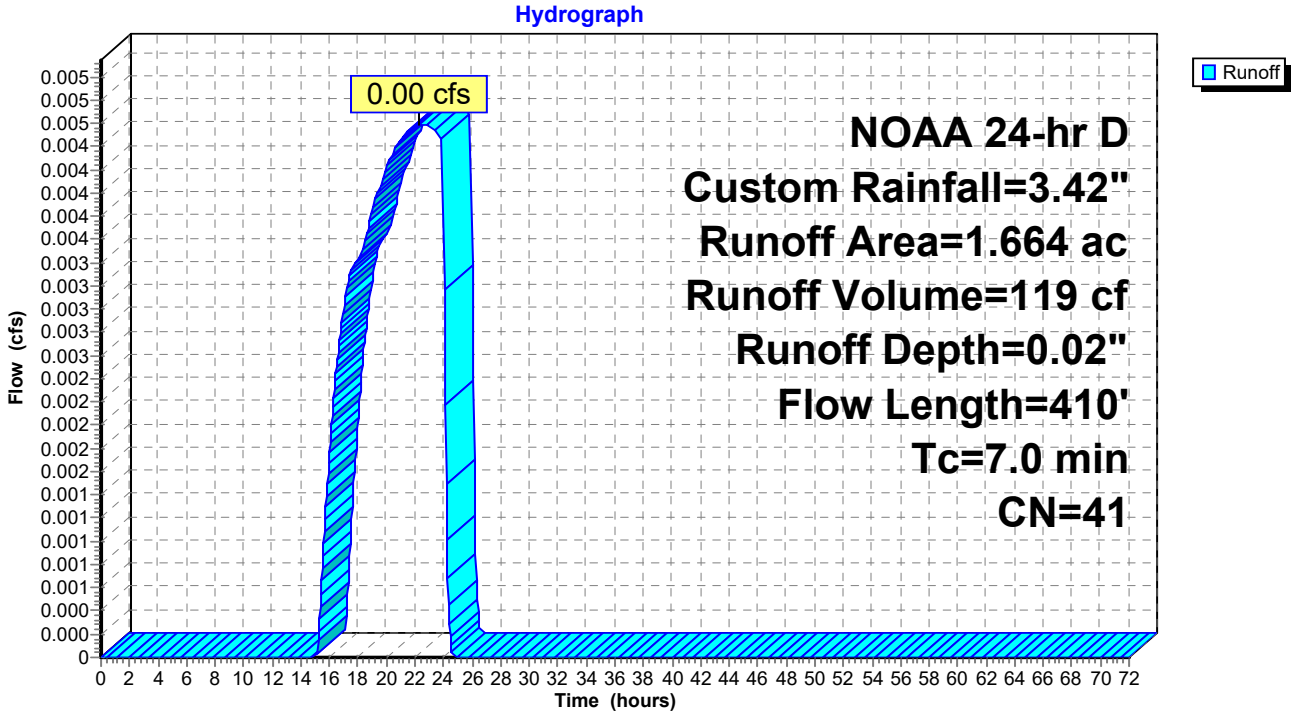
Runoff = 0.00 cfs @ 22.26 hrs, Volume= 119 cf, Depth= 0.02"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 0.68" for Custom event
Inflow = 1.42 cfs @ 12.10 hrs, Volume= 5,238 cf
Outflow = 0.09 cfs @ 13.55 hrs, Volume= 3,484 cf, Atten= 94%, Lag= 87.1 min
Primary = 0.09 cfs @ 13.55 hrs, Volume= 3,484 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.53' @ 13.55 hrs Surf.Area= 7,000 sf Storage= 3,520 cf

Plug-Flow detention time= 598.9 min calculated for 3,484 cf (67% of inflow)
Center-of-Mass det. time= 487.2 min (1,246.4 - 759.2)

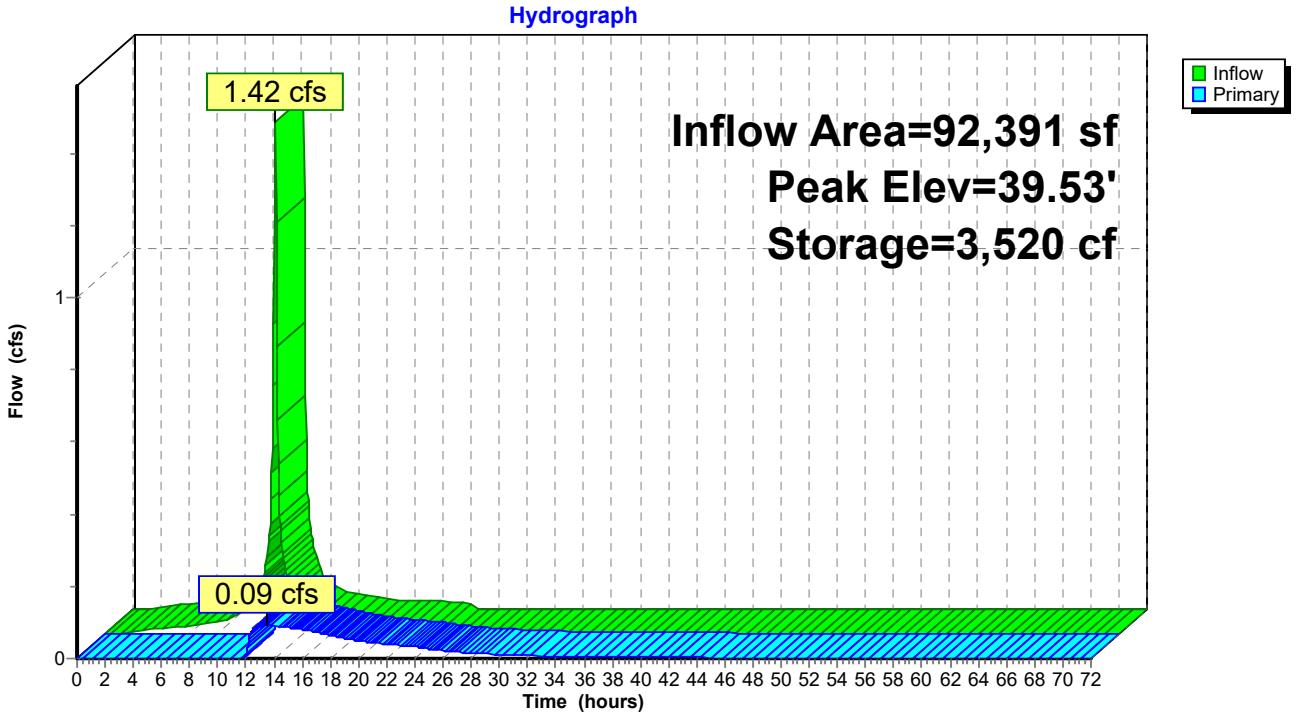
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 13.55 hrs HW=39.53' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.09 cfs @ 1.85 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

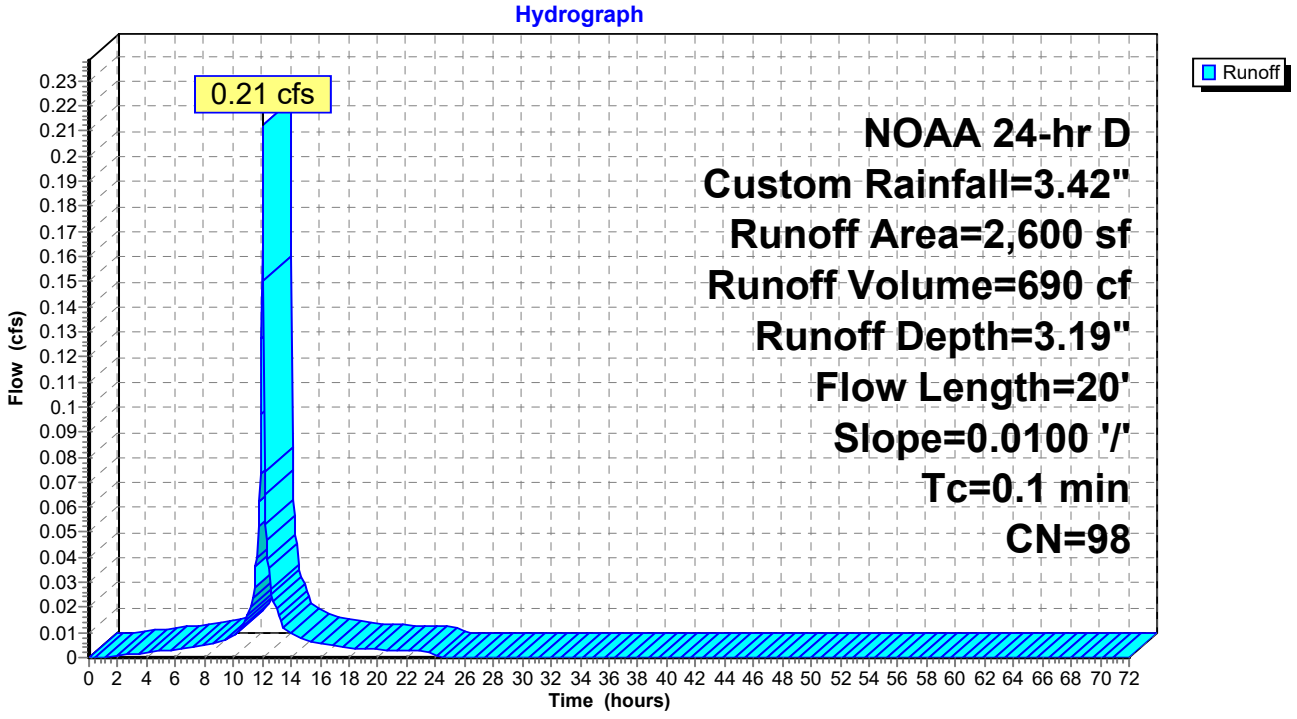
Runoff = 0.21 cfs @ 12.05 hrs, Volume= 690 cf, Depth= 3.19"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

Inflow = 0.32 cfs @ 13.01 hrs, Volume= 3,386 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.87' @ 24.00 hrs Surf.Area= 6,284 sf Storage= 3,385 cf

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

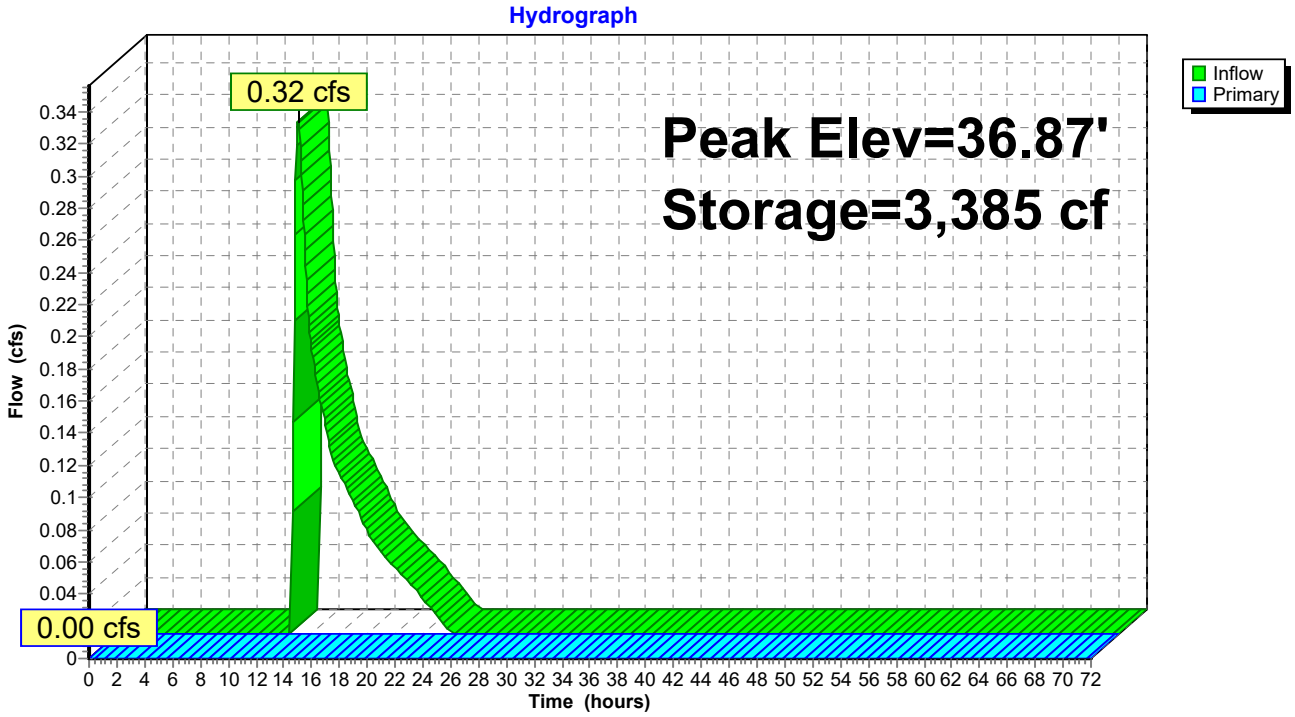
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

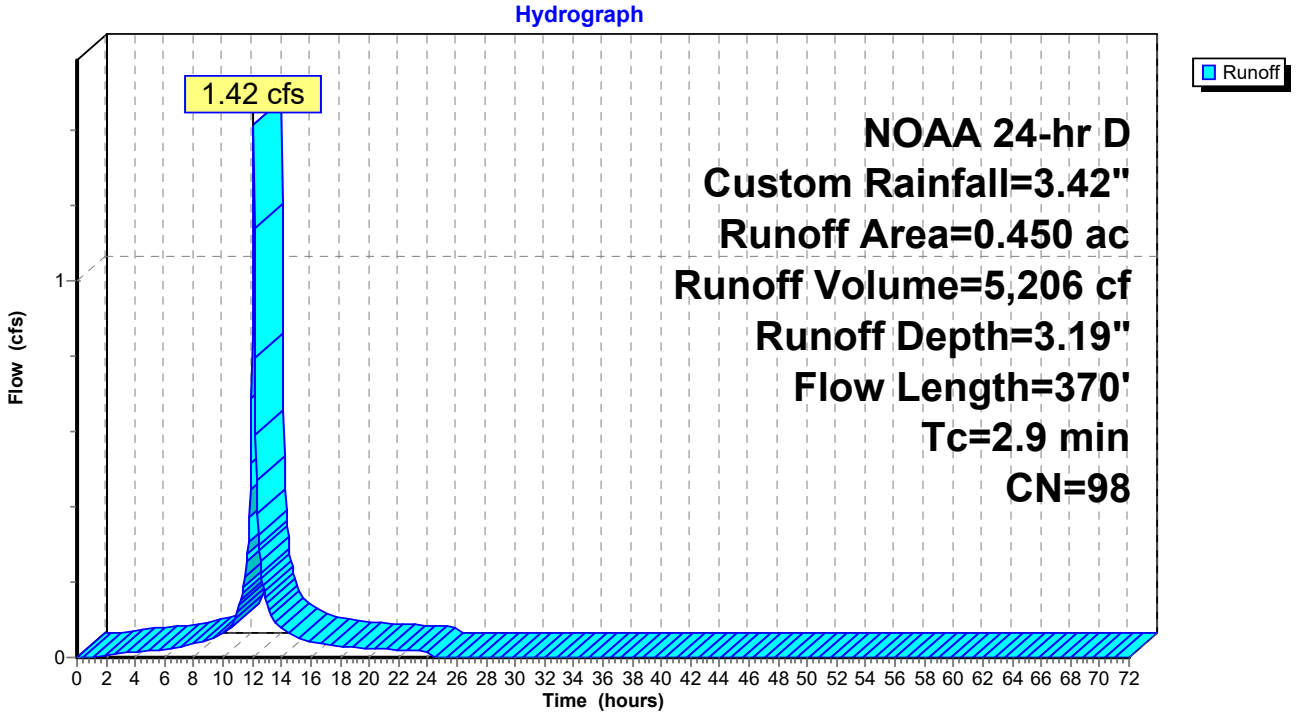
Runoff = 1.42 cfs @ 12.10 hrs, Volume= 5,206 cf, Depth= 3.19"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

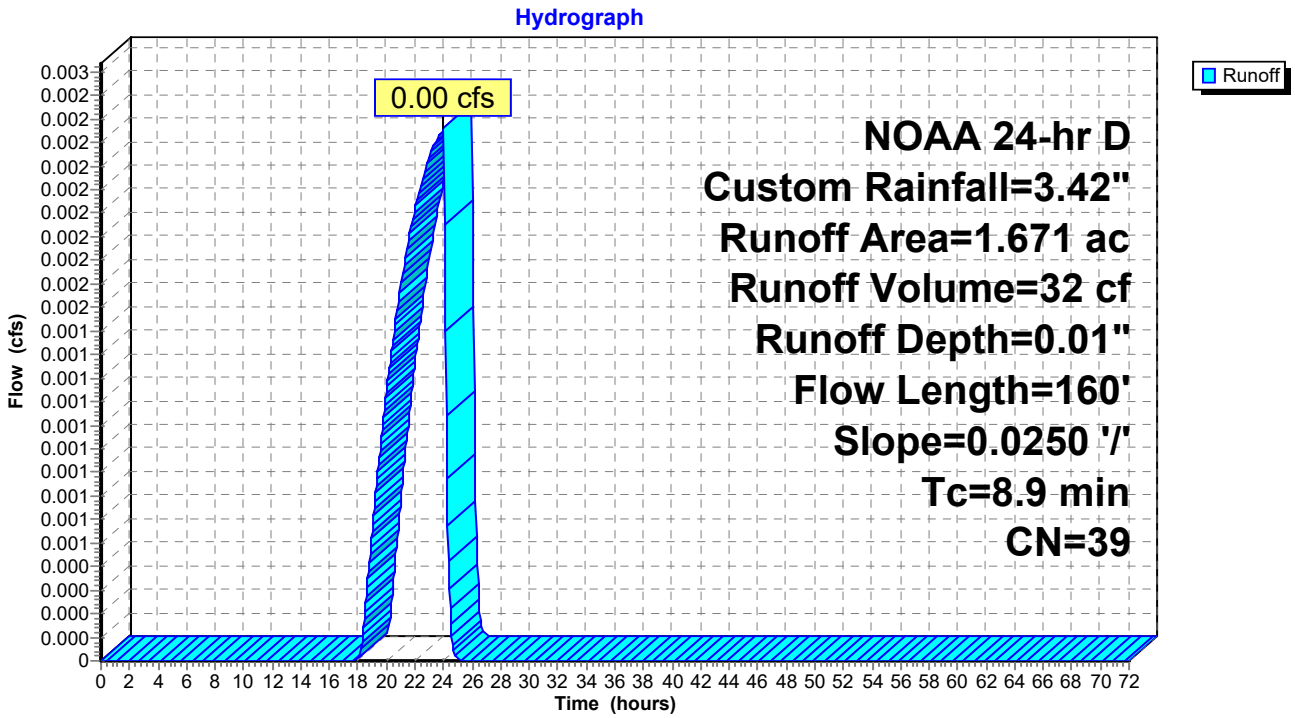
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 32 cf, Depth= 0.01"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 1.62" for Custom event
Inflow = 1.84 cfs @ 12.15 hrs, Volume= 8,466 cf
Outflow = 1.74 cfs @ 12.19 hrs, Volume= 6,570 cf, Atten= 5%, Lag= 2.2 min
Primary = 1.74 cfs @ 12.19 hrs, Volume= 6,570 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.96' @ 12.19 hrs Surf.Area= 2,871 sf Storage= 2,189 cf

Plug-Flow detention time= 170.2 min calculated for 6,570 cf (78% of inflow)
Center-of-Mass det. time= 73.9 min (880.9 - 807.0)

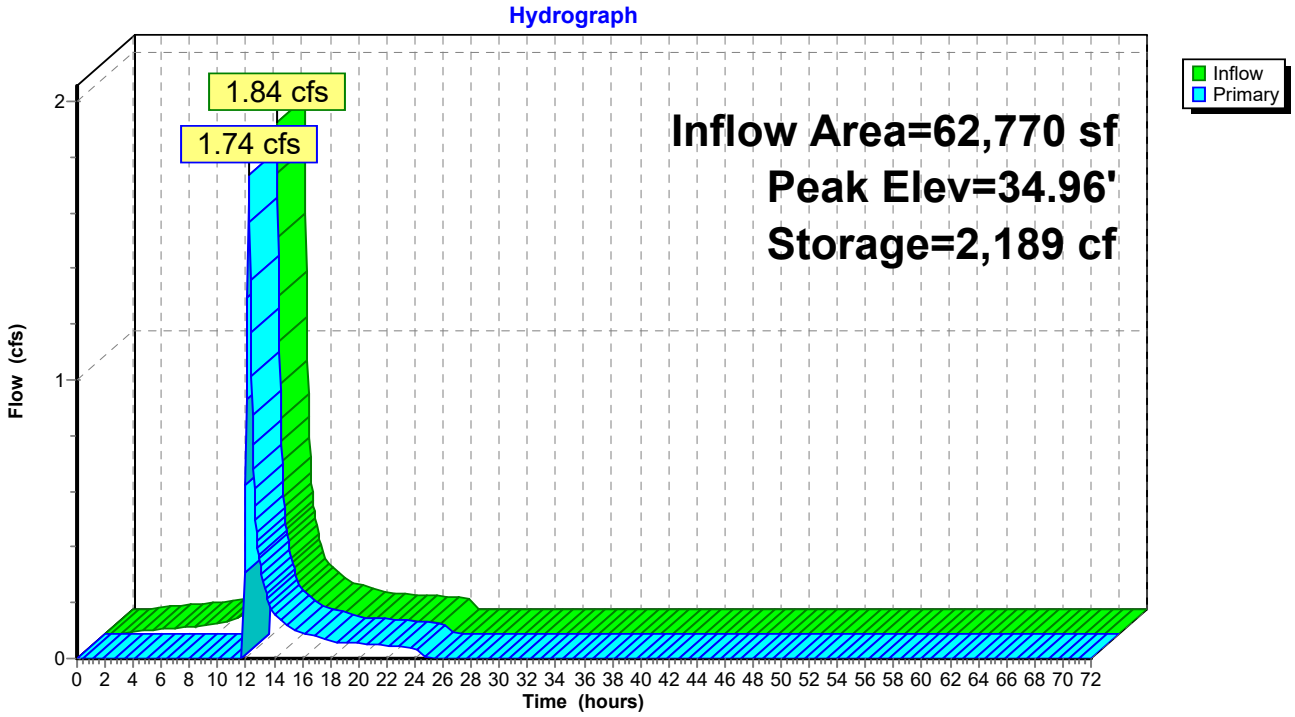
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.72 cfs @ 12.19 hrs HW=34.96' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 1.72 cfs @ 1.05 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

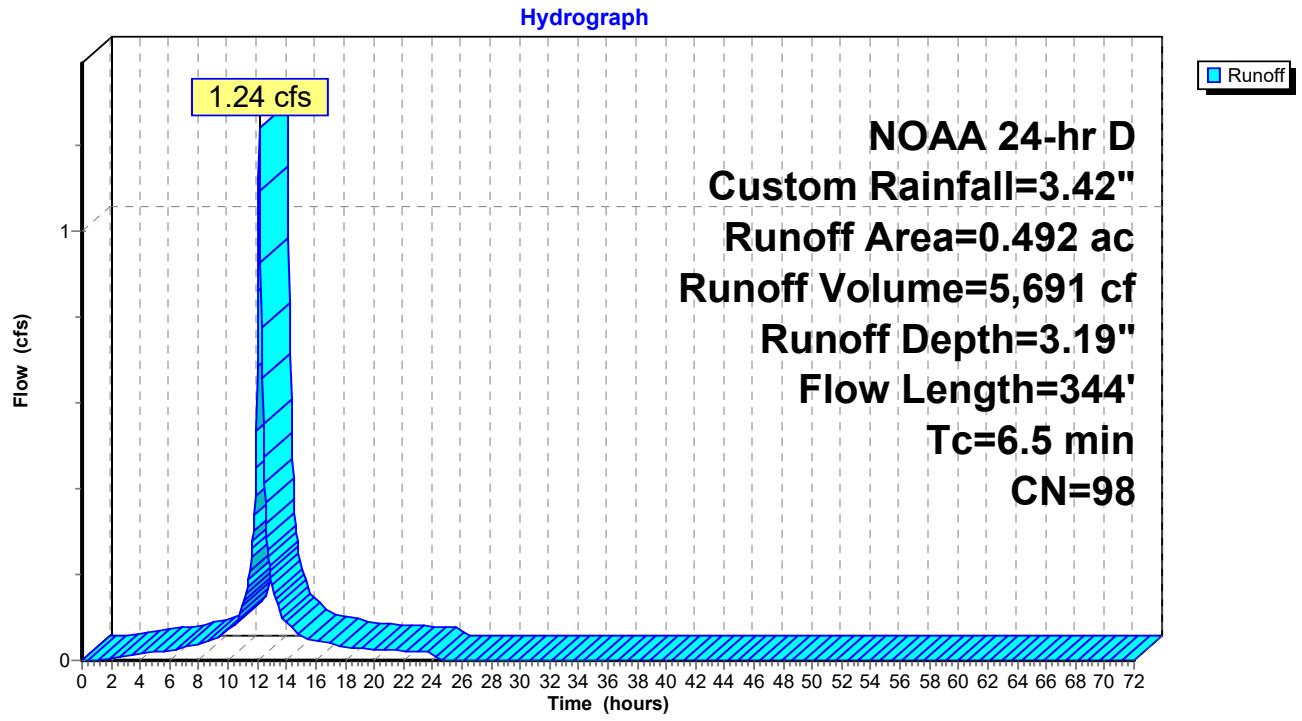
Runoff = 1.24 cfs @ 12.15 hrs, Volume= 5,691 cf, Depth= 3.19"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

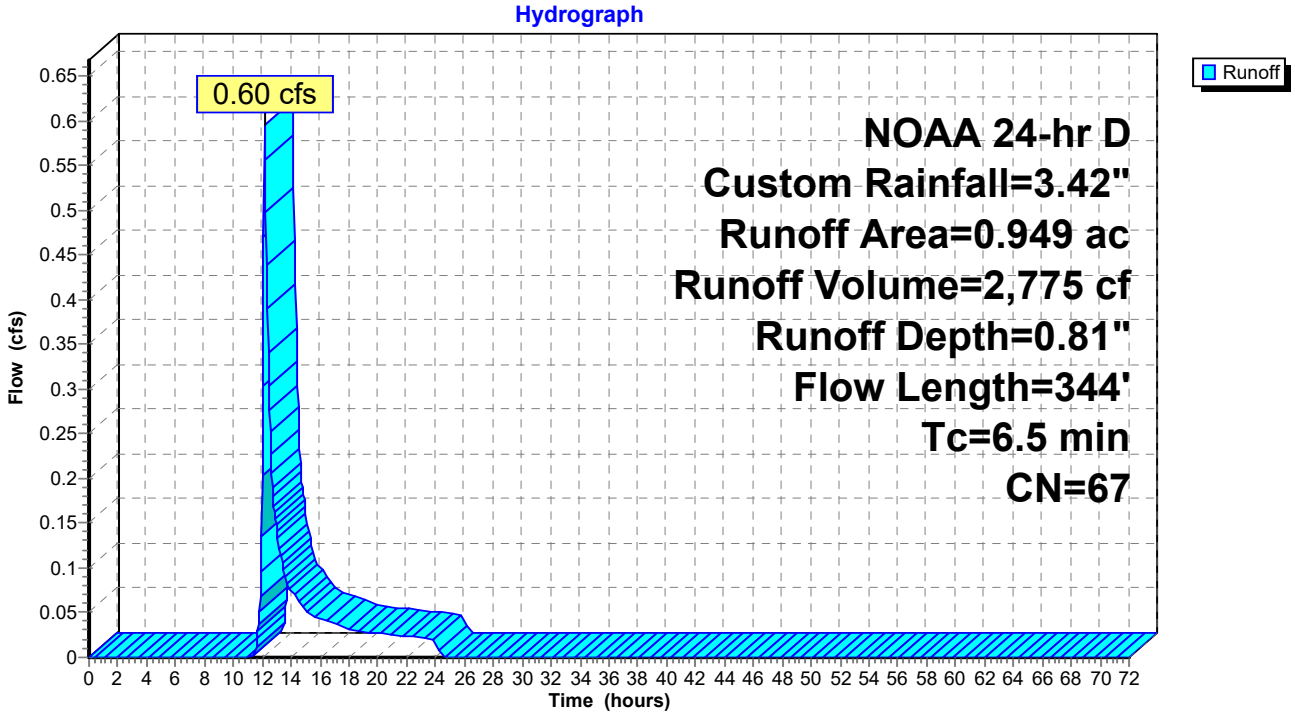
Runoff = 0.60 cfs @ 12.16 hrs, Volume= 2,775 cf, Depth= 0.81"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.26' @ 12.30 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 1.22" for Custom event
Inflow = 11.41 cfs @ 12.19 hrs, Volume= 53,491 cf
Outflow = 10.60 cfs @ 12.26 hrs, Volume= 49,569 cf, Atten= 7%, Lag= 4.2 min
Primary = 10.60 cfs @ 12.26 hrs, Volume= 49,569 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.44' @ 12.26 hrs Surf.Area= 5,245 sf Storage= 10,835 cf

Plug-Flow detention time= 183.7 min calculated for 49,535 cf (93% of inflow)
Center-of-Mass det. time= 136.3 min (1,020.4 - 884.1)

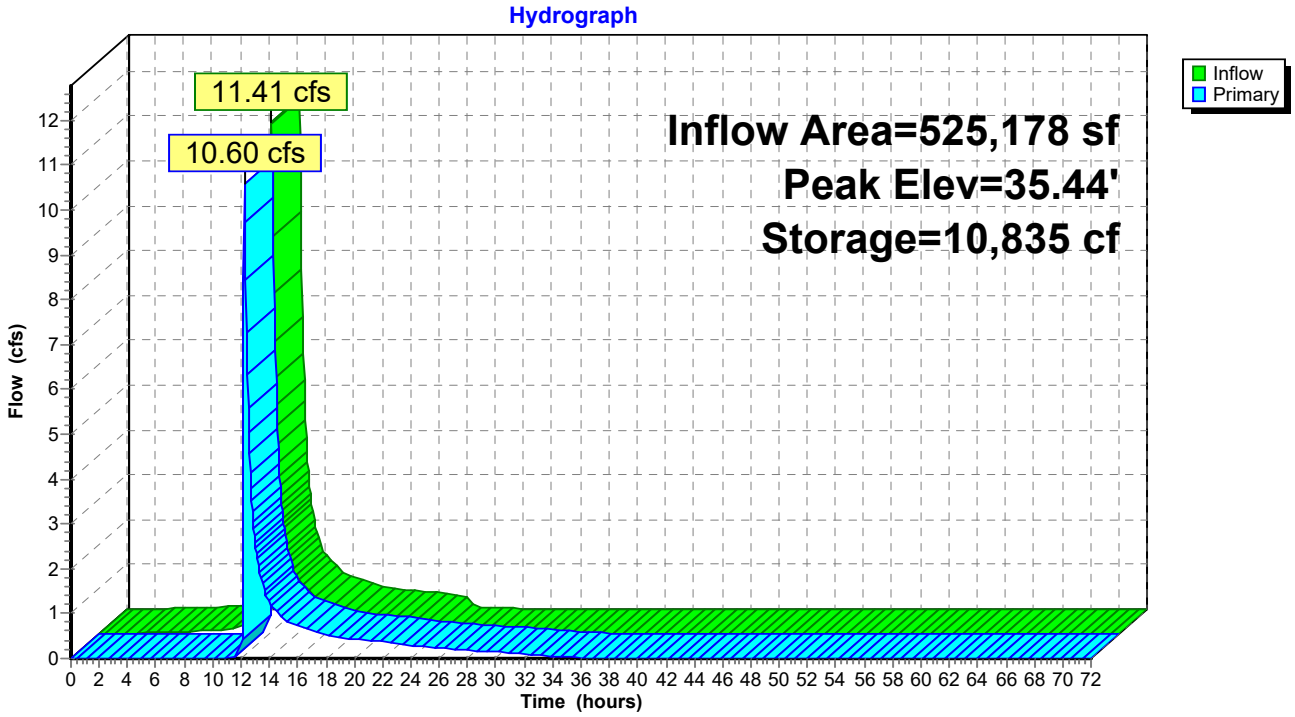
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.34 cfs @ 12.26 hrs HW=35.43' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.05 fps)
└**2=Orifice/Grate** (Weir Controls 10.04 cfs @ 1.89 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

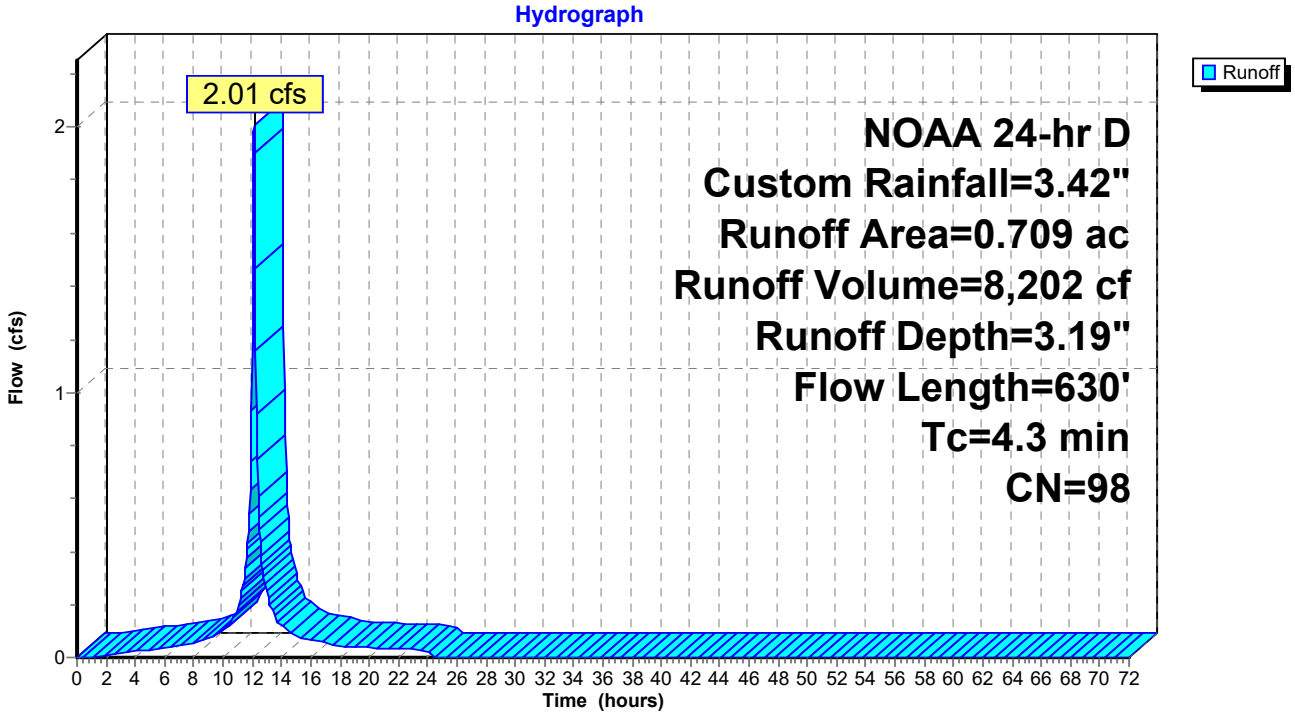
Runoff = 2.01 cfs @ 12.12 hrs, Volume= 8,202 cf, Depth= 3.19"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

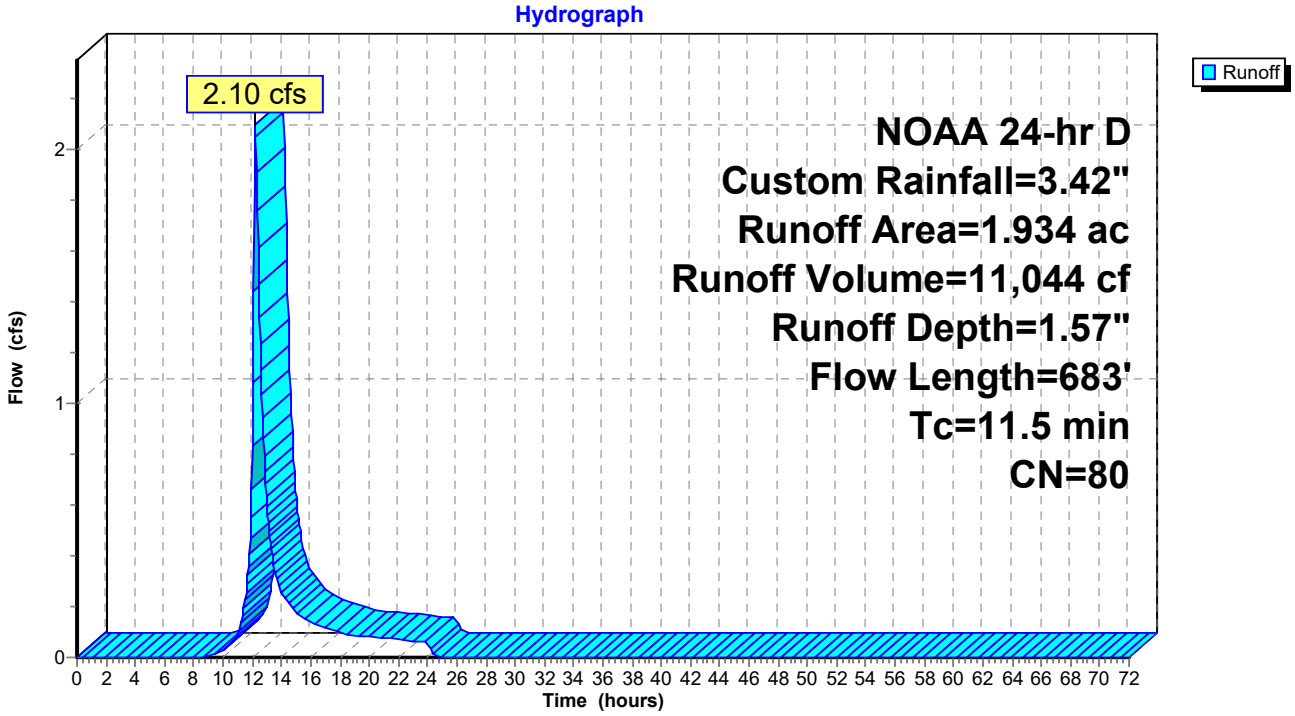
Runoff = 2.10 cfs @ 12.22 hrs, Volume= 11,044 cf, Depth= 1.57"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 1.81 cfs @ 12.13 hrs, Volume= 7,650 cf
Outflow = 0.13 cfs @ 13.60 hrs, Volume= 5,090 cf, Atten= 93%, Lag= 88.6 min
Primary = 0.13 cfs @ 13.60 hrs, Volume= 5,090 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.94' @ 13.60 hrs Surf.Area= 6,384 sf Storage= 5,127 cf

Plug-Flow detention time= 534.6 min calculated for 5,086 cf (66% of inflow)
Center-of-Mass det. time= 426.1 min (1,186.7 - 760.6)

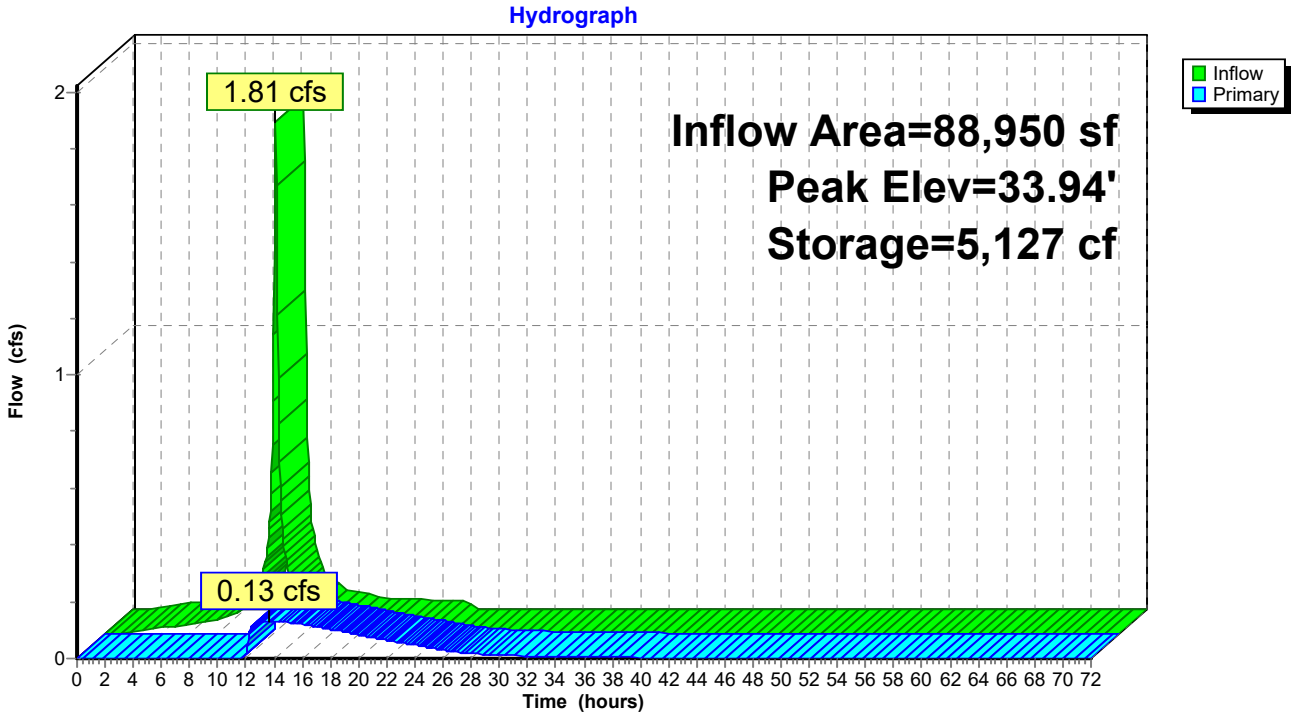
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 13.60 hrs HW=33.94' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.13 cfs @ 2.71 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

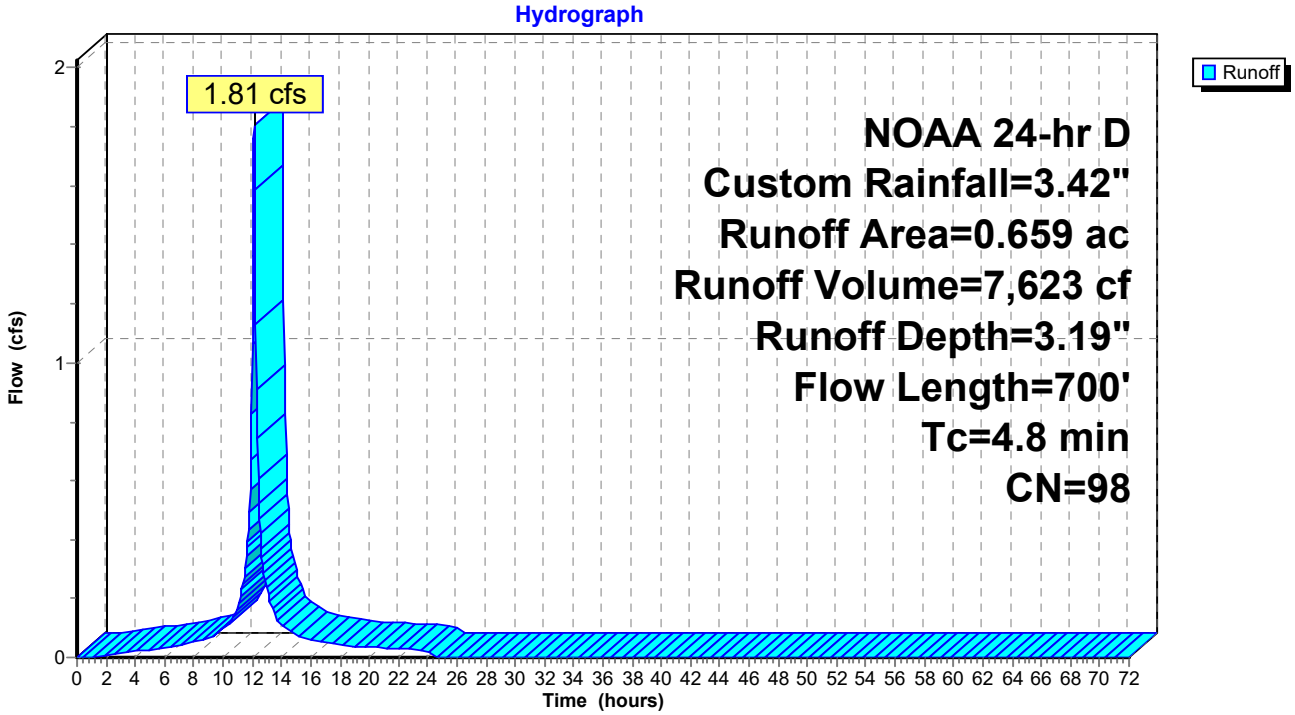
Runoff = 1.81 cfs @ 12.13 hrs, Volume= 7,623 cf, Depth= 3.19"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

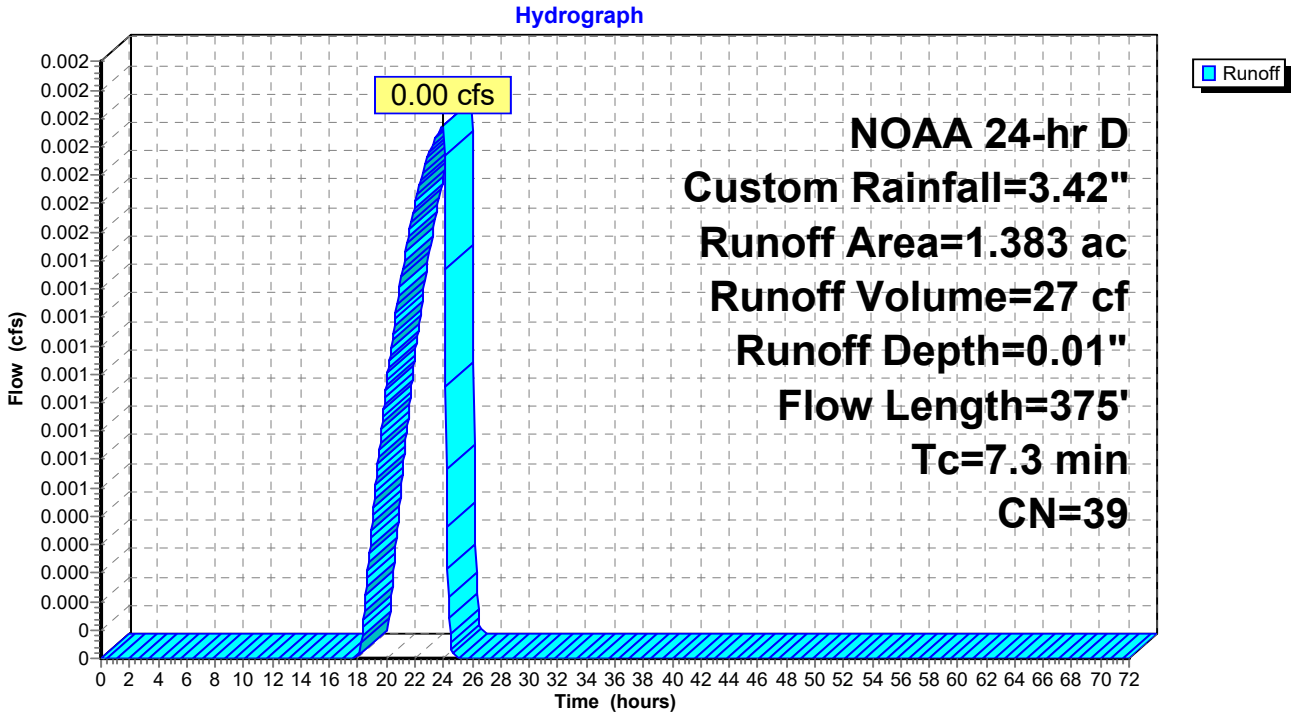
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 27 cf, Depth= 0.01"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

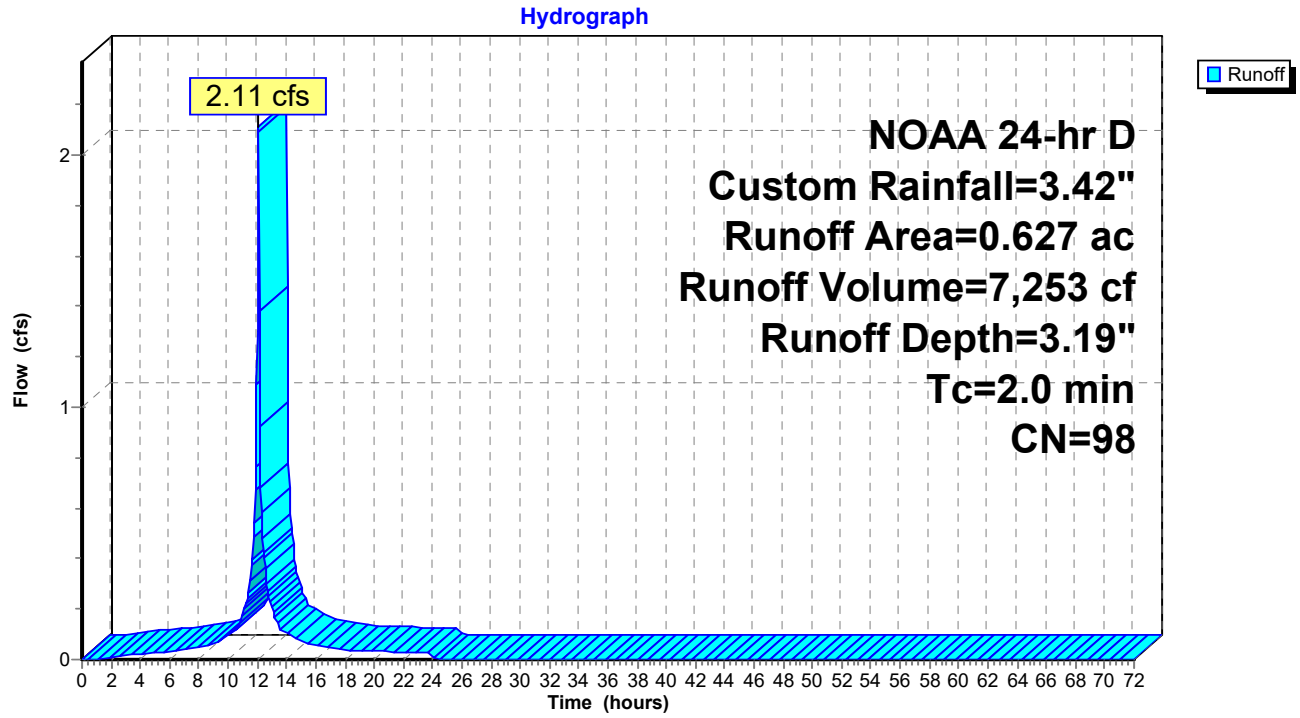
Runoff = 2.11 cfs @ 12.09 hrs, Volume= 7,253 cf, Depth= 3.19"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

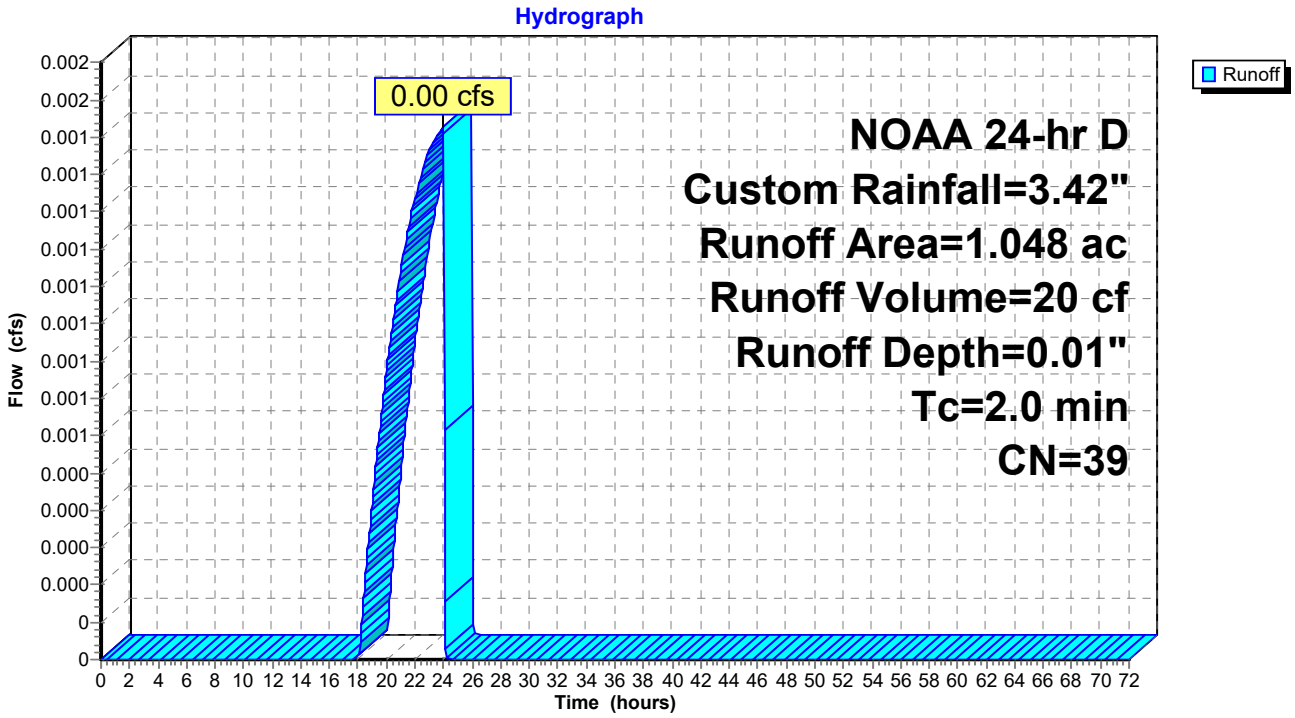
Runoff = 0.00 cfs @ 23.95 hrs, Volume= 20 cf, Depth= 0.01"
Routed to Pond 4P : Basin 3

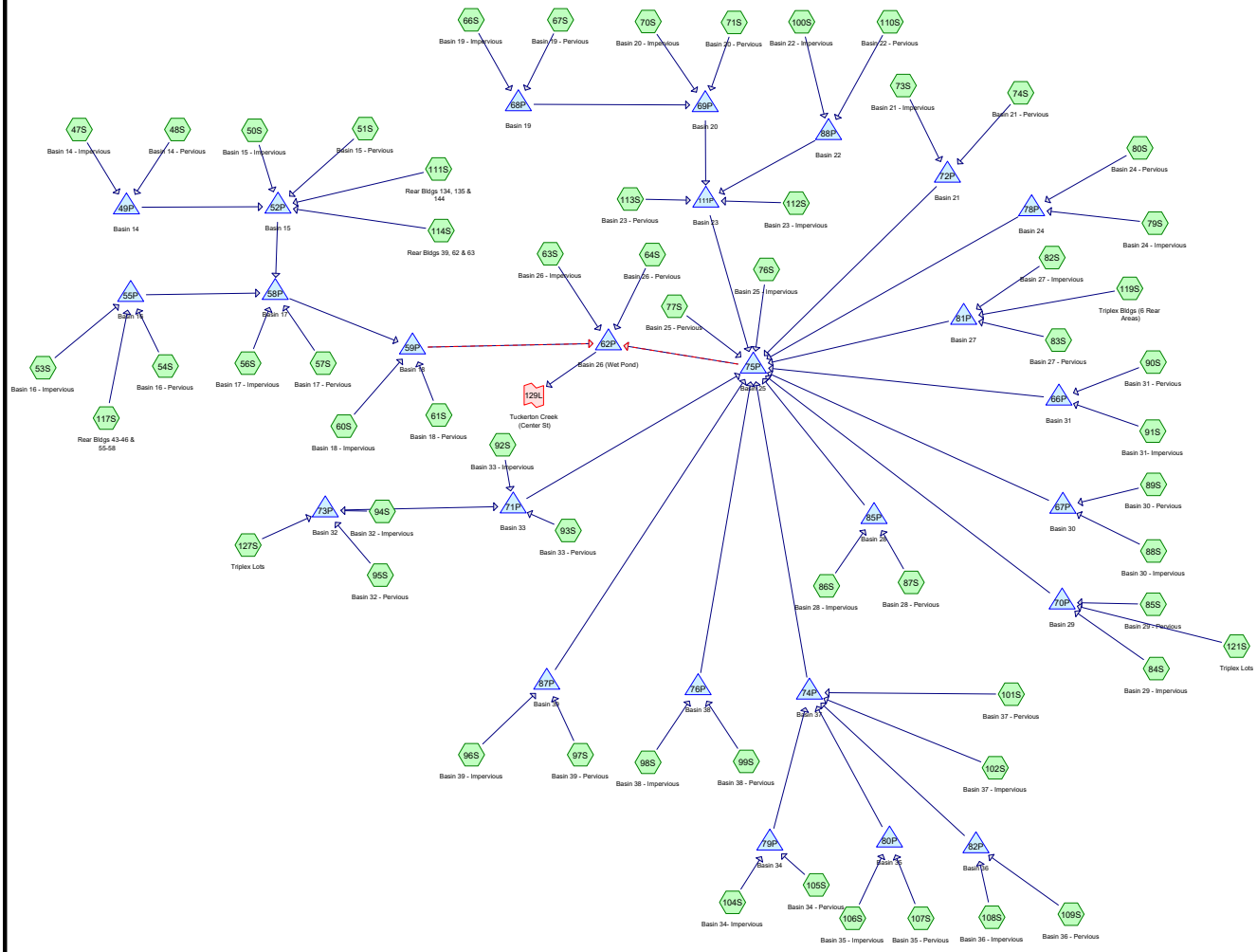
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	3.42	2

Summary for Subcatchment 47S: Basin 14 - Impervious

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

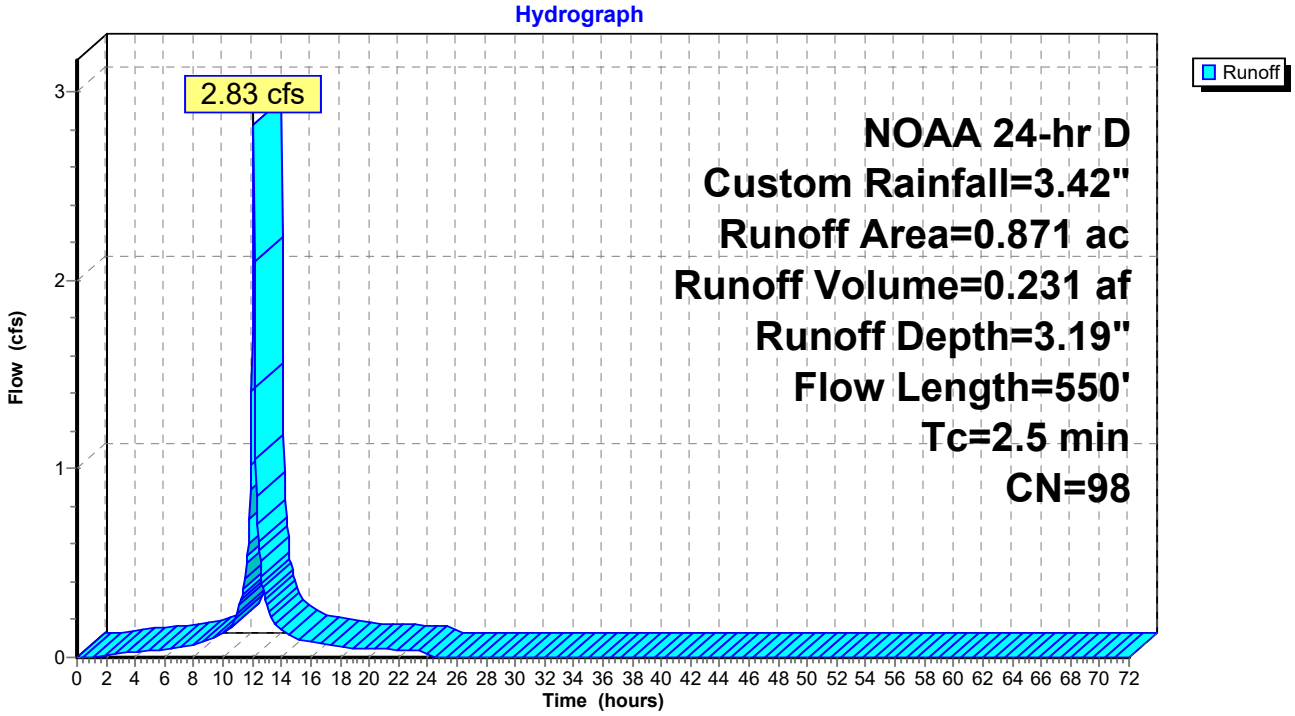
Runoff = 2.83 cfs @ 12.09 hrs, Volume= 0.231 af, Depth= 3.19"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

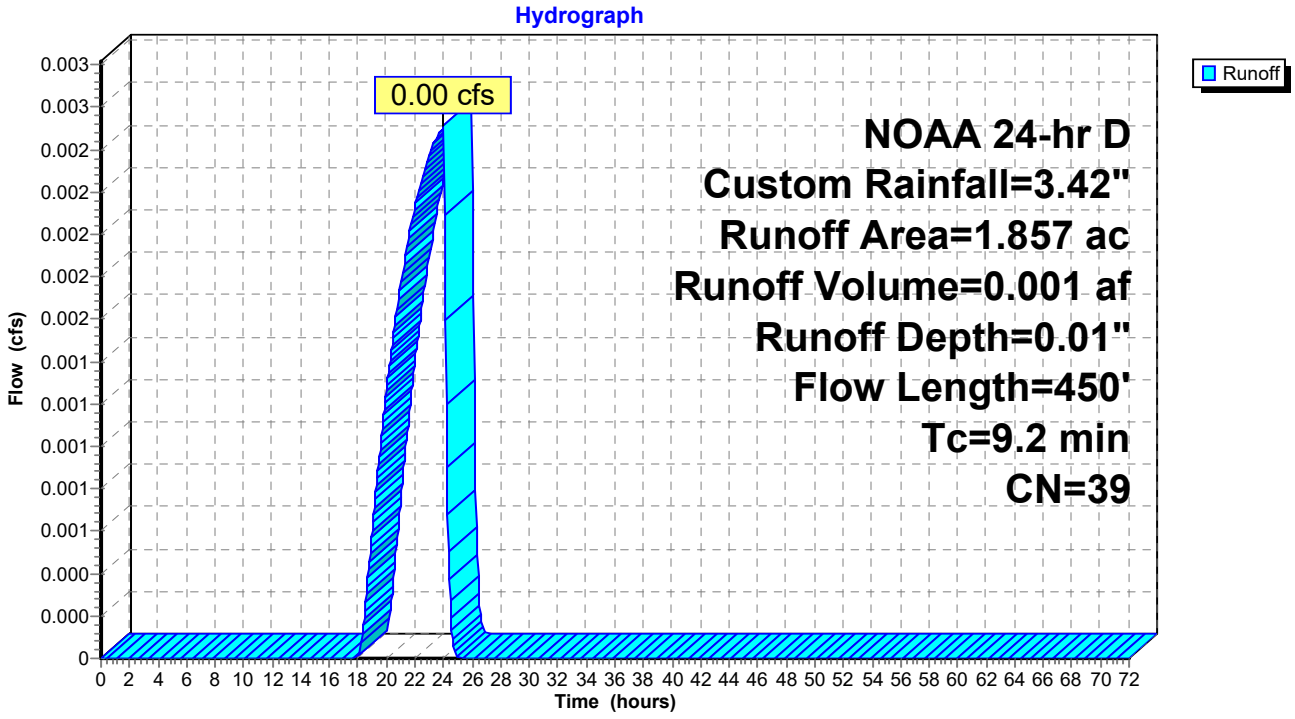
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 1.02" for Custom event
Inflow = 2.83 cfs @ 12.09 hrs, Volume= 0.232 af
Outflow = 0.13 cfs @ 14.30 hrs, Volume= 0.156 af, Atten= 95%, Lag= 132.4 min
Primary = 0.13 cfs @ 14.30 hrs, Volume= 0.156 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.59' @ 14.30 hrs Surf.Area= 9,343 sf Storage= 7,072 cf

Plug-Flow detention time= 686.2 min calculated for 0.156 af (67% of inflow)
Center-of-Mass det. time= 578.6 min (1,335.7 - 757.1)

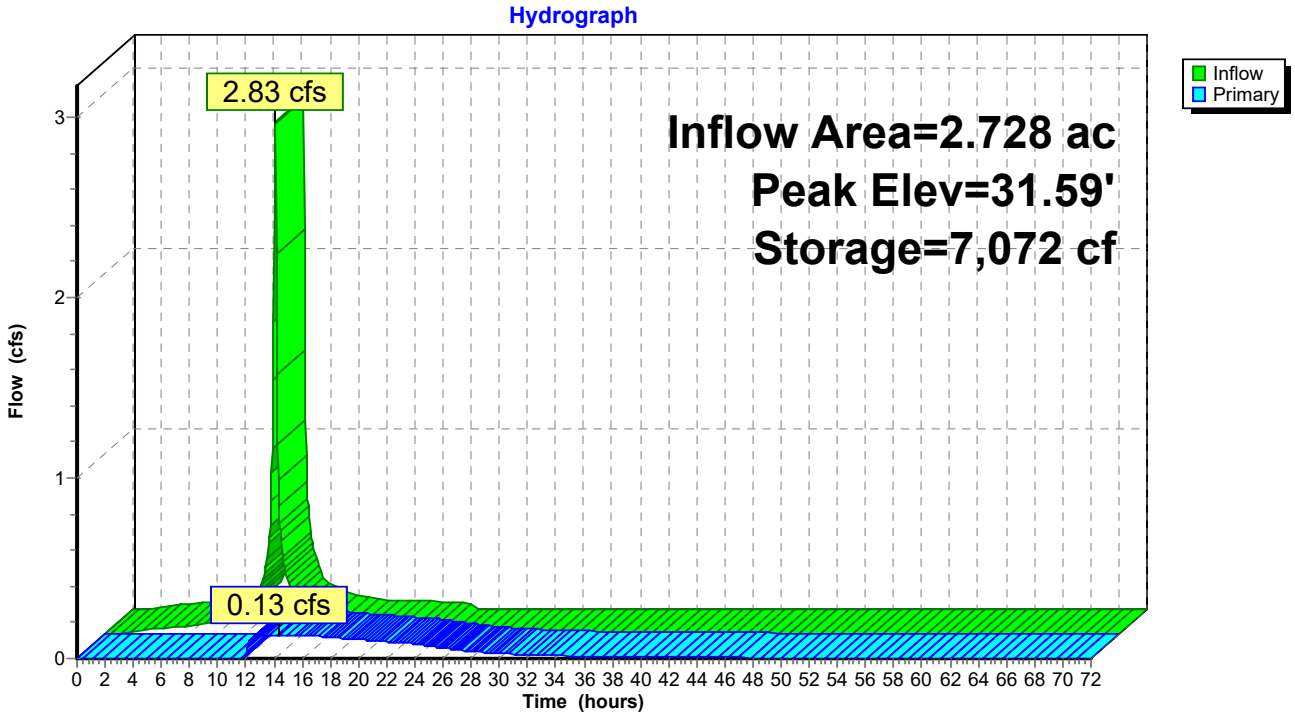
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 14.30 hrs HW=31.59' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.13 cfs @ 2.67 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

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

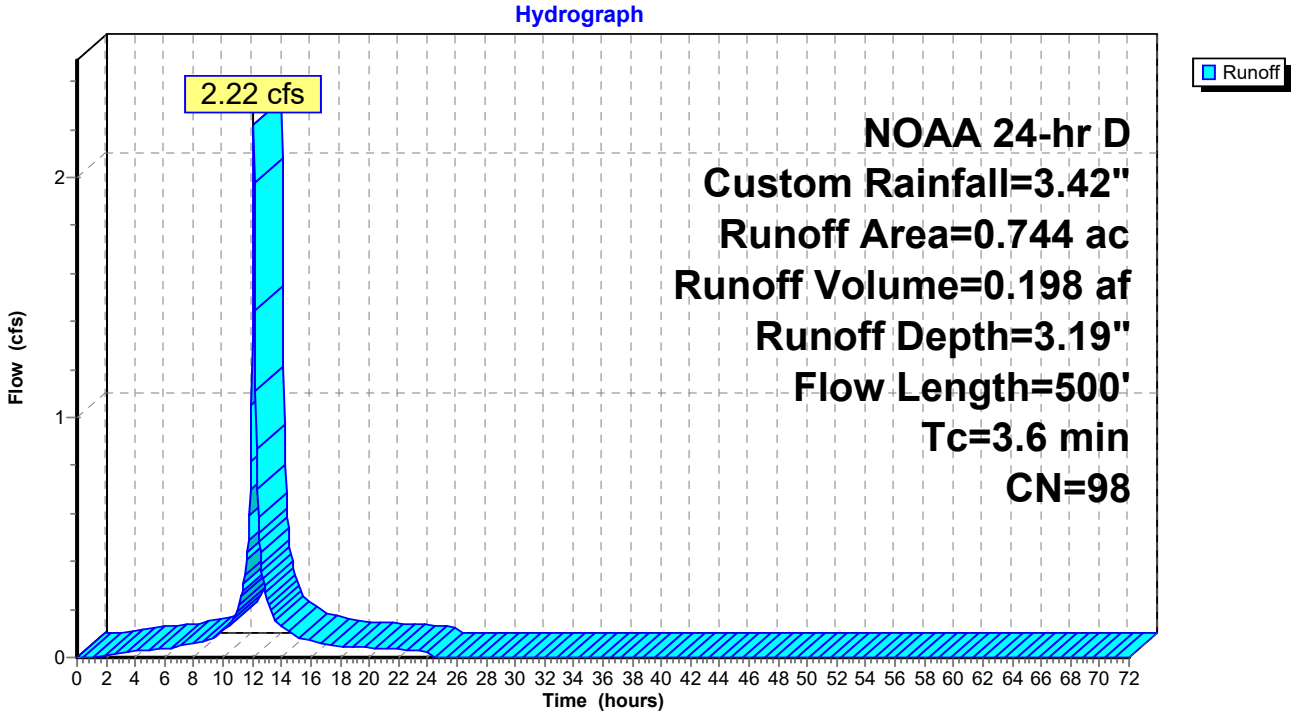
Runoff = 2.22 cfs @ 12.11 hrs, Volume= 0.198 af, Depth= 3.19"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

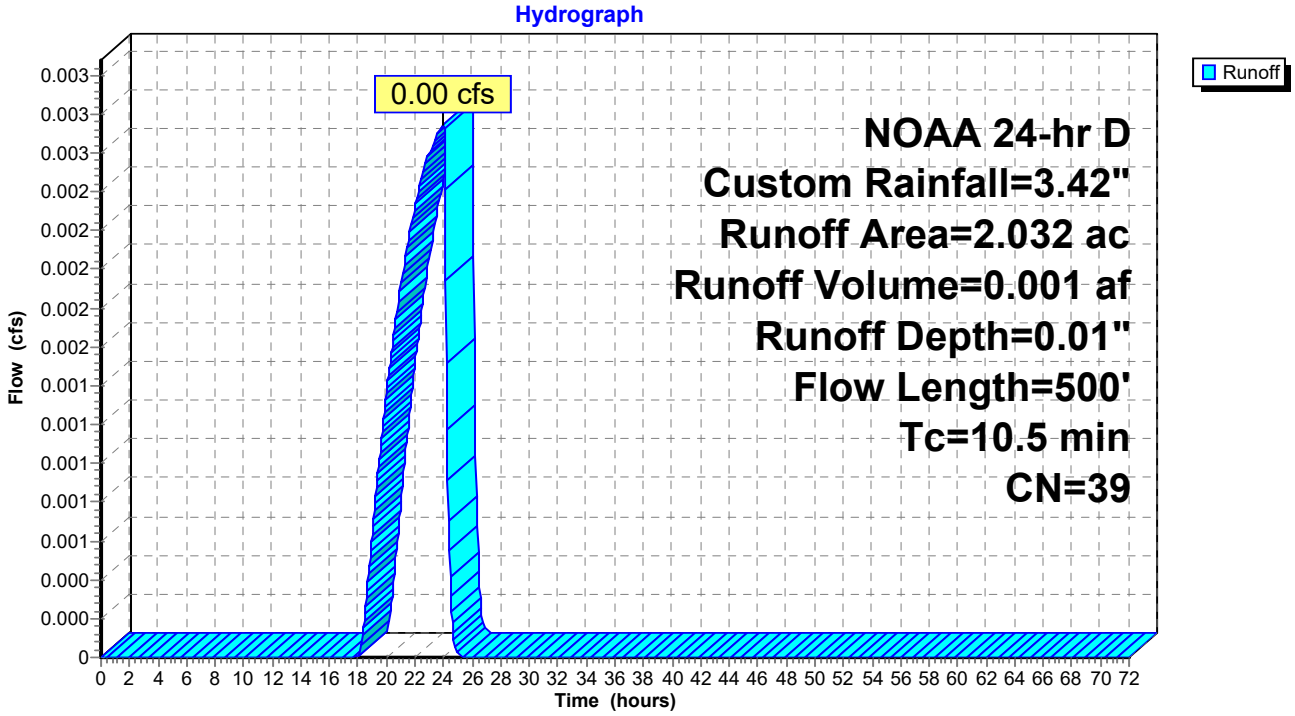
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 0.36' @ 16.80 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 0.85" for Custom event
Inflow = 2.82 cfs @ 12.11 hrs, Volume= 0.402 af
Outflow = 0.23 cfs @ 15.09 hrs, Volume= 0.335 af, Atten= 92%, Lag= 178.6 min
Primary = 0.23 cfs @ 15.09 hrs, Volume= 0.335 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.94' @ 15.09 hrs Surf.Area= 5,405 sf Storage= 7,753 cf

Plug-Flow detention time= 542.4 min calculated for 0.335 af (83% of inflow)
Center-of-Mass det. time= 380.0 min (1,362.5 - 982.5)

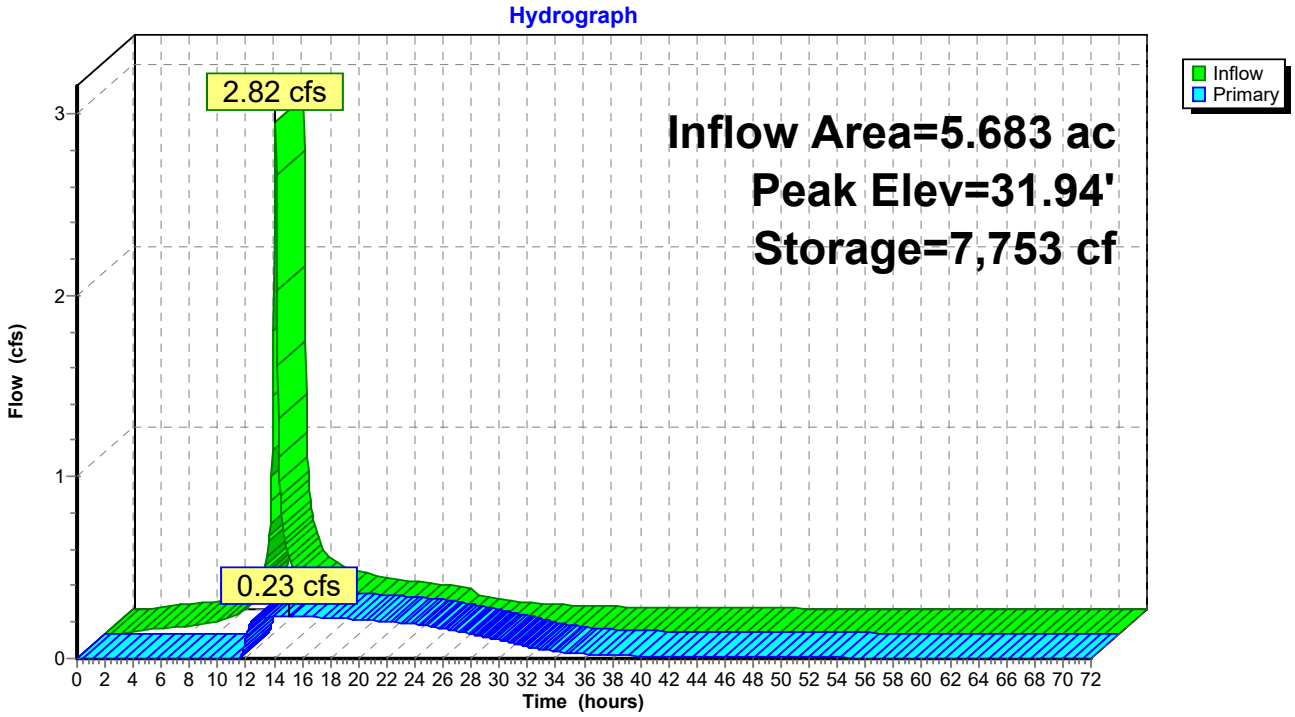
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 15.09 hrs HW=31.94' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.23 cfs @ 4.70 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

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

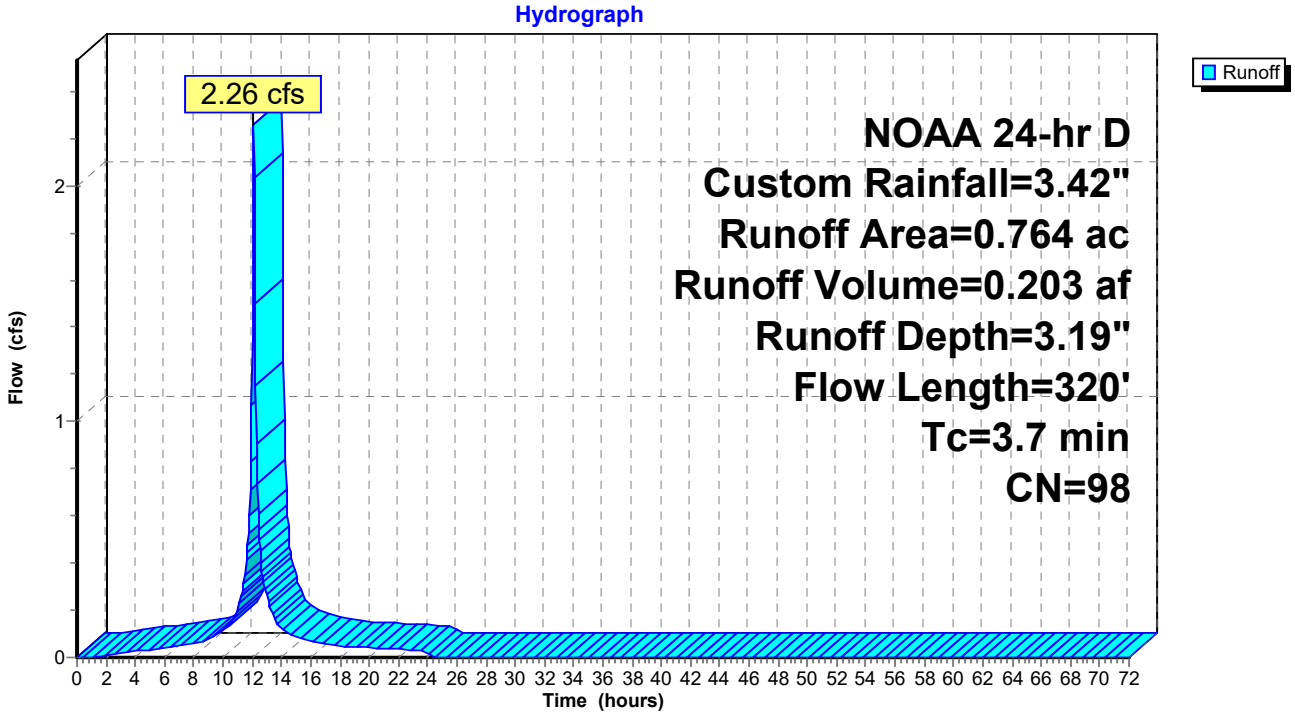
Runoff = 2.26 cfs @ 12.11 hrs, Volume= 0.203 af, Depth= 3.19"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

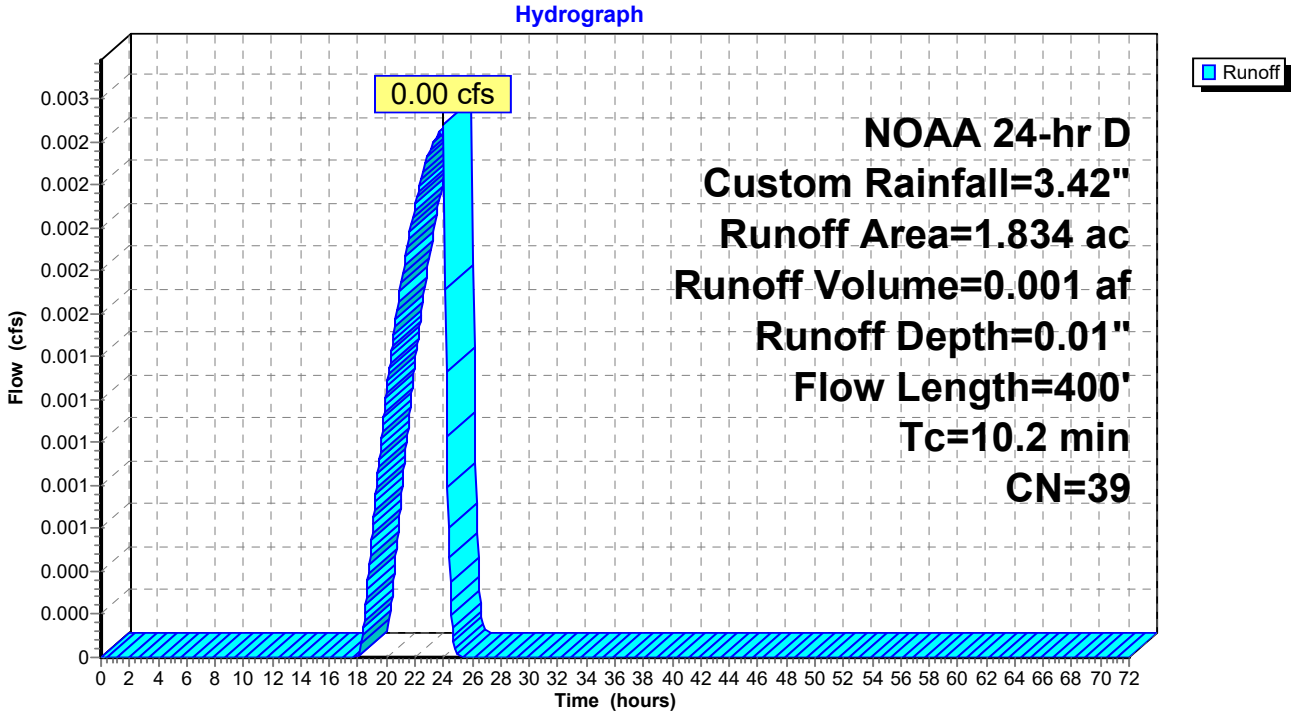
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 1.19" for Custom event
Inflow = 3.23 cfs @ 12.11 hrs, Volume= 0.291 af
Outflow = 3.04 cfs @ 12.14 hrs, Volume= 0.225 af, Atten= 6%, Lag= 2.0 min
Primary = 3.04 cfs @ 12.14 hrs, Volume= 0.225 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.34' @ 12.14 hrs Surf.Area= 3,308 sf Storage= 3,350 cf

Plug-Flow detention time= 169.5 min calculated for 0.225 af (77% of inflow)
Center-of-Mass det. time= 79.3 min (837.9 - 758.6)

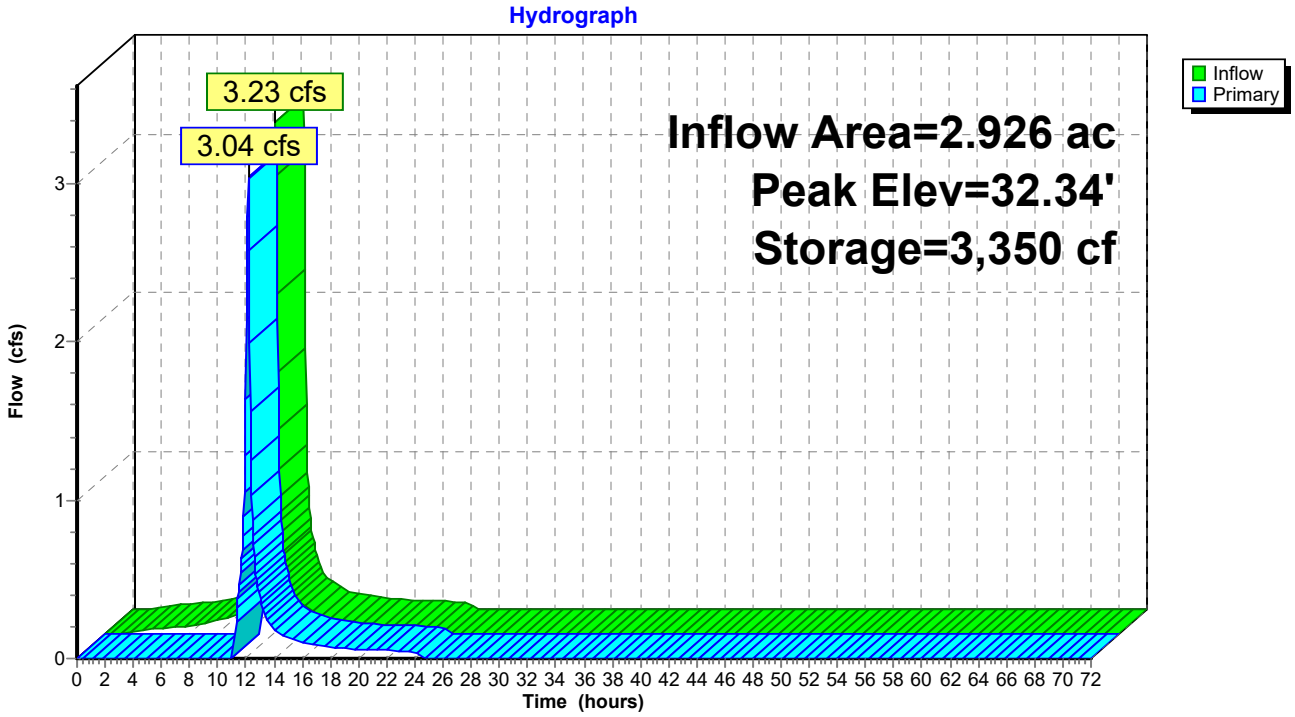
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.99 cfs @ 12.14 hrs HW=32.34' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.99 cfs @ 1.26 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

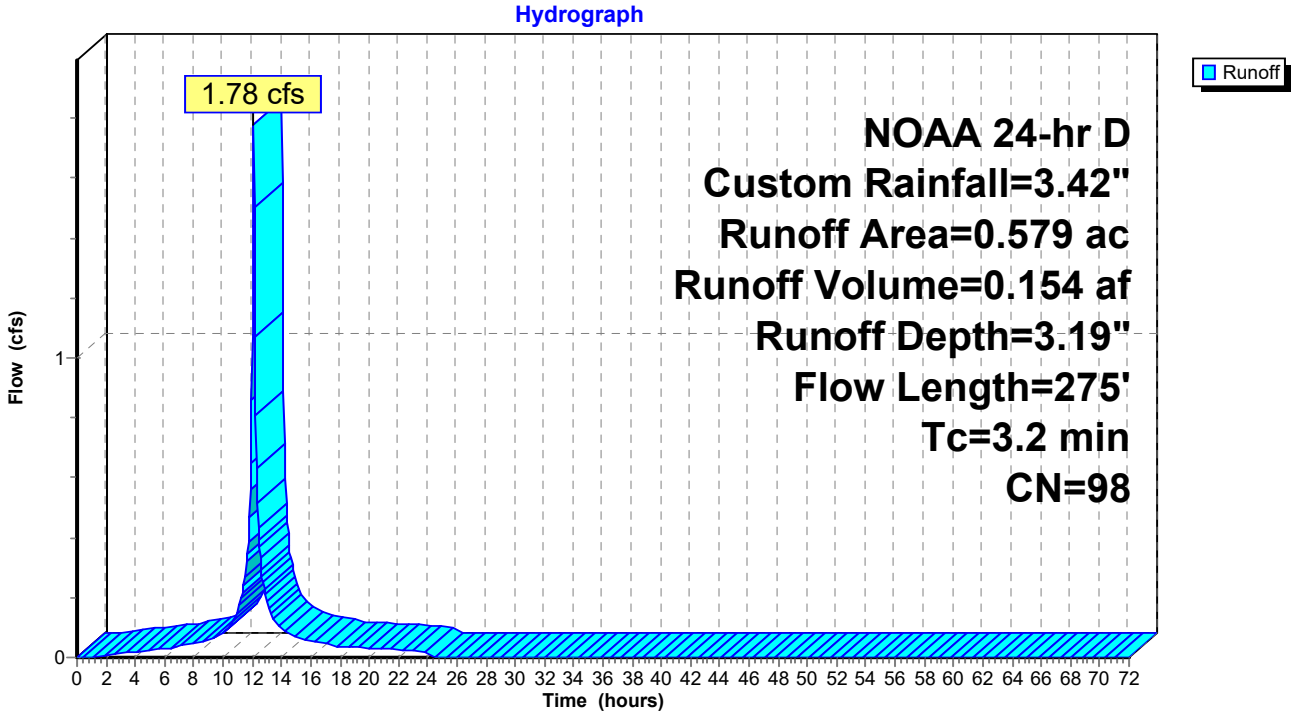
Runoff = 1.78 cfs @ 12.10 hrs, Volume= 0.154 af, Depth= 3.19"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

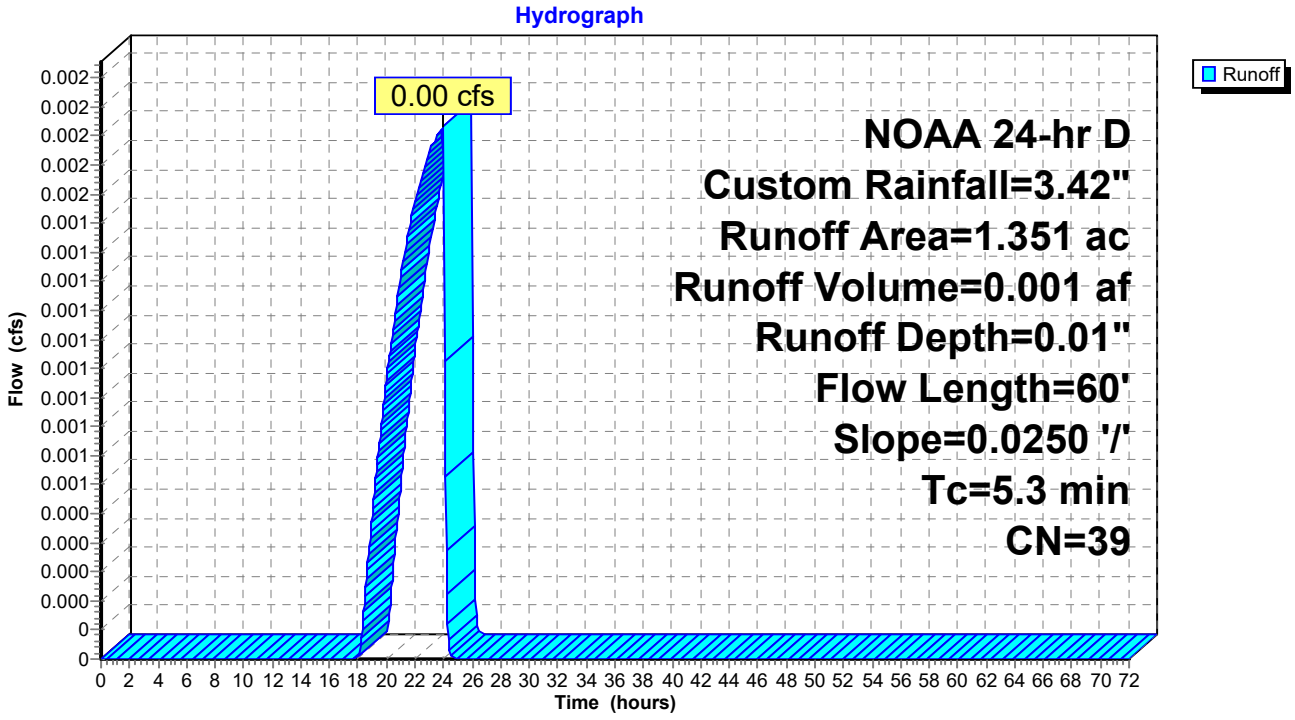
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 0.81" for Custom event
Inflow = 4.84 cfs @ 12.12 hrs, Volume= 0.715 af
Outflow = 4.65 cfs @ 12.16 hrs, Volume= 0.665 af, Atten= 4%, Lag= 1.9 min
Primary = 4.65 cfs @ 12.16 hrs, Volume= 0.665 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.59' @ 12.16 hrs Surf.Area= 3,748 sf Storage= 2,902 cf

Plug-Flow detention time= 133.4 min calculated for 0.664 af (93% of inflow)
Center-of-Mass det. time= 43.6 min (1,110.4 - 1,066.8)

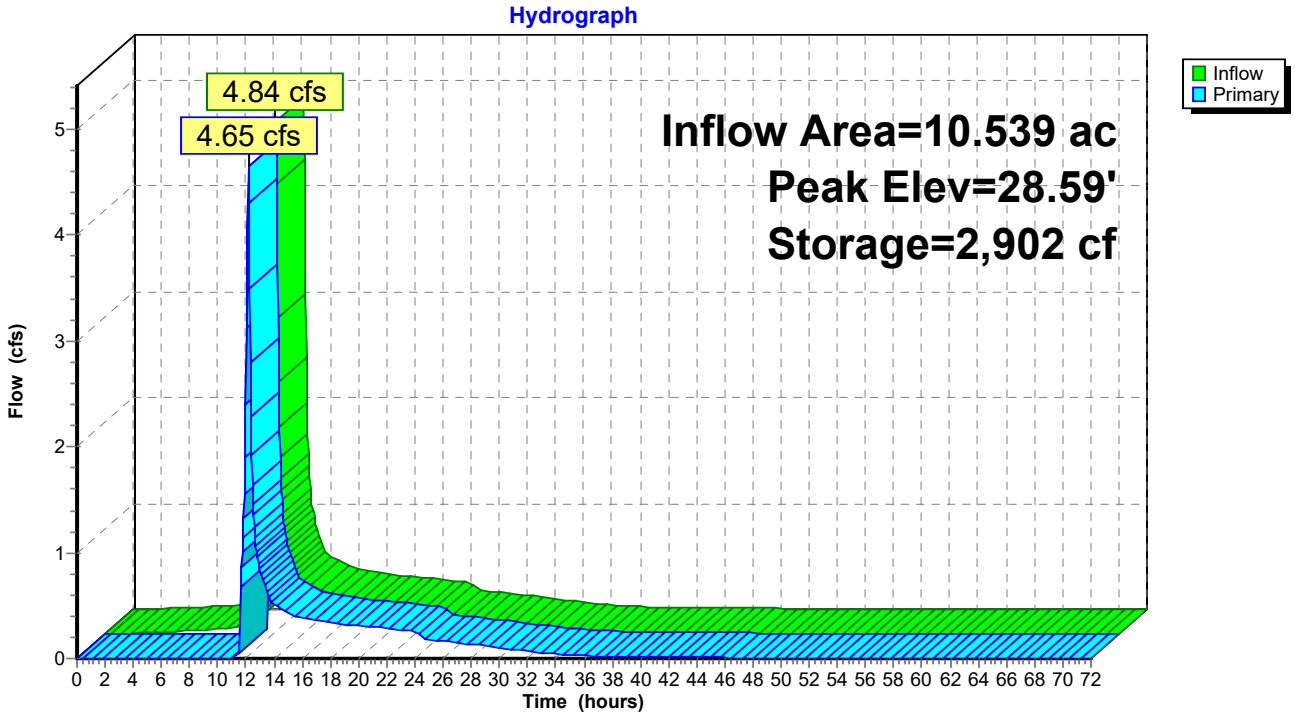
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.60 cfs @ 12.16 hrs HW=28.59' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 4.60 cfs @ 1.45 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 0.79" for Custom event
Inflow = 6.82 cfs @ 12.12 hrs, Volume= 0.879 af
Outflow = 1.34 cfs @ 12.75 hrs, Volume= 0.805 af, Atten= 80%, Lag= 37.9 min
Primary = 1.34 cfs @ 12.75 hrs, Volume= 0.805 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.27' @ 12.75 hrs Surf.Area= 8,093 sf Storage= 13,301 cf

Plug-Flow detention time= 521.6 min calculated for 0.805 af (92% of inflow)
Center-of-Mass det. time= 422.2 min (1,446.5 - 1,024.3)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

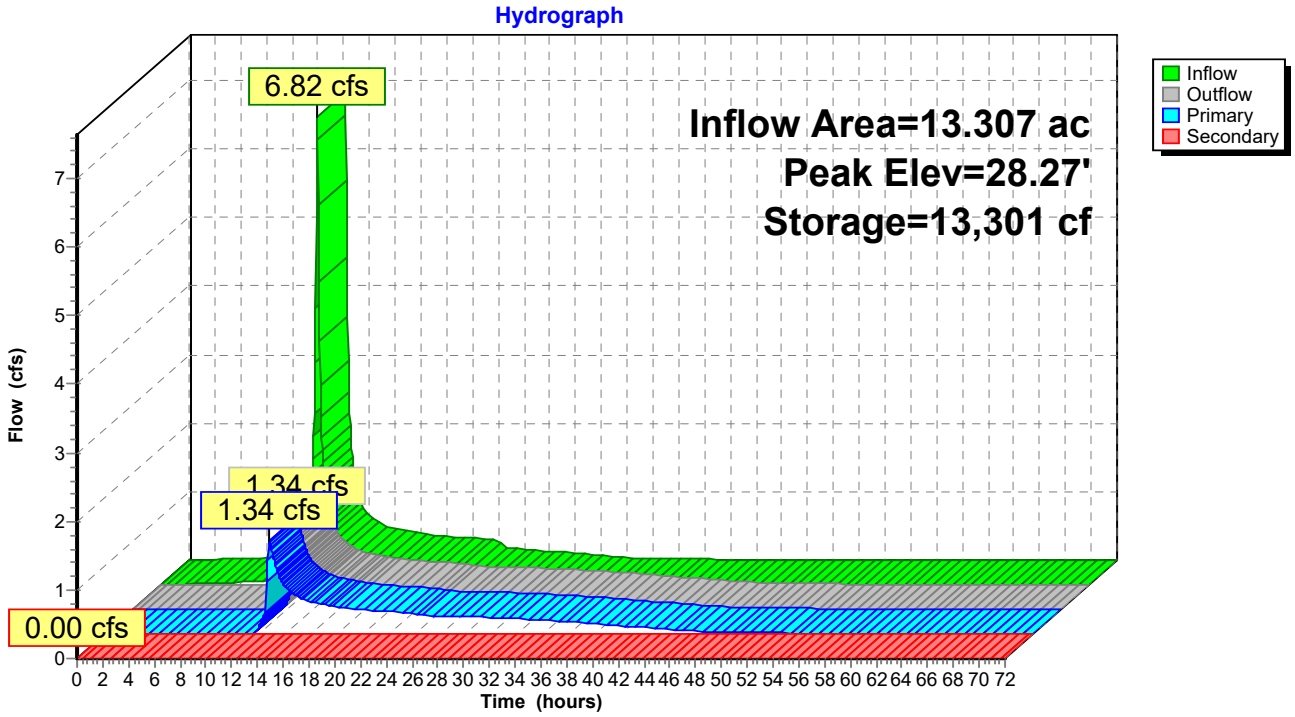
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.33 cfs @ 12.75 hrs HW=28.27' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.28 cfs @ 5.67 fps)
└**2=Orifice/Grate** (Weir Controls 1.06 cfs @ 0.89 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.20' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

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

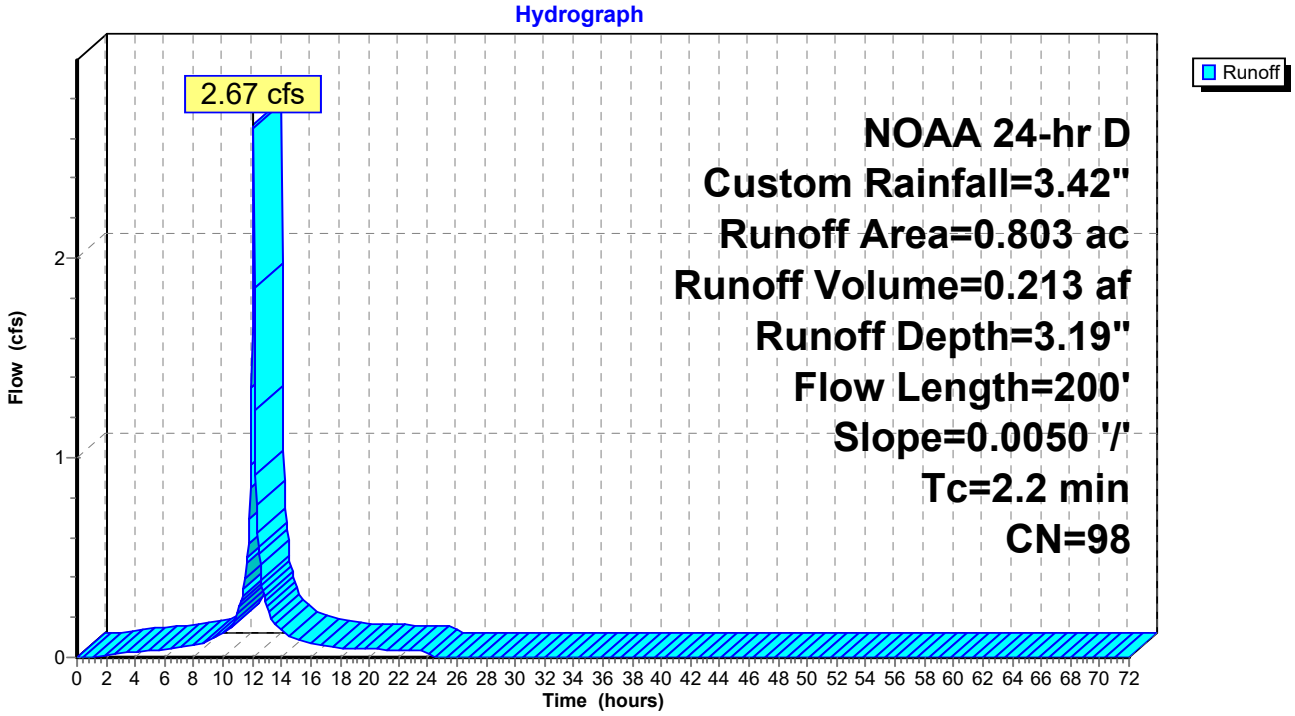
Runoff = 2.67 cfs @ 12.09 hrs, Volume= 0.213 af, Depth= 3.19"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

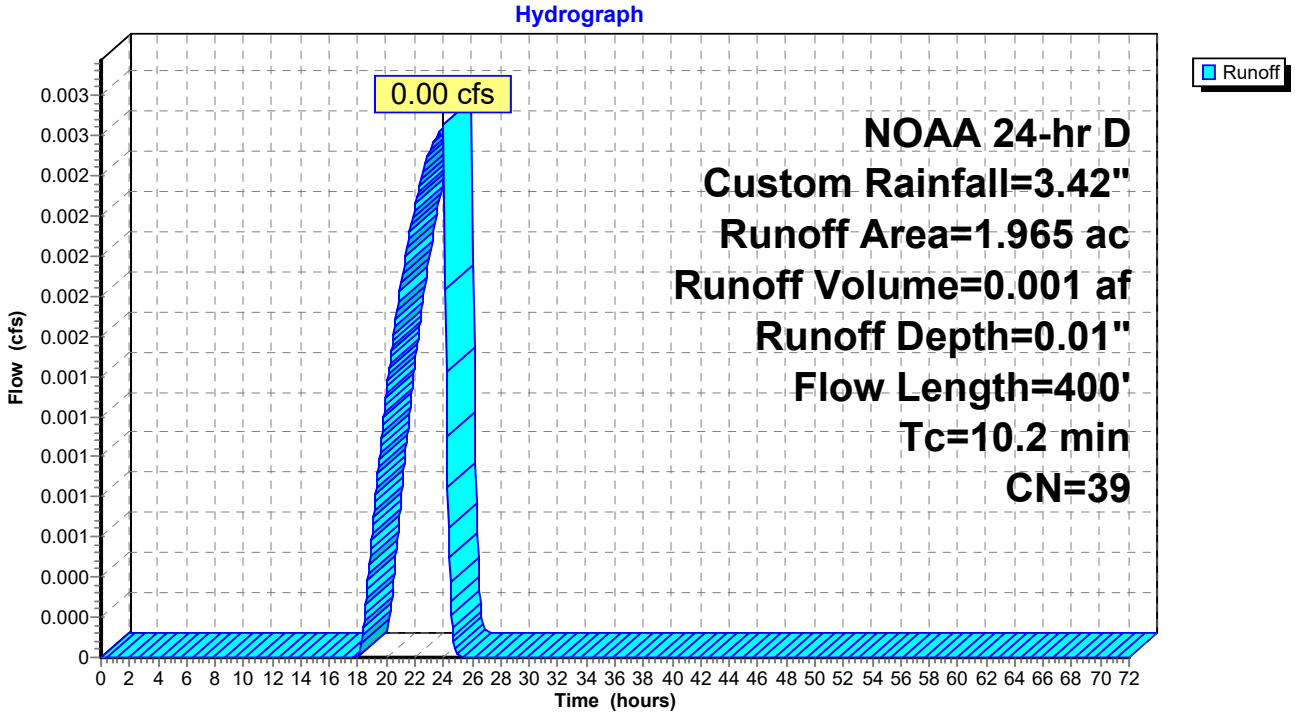
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.54" for Custom event
Inflow = 3.66 cfs @ 12.10 hrs, Volume= 3.388 af
Outflow = 0.21 cfs @ 72.00 hrs, Volume= 0.880 af, Atten= 94%, Lag= 3,593.9 min
Primary = 0.21 cfs @ 72.00 hrs, Volume= 0.880 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 23.50' @ 72.00 hrs Surf.Area= 114,952 sf Storage= 467,061 cf (109,247 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 955.1 min (2,774.2 - 1,819.1)

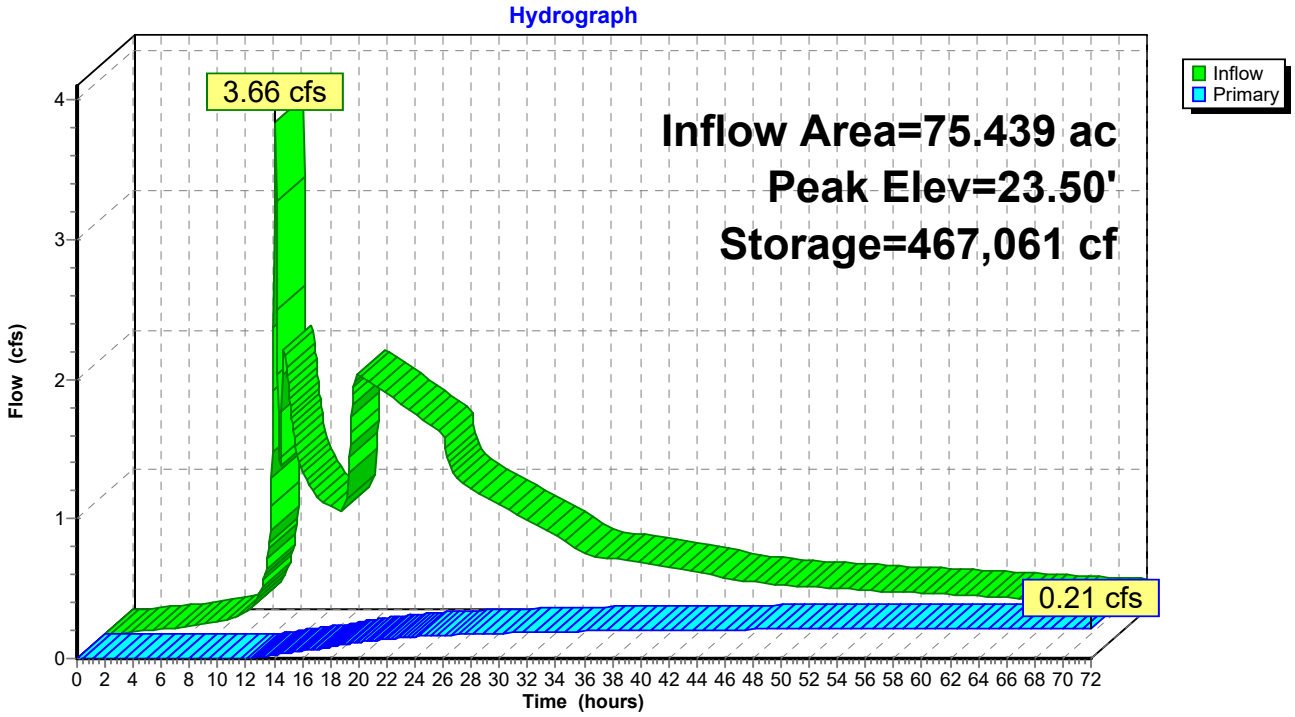
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 72.00 hrs HW=23.50' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.36 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

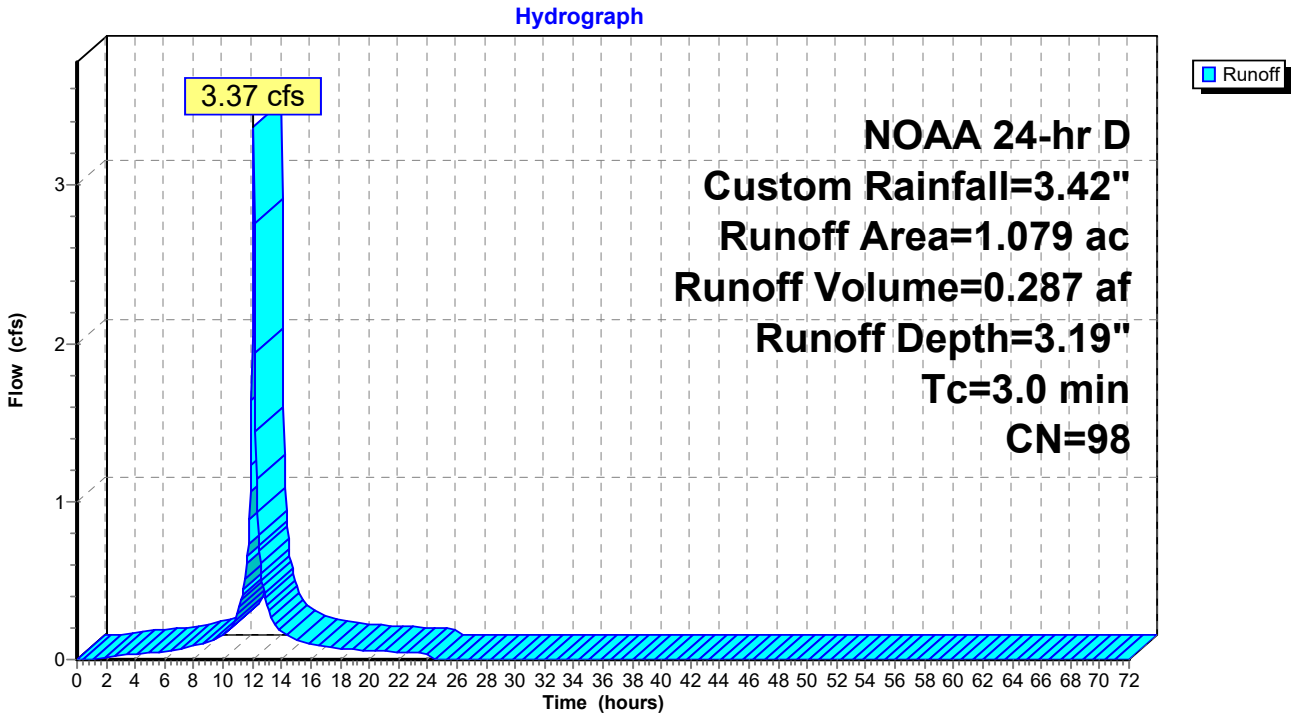
Runoff = 3.37 cfs @ 12.10 hrs, Volume= 0.287 af, Depth= 3.19"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

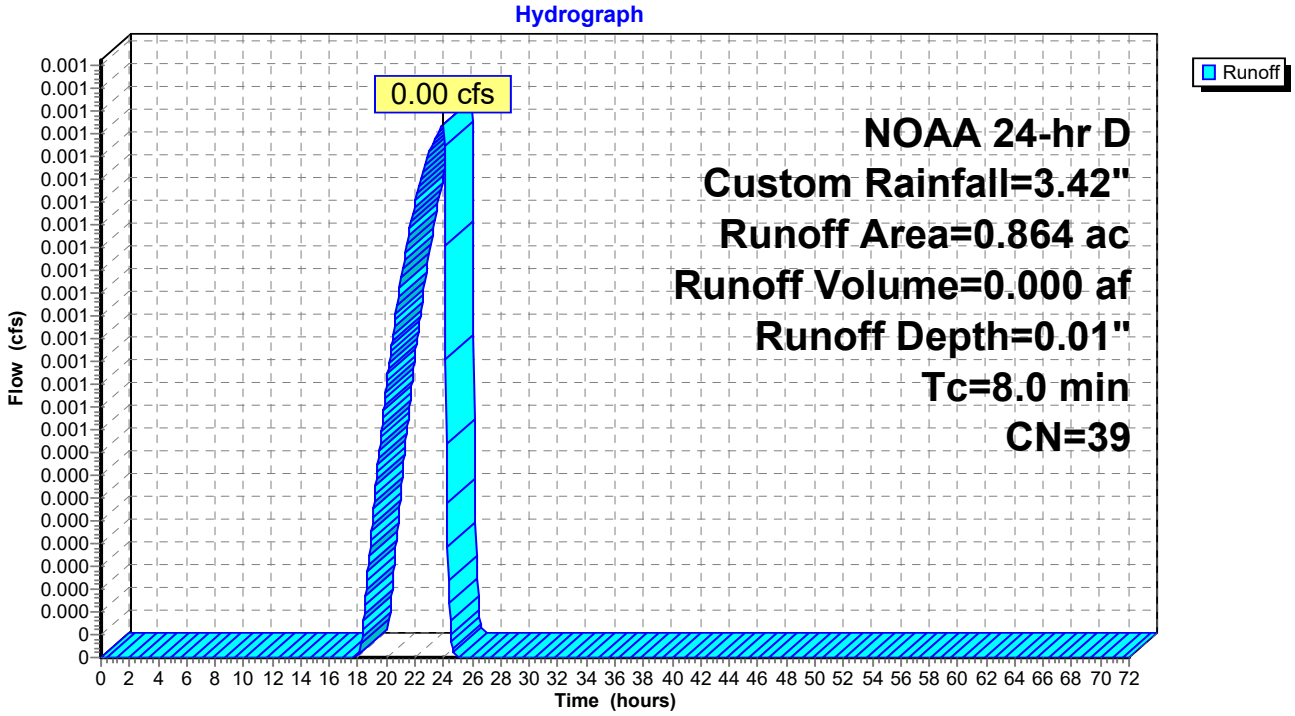
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 0.80" for Custom event
Inflow = 2.39 cfs @ 12.04 hrs, Volume= 0.179 af
Outflow = 0.15 cfs @ 13.35 hrs, Volume= 0.120 af, Atten= 94%, Lag= 78.6 min
Primary = 0.15 cfs @ 13.35 hrs, Volume= 0.120 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.19' @ 13.35 hrs Surf.Area= 5,370 sf Storage= 5,110 cf

Plug-Flow detention time= 479.9 min calculated for 0.120 af (67% of inflow)
Center-of-Mass det. time= 370.0 min (1,124.0 - 754.1)

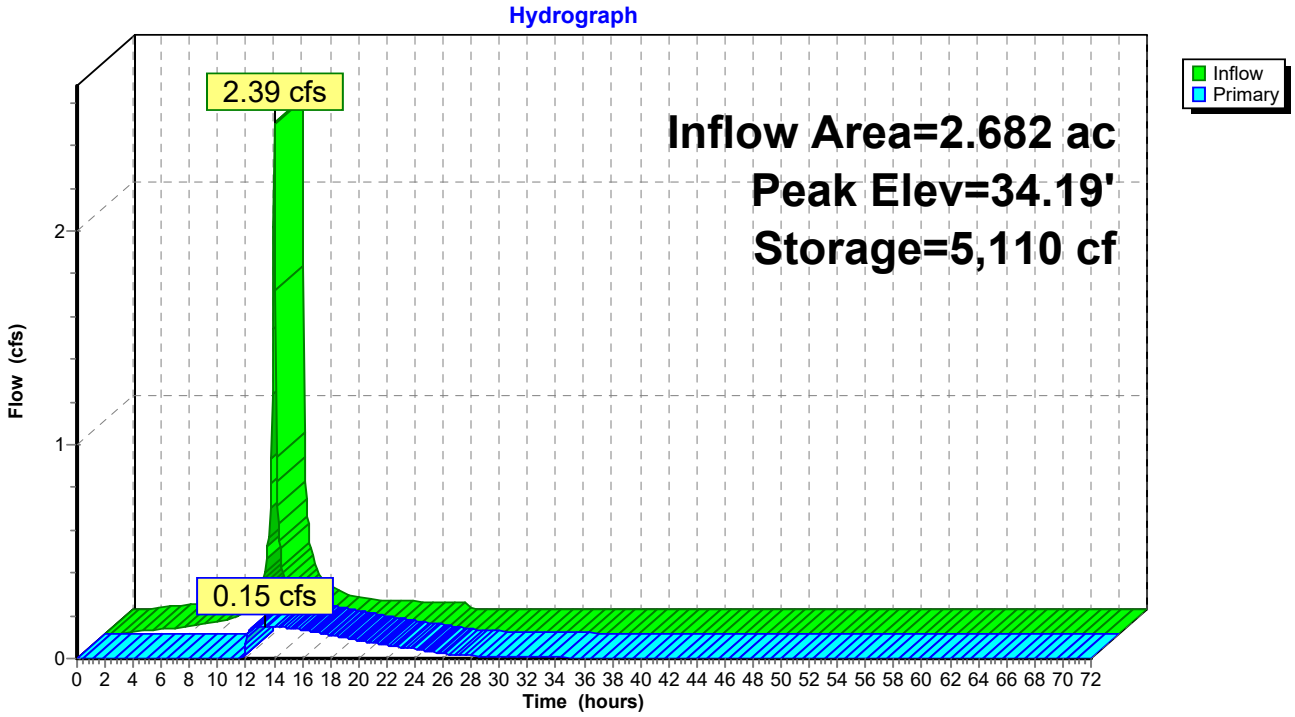
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 13.35 hrs HW=34.19' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.15 cfs @ 3.08 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

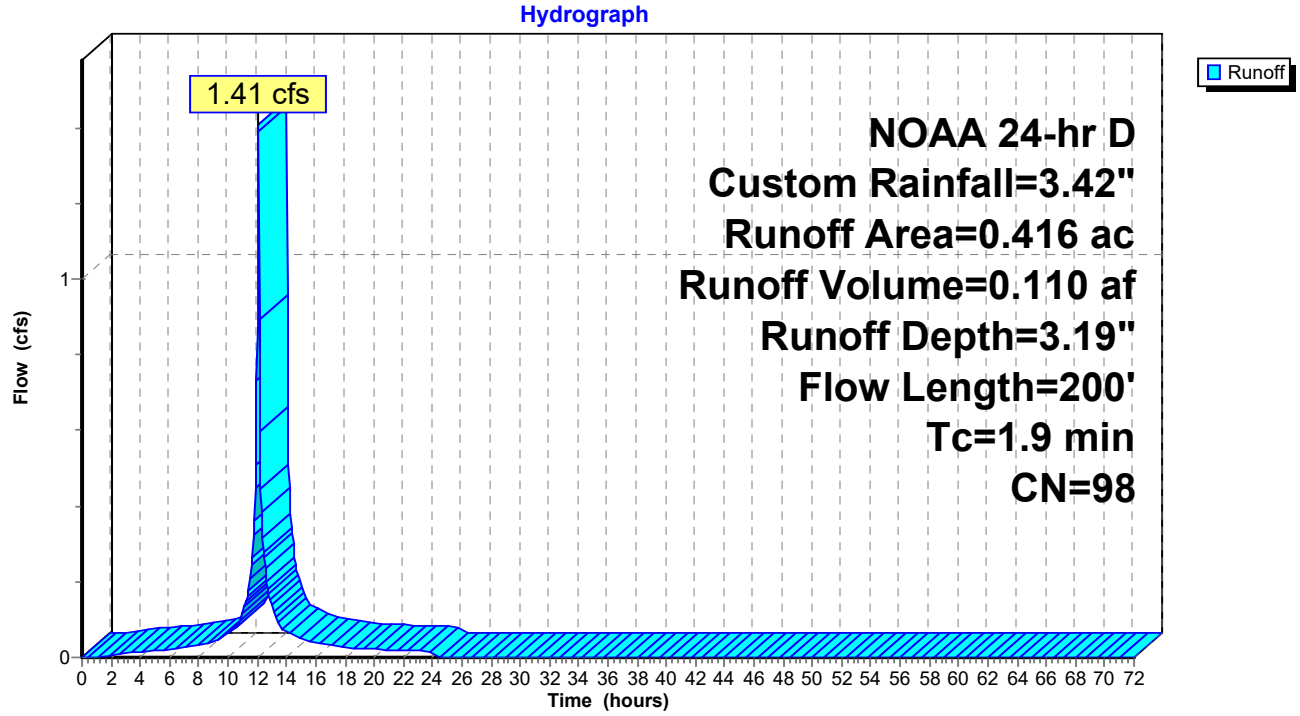
Runoff = 1.41 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 3.19"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 0.66" for Custom event
Inflow = 1.72 cfs @ 12.10 hrs, Volume= 0.147 af
Outflow = 0.13 cfs @ 13.36 hrs, Volume= 0.098 af, Atten= 92%, Lag= 75.8 min
Primary = 0.13 cfs @ 13.36 hrs, Volume= 0.098 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.95' @ 13.36 hrs Surf.Area= 5,118 sf Storage= 4,167 cf

Plug-Flow detention time= 478.3 min calculated for 0.098 af (67% of inflow)
Center-of-Mass det. time= 369.1 min (1,128.6 - 759.5)

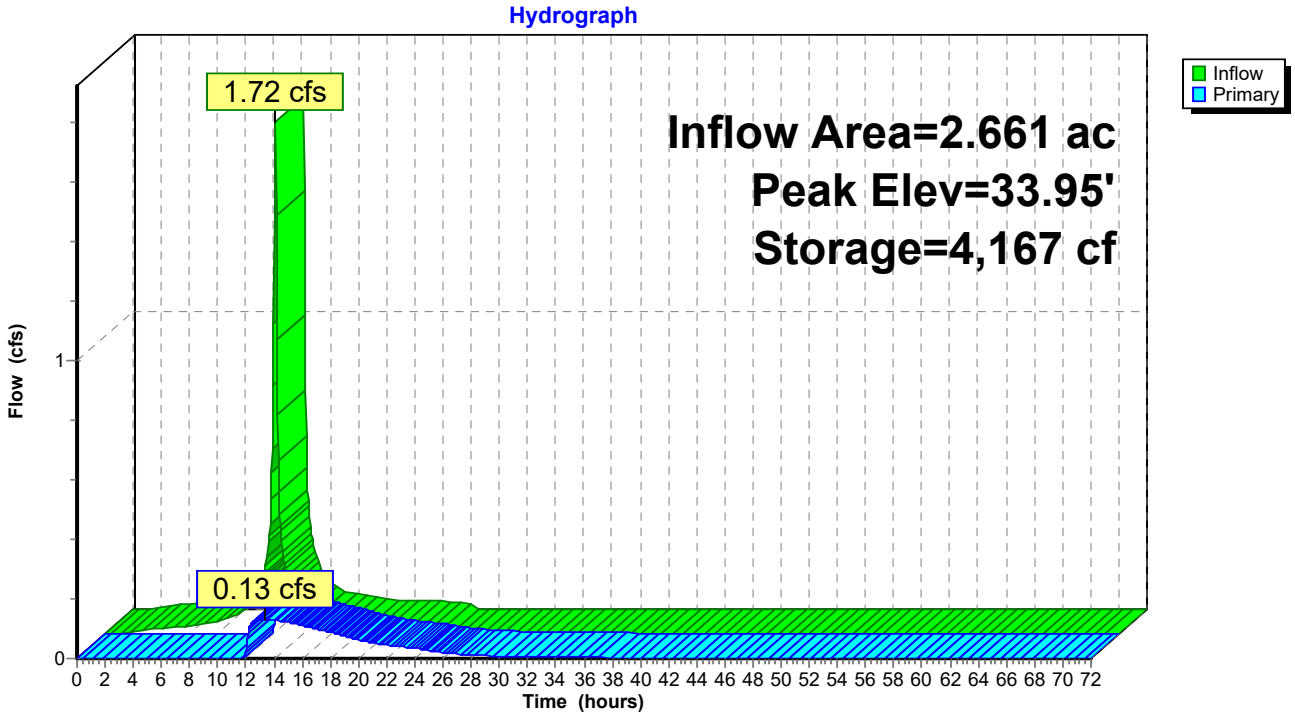
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 13.36 hrs HW=33.95' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.13 cfs @ 2.68 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

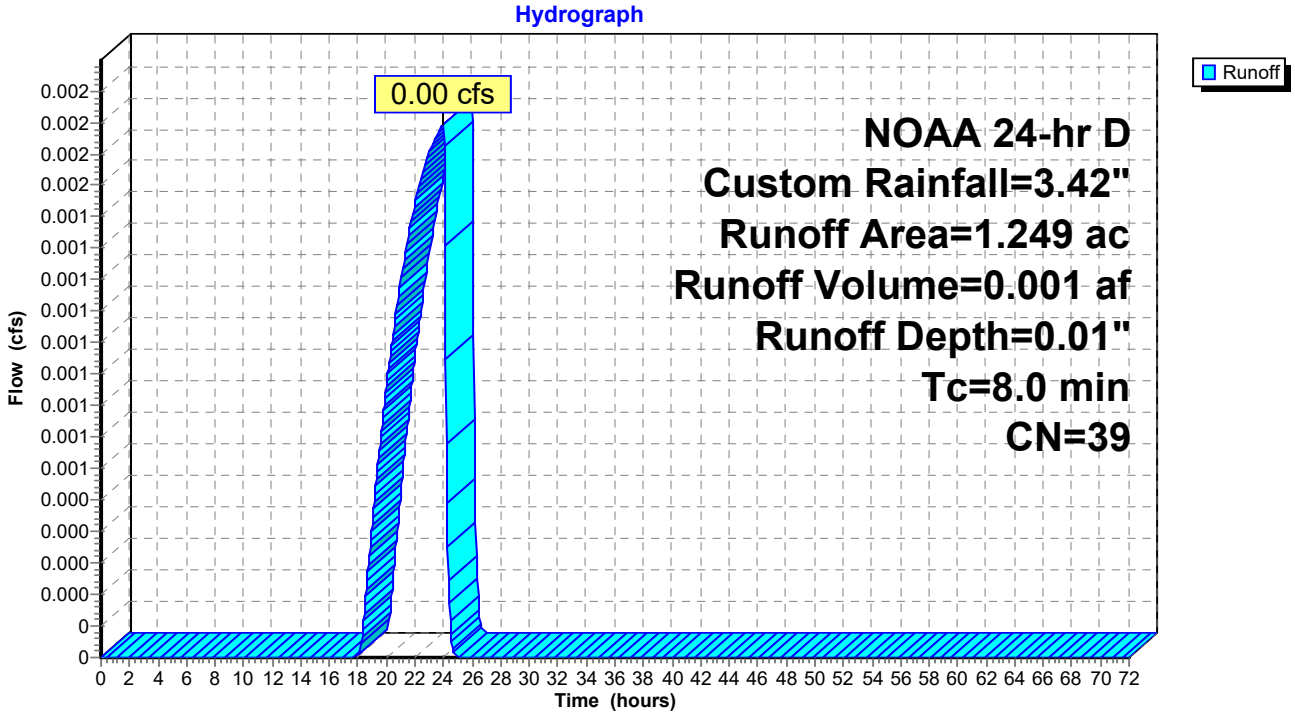
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 0.80" for Custom event
Inflow = 1.41 cfs @ 12.09 hrs, Volume= 0.111 af
Outflow = 0.18 cfs @ 12.68 hrs, Volume= 0.075 af, Atten= 87%, Lag= 35.4 min
Primary = 0.18 cfs @ 12.68 hrs, Volume= 0.075 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.38' @ 12.68 hrs Surf.Area= 1,914 sf Storage= 2,856 cf

Plug-Flow detention time= 321.1 min calculated for 0.075 af (68% of inflow)
Center-of-Mass det. time= 211.4 min (968.5 - 757.0)

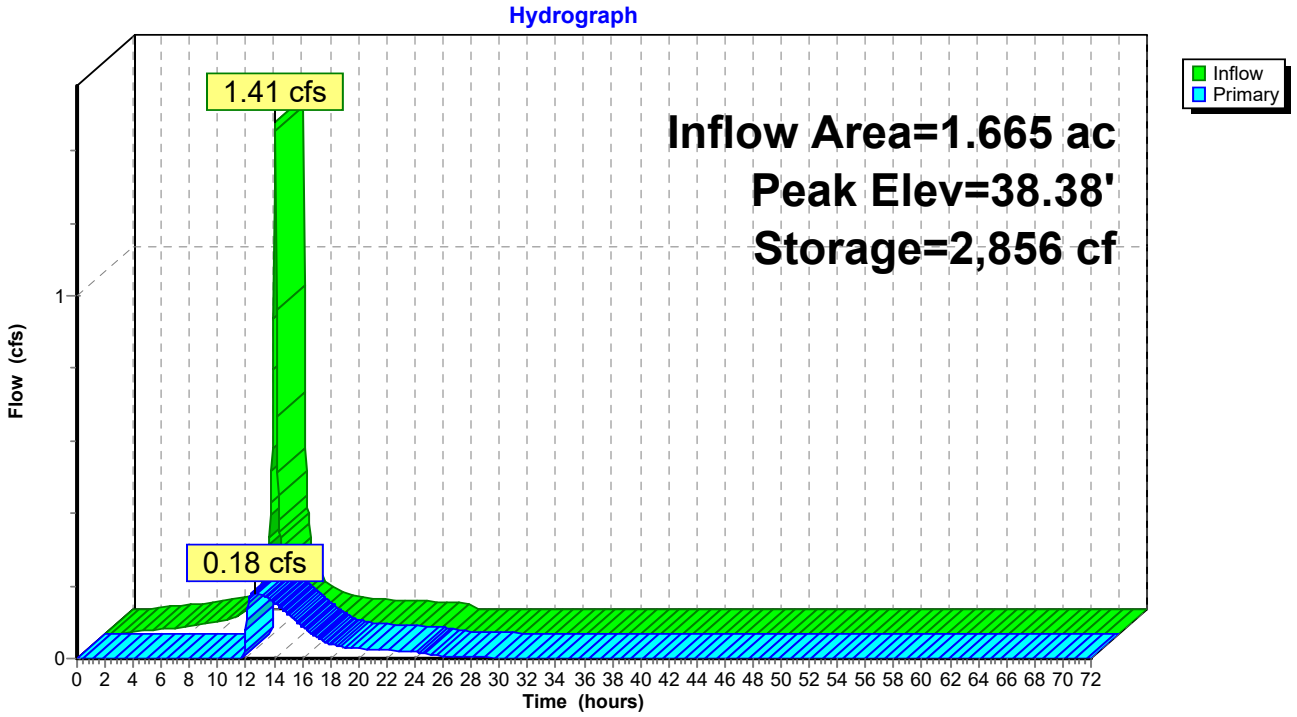
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 12.68 hrs HW=38.38' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.18 cfs @ 3.68 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 0.79" for Custom event
Inflow = 2.74 cfs @ 12.05 hrs, Volume= 0.272 af
Outflow = 0.19 cfs @ 15.16 hrs, Volume= 0.207 af, Atten= 93%, Lag= 186.9 min
Primary = 0.19 cfs @ 15.16 hrs, Volume= 0.207 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.63' @ 15.16 hrs Surf.Area= 6,277 sf Storage= 6,871 cf

Plug-Flow detention time= 490.0 min calculated for 0.207 af (76% of inflow)
Center-of-Mass det. time= 385.0 min (1,197.9 - 812.9)

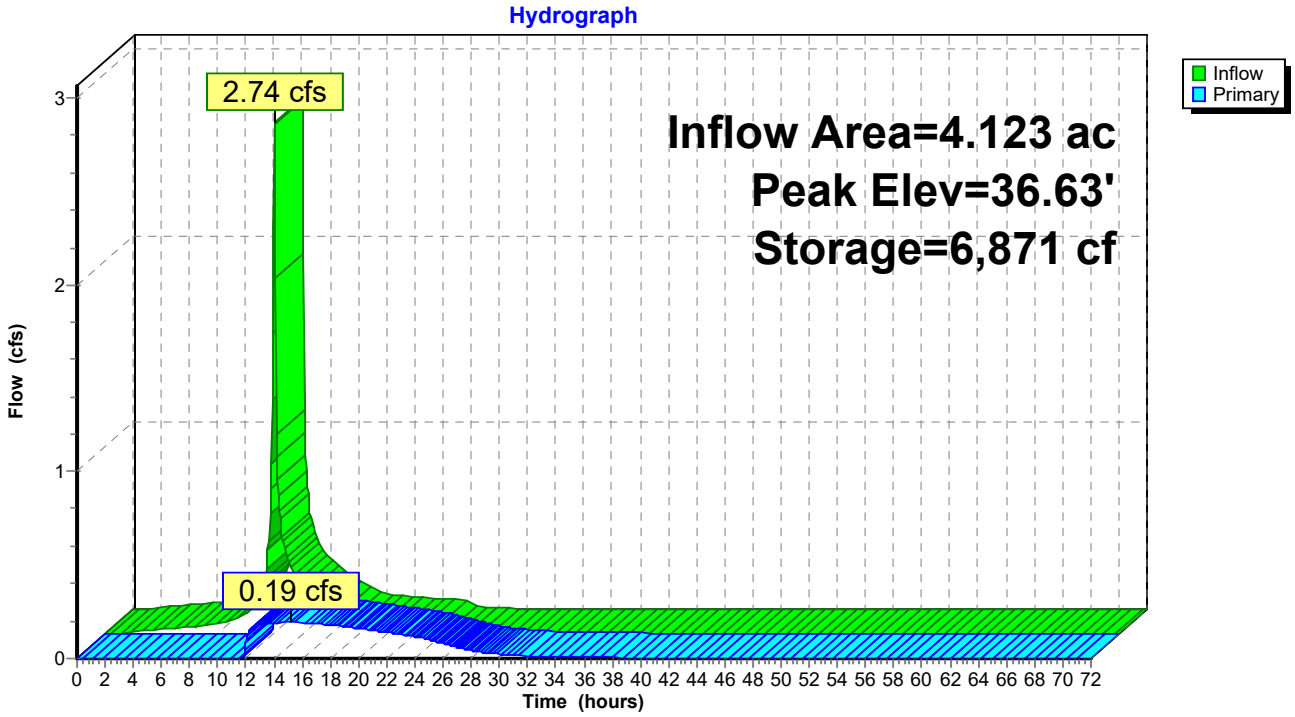
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 15.16 hrs HW=36.63' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.19 cfs @ 3.94 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 1.04" for Custom event
Inflow = 2.93 cfs @ 12.07 hrs, Volume= 0.259 af
Outflow = 2.60 cfs @ 12.11 hrs, Volume= 0.207 af, Atten= 11%, Lag= 2.5 min
Primary = 2.60 cfs @ 12.11 hrs, Volume= 0.207 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.60' @ 12.11 hrs Surf.Area= 5,512 sf Storage= 2,980 cf

Plug-Flow detention time= 162.6 min calculated for 0.207 af (80% of inflow)
Center-of-Mass det. time= 77.7 min (833.8 - 756.2)

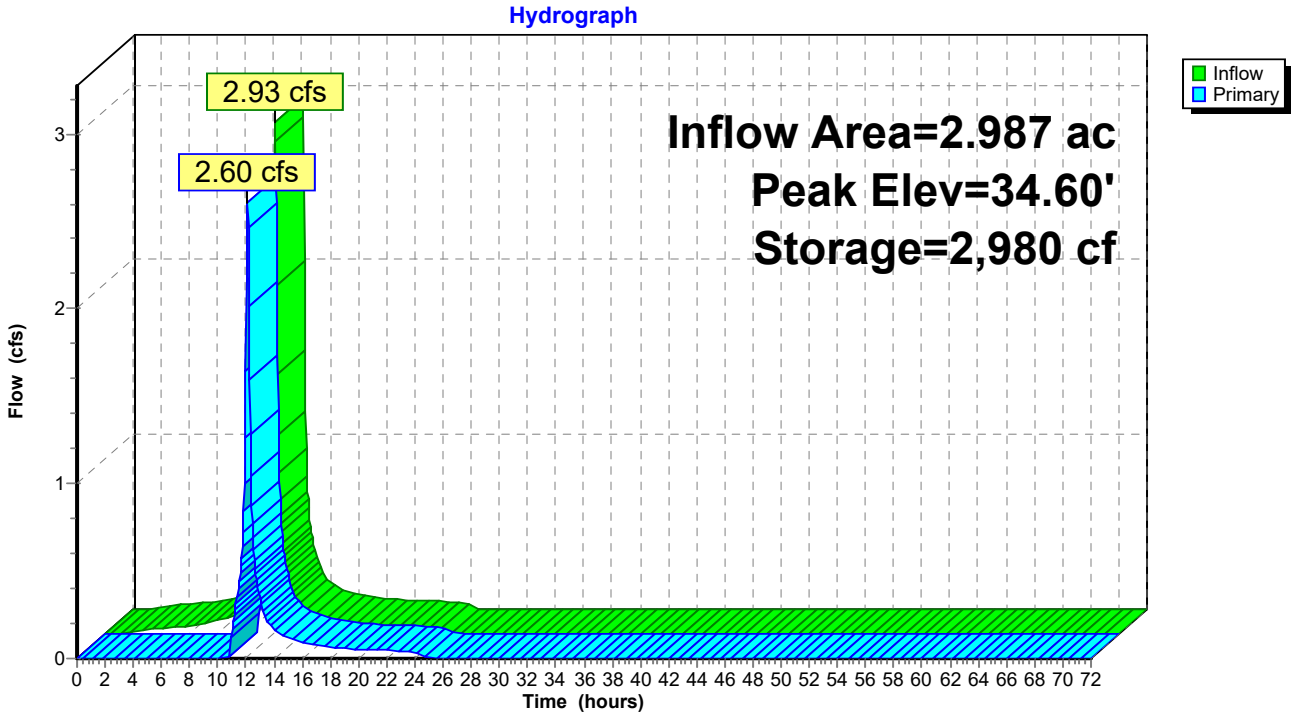
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.55 cfs @ 12.11 hrs HW=34.59' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 2.55 cfs @ 1.19 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

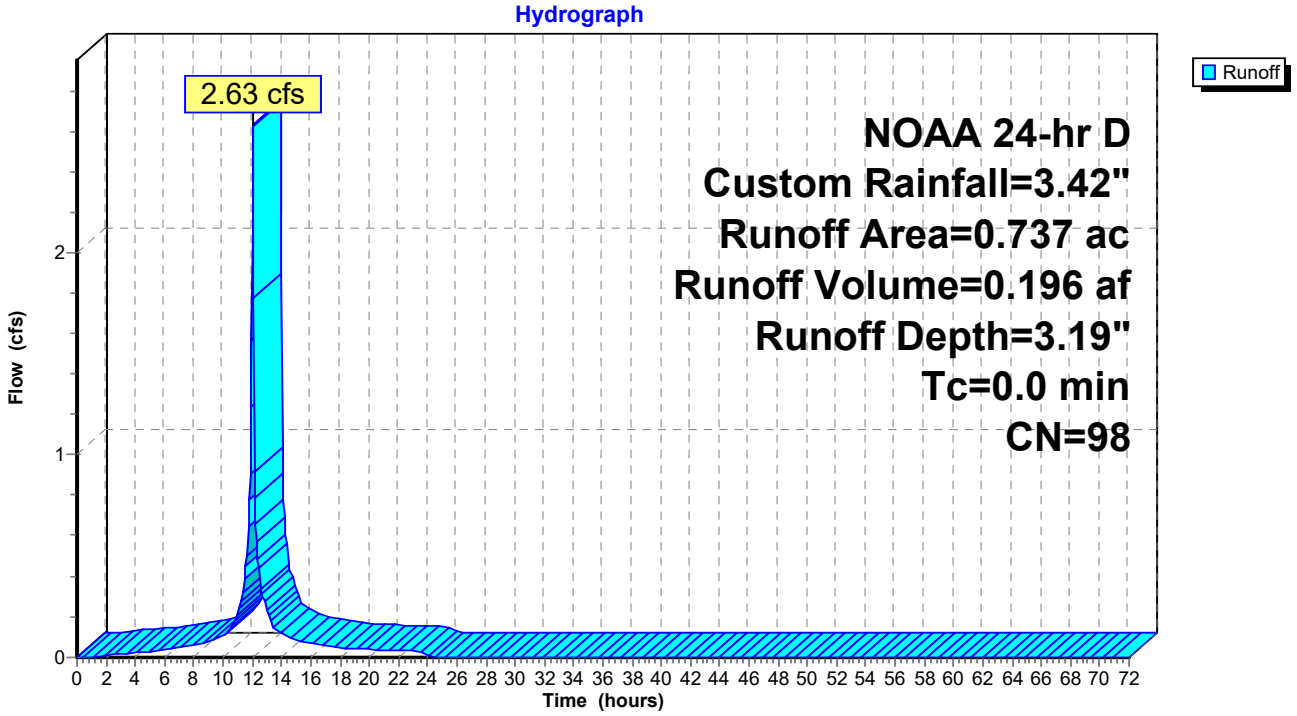
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.63 cfs @ 12.04 hrs, Volume= 0.196 af, Depth= 3.19"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 0.75" for Custom event
Inflow = 2.51 cfs @ 12.10 hrs, Volume= 0.348 af
Outflow = 0.18 cfs @ 16.26 hrs, Volume= 0.277 af, Atten= 93%, Lag= 249.3 min
Primary = 0.18 cfs @ 16.26 hrs, Volume= 0.277 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.41' @ 16.26 hrs Surf.Area= 6,134 sf Storage= 7,000 cf

Plug-Flow detention time= 600.0 min calculated for 0.277 af (80% of inflow)
Center-of-Mass det. time= 413.6 min (1,399.5 - 985.9)

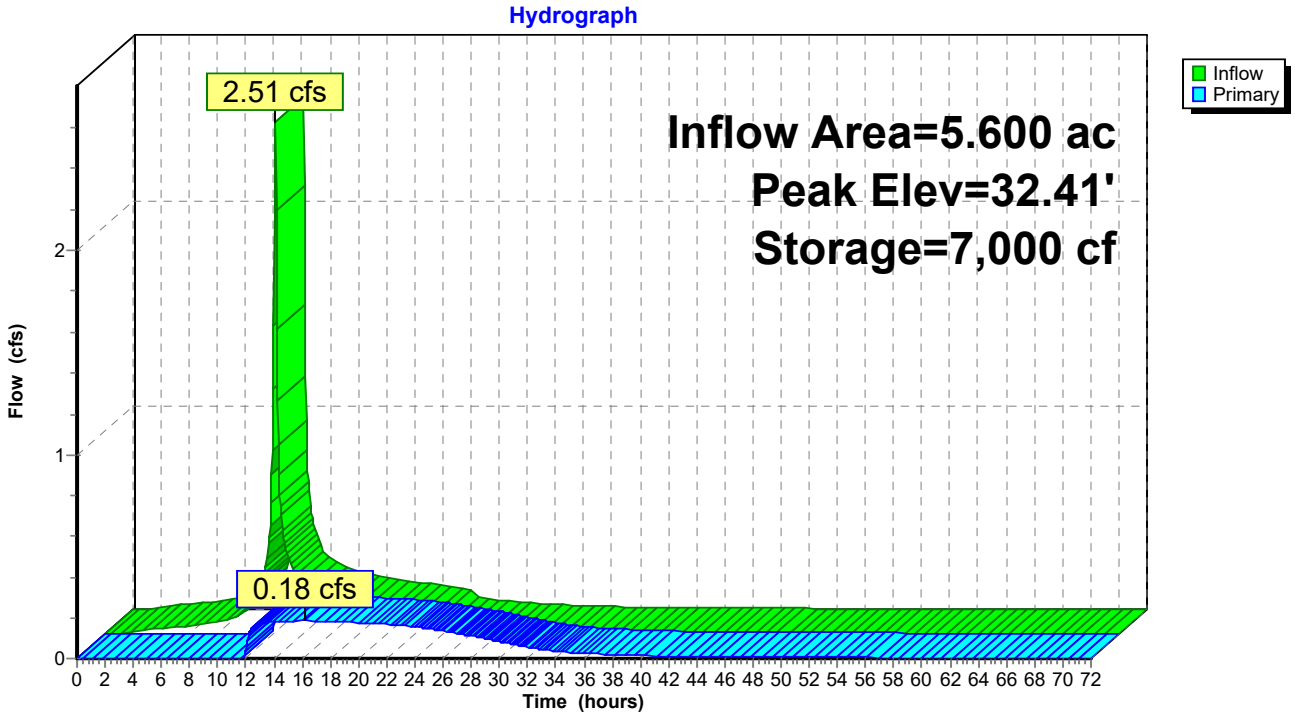
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 16.26 hrs HW=32.41' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.18 cfs @ 3.77 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

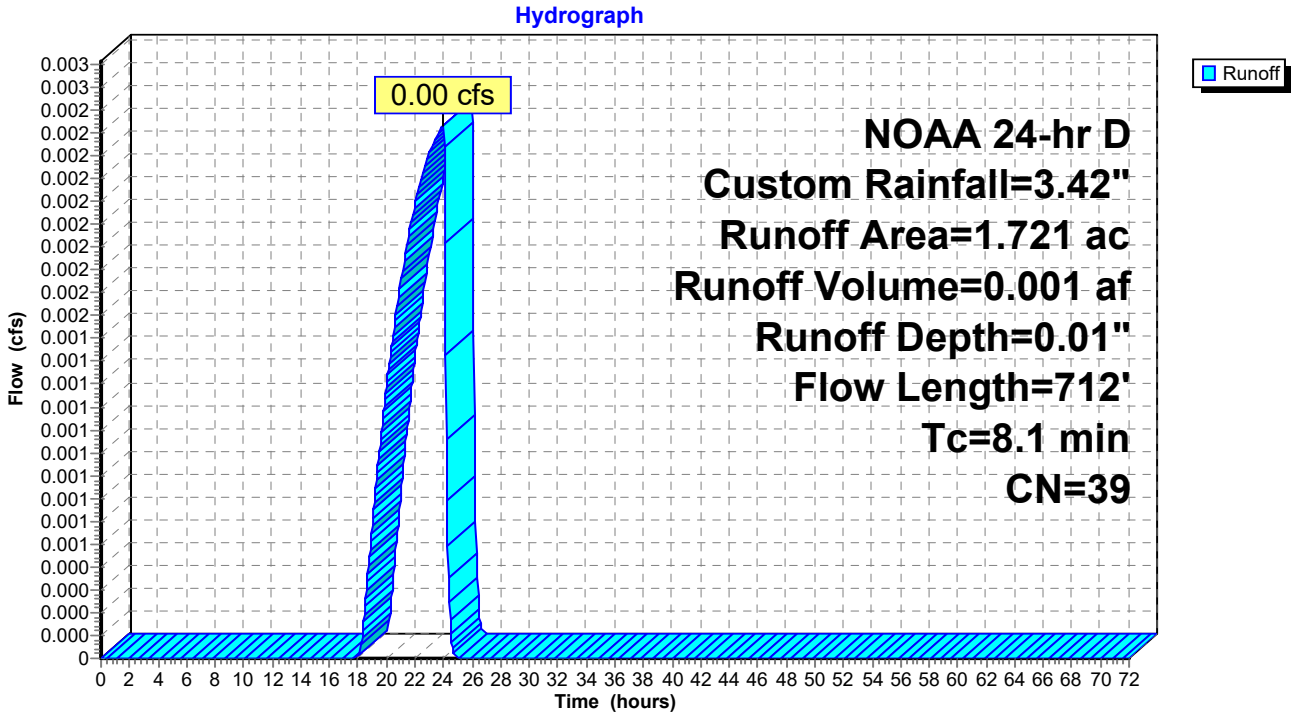
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 0.62" for Custom event
Inflow = 1.52 cfs @ 12.10 hrs, Volume= 0.133 af
Outflow = 1.44 cfs @ 12.13 hrs, Volume= 0.090 af, Atten= 5%, Lag= 1.6 min
Primary = 1.44 cfs @ 12.13 hrs, Volume= 0.090 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.95' @ 12.13 hrs Surf.Area= 1,960 sf Storage= 2,052 cf

Plug-Flow detention time= 208.2 min calculated for 0.090 af (68% of inflow)
Center-of-Mass det. time= 98.3 min (858.6 - 760.3)

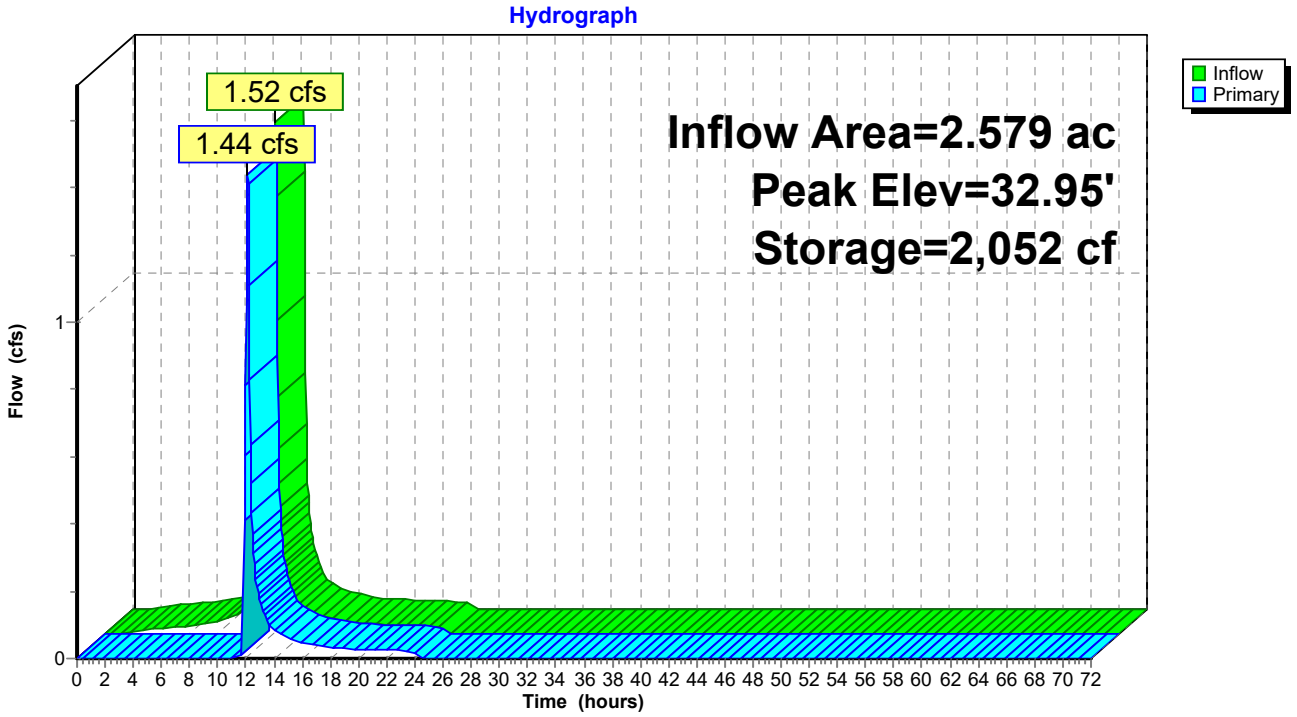
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.39 cfs @ 12.13 hrs HW=32.95' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 1.39 cfs @ 0.97 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 0.78" for Custom event
Inflow = 2.21 cfs @ 12.09 hrs, Volume= 0.194 af
Outflow = 0.12 cfs @ 13.94 hrs, Volume= 0.140 af, Atten= 94%, Lag= 111.3 min
Primary = 0.12 cfs @ 13.94 hrs, Volume= 0.140 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.67' @ 13.94 hrs Surf.Area= 9,233 sf Storage= 5,778 cf

Plug-Flow detention time= 666.6 min calculated for 0.140 af (72% of inflow)
Center-of-Mass det. time= 566.9 min (1,324.9 - 758.1)

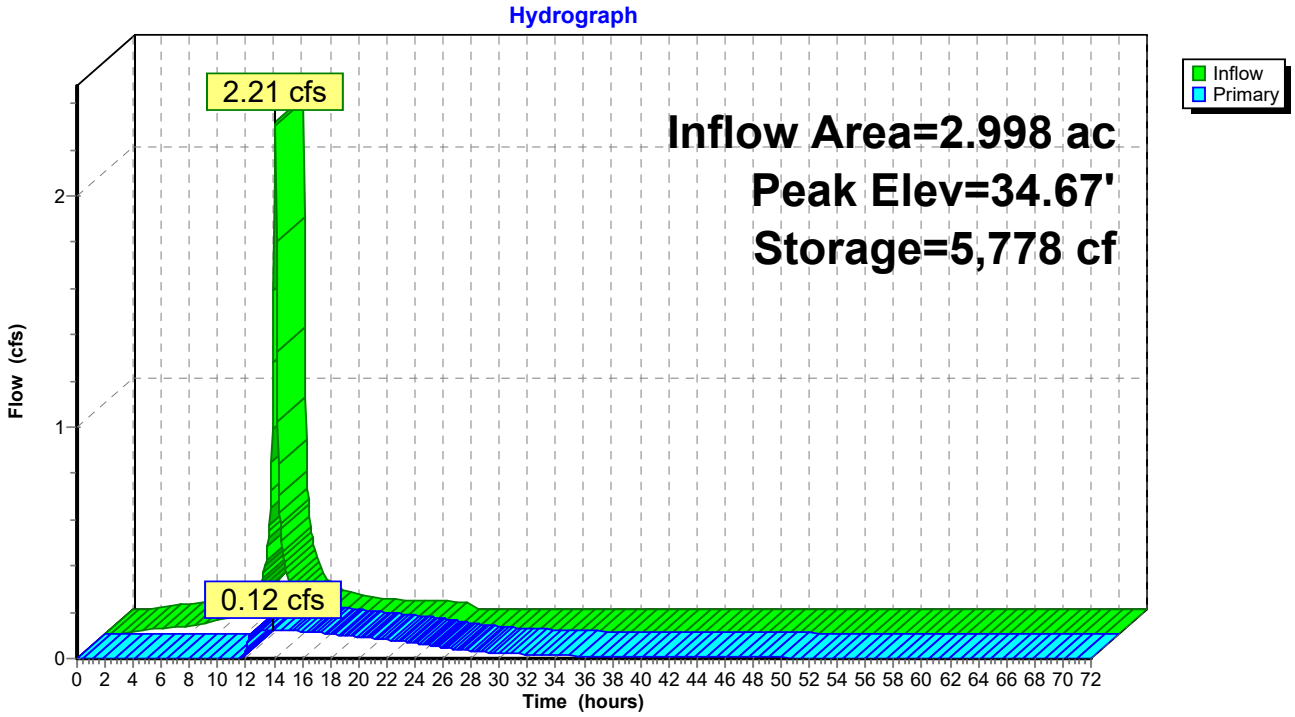
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 13.94 hrs HW=34.67' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.12 cfs @ 2.51 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

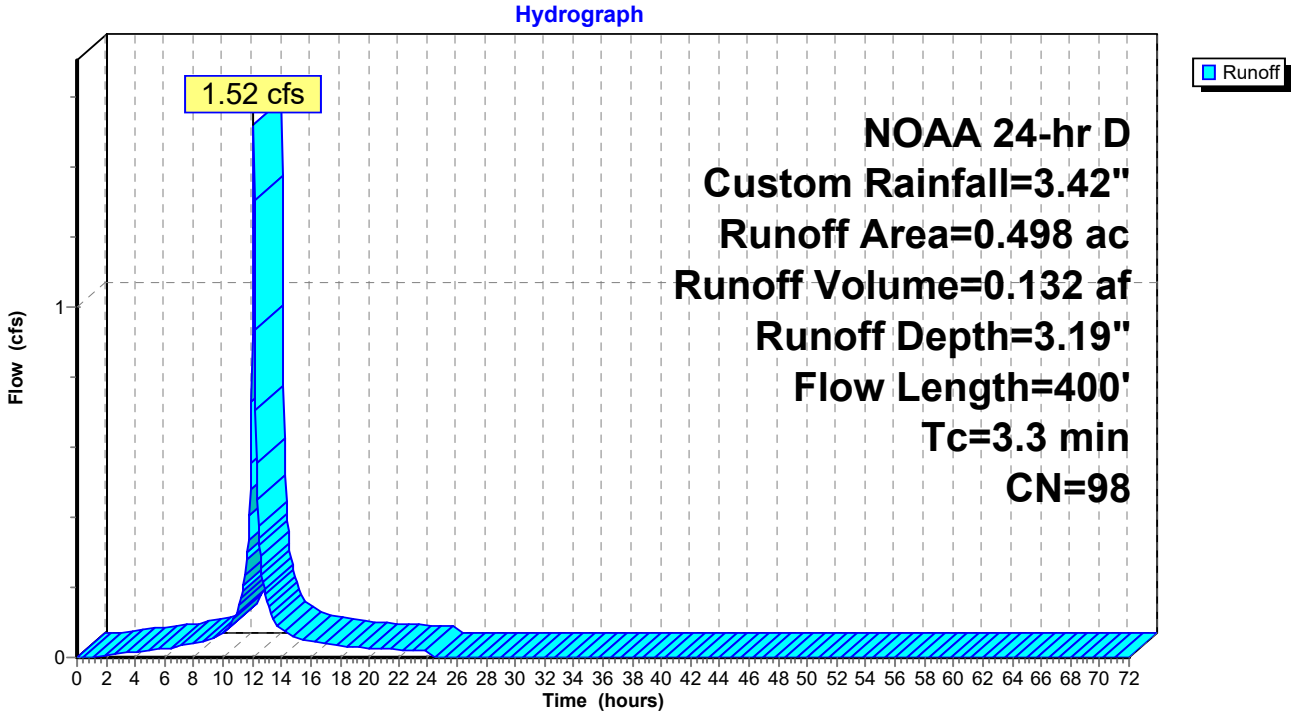
Runoff = 1.52 cfs @ 12.10 hrs, Volume= 0.132 af, Depth= 3.19"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 0.47" for Custom event
Inflow = 10.33 cfs @ 12.16 hrs, Volume= 0.791 af
Outflow = 1.20 cfs @ 13.35 hrs, Volume= 0.769 af, Atten= 88%, Lag= 71.3 min
Primary = 1.20 cfs @ 13.35 hrs, Volume= 0.769 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.06' @ 13.35 hrs Surf.Area= 8,934 sf Storage= 18,590 cf

Plug-Flow detention time= 540.8 min calculated for 0.769 af (97% of inflow)
Center-of-Mass det. time= 526.2 min (1,380.4 - 854.2)

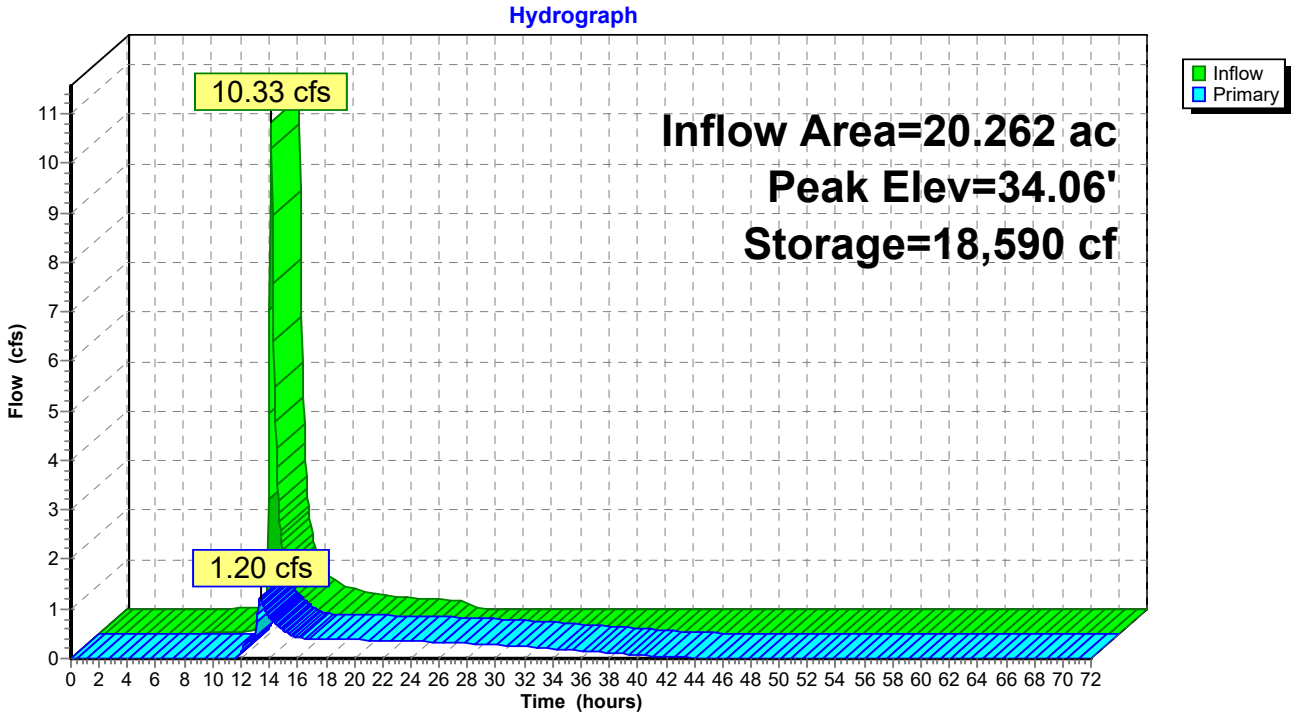
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 13.35 hrs HW=34.06' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.39 cfs @ 7.89 fps)
└**2=Orifice/Grate** (Weir Controls 0.79 cfs @ 0.81 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

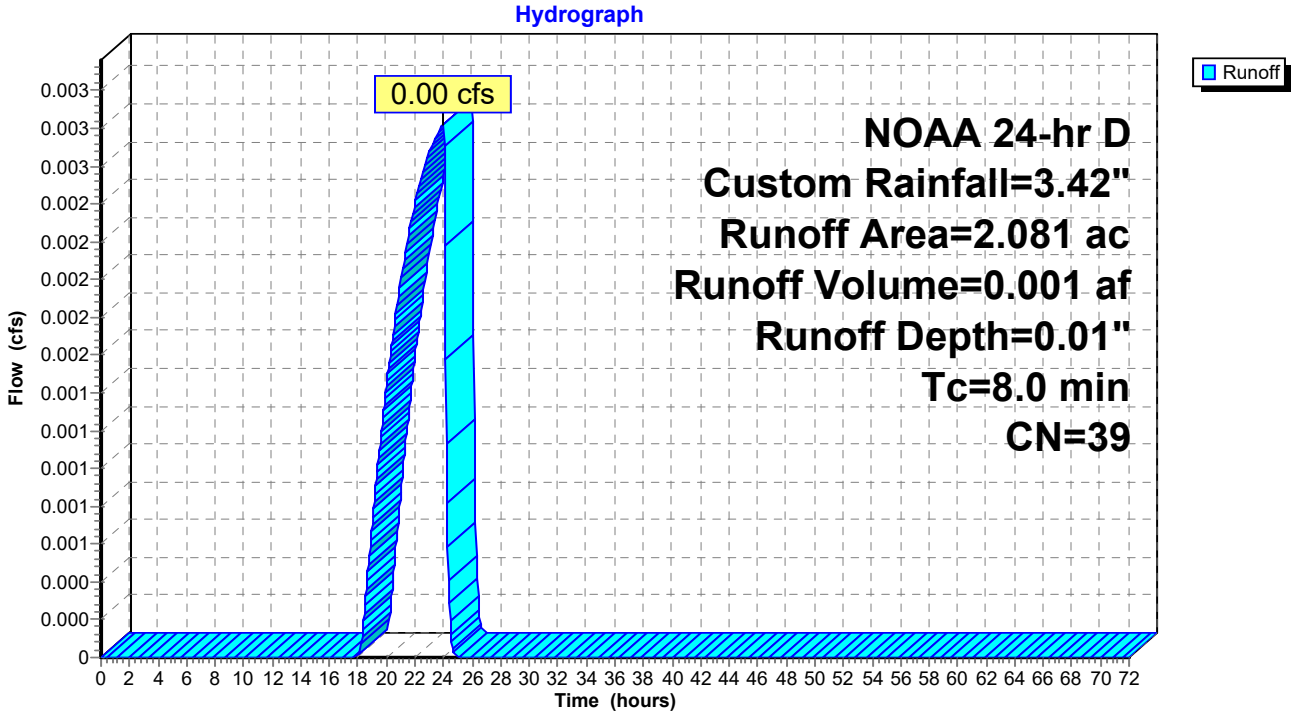
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 0.57" for Custom event
Inflow = 13.39 cfs @ 12.12 hrs, Volume= 2.865 af
Outflow = 1.41 cfs @ 18.06 hrs, Volume= 2.296 af, Atten= 89%, Lag= 356.7 min
Primary = 1.41 cfs @ 18.06 hrs, Volume= 2.296 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 27.14' @ 18.06 hrs Surf.Area= 24,519 sf Storage= 59,171 cf

Plug-Flow detention time= 1,112.8 min calculated for 2.296 af (80% of inflow)
Center-of-Mass det. time= 913.4 min (2,082.5 - 1,169.1)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) x 2

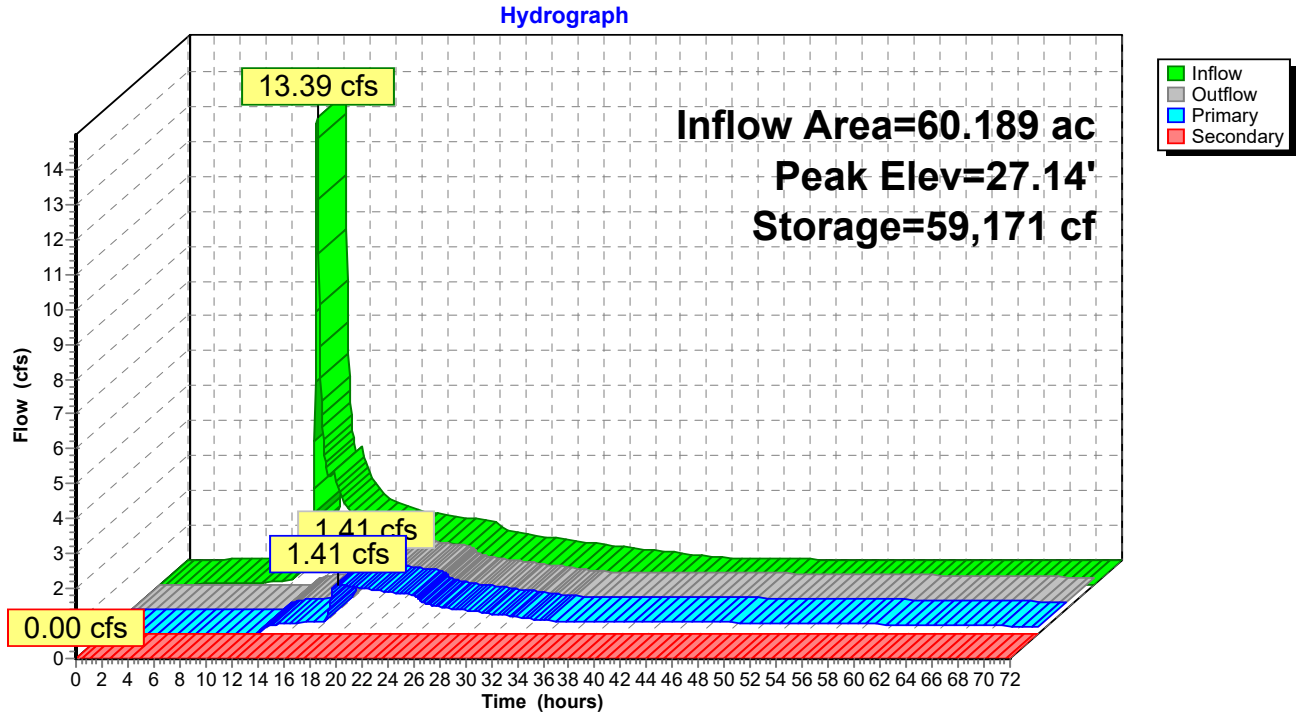
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.34 cfs @ 18.06 hrs HW=27.14' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.49 fps)
└**2=Orifice/Grate** (Weir Controls 0.97 cfs @ 0.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.22' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 0.90" for Custom event
Inflow = 1.67 cfs @ 12.09 hrs, Volume= 0.135 af
Outflow = 0.11 cfs @ 13.45 hrs, Volume= 0.090 af, Atten= 93%, Lag= 81.5 min
Primary = 0.11 cfs @ 13.45 hrs, Volume= 0.090 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.70' @ 13.45 hrs Surf.Area= 6,169 sf Storage= 3,901 cf

Plug-Flow detention time= 536.5 min calculated for 0.090 af (67% of inflow)
Center-of-Mass det. time= 426.3 min (1,183.5 - 757.2)

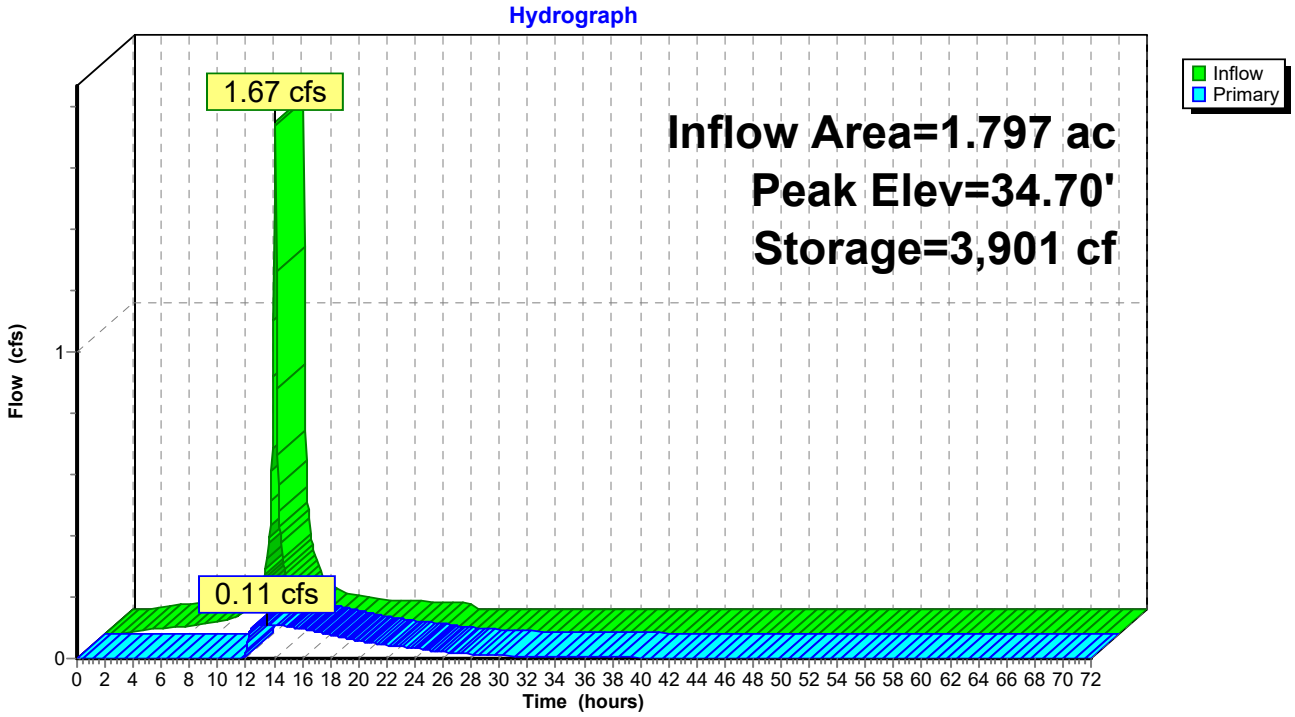
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 13.45 hrs HW=34.70' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.11 cfs @ 2.26 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

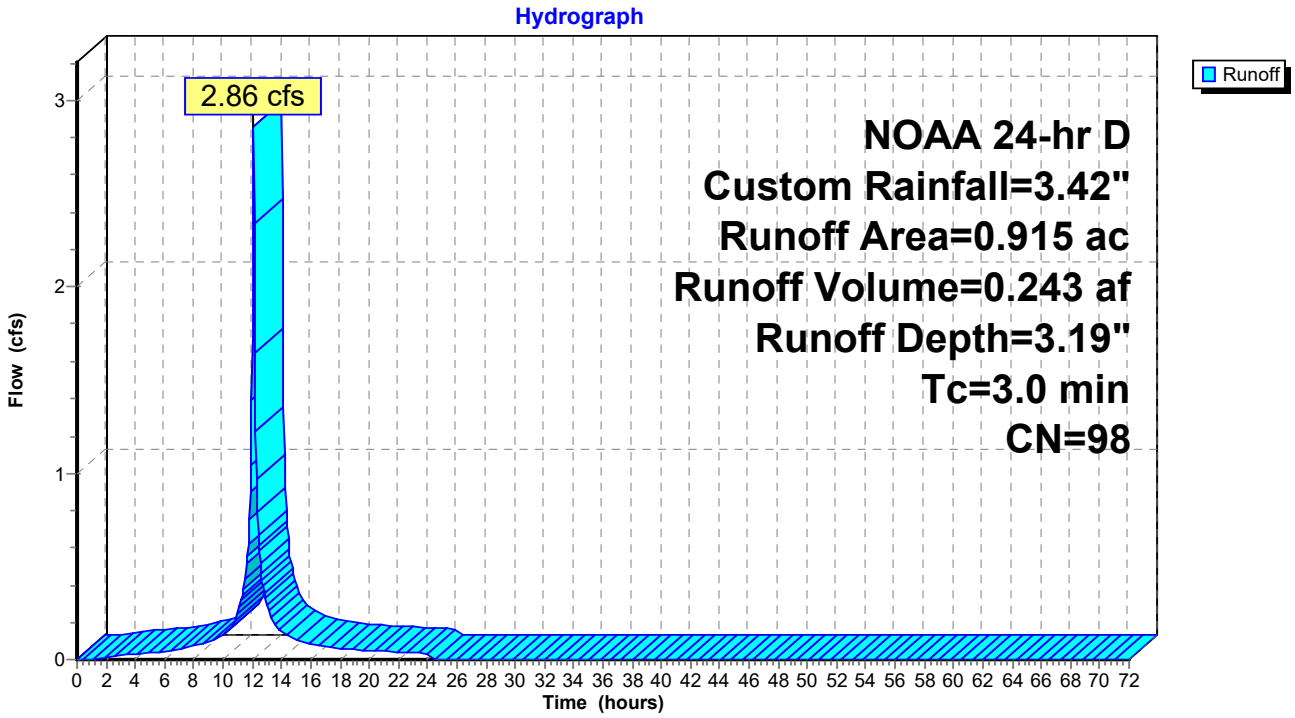
Runoff = 2.86 cfs @ 12.10 hrs, Volume= 0.243 af, Depth= 3.19"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

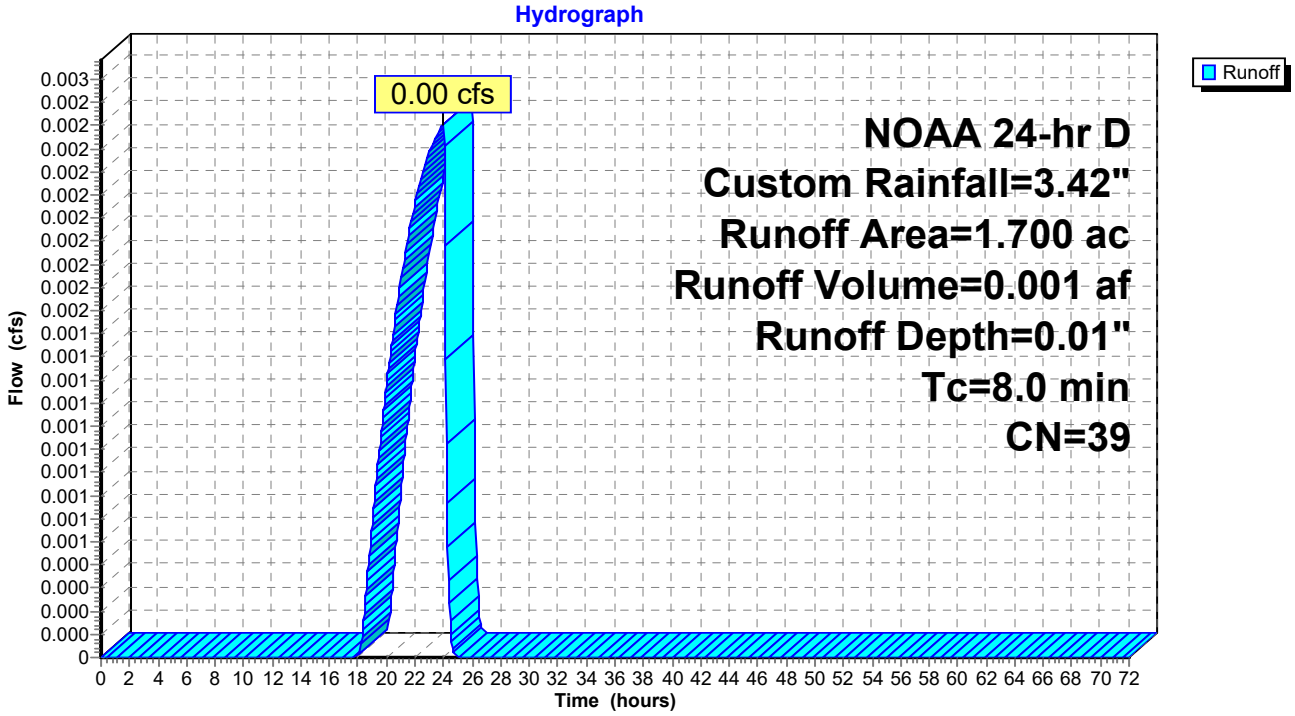
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 1.12" for Custom event
Inflow = 2.78 cfs @ 12.10 hrs, Volume= 0.237 af
Outflow = 2.37 cfs @ 12.15 hrs, Volume= 0.159 af, Atten= 15%, Lag= 2.9 min
Primary = 2.37 cfs @ 12.15 hrs, Volume= 0.159 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.85' @ 12.15 hrs Surf.Area= 5,609 sf Storage= 4,070 cf

Plug-Flow detention time= 213.3 min calculated for 0.159 af (67% of inflow)
Center-of-Mass det. time= 104.1 min (861.7 - 757.6)

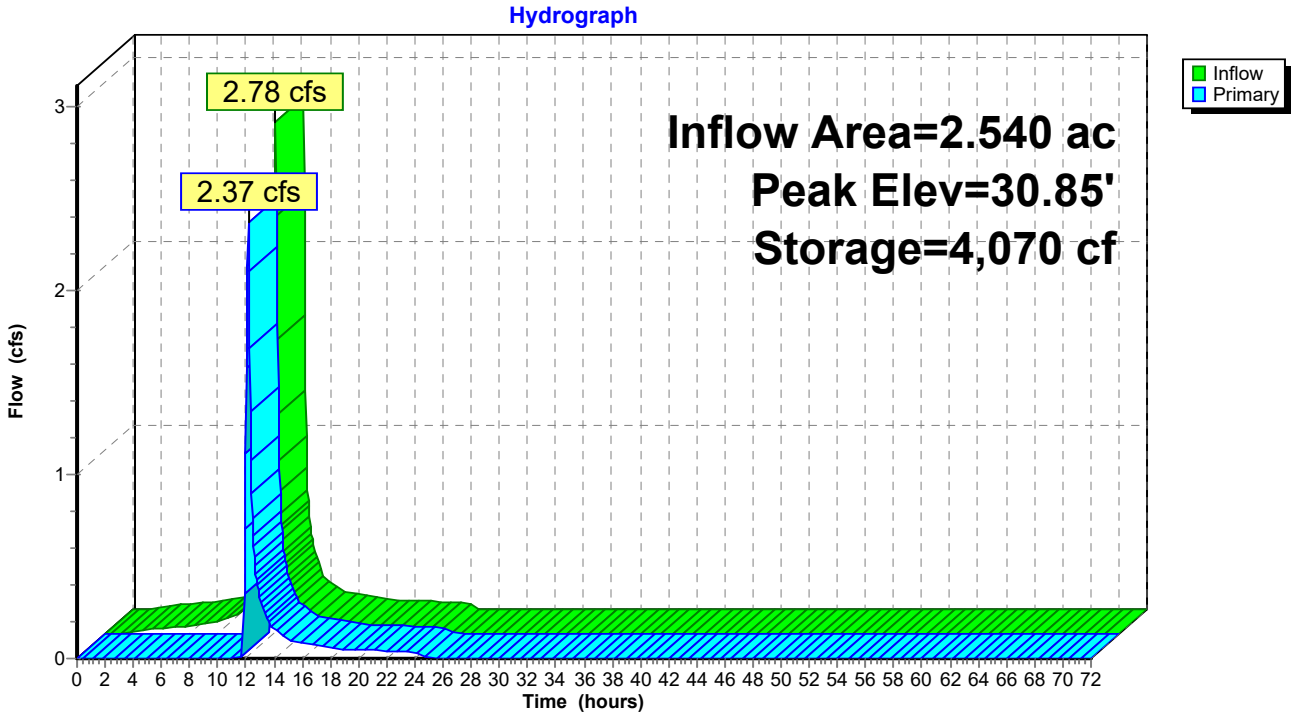
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.36 cfs @ 12.15 hrs HW=30.85' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.36 cfs @ 1.16 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 0.93" for Custom event
Inflow = 2.36 cfs @ 12.10 hrs, Volume= 0.201 af
Outflow = 1.88 cfs @ 12.16 hrs, Volume= 0.135 af, Atten= 20%, Lag= 3.6 min
Primary = 1.88 cfs @ 12.16 hrs, Volume= 0.135 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.57' @ 12.16 hrs Surf.Area= 7,008 sf Storage= 3,614 cf

Plug-Flow detention time= 218.1 min calculated for 0.135 af (67% of inflow)
Center-of-Mass det. time= 108.0 min (866.2 - 758.2)

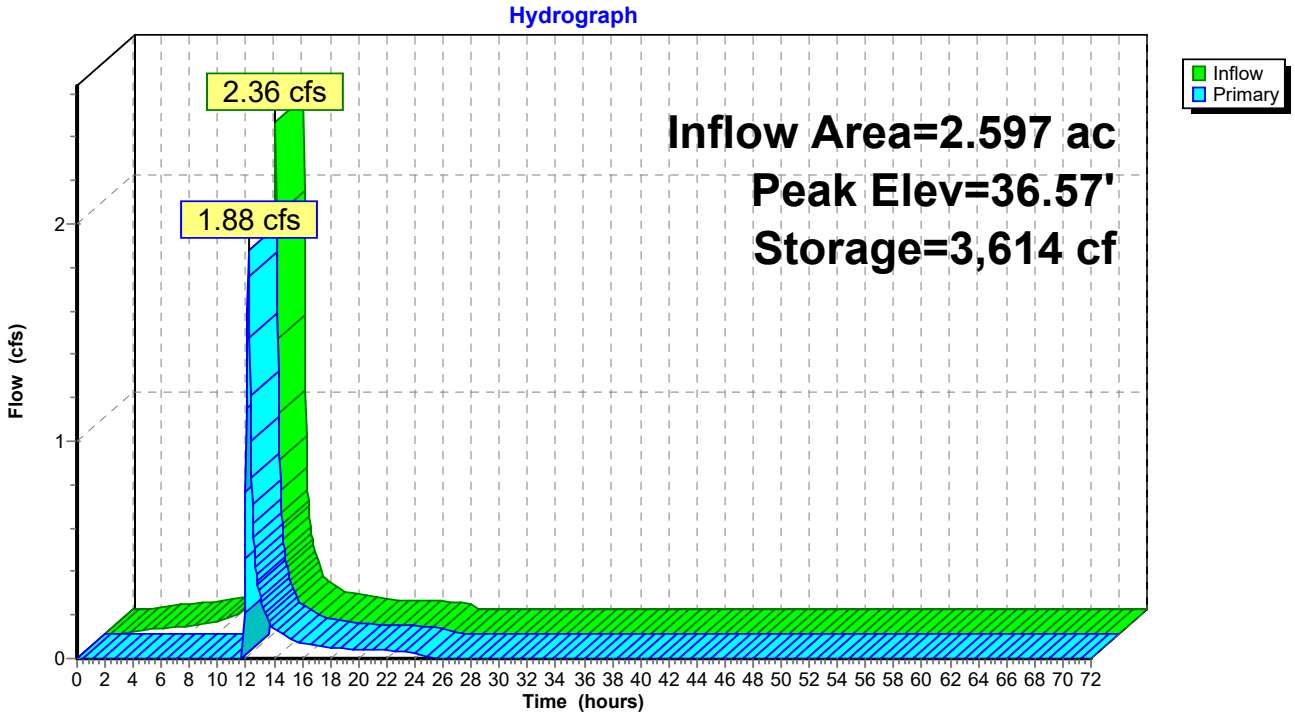
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.85 cfs @ 12.16 hrs HW=36.57' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 1.85 cfs @ 1.07 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

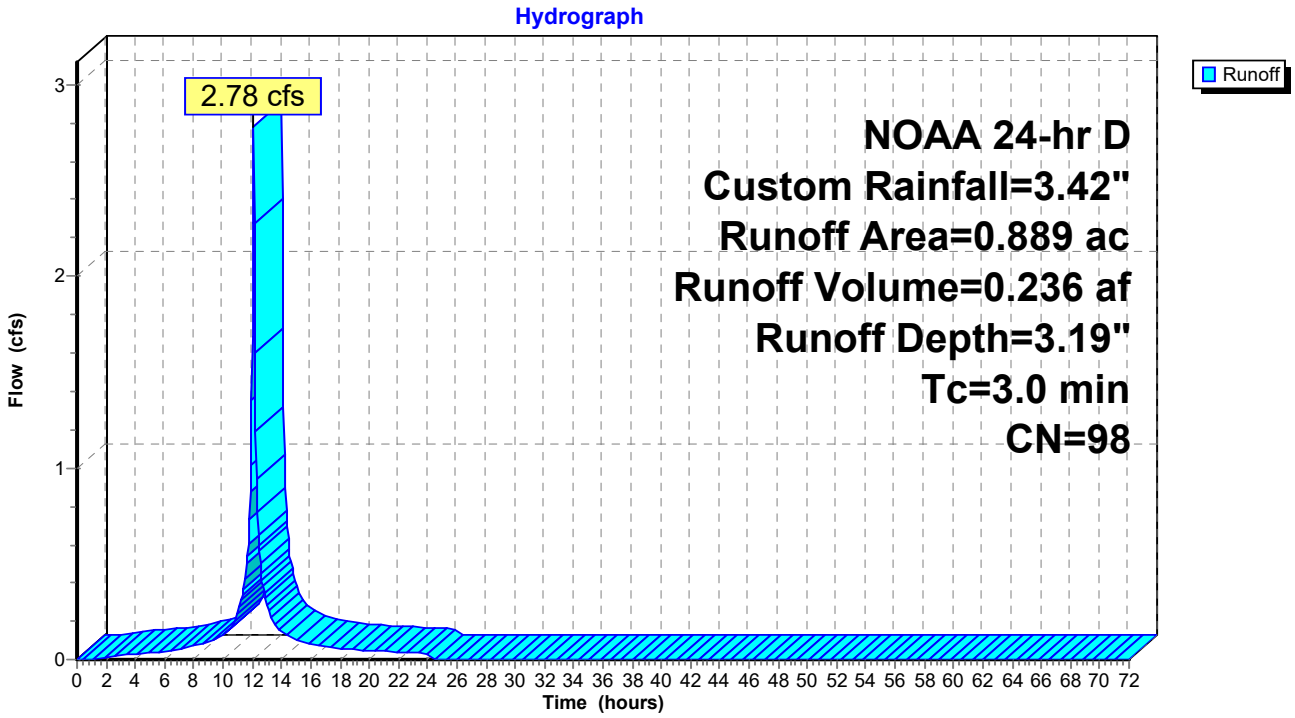
Runoff = 2.78 cfs @ 12.10 hrs, Volume= 0.236 af, Depth= 3.19"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 0.34" for Custom event
Inflow = 4.61 cfs @ 12.11 hrs, Volume= 0.423 af
Outflow = 3.90 cfs @ 12.17 hrs, Volume= 0.286 af, Atten= 16%, Lag= 3.5 min
Primary = 3.90 cfs @ 12.17 hrs, Volume= 0.286 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.06' @ 12.17 hrs Surf.Area= 8,020 sf Storage= 7,353 cf

Plug-Flow detention time= 212.1 min calculated for 0.286 af (68% of inflow)
Center-of-Mass det. time= 104.8 min (862.3 - 757.4)

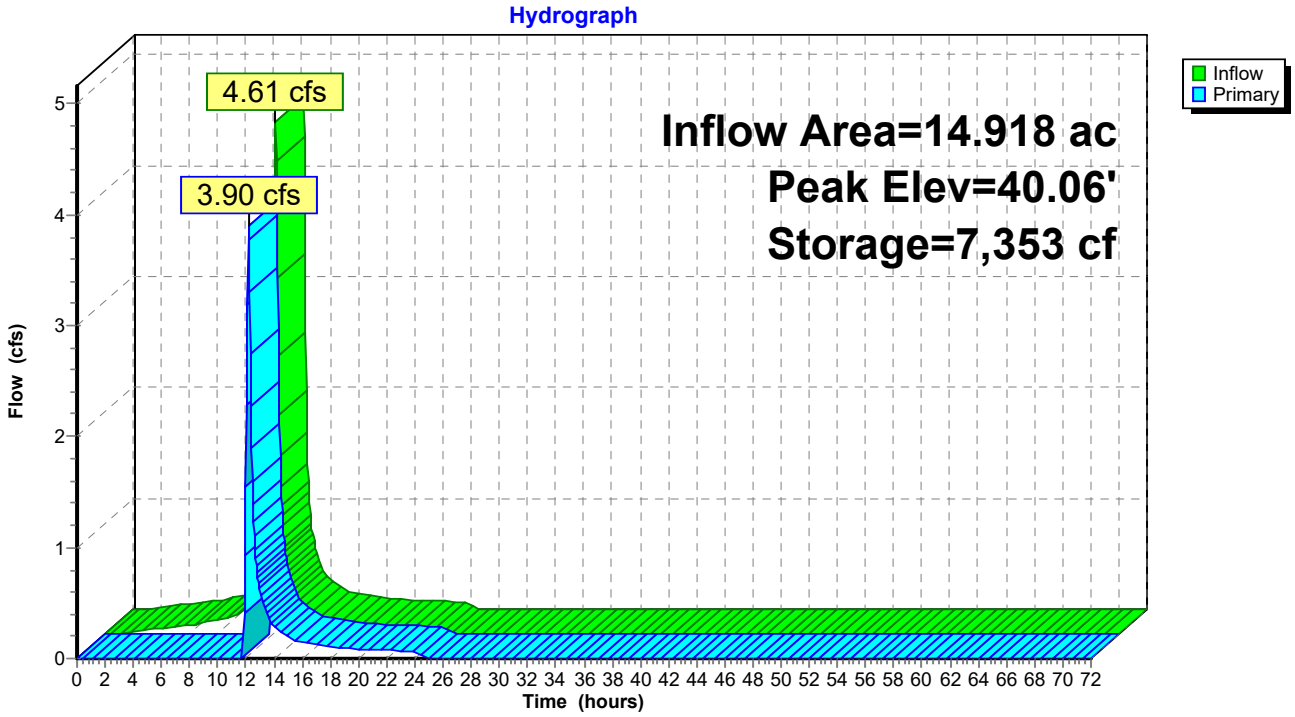
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.81 cfs @ 12.17 hrs HW=40.05' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.81 cfs @ 1.37 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

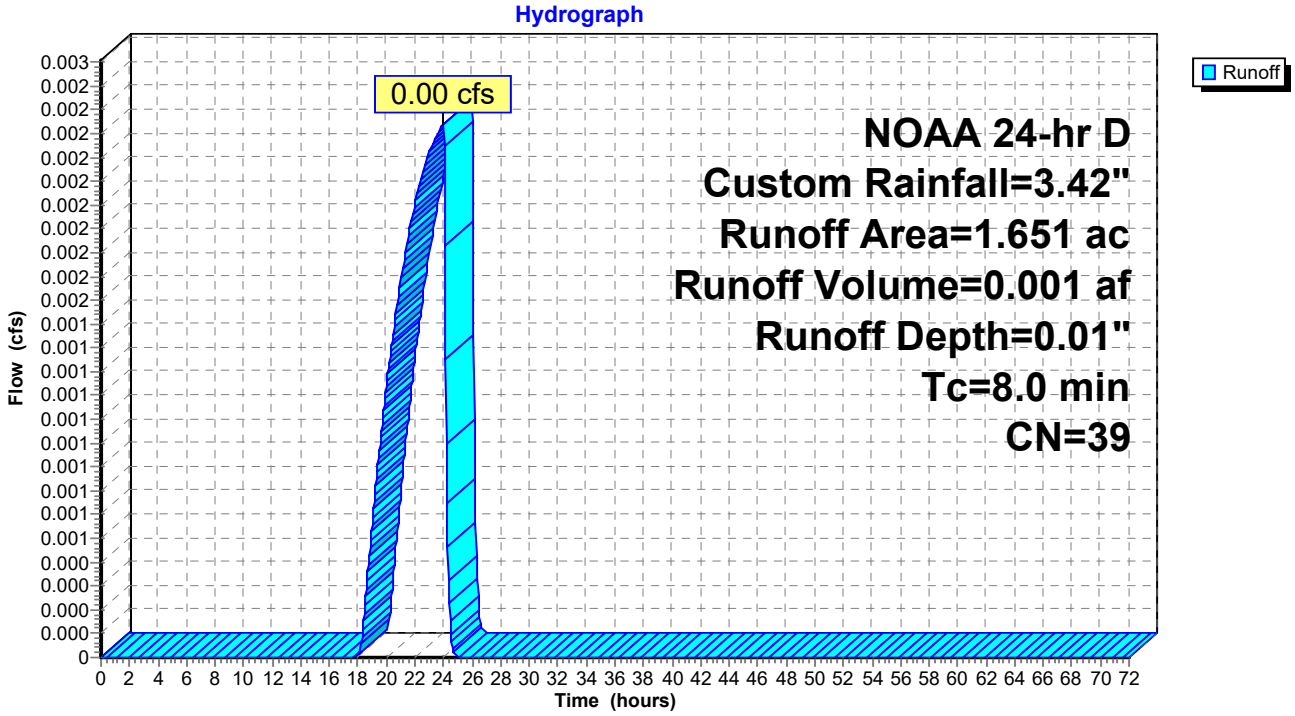
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 0.80" for Custom event
Inflow = 2.32 cfs @ 12.06 hrs, Volume= 0.201 af
Outflow = 2.12 cfs @ 12.10 hrs, Volume= 0.168 af, Atten= 9%, Lag= 2.2 min
Primary = 2.12 cfs @ 12.10 hrs, Volume= 0.168 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.02' @ 12.10 hrs Surf.Area= 3,934 sf Storage= 1,895 cf

Plug-Flow detention time= 143.2 min calculated for 0.168 af (83% of inflow)
Center-of-Mass det. time= 67.3 min (823.8 - 756.5)

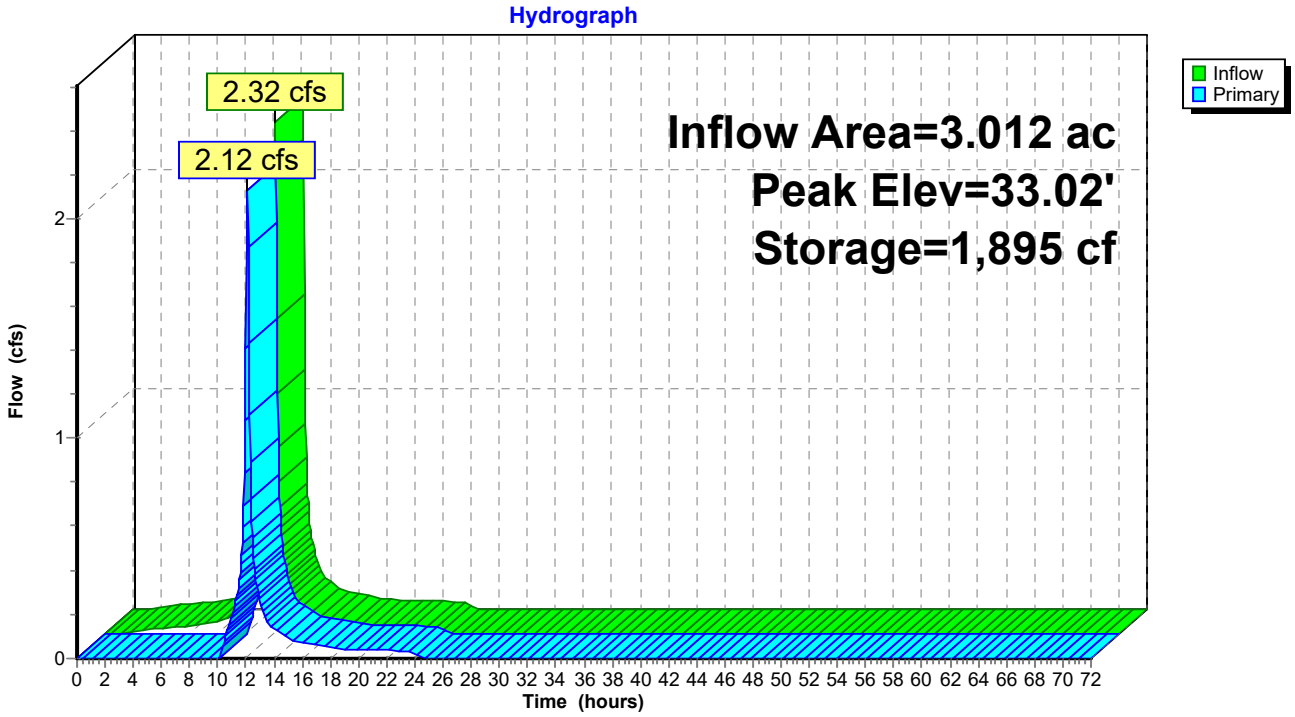
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.12 cfs @ 12.10 hrs HW=33.02' (Free Discharge)
1=Orifice/Grate (Weir Controls 2.12 cfs @ 1.12 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 3.19" for Custom event
Inflow = 4.45 cfs @ 12.11 hrs, Volume= 0.451 af
Outflow = 3.98 cfs @ 12.17 hrs, Volume= 0.304 af, Atten= 11%, Lag= 3.2 min
Primary = 3.98 cfs @ 12.17 hrs, Volume= 0.304 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.45' @ 12.17 hrs Surf.Area= 6,364 sf Storage= 7,490 cf

Plug-Flow detention time= 210.2 min calculated for 0.304 af (68% of inflow)
Center-of-Mass det. time= 102.5 min (862.0 - 759.5)

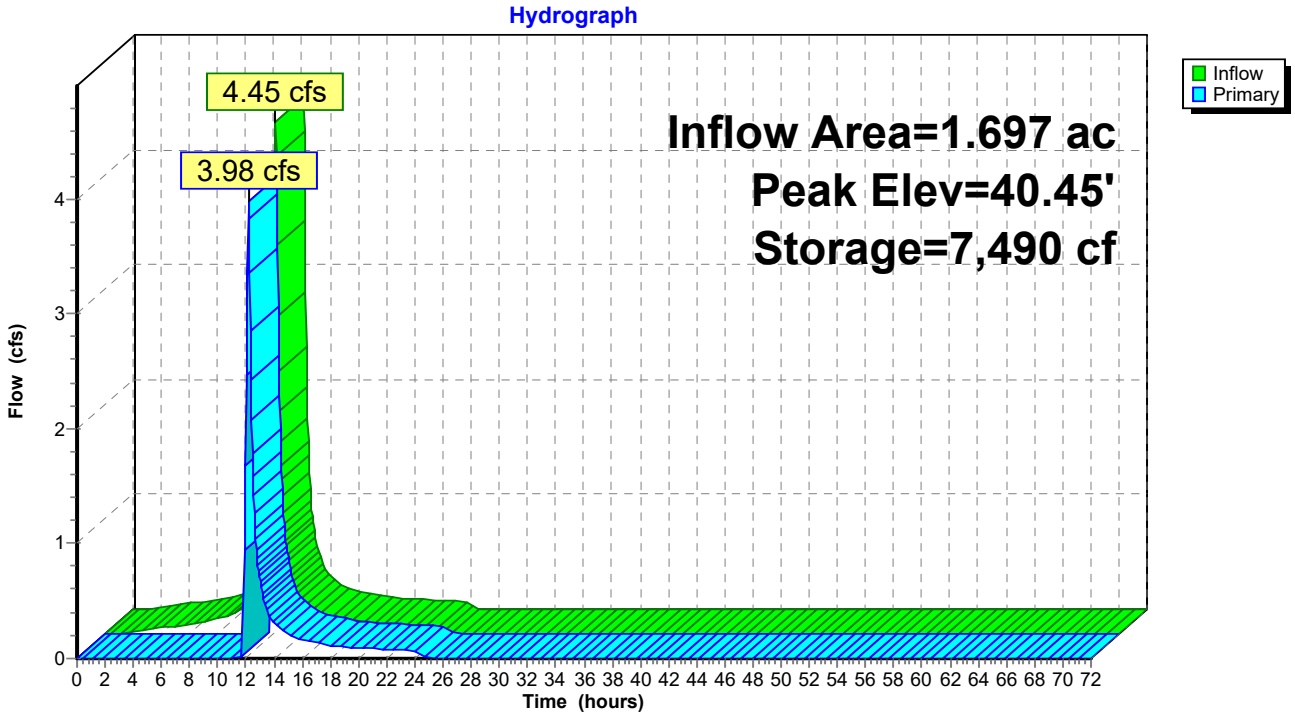
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.90 cfs @ 12.17 hrs HW=40.45' (Free Discharge)
1=Orifice/Grate (Weir Controls 3.90 cfs @ 1.38 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

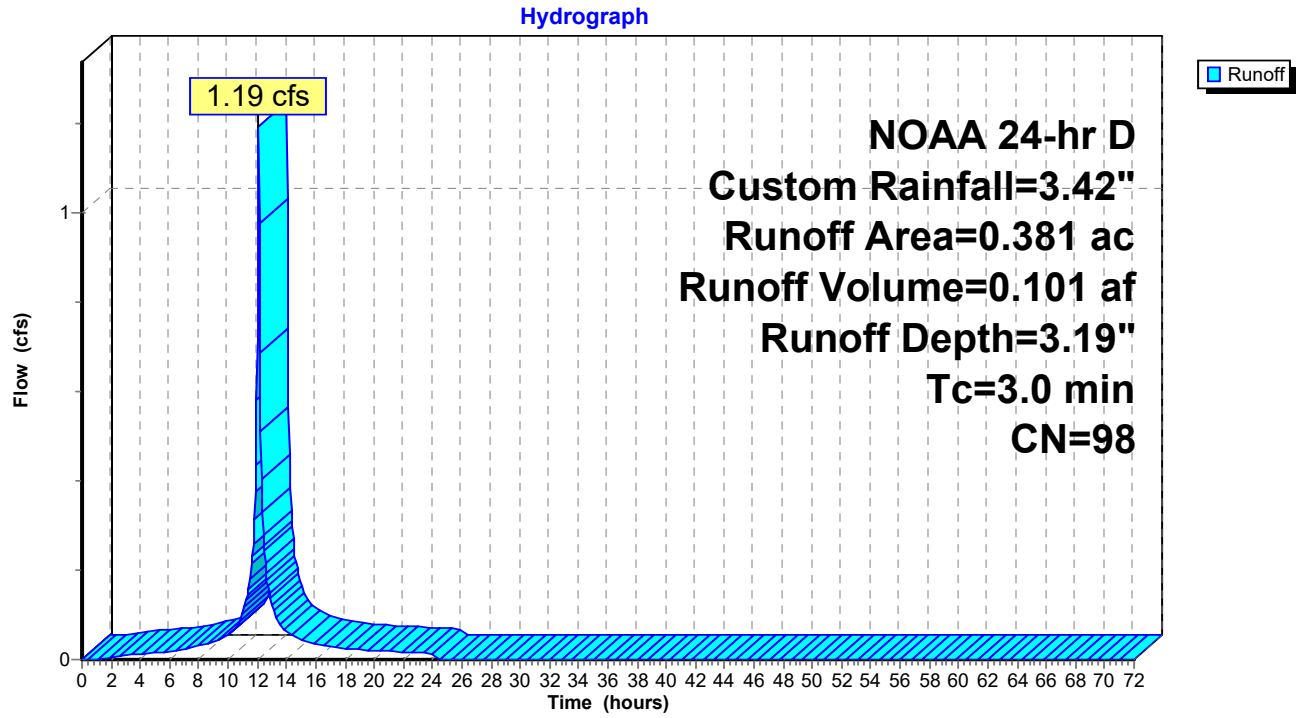
Runoff = 1.19 cfs @ 12.10 hrs, Volume= 0.101 af, Depth= 3.19"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

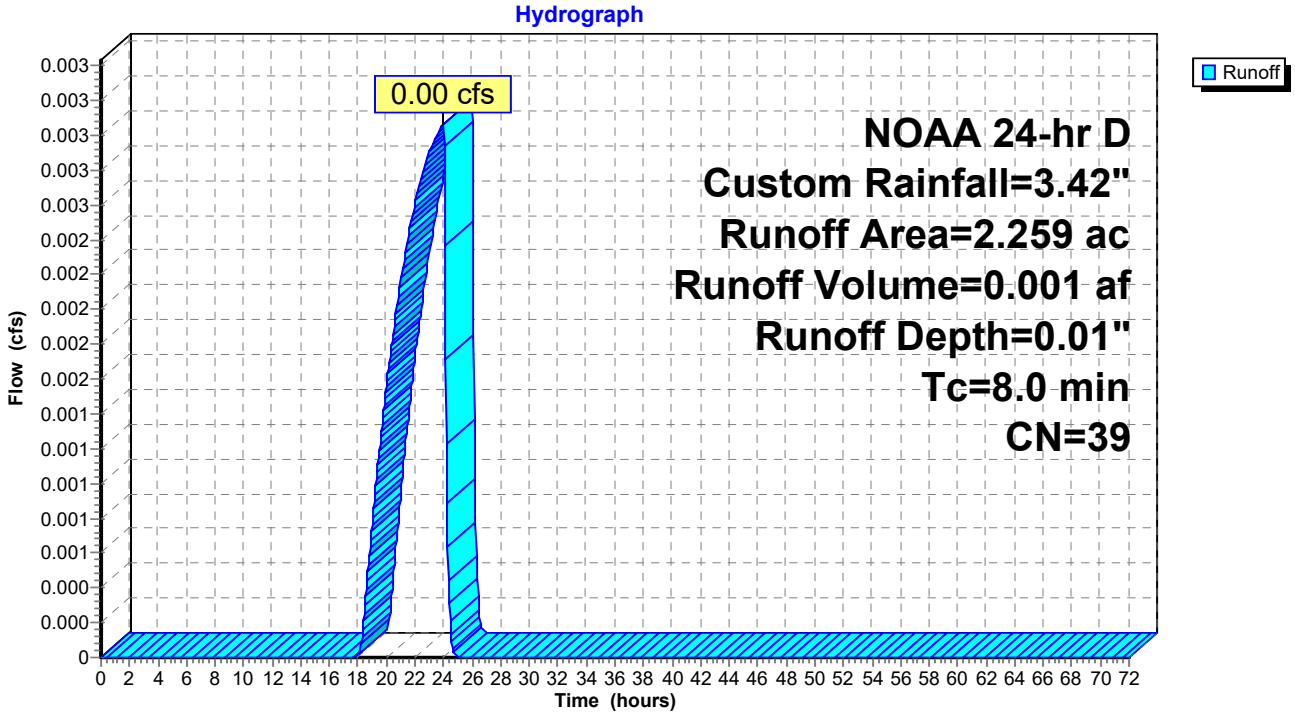
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

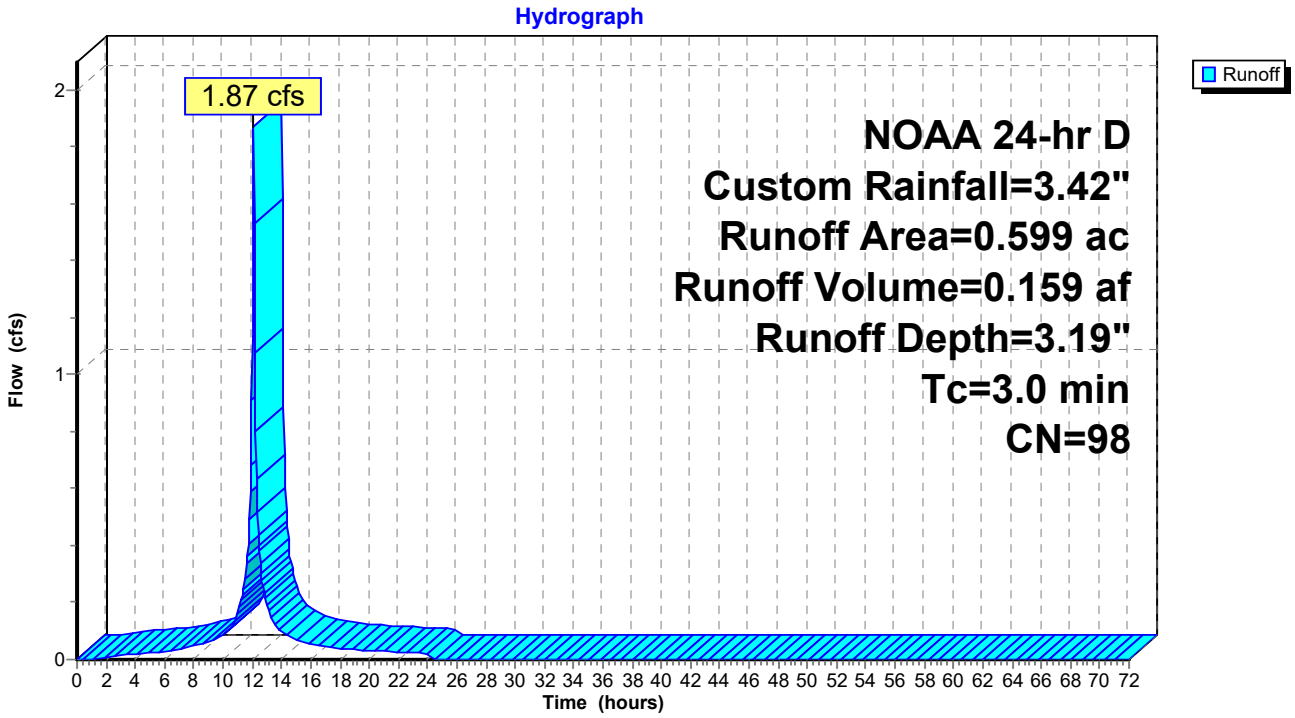
Runoff = 1.87 cfs @ 12.10 hrs, Volume= 0.159 af, Depth= 3.19"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 1.12" for Custom event
Inflow = 1.88 cfs @ 12.10 hrs, Volume= 0.163 af
Outflow = 1.72 cfs @ 12.14 hrs, Volume= 0.110 af, Atten= 9%, Lag= 2.2 min
Primary = 1.72 cfs @ 12.14 hrs, Volume= 0.110 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.50' @ 12.14 hrs Surf.Area= 3,203 sf Storage= 2,608 cf

Plug-Flow detention time= 207.2 min calculated for 0.110 af (68% of inflow)
Center-of-Mass det. time= 99.3 min (857.2 - 757.9)

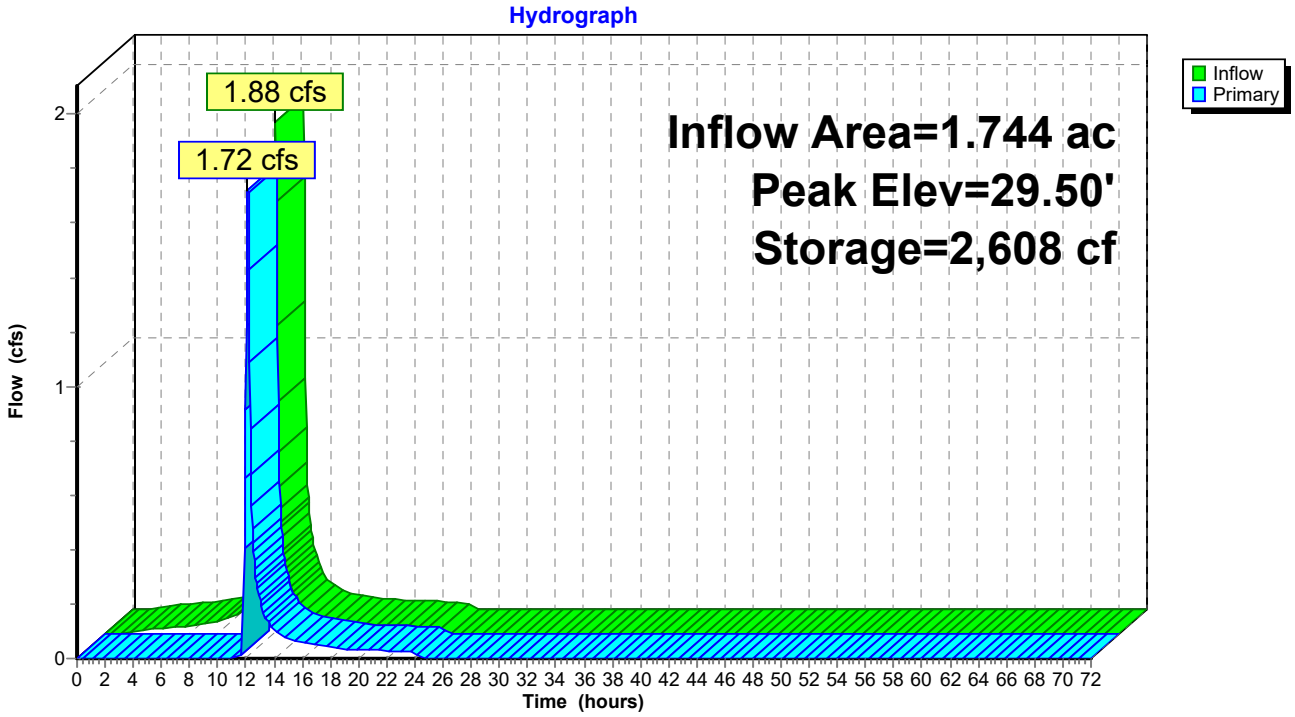
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.68 cfs @ 12.14 hrs HW=29.50' (Free Discharge)
1=Orifice/Grate (Weir Controls 1.68 cfs @ 1.04 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

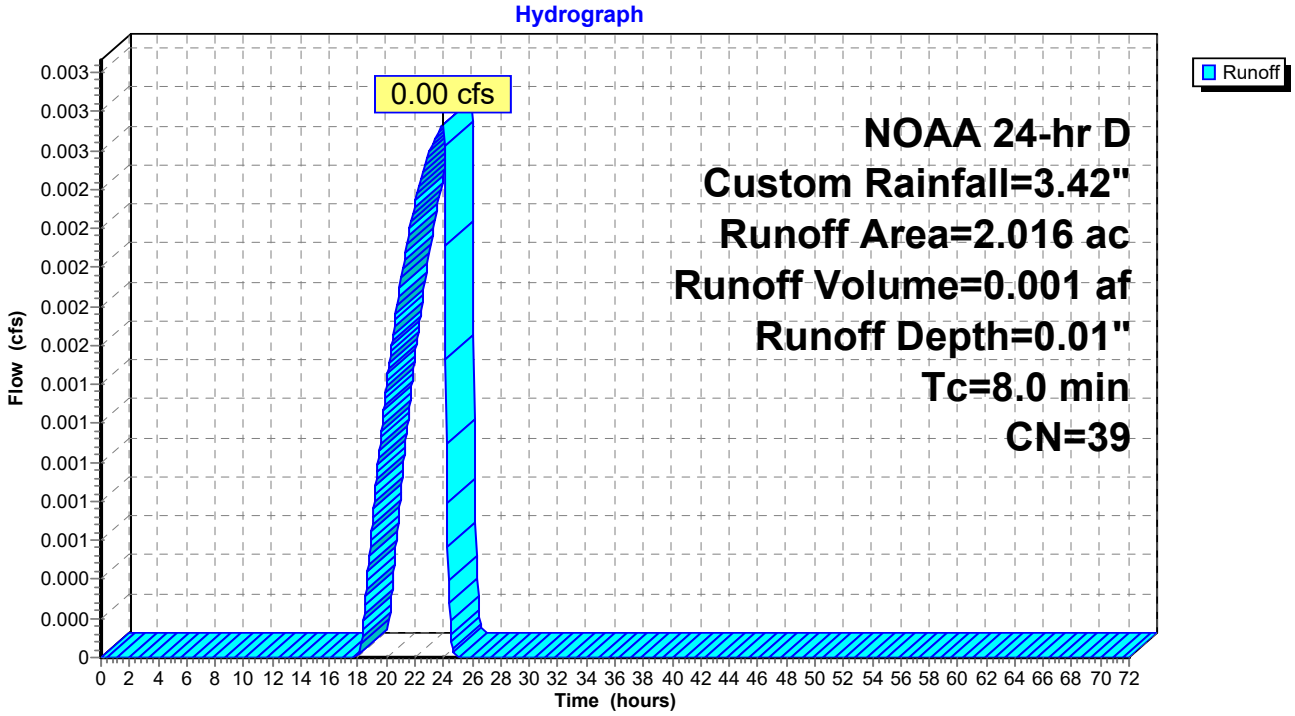
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

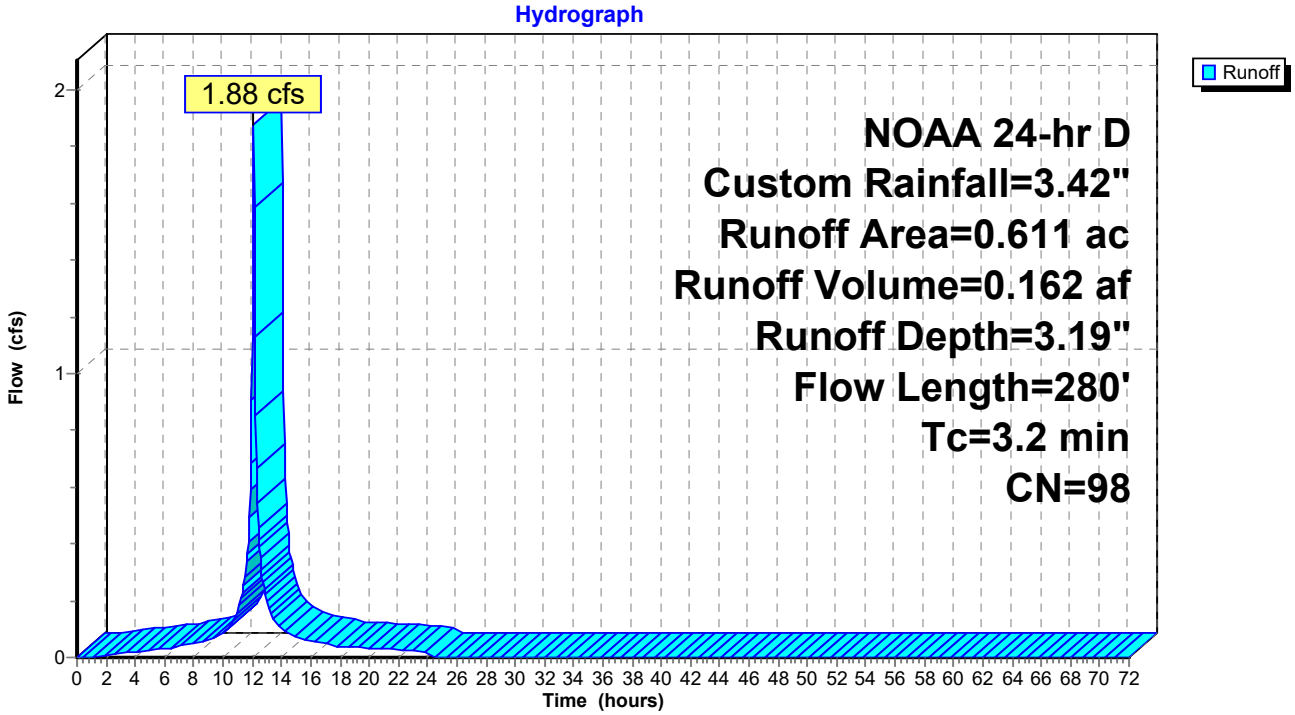
Runoff = 1.88 cfs @ 12.10 hrs, Volume= 0.162 af, Depth= 3.19"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 1.37" for Custom event
Inflow = 3.49 cfs @ 12.10 hrs, Volume= 0.297 af
Outflow = 1.28 cfs @ 12.29 hrs, Volume= 0.139 af, Atten= 63%, Lag= 11.6 min
Primary = 1.28 cfs @ 12.29 hrs, Volume= 0.139 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.06' @ 12.29 hrs Surf.Area= 4,971 sf Storage= 7,277 cf

Plug-Flow detention time= 306.7 min calculated for 0.139 af (47% of inflow)
Center-of-Mass det. time= 159.9 min (917.1 - 757.2)

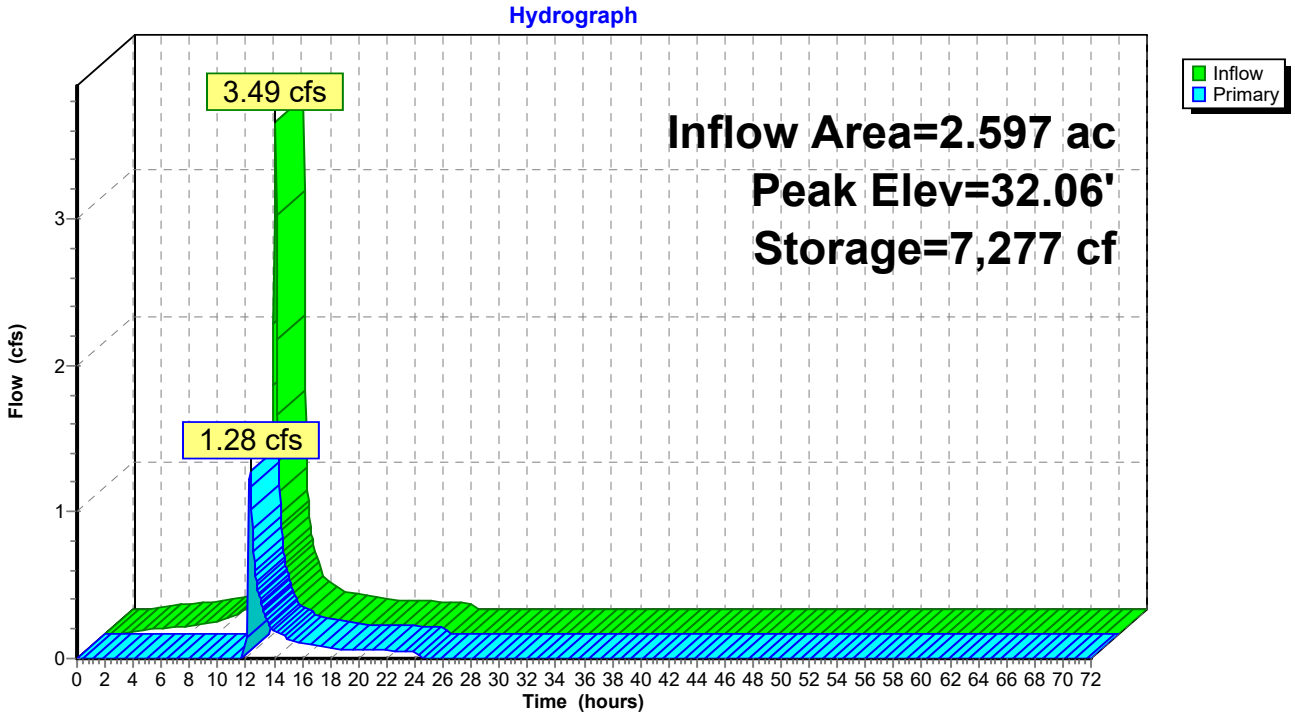
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.27 cfs @ 12.29 hrs HW=32.06' (Free Discharge)
1=Orifice/Grate (Weir Controls 1.27 cfs @ 0.95 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

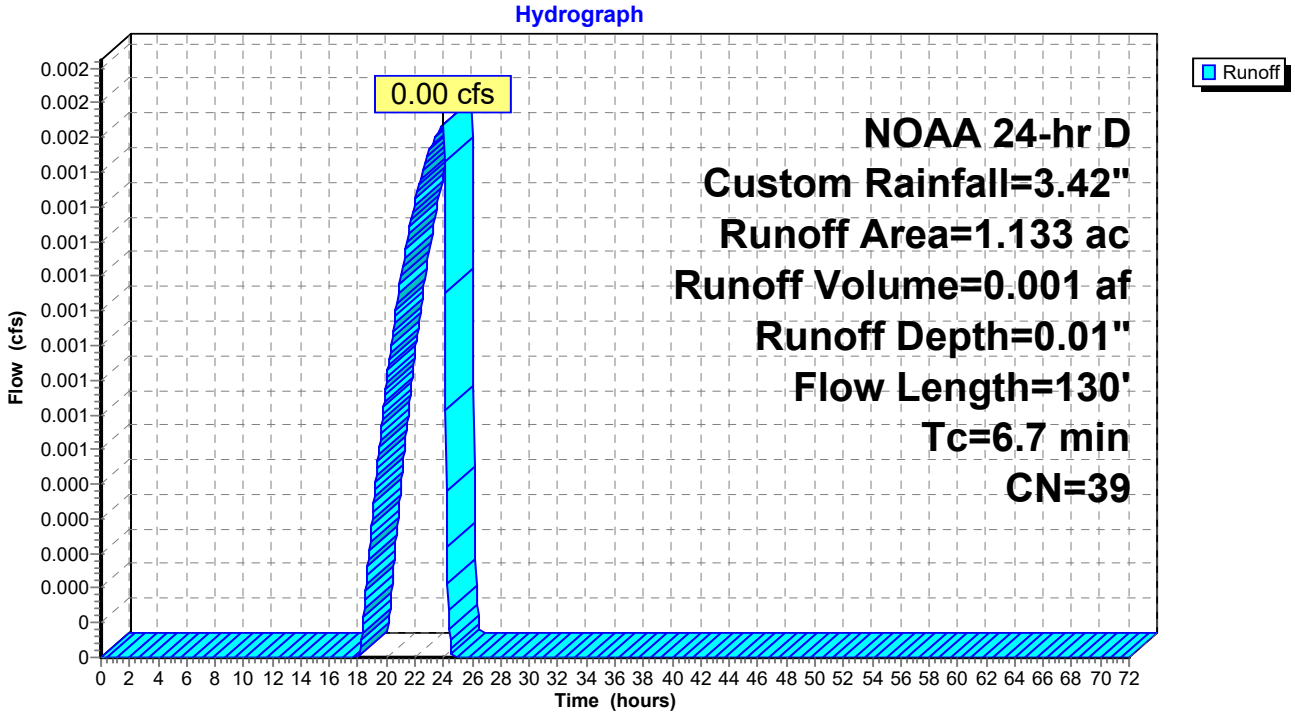
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 0.96" for Custom event
Inflow = 2.34 cfs @ 12.10 hrs, Volume= 0.199 af
Outflow = 0.17 cfs @ 13.42 hrs, Volume= 0.134 af, Atten= 93%, Lag= 79.2 min
Primary = 0.17 cfs @ 13.42 hrs, Volume= 0.134 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.60' @ 13.42 hrs Surf.Area= 5,390 sf Storage= 5,682 cf

Plug-Flow detention time= 456.0 min calculated for 0.134 af (67% of inflow)
Center-of-Mass det. time= 346.6 min (1,104.7 - 758.1)

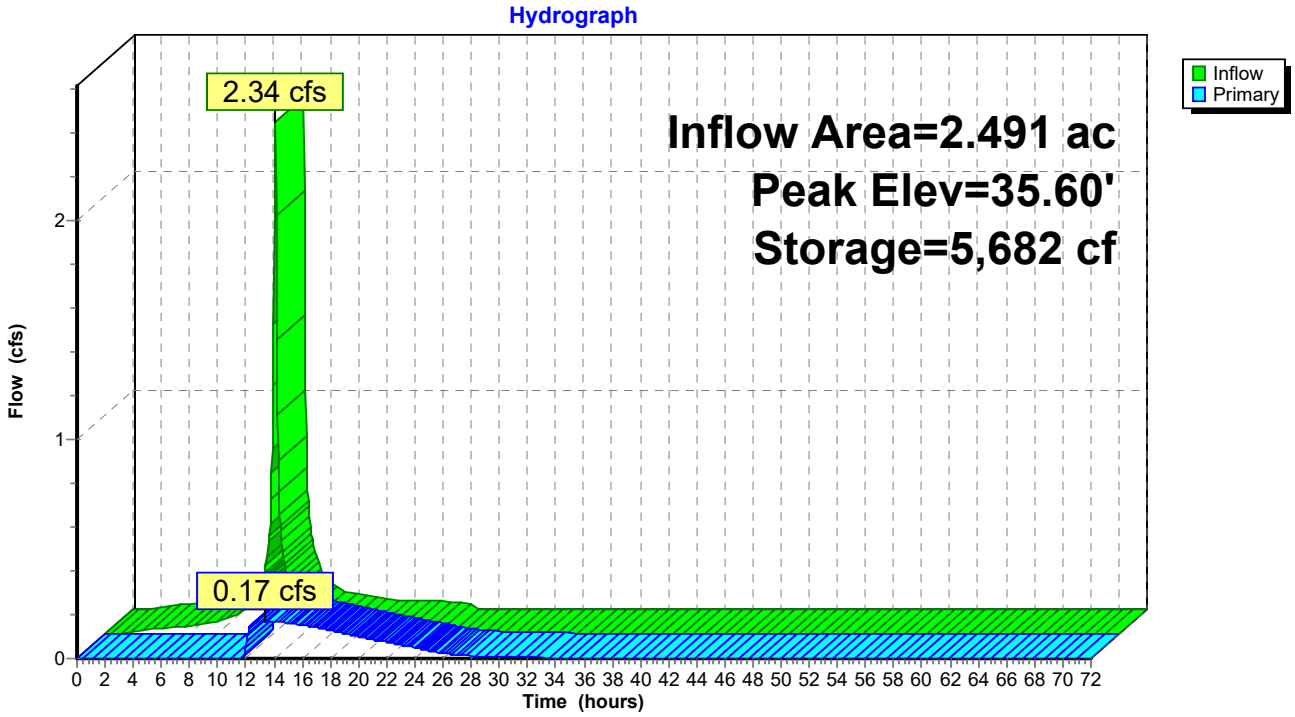
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 13.42 hrs HW=35.60' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.17 cfs @ 3.48 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

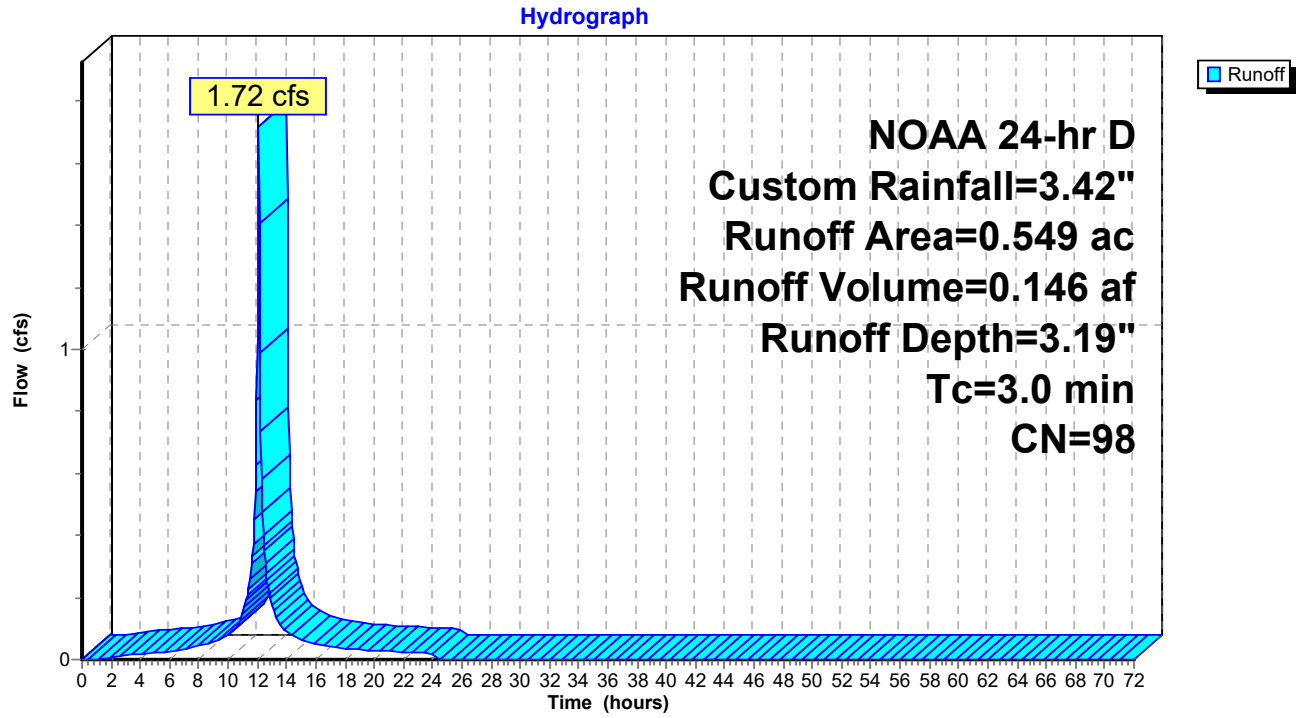
Runoff = 1.72 cfs @ 12.10 hrs, Volume= 0.146 af, Depth= 3.19"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

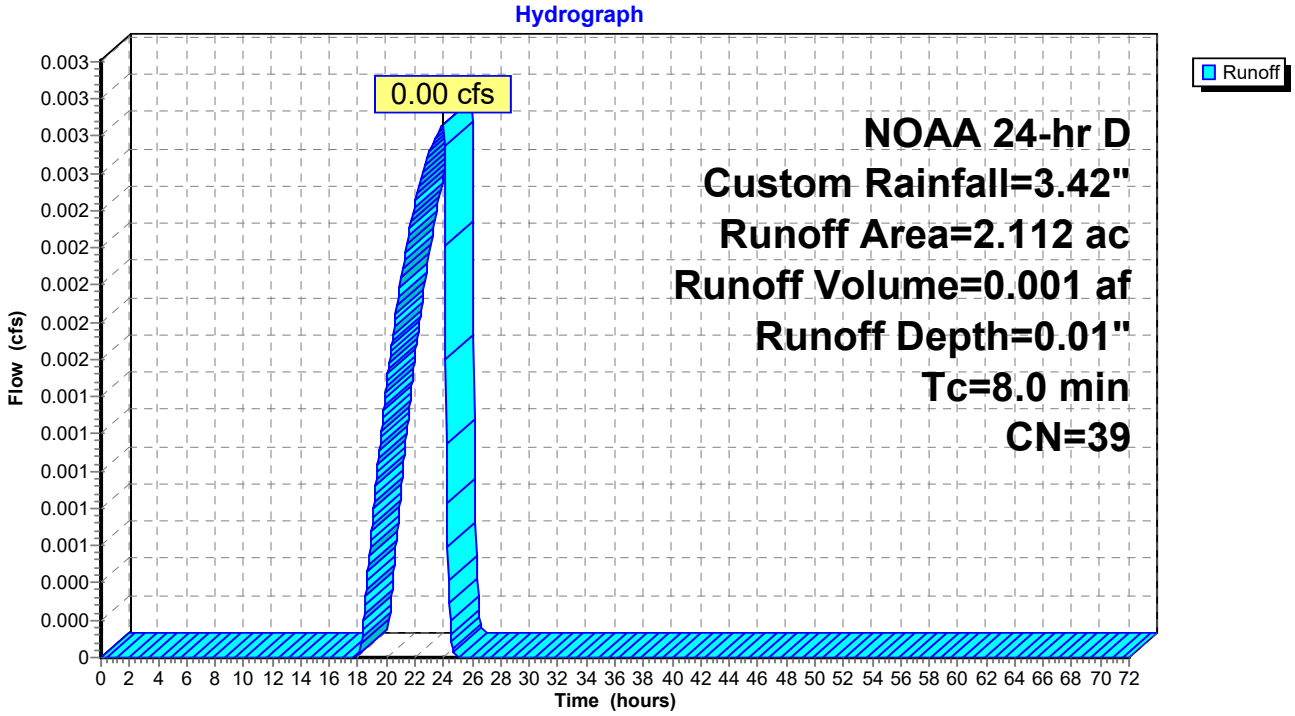
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

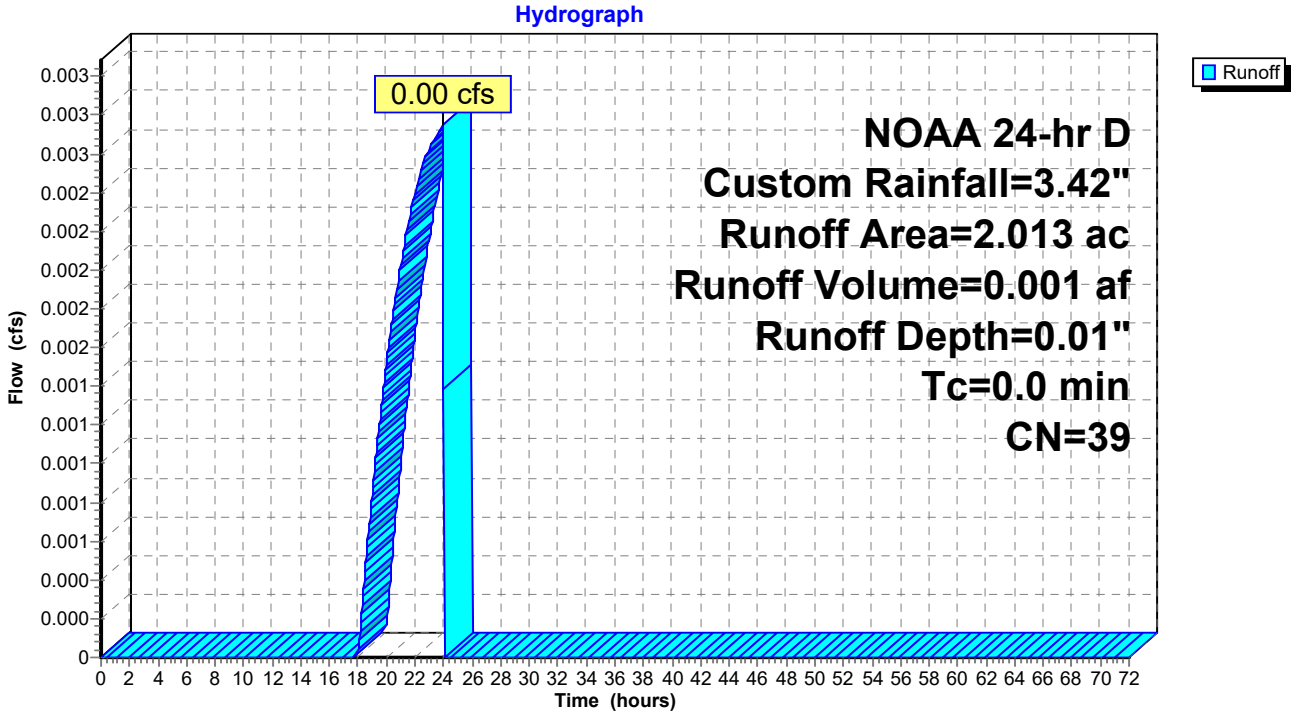
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.00 cfs @ 23.95 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

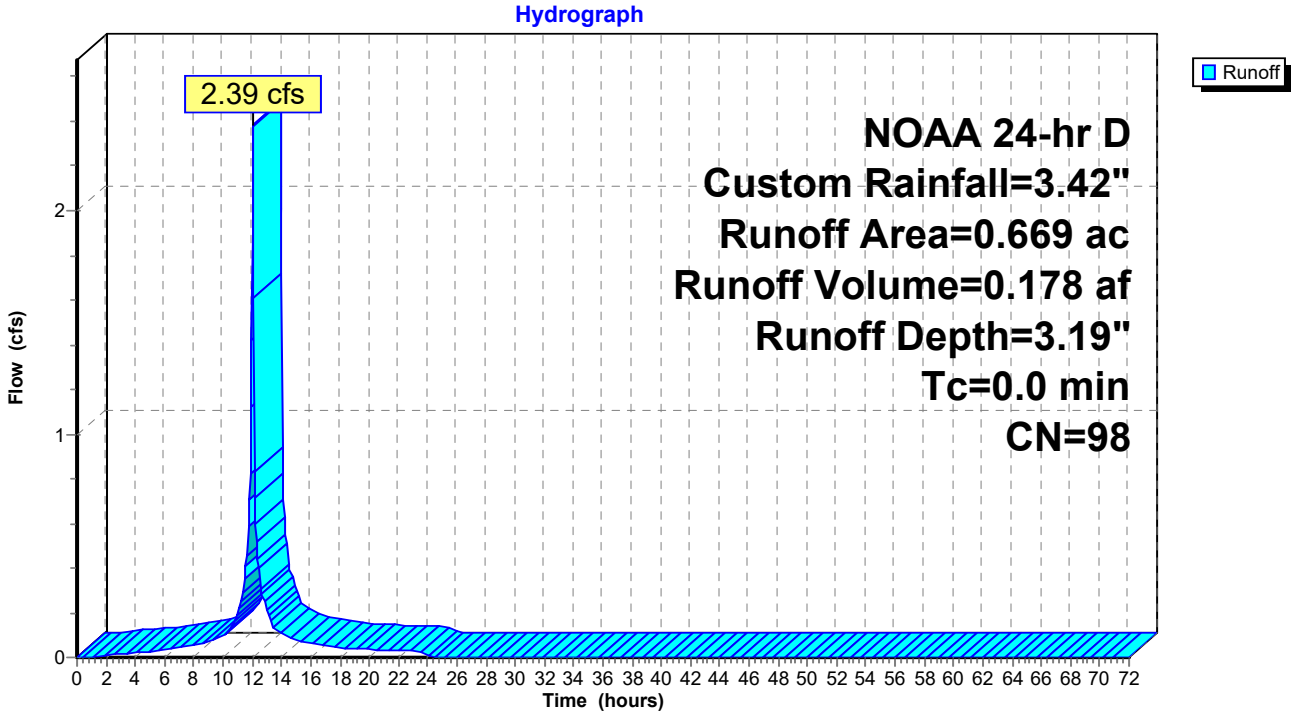
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.39 cfs @ 12.04 hrs, Volume= 0.178 af, Depth= 3.19"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

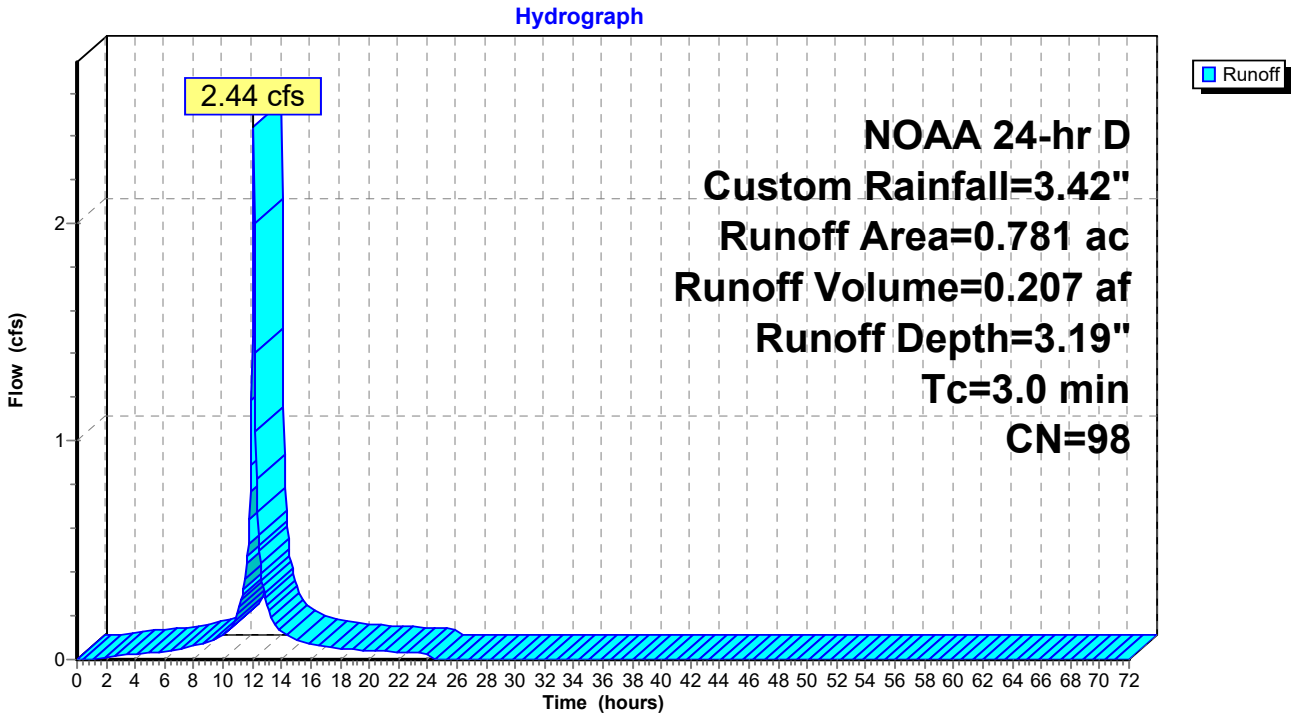
Runoff = 2.44 cfs @ 12.10 hrs, Volume= 0.207 af, Depth= 3.19"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

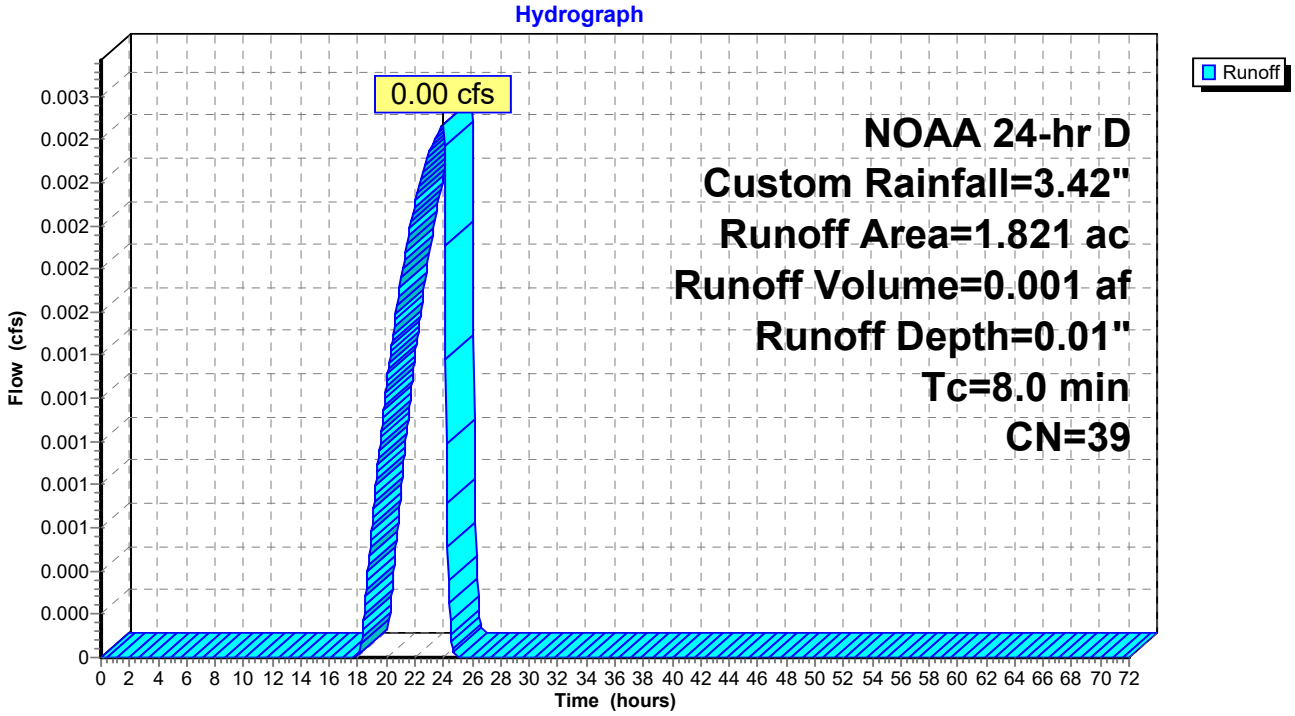
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

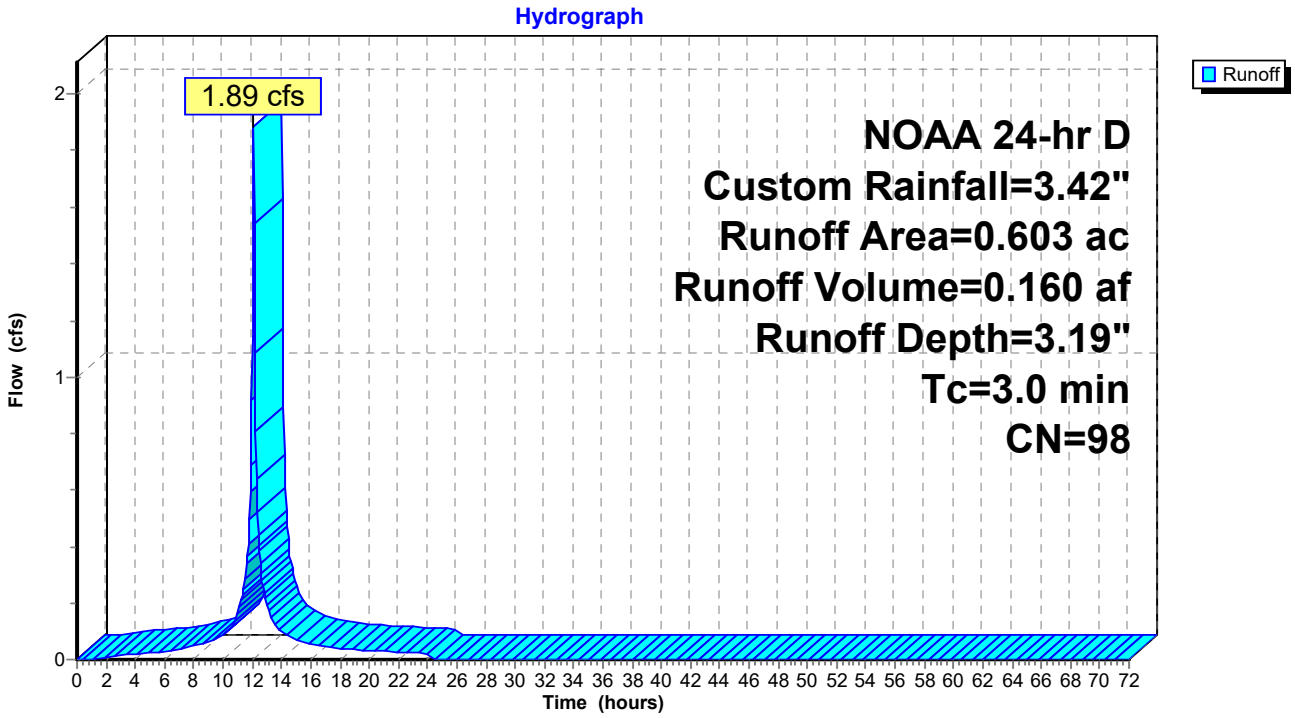
Runoff = 1.89 cfs @ 12.10 hrs, Volume= 0.160 af, Depth= 3.19"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

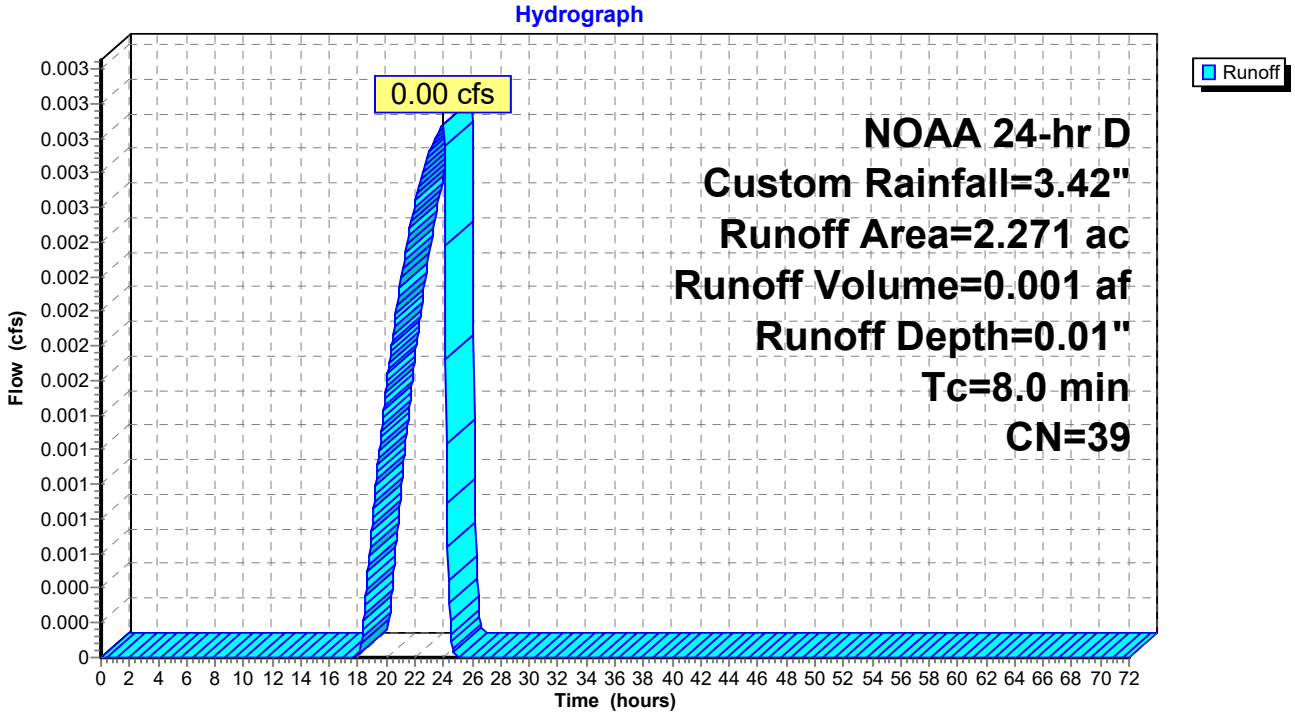
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

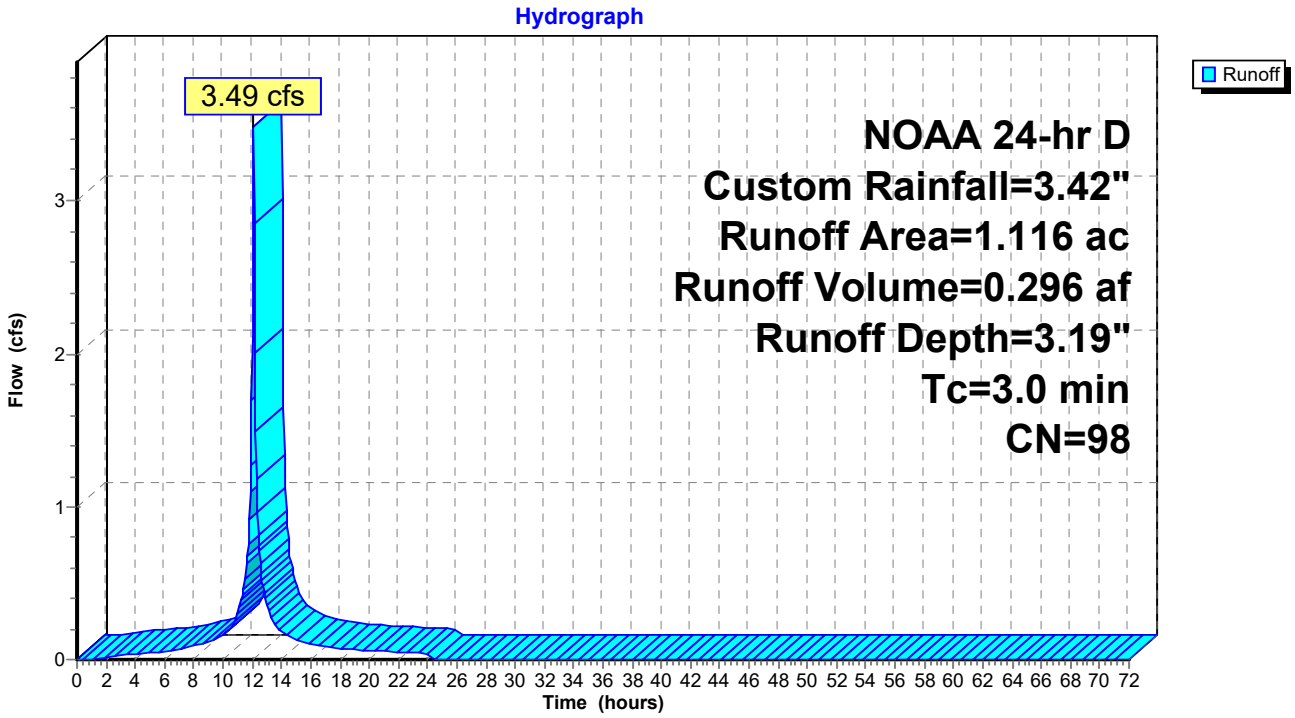
Runoff = 3.49 cfs @ 12.10 hrs, Volume= 0.296 af, Depth= 3.19"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

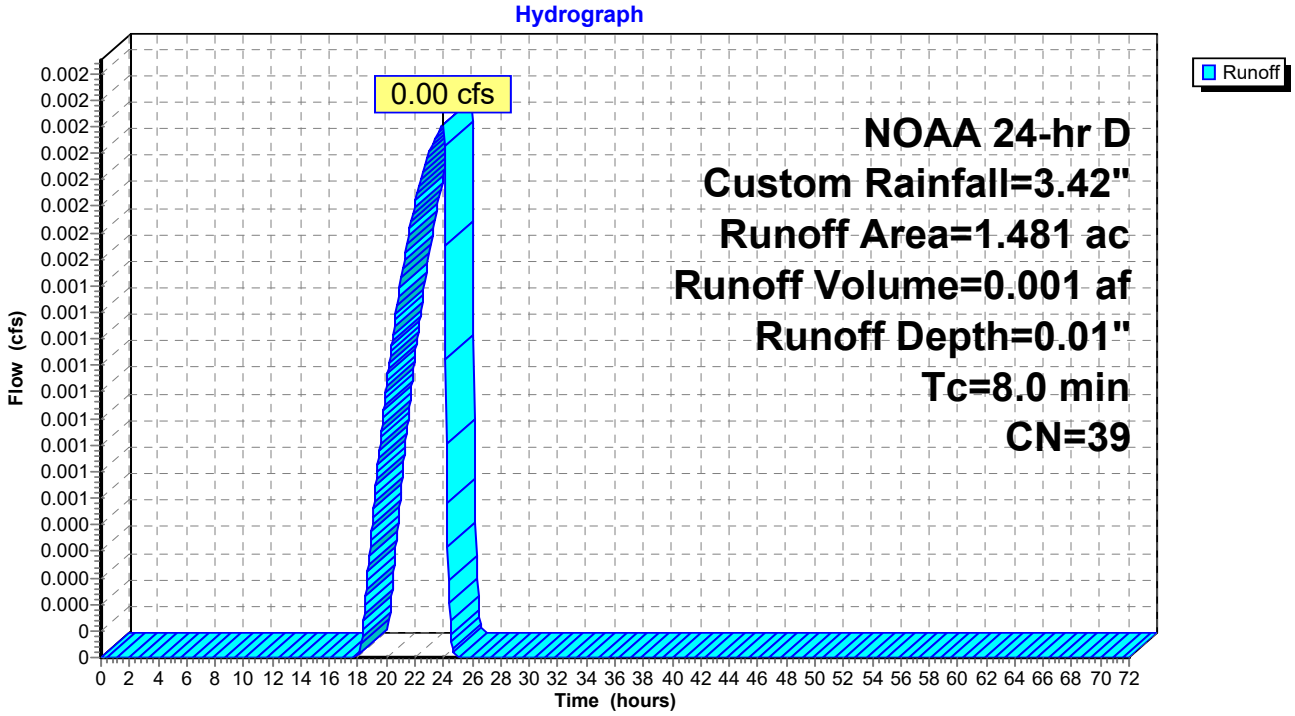
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

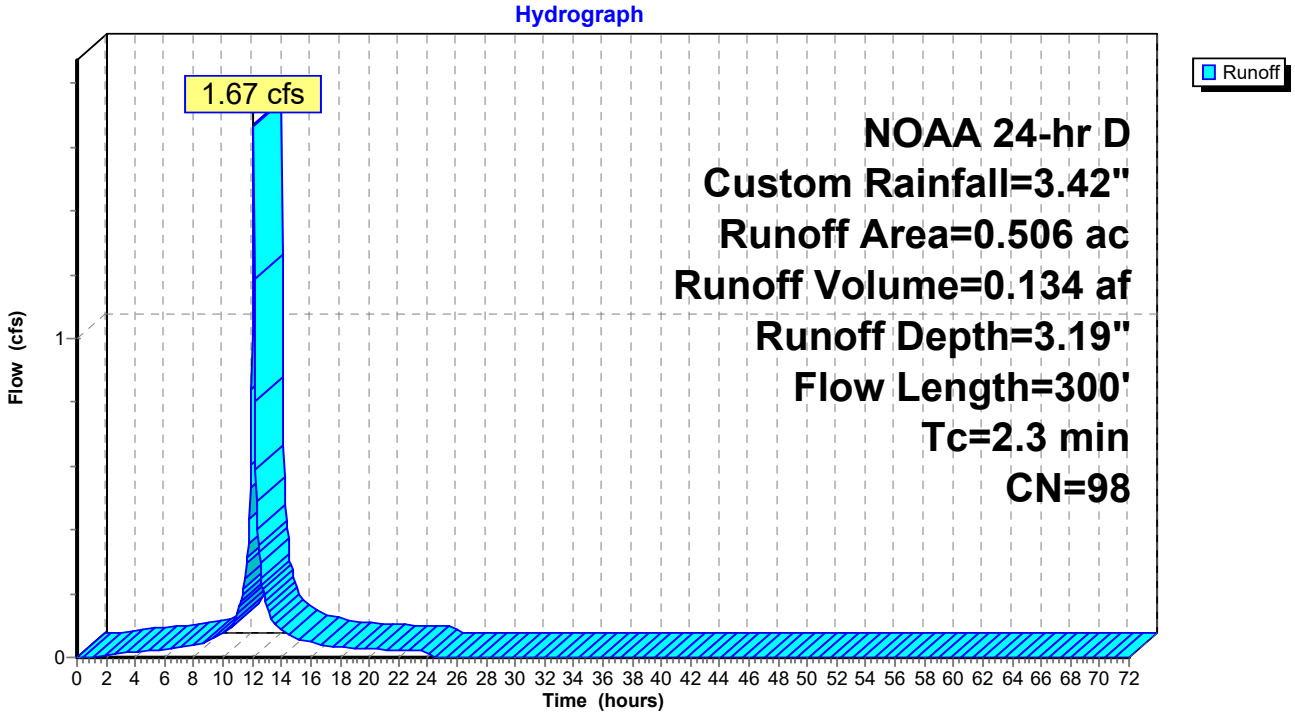
Runoff = 1.67 cfs @ 12.09 hrs, Volume= 0.134 af, Depth= 3.19"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

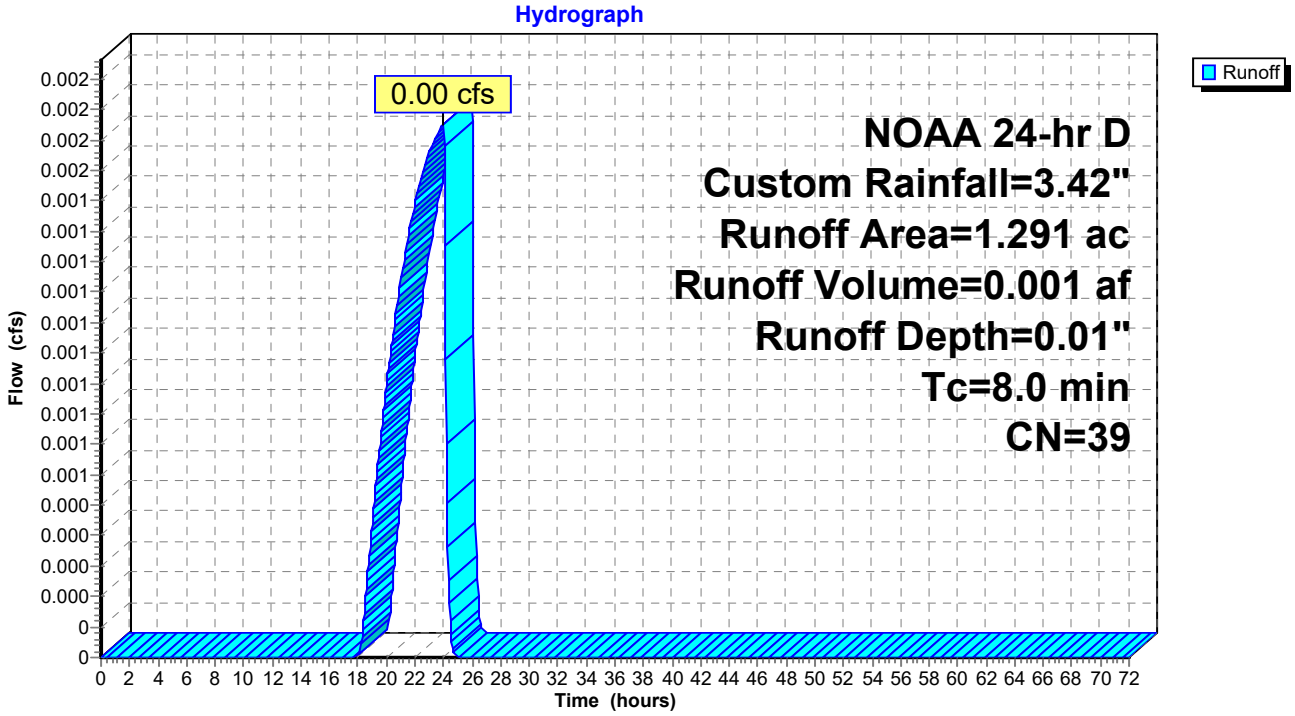
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

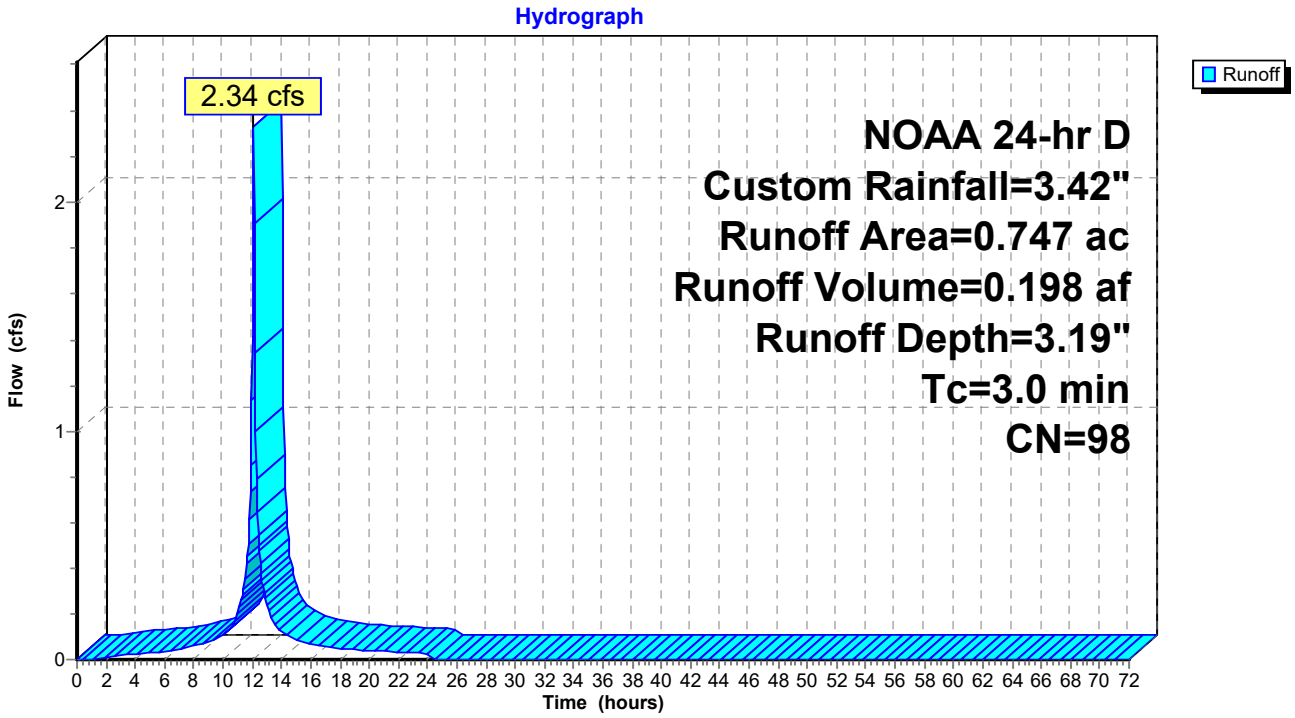
Runoff = 2.34 cfs @ 12.10 hrs, Volume= 0.198 af, Depth= 3.19"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

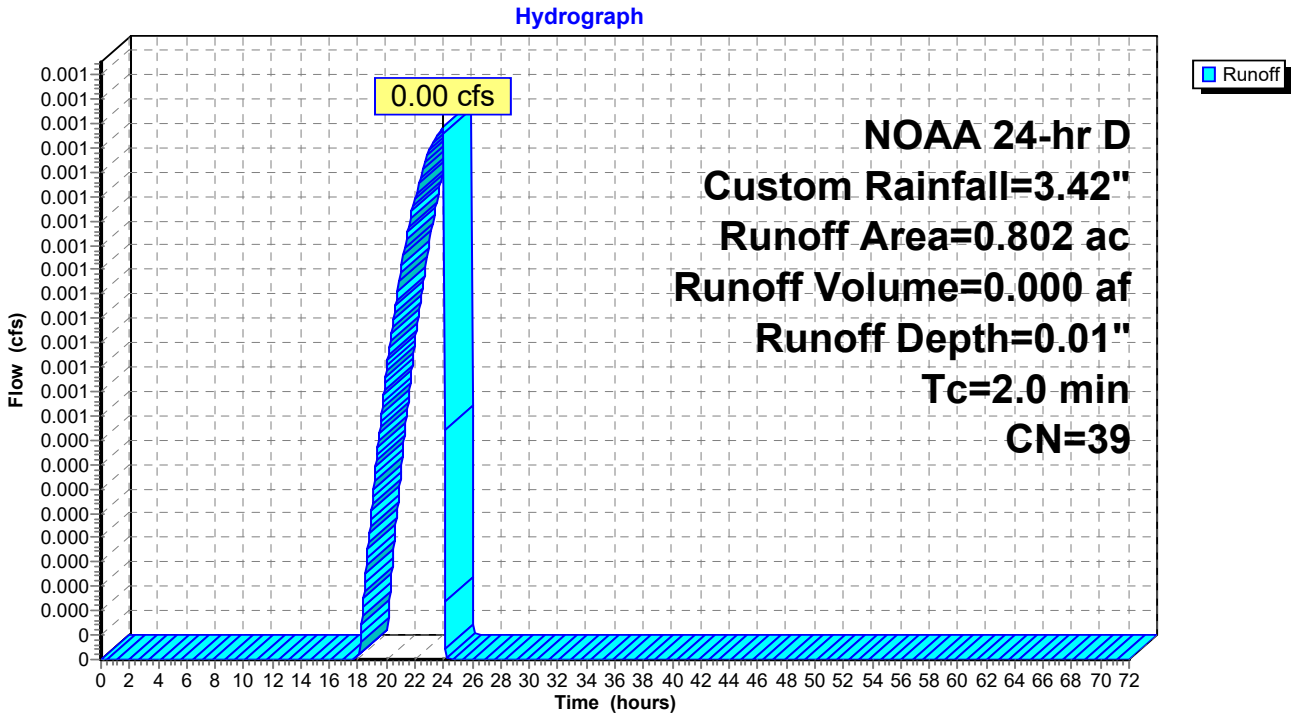
Runoff = 0.00 cfs @ 23.95 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

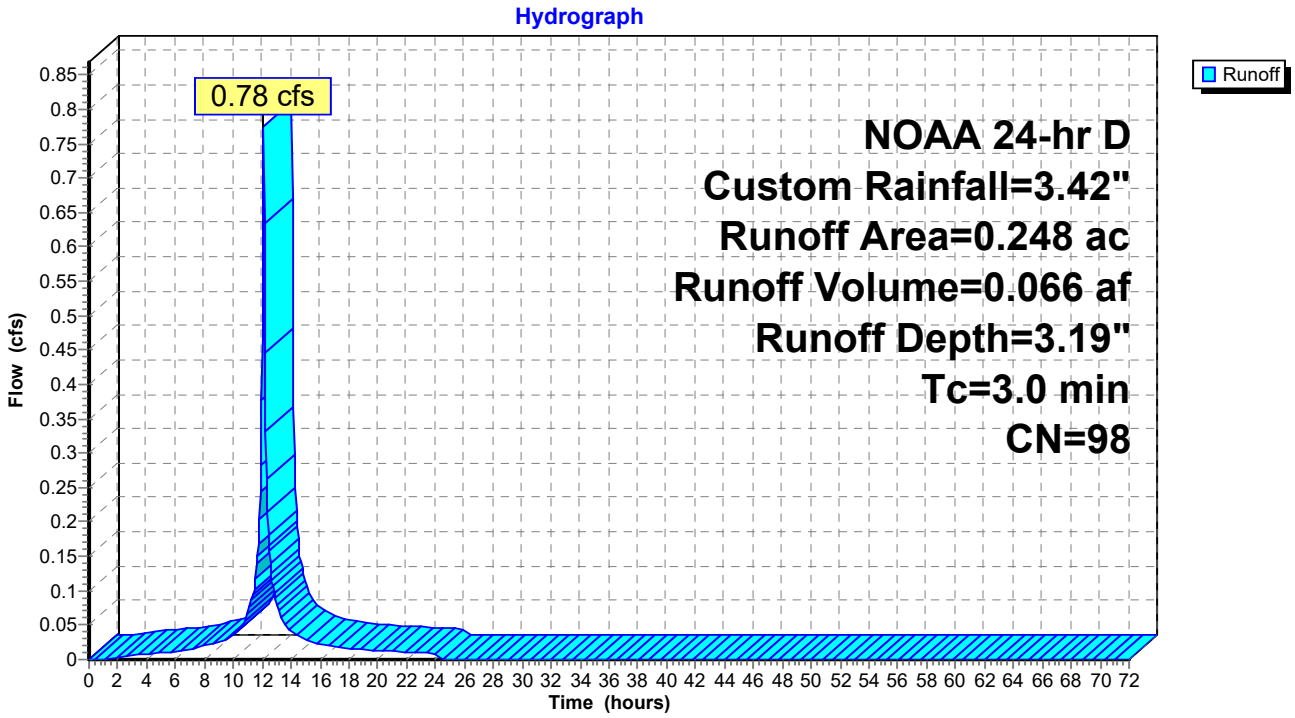
Runoff = 0.78 cfs @ 12.10 hrs, Volume= 0.066 af, Depth= 3.19"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

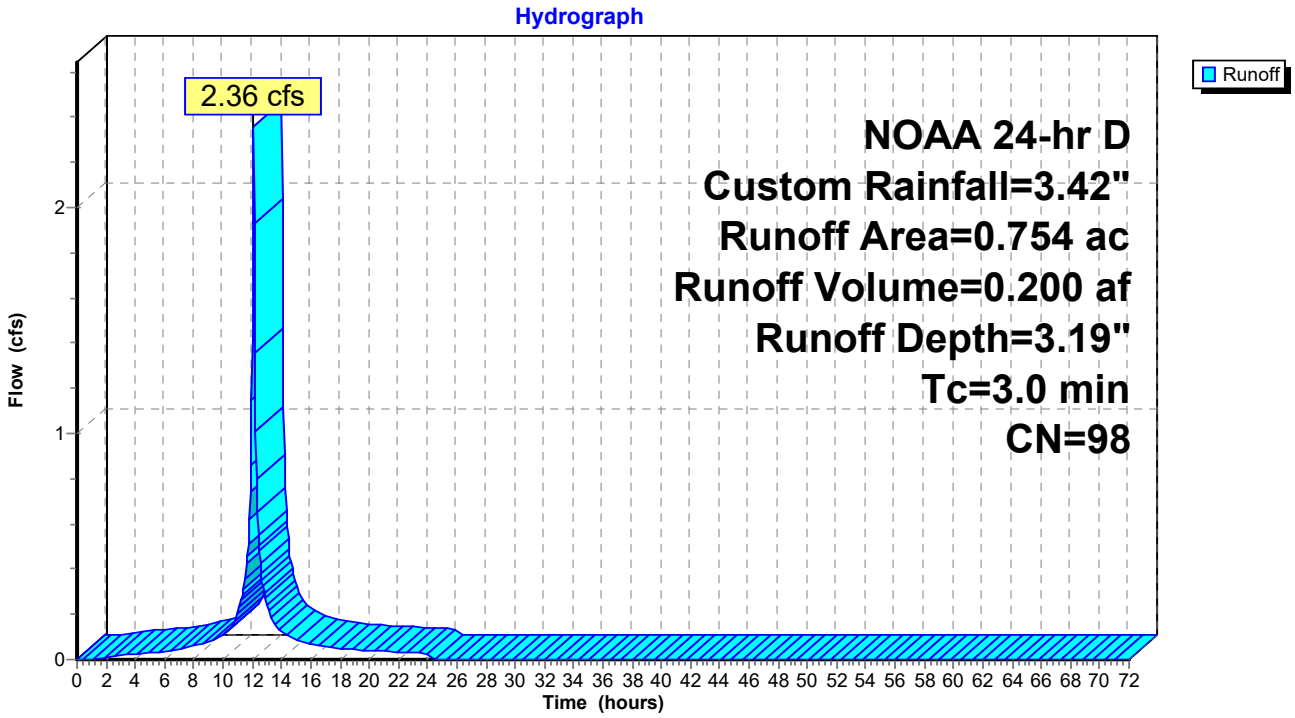
Runoff = 2.36 cfs @ 12.10 hrs, Volume= 0.200 af, Depth= 3.19"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

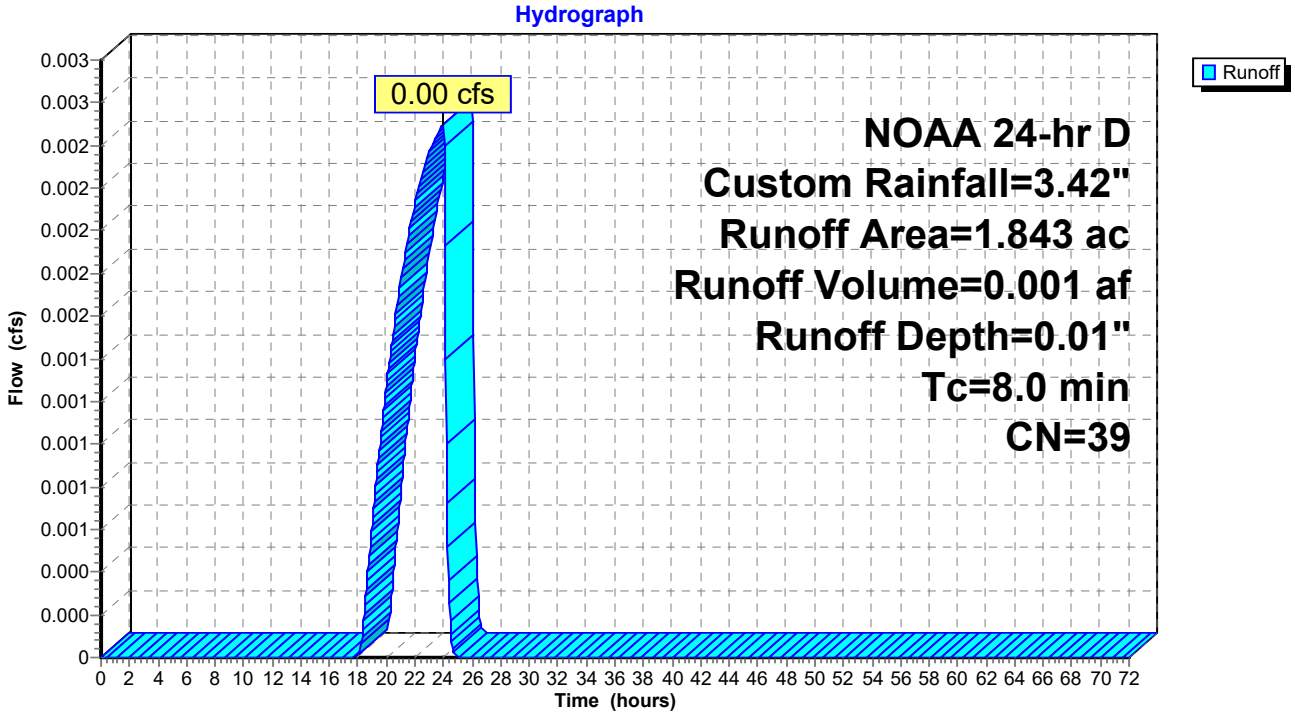
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

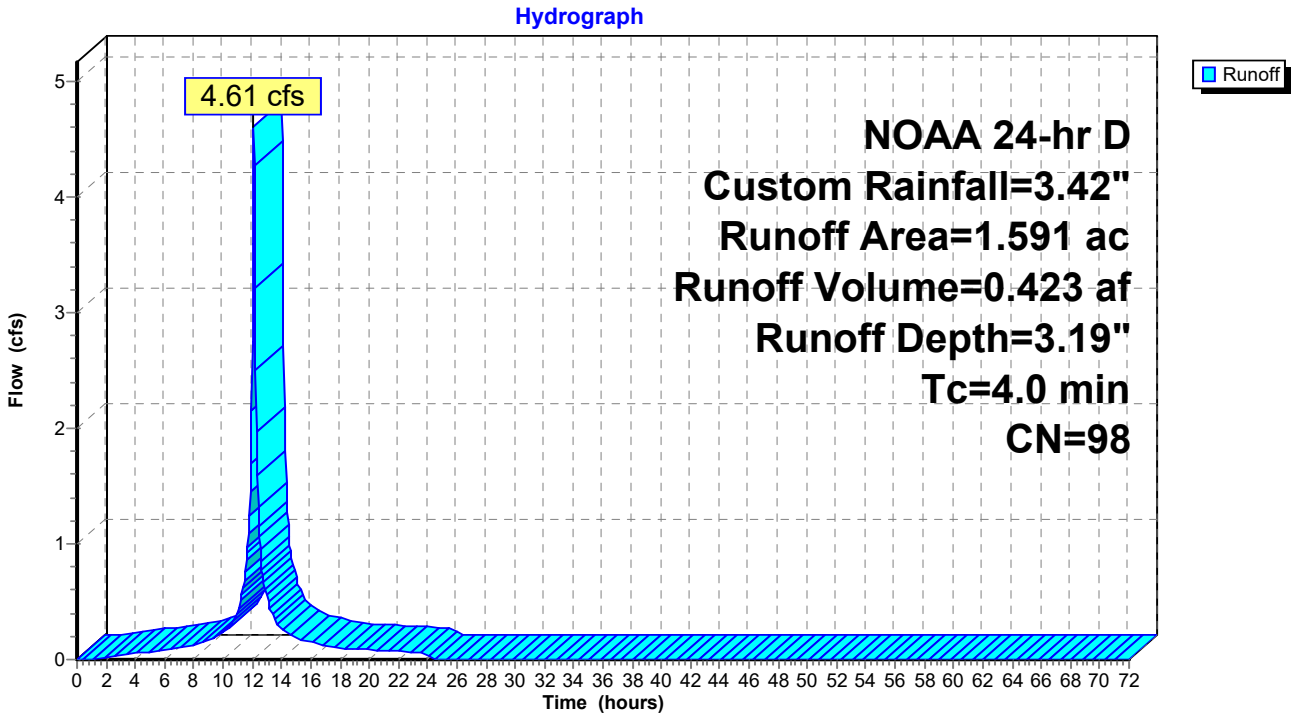
Runoff = 4.61 cfs @ 12.11 hrs, Volume= 0.423 af, Depth= 3.19"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

[45] Hint: Runoff=Zero

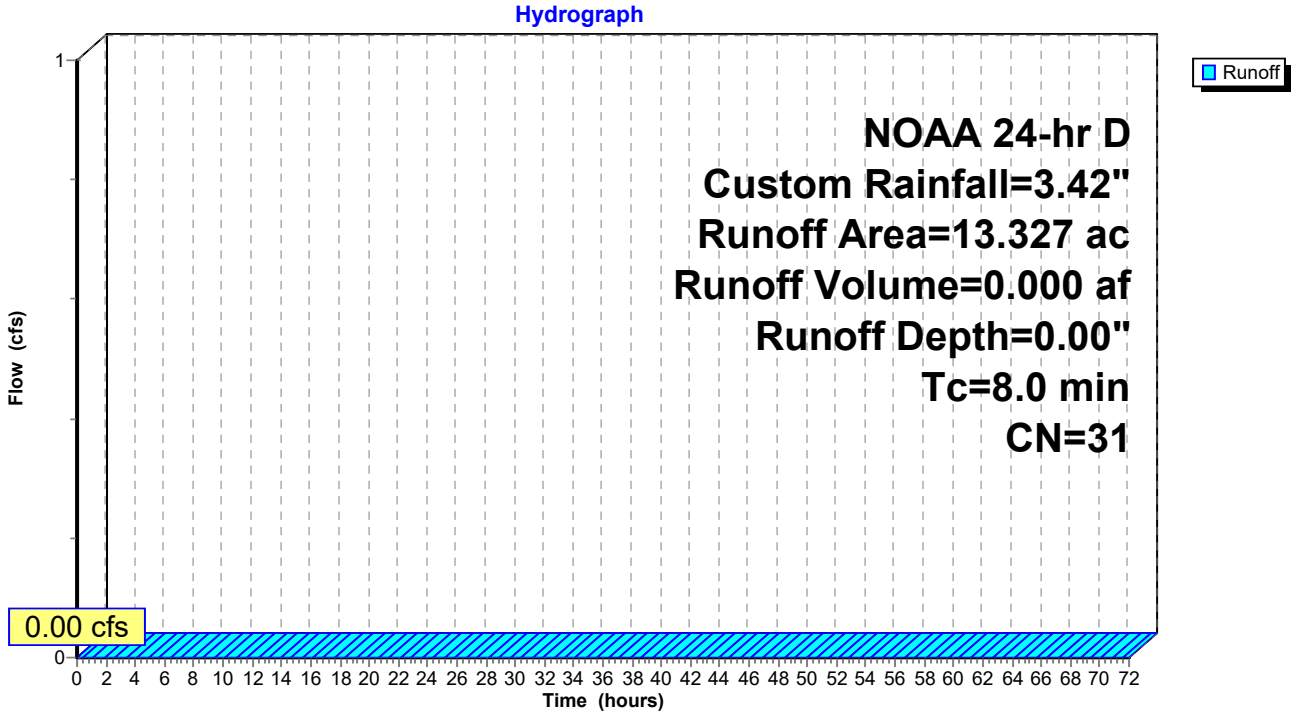
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

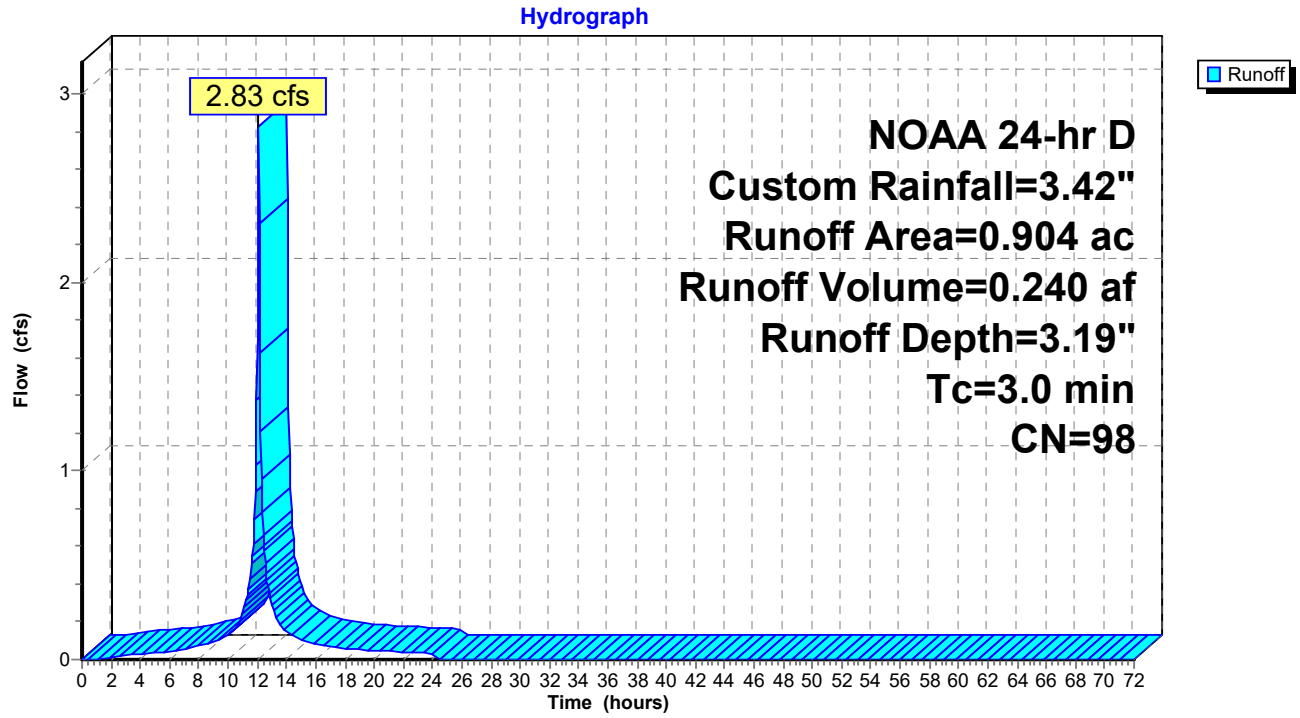
Runoff = 2.83 cfs @ 12.10 hrs, Volume= 0.240 af, Depth= 3.19"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

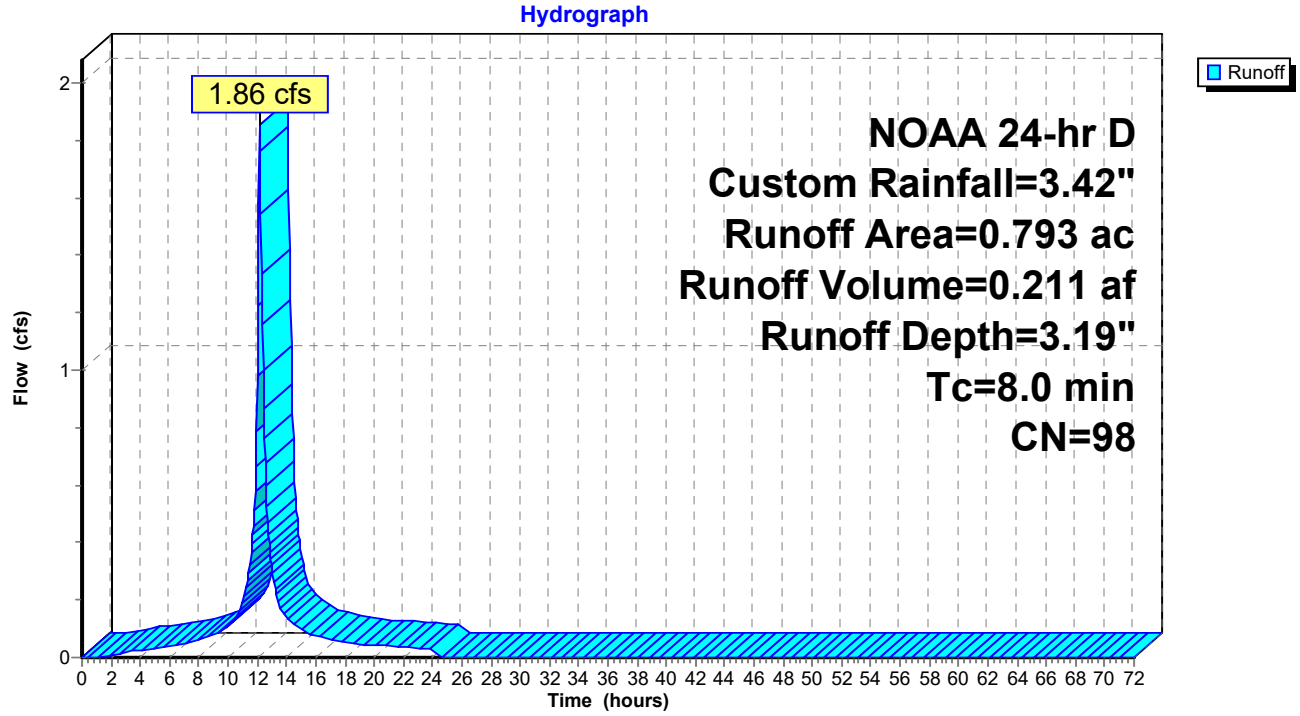
Runoff = 1.86 cfs @ 12.16 hrs, Volume= 0.211 af, Depth= 3.19"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

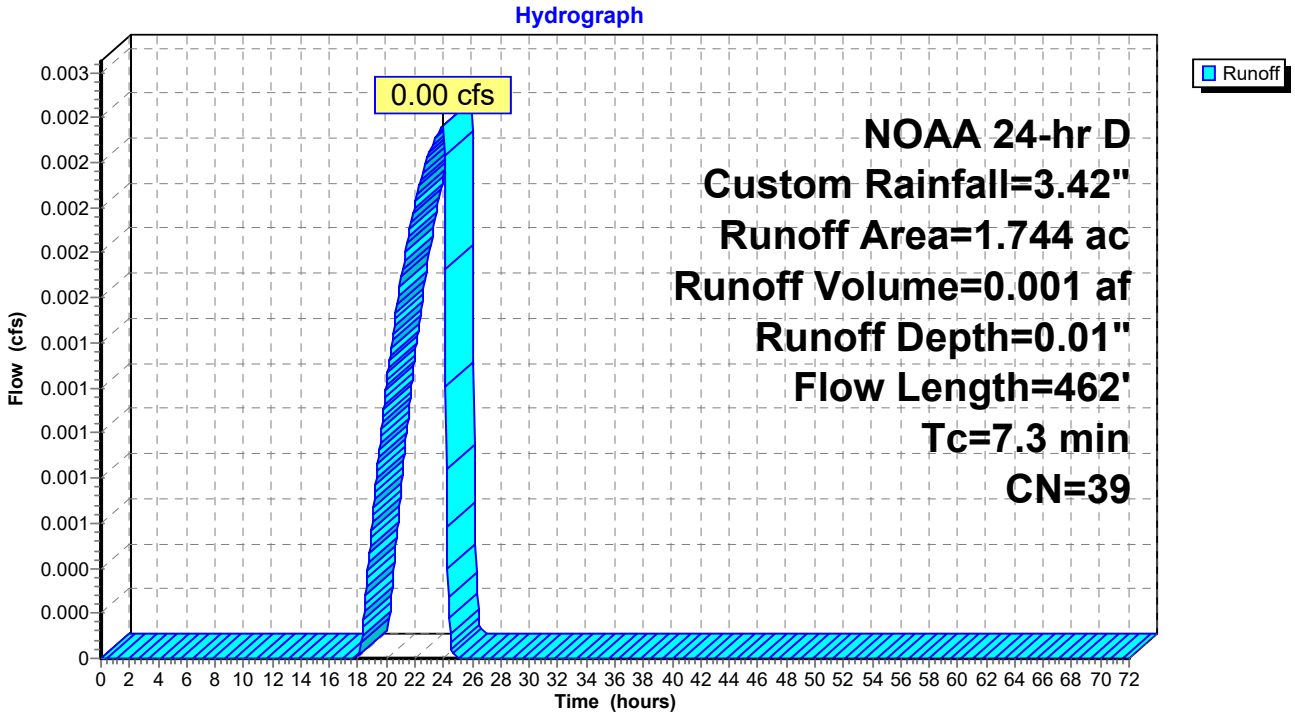
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[81] Warning: Exceeded Pond 88P by 0.65' @ 24.50 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth > 0.76" for Custom event
Inflow = 2.97 cfs @ 12.10 hrs, Volume= 0.574 af
Outflow = 0.23 cfs @ 22.81 hrs, Volume= 0.392 af, Atten= 92%, Lag= 642.4 min
Primary = 0.23 cfs @ 22.81 hrs, Volume= 0.392 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.78' @ 22.81 hrs Surf.Area= 7,484 sf Storage= 14,866 cf

Plug-Flow detention time= 763.7 min calculated for 0.392 af (68% of inflow)
Center-of-Mass det. time= 568.7 min (1,566.2 - 997.5)

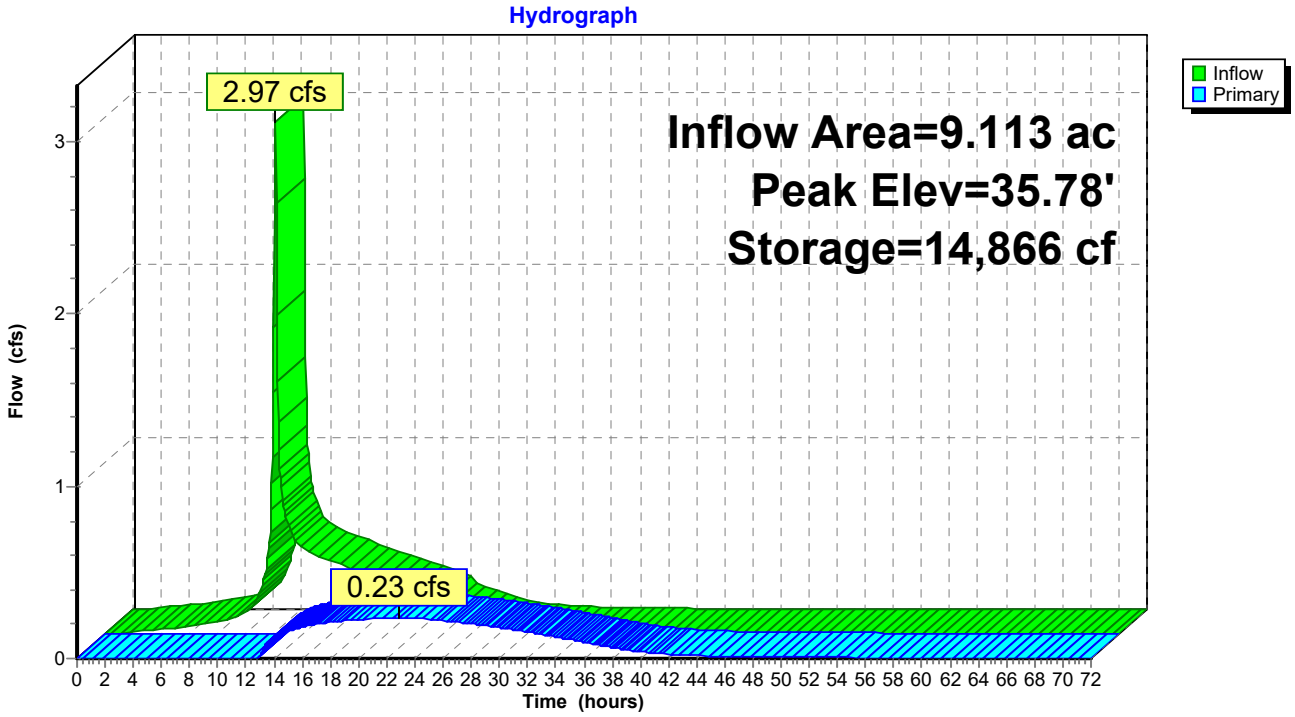
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 22.81 hrs HW=35.78' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.73 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

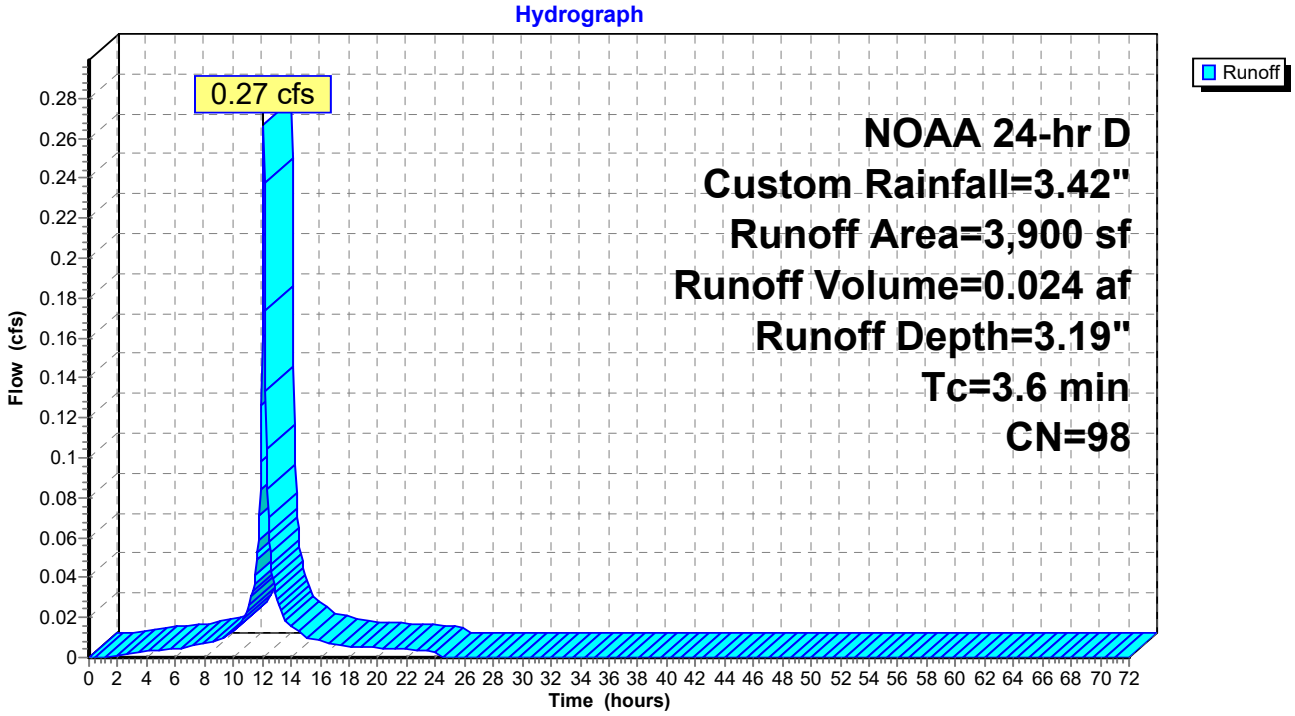
Runoff = 0.27 cfs @ 12.11 hrs, Volume= 0.024 af, Depth= 3.19"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

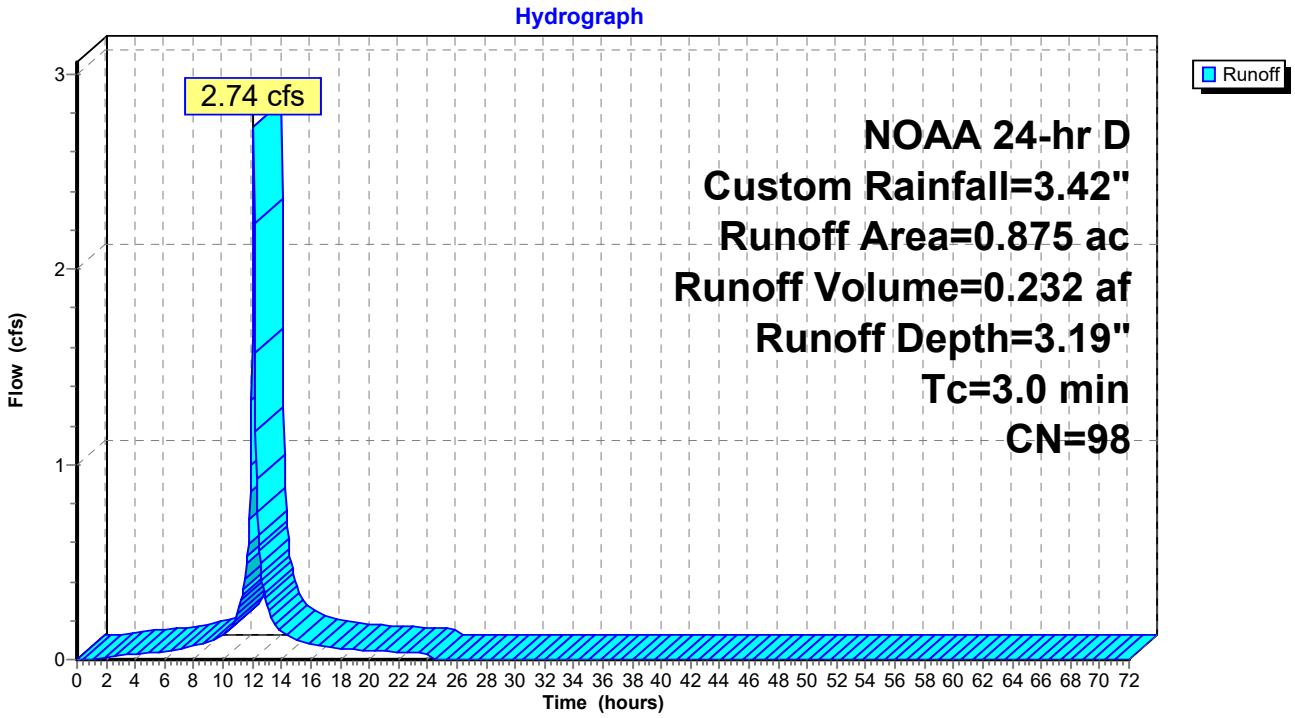
Runoff = 2.74 cfs @ 12.10 hrs, Volume= 0.232 af, Depth= 3.19"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

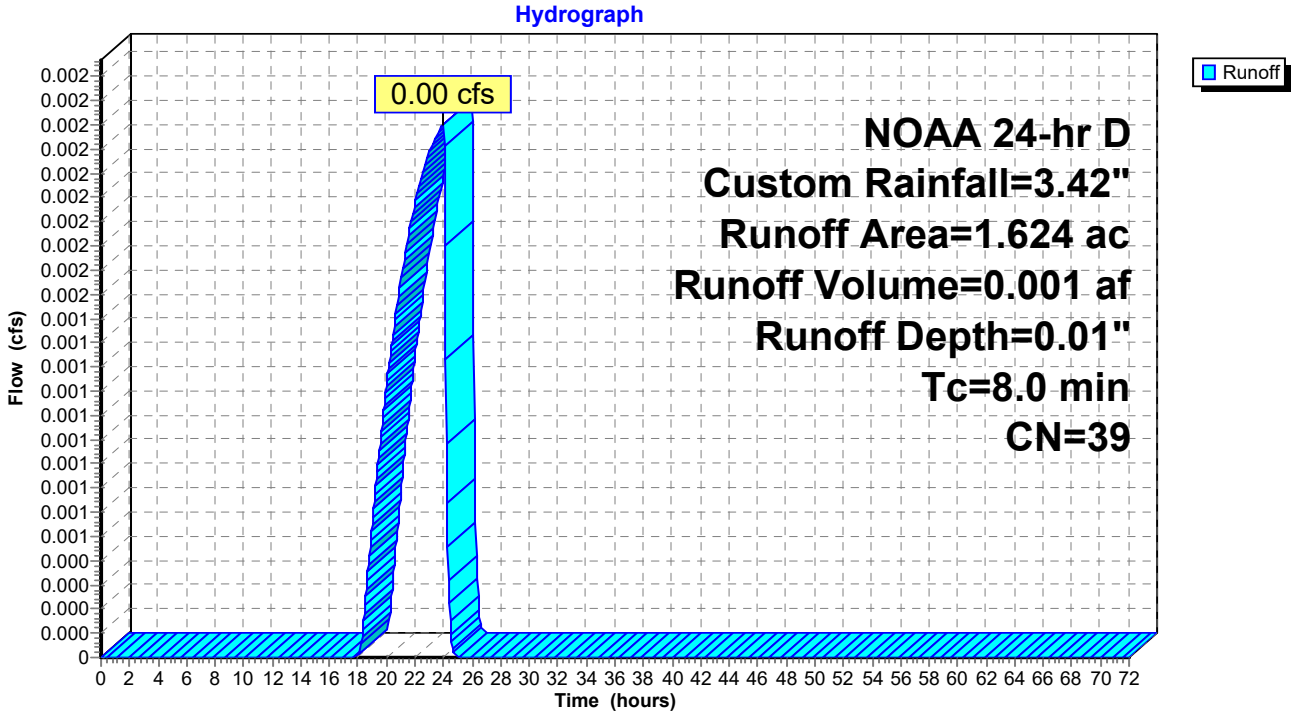
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.001 af, Depth= 0.01"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

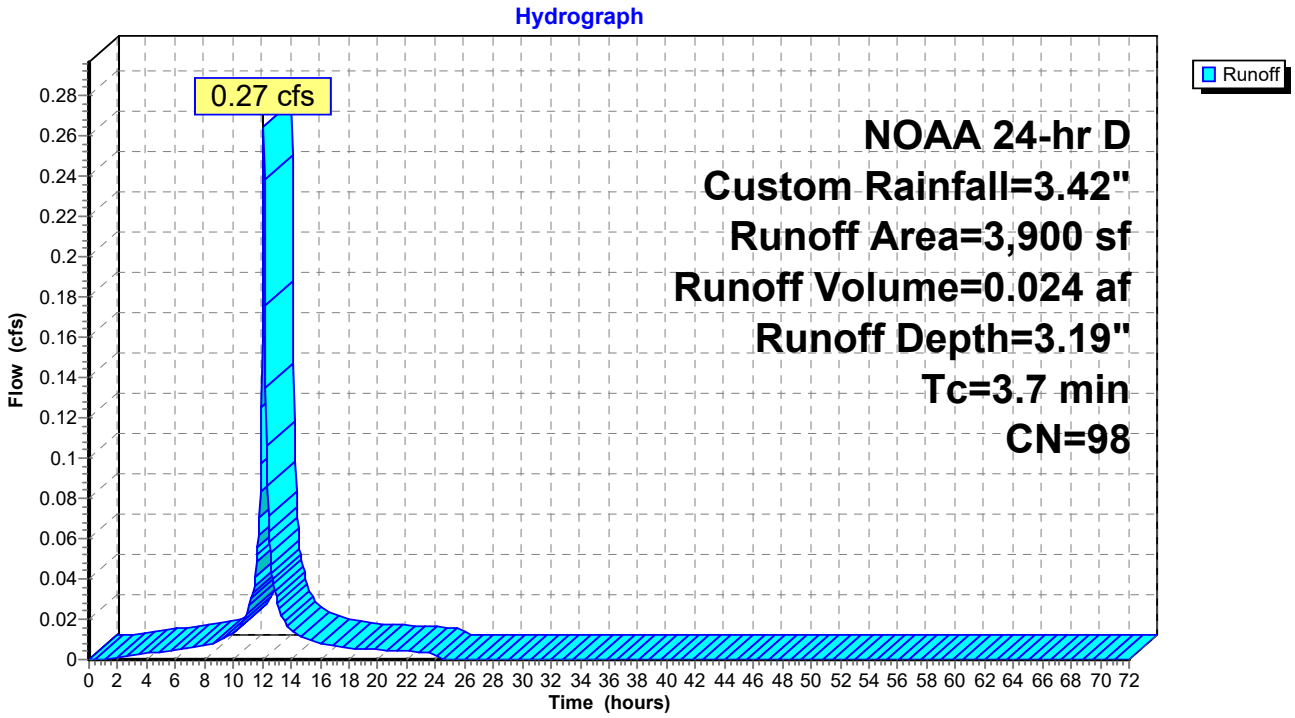
Runoff = 0.27 cfs @ 12.11 hrs, Volume= 0.024 af, Depth= 3.19"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

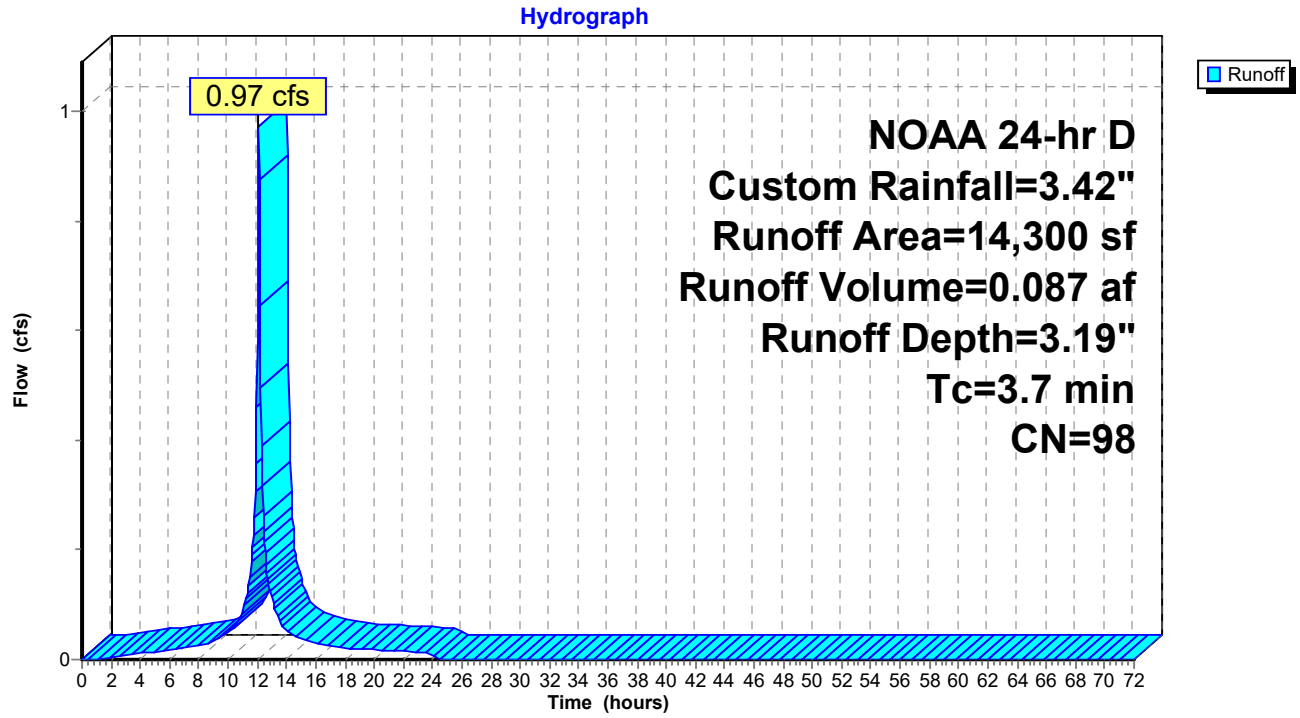
Runoff = 0.97 cfs @ 12.11 hrs, Volume= 0.087 af, Depth= 3.19"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

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

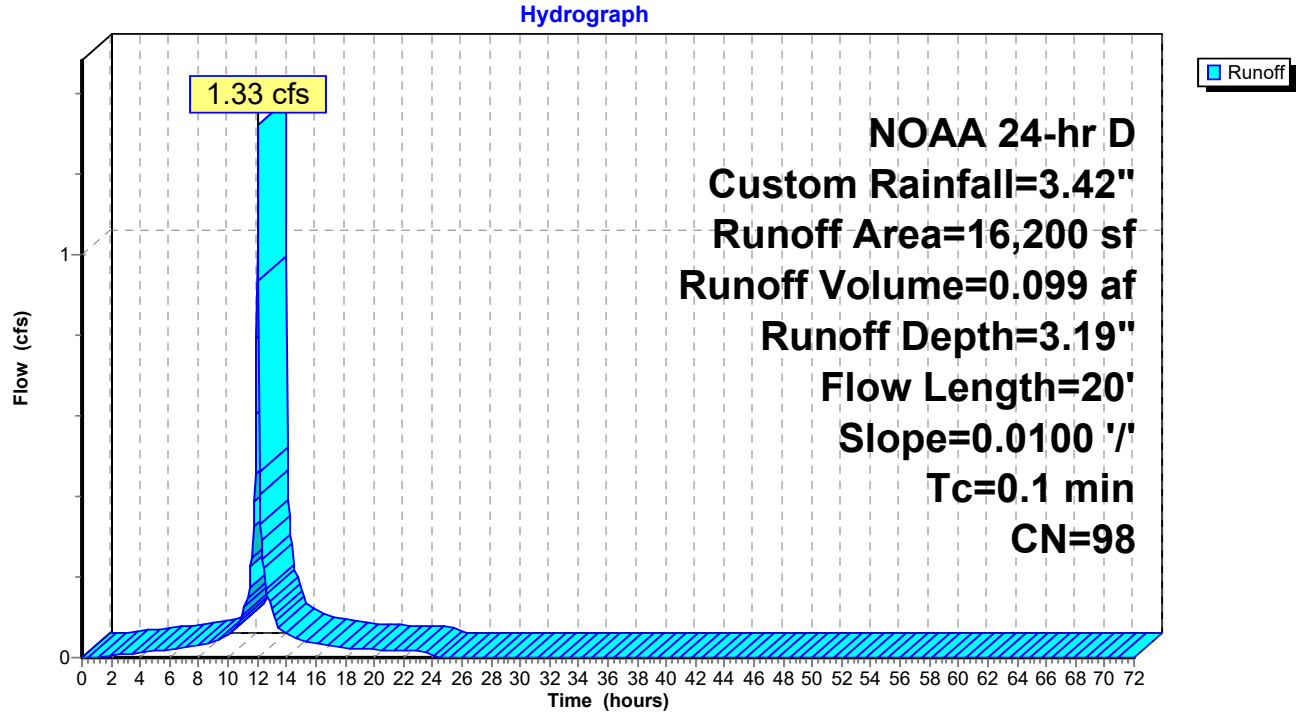
Runoff = 1.33 cfs @ 12.05 hrs, Volume= 0.099 af, Depth= 3.19"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

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

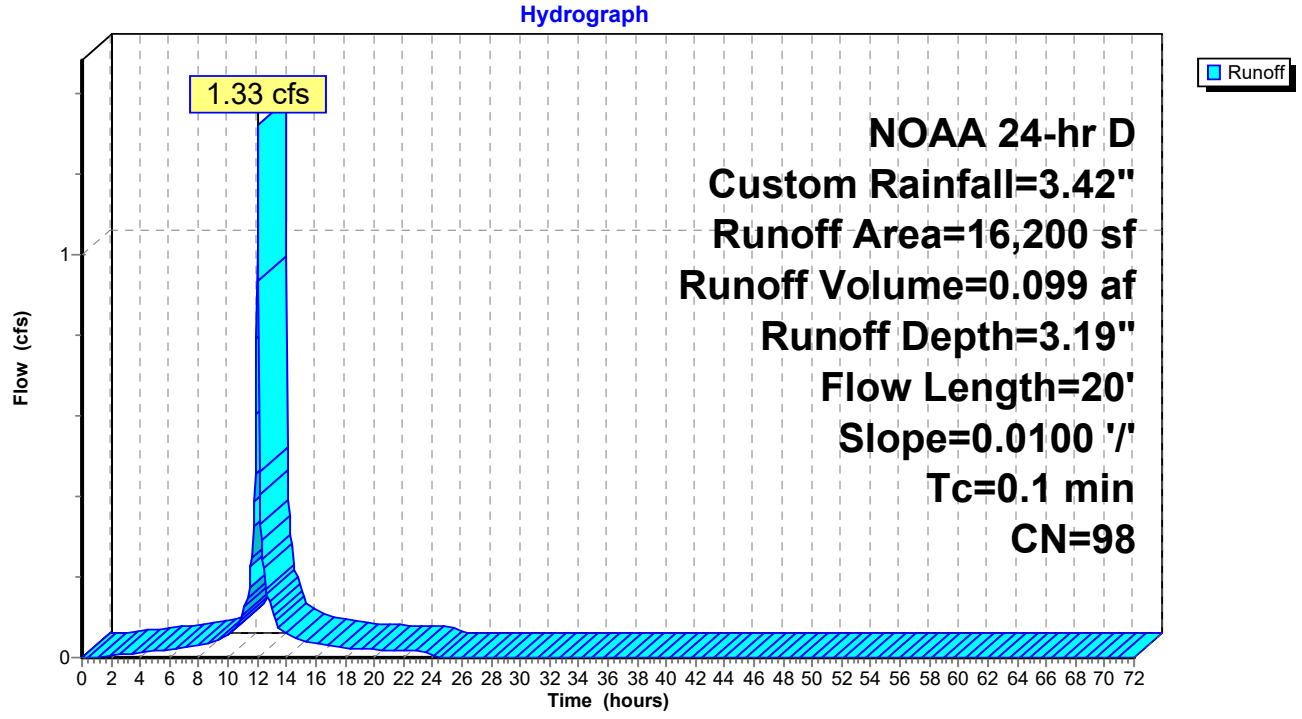
Runoff = 1.33 cfs @ 12.05 hrs, Volume= 0.099 af, Depth= 3.19"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

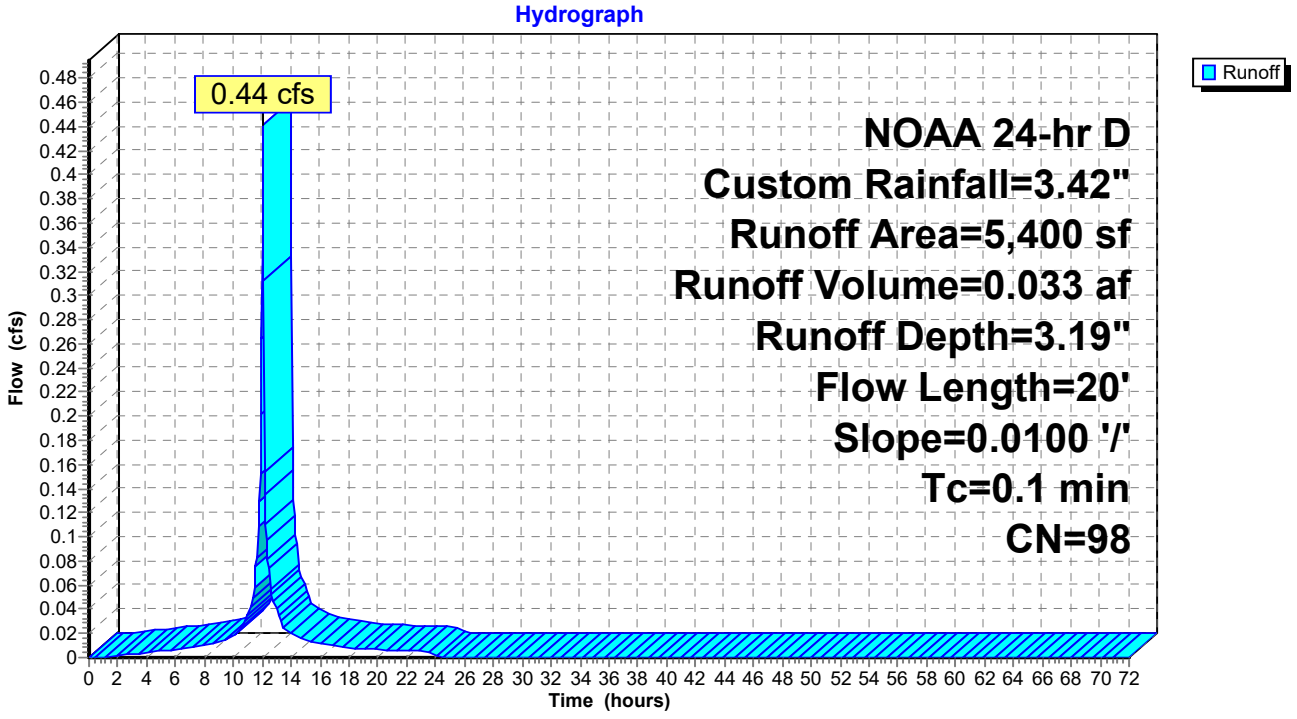
Runoff = 0.44 cfs @ 12.05 hrs, Volume= 0.033 af, Depth= 3.19"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=3.42"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

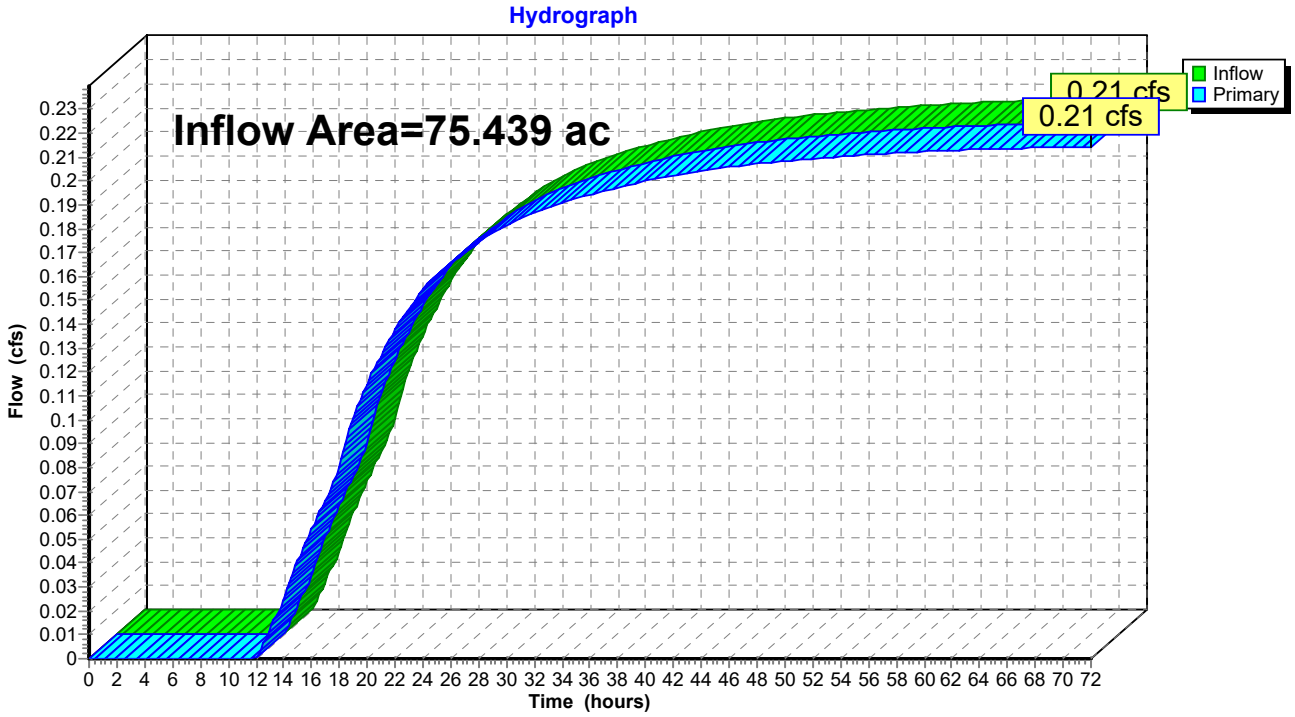


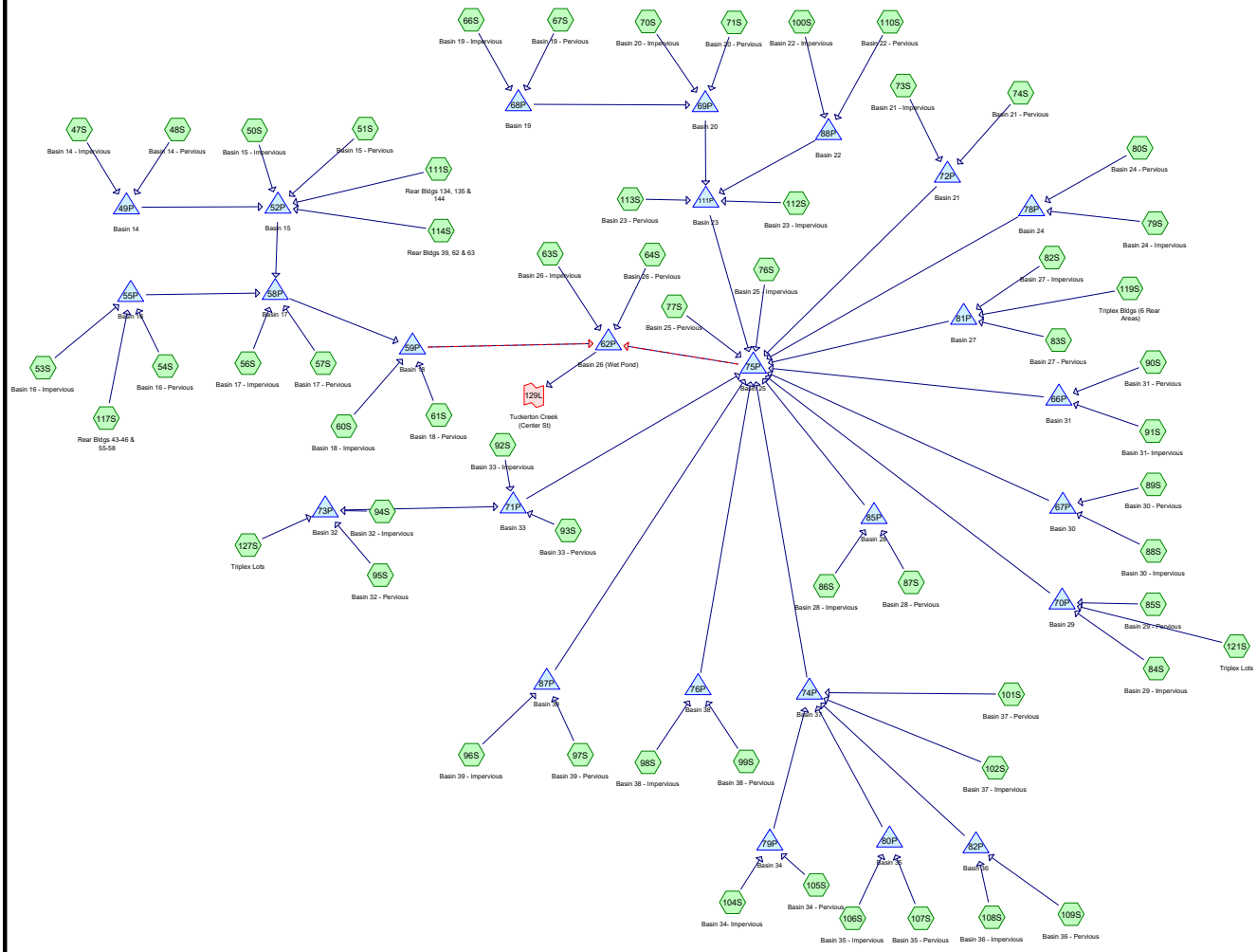
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.14" for Custom event
Inflow = 0.21 cfs @ 72.00 hrs, Volume= 0.880 af
Primary = 0.21 cfs @ 72.00 hrs, Volume= 0.880 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	4.04	2

Summary for Subcatchment 47S: Basin 14 - Impervious

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

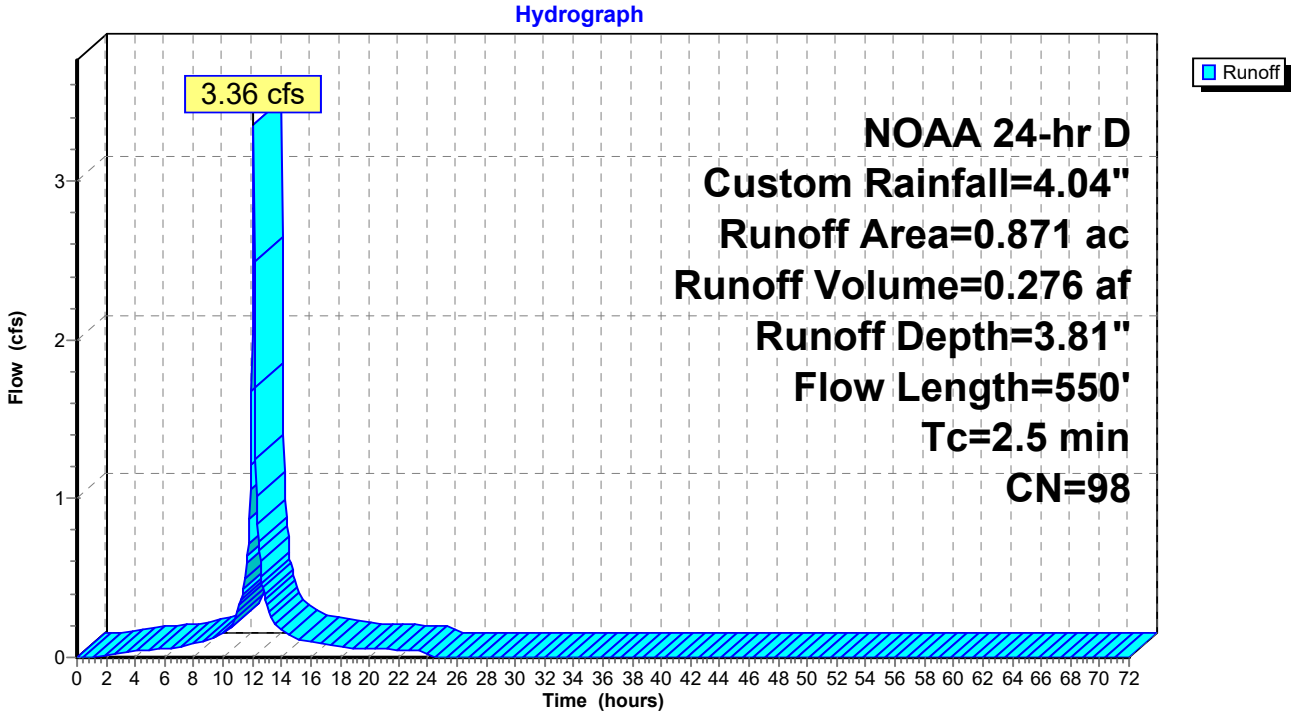
Runoff = 3.36 cfs @ 12.09 hrs, Volume= 0.276 af, Depth= 3.81"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

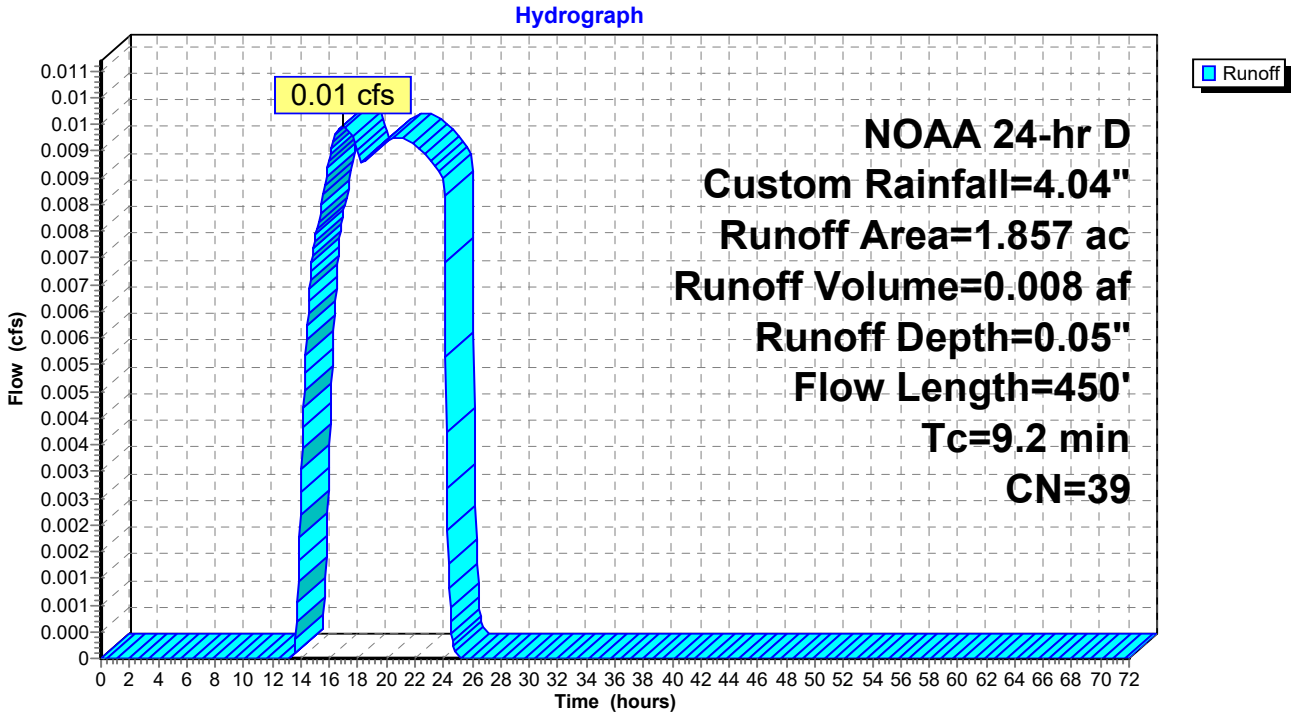
Runoff = 0.01 cfs @ 16.99 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 1.25" for Custom event
Inflow = 3.36 cfs @ 12.09 hrs, Volume= 0.284 af
Outflow = 0.16 cfs @ 14.34 hrs, Volume= 0.207 af, Atten= 95%, Lag= 134.8 min
Primary = 0.16 cfs @ 14.34 hrs, Volume= 0.207 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.73' @ 14.34 hrs Surf.Area= 9,638 sf Storage= 8,403 cf

Plug-Flow detention time= 692.2 min calculated for 0.207 af (73% of inflow)
Center-of-Mass det. time= 588.6 min (1,351.3 - 762.7)

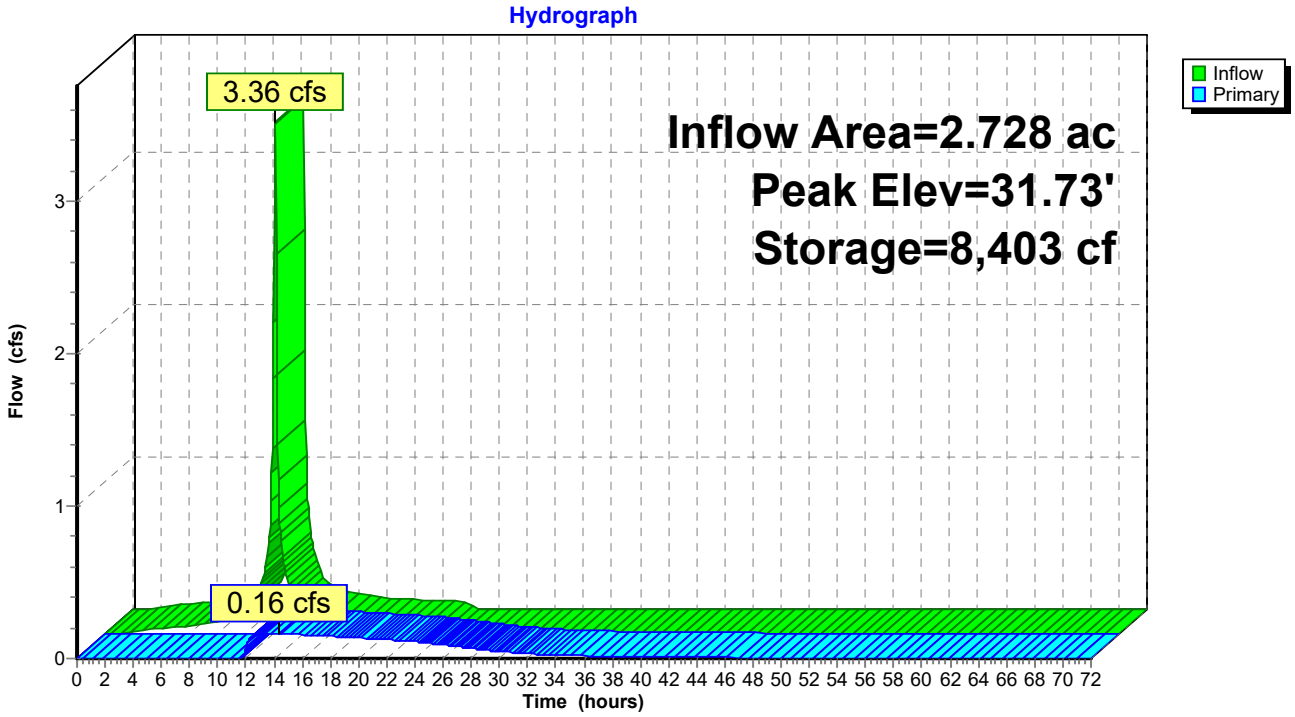
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 14.34 hrs HW=31.73' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.16 cfs @ 3.22 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

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

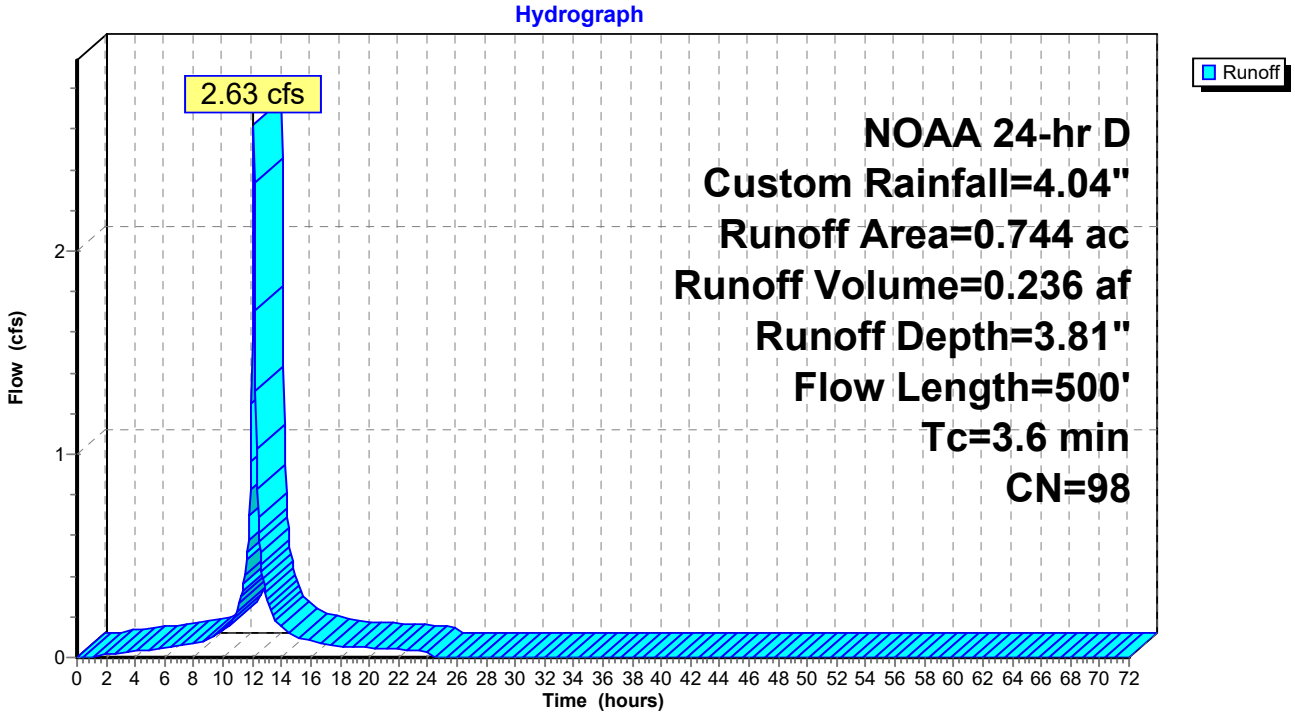
Runoff = 2.63 cfs @ 12.11 hrs, Volume= 0.236 af, Depth= 3.81"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

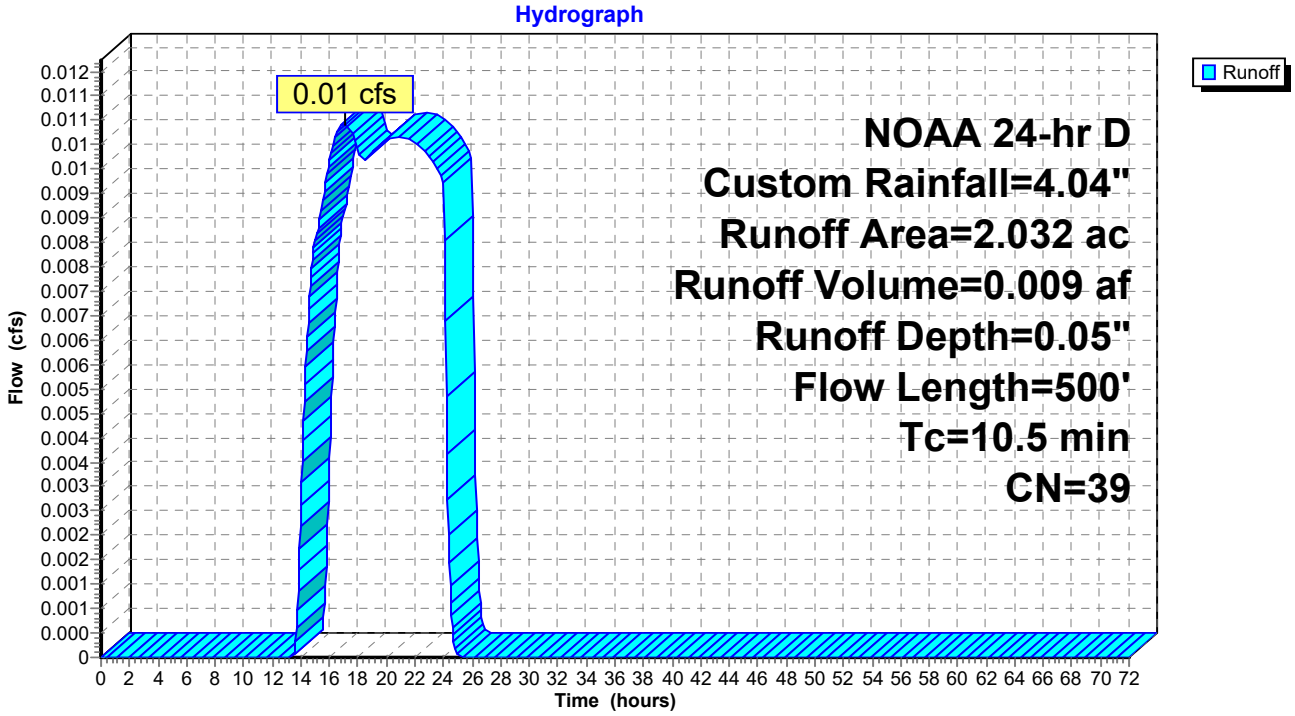
Runoff = 0.01 cfs @ 17.02 hrs, Volume= 0.009 af, Depth= 0.05"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 0.55' @ 18.70 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 1.07" for Custom event
Inflow = 3.36 cfs @ 12.11 hrs, Volume= 0.508 af
Outflow = 0.26 cfs @ 16.11 hrs, Volume= 0.442 af, Atten= 92%, Lag= 240.0 min
Primary = 0.26 cfs @ 16.11 hrs, Volume= 0.442 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.23' @ 16.11 hrs Surf.Area= 5,873 sf Storage= 9,425 cf

Plug-Flow detention time= 557.1 min calculated for 0.442 af (87% of inflow)
Center-of-Mass det. time= 413.7 min (1,417.5 - 1,003.8)

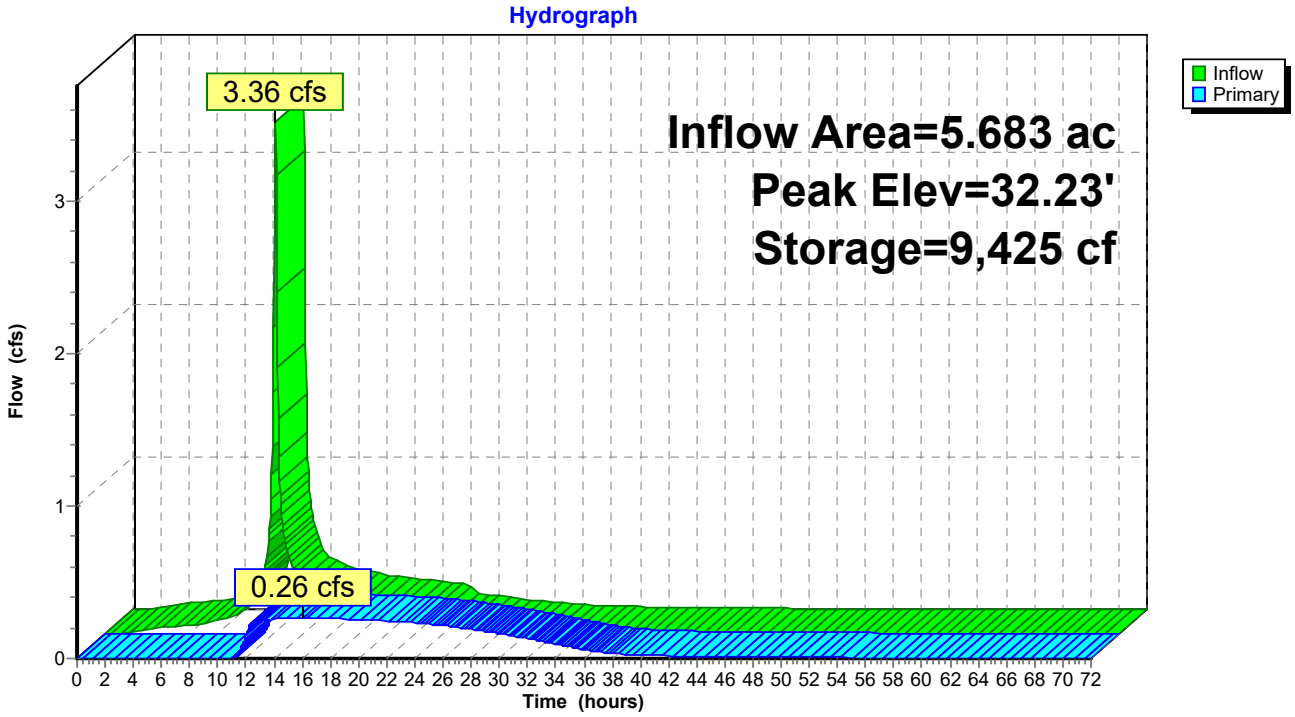
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.26 cfs @ 16.11 hrs HW=32.23' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.26 cfs @ 5.38 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

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

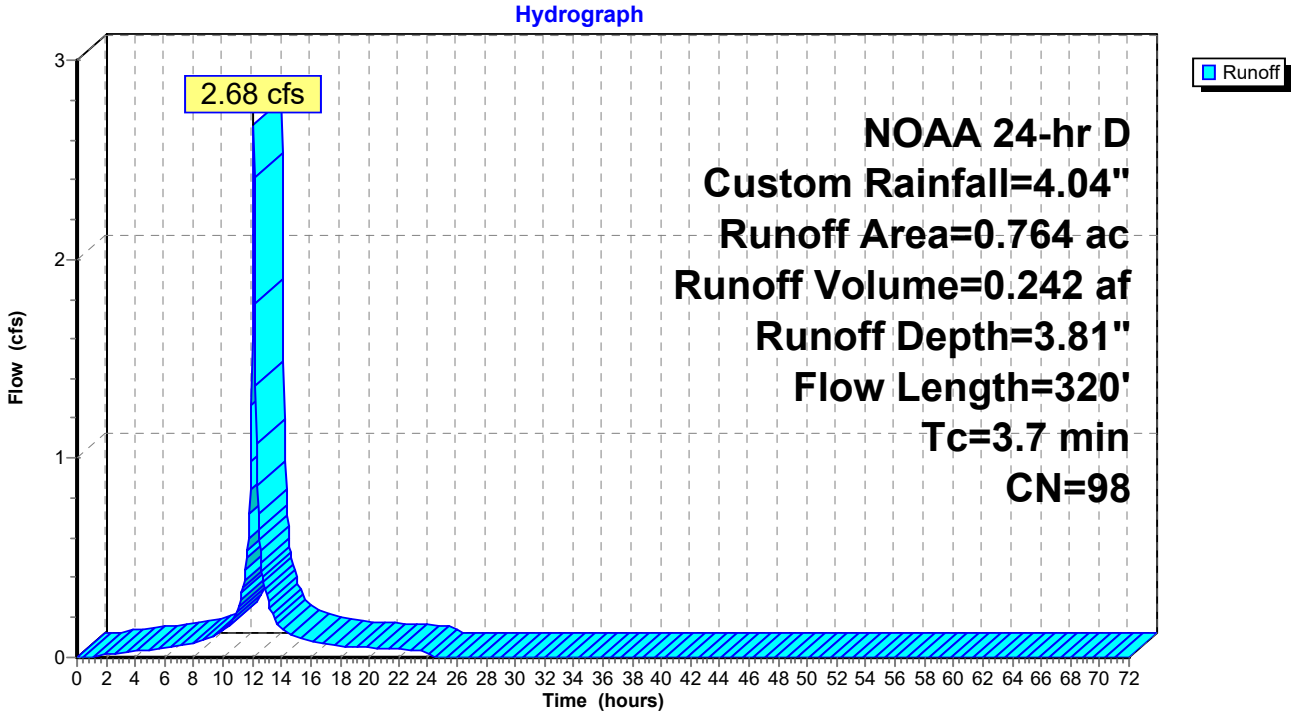
Runoff = 2.68 cfs @ 12.11 hrs, Volume= 0.242 af, Depth= 3.81"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

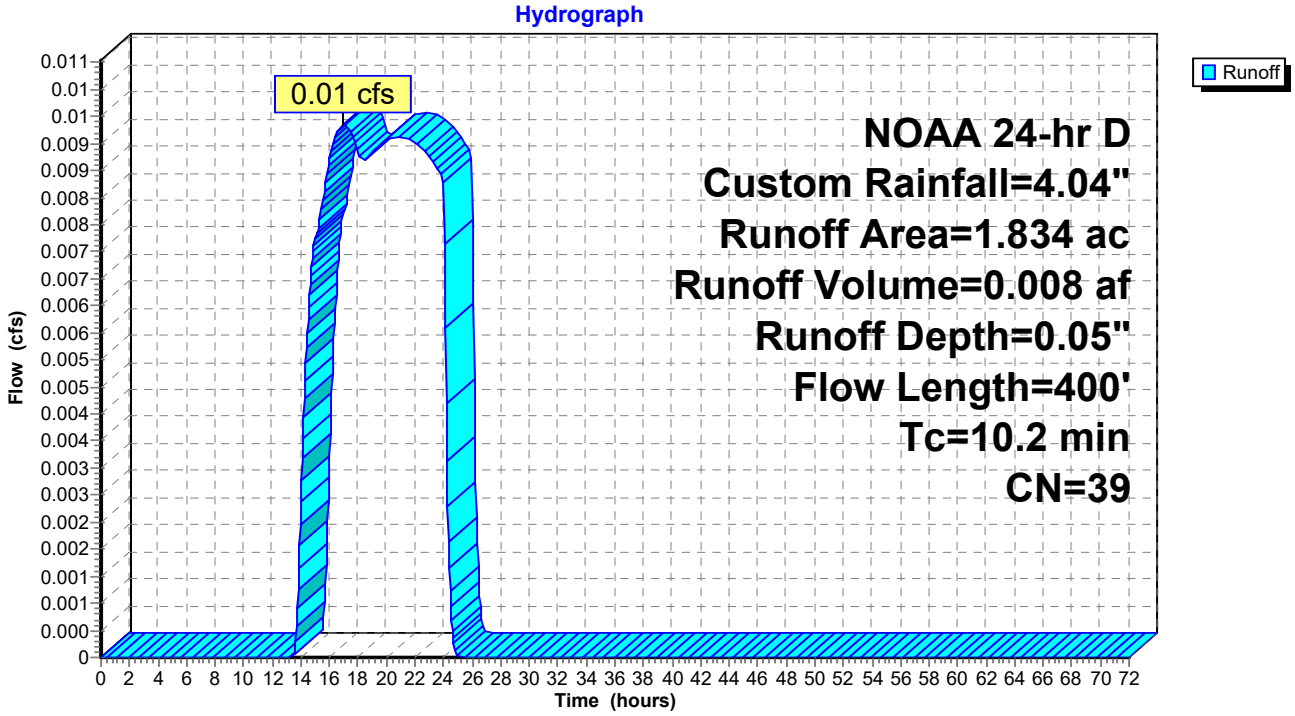
Runoff = 0.01 cfs @ 17.02 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 1.45" for Custom event
Inflow = 3.83 cfs @ 12.11 hrs, Volume= 0.354 af
Outflow = 3.62 cfs @ 12.14 hrs, Volume= 0.288 af, Atten= 5%, Lag= 1.9 min
Primary = 3.62 cfs @ 12.14 hrs, Volume= 0.288 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.36' @ 12.14 hrs Surf.Area= 3,330 sf Storage= 3,411 cf

Plug-Flow detention time= 157.6 min calculated for 0.288 af (81% of inflow)
Center-of-Mass det. time= 73.3 min (835.5 - 762.2)

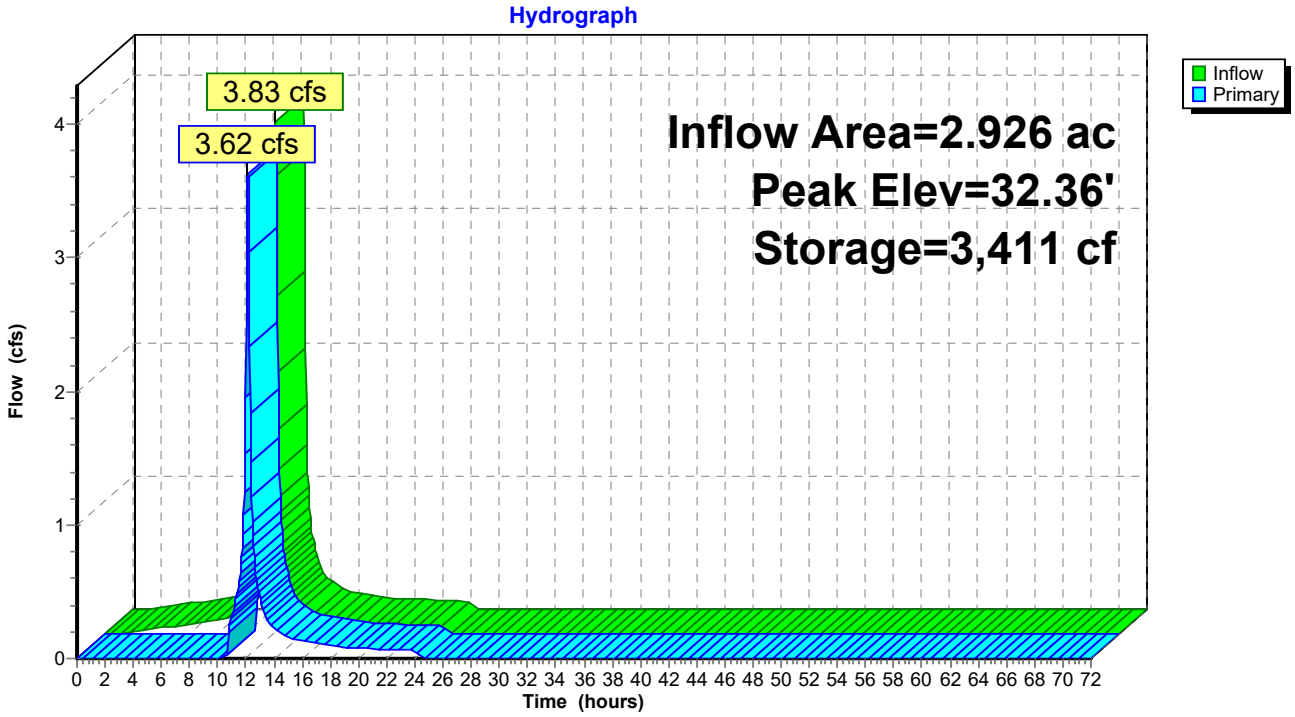
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.55 cfs @ 12.14 hrs HW=32.36' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.55 cfs @ 1.33 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

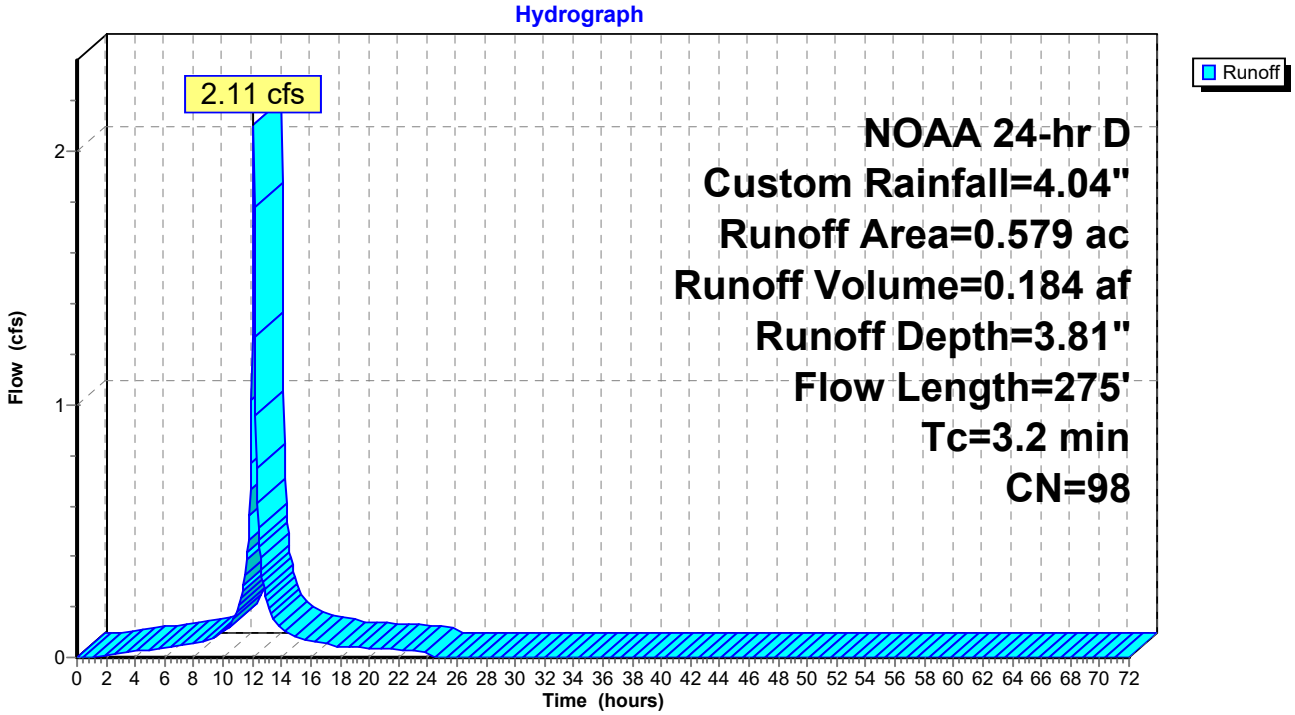
Runoff = 2.11 cfs @ 12.10 hrs, Volume= 0.184 af, Depth= 3.81"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

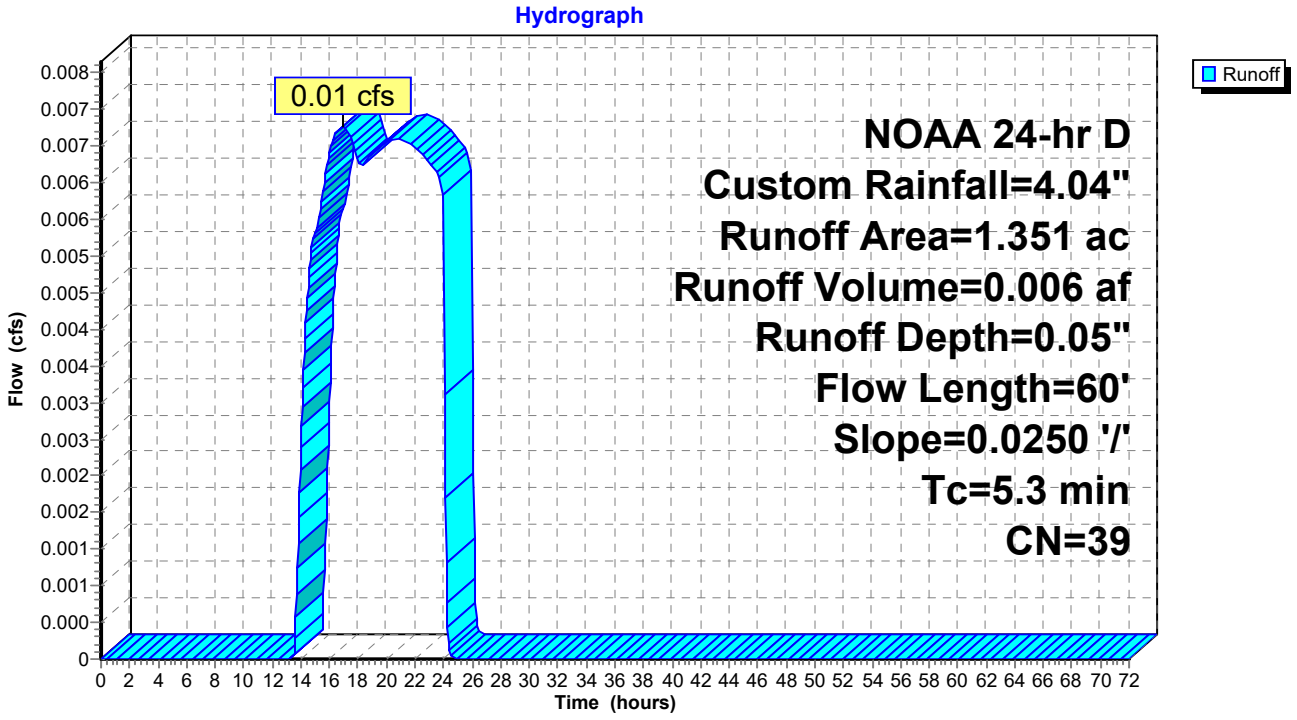
Runoff = 0.01 cfs @ 16.94 hrs, Volume= 0.006 af, Depth= 0.05"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 1.05" for Custom event
Inflow = 5.76 cfs @ 12.12 hrs, Volume= 0.919 af
Outflow = 5.56 cfs @ 12.15 hrs, Volume= 0.869 af, Atten= 3%, Lag= 1.8 min
Primary = 5.56 cfs @ 12.15 hrs, Volume= 0.869 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.61' @ 12.15 hrs Surf.Area= 3,776 sf Storage= 2,997 cf

Plug-Flow detention time= 114.7 min calculated for 0.869 af (94% of inflow)
Center-of-Mass det. time= 38.5 min (1,139.1 - 1,100.6)

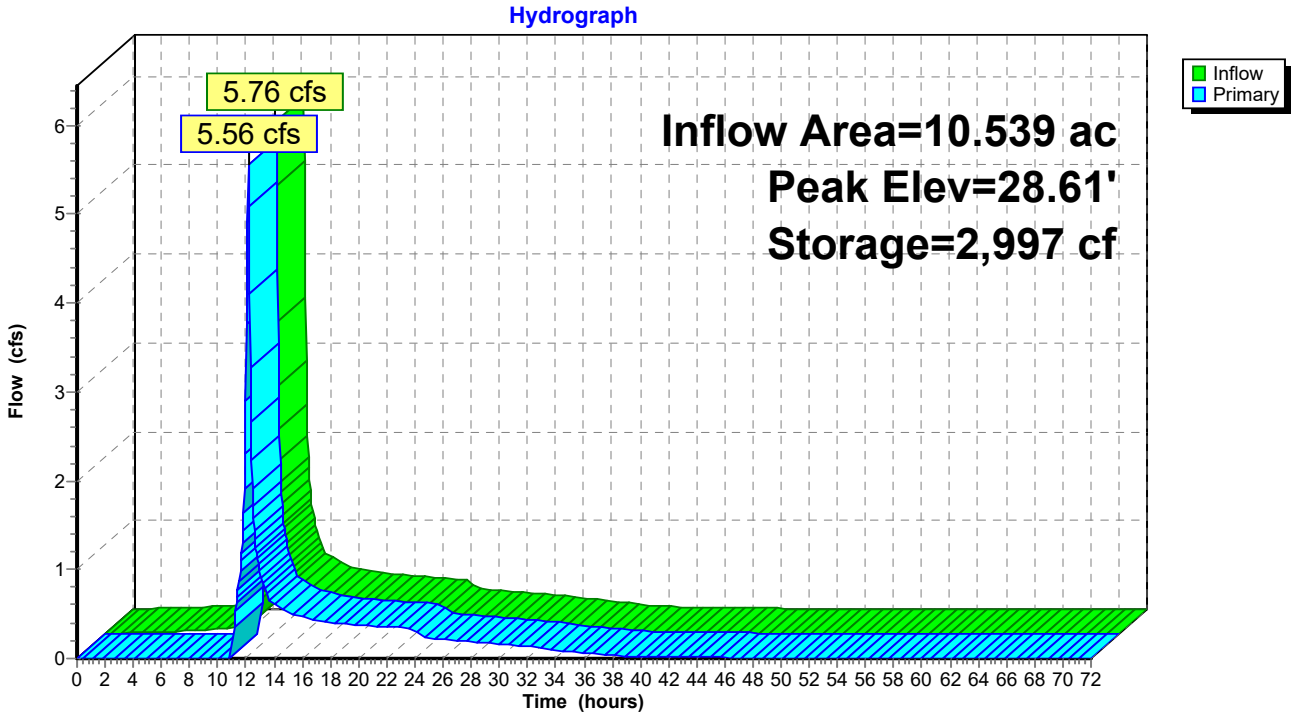
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.51 cfs @ 12.15 hrs HW=28.61' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 5.51 cfs @ 1.54 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 1.02" for Custom event
Inflow = 8.15 cfs @ 12.12 hrs, Volume= 1.132 af
Outflow = 3.51 cfs @ 12.36 hrs, Volume= 1.057 af, Atten= 57%, Lag= 14.3 min
Primary = 3.51 cfs @ 12.36 hrs, Volume= 1.057 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.36' @ 12.36 hrs Surf.Area= 8,240 sf Storage= 13,967 cf

Plug-Flow detention time= 448.6 min calculated for 1.057 af (93% of inflow)
Center-of-Mass det. time= 363.2 min (1,415.1 - 1,052.0)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

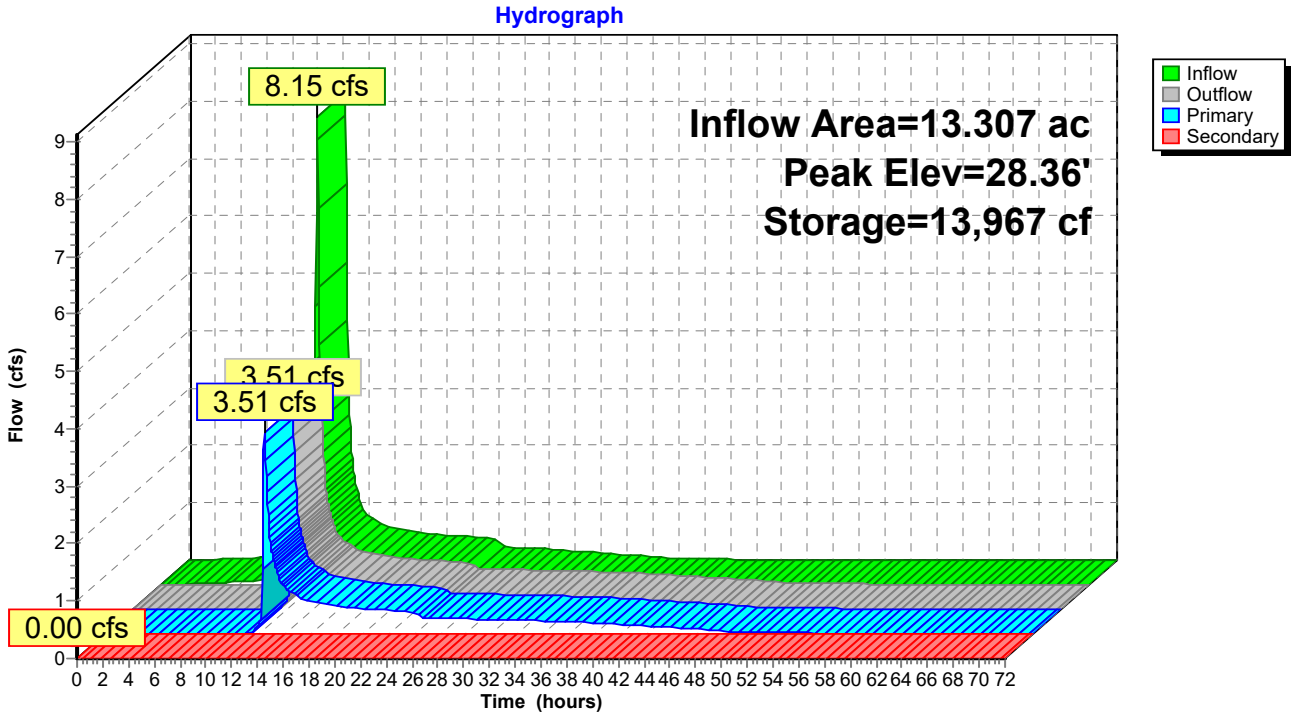
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.48 cfs @ 12.36 hrs HW=28.36' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.29 cfs @ 5.84 fps)
2=Orifice/Grate (Weir Controls 3.19 cfs @ 1.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.20' (Free Discharge)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

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

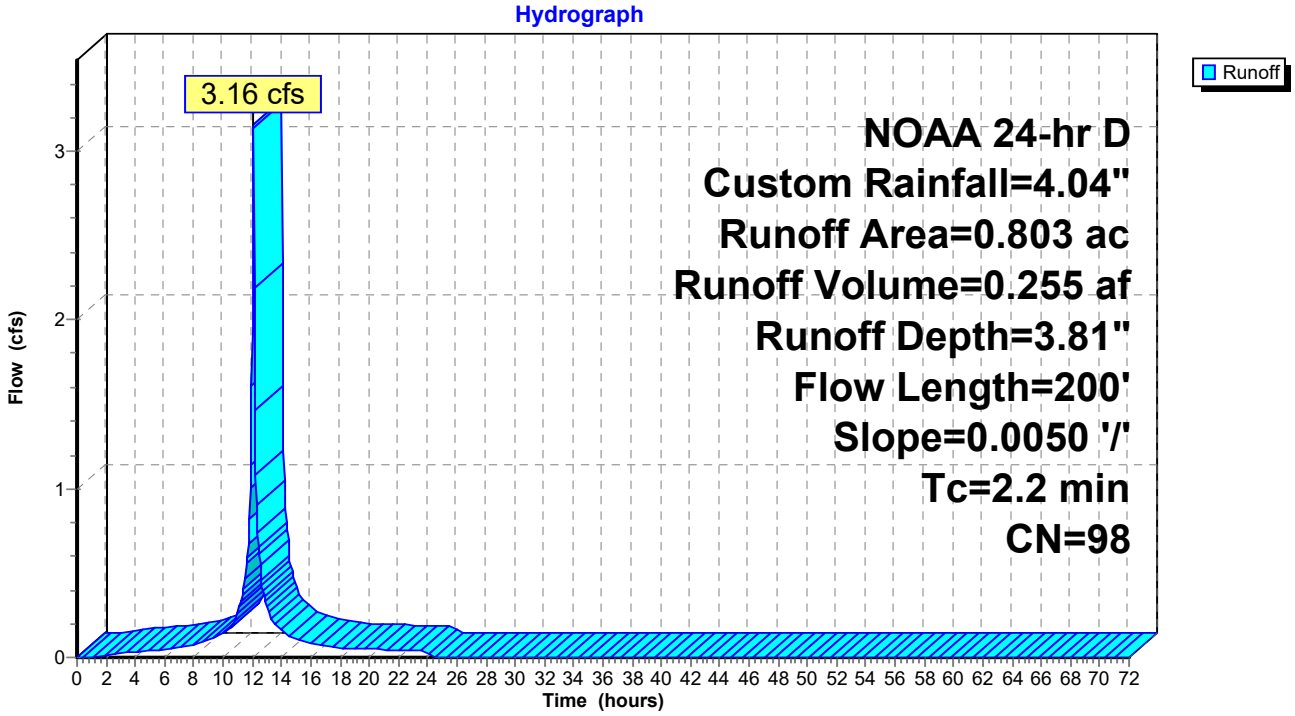
Runoff = 3.16 cfs @ 12.09 hrs, Volume= 0.255 af, Depth= 3.81"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

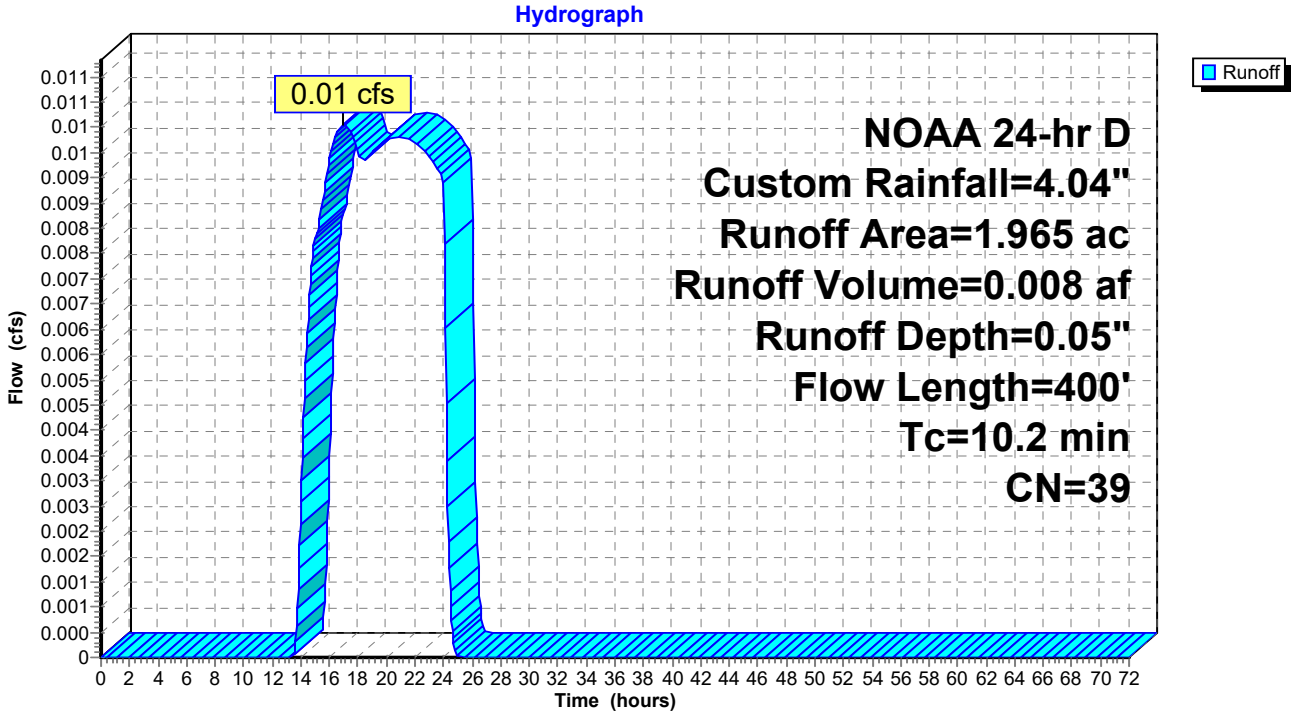
Runoff = 0.01 cfs @ 17.02 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.73" for Custom event
Inflow = 4.89 cfs @ 12.33 hrs, Volume= 4.592 af
Outflow = 0.26 cfs @ 67.33 hrs, Volume= 1.117 af, Atten= 95%, Lag= 3,299.6 min
Primary = 0.26 cfs @ 67.33 hrs, Volume= 1.117 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 23.86' @ 67.33 hrs Surf.Area= 118,770 sf Storage= 509,361 cf (151,547 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,045.6 min (2,705.9 - 1,660.3)

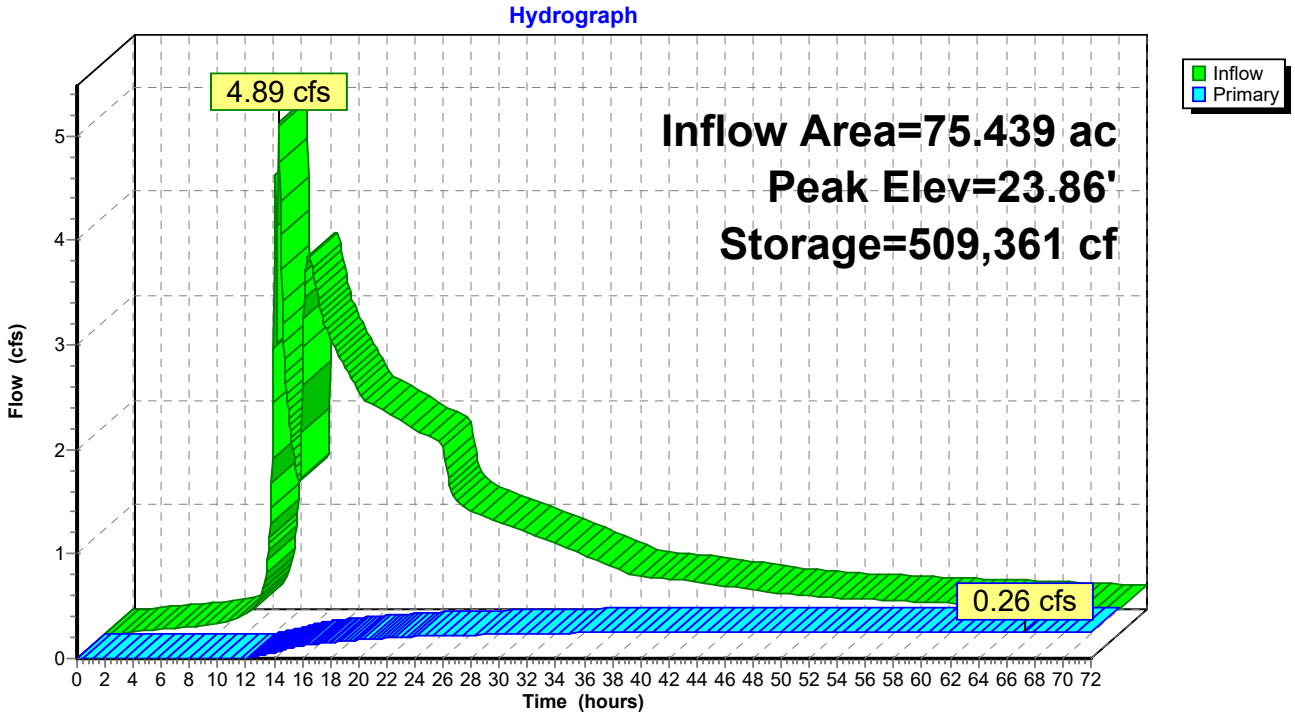
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.26 cfs @ 67.33 hrs HW=23.86' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.26 cfs @ 5.24 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

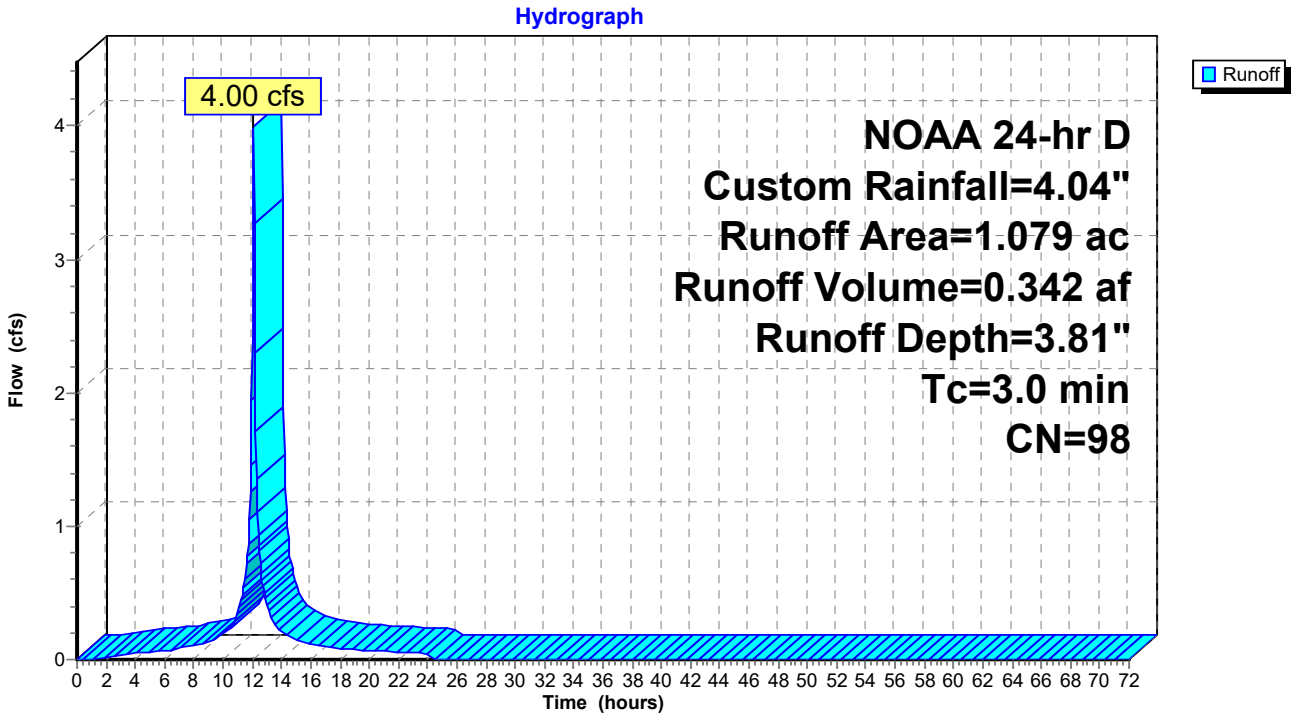
Runoff = 4.00 cfs @ 12.10 hrs, Volume= 0.342 af, Depth= 3.81"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

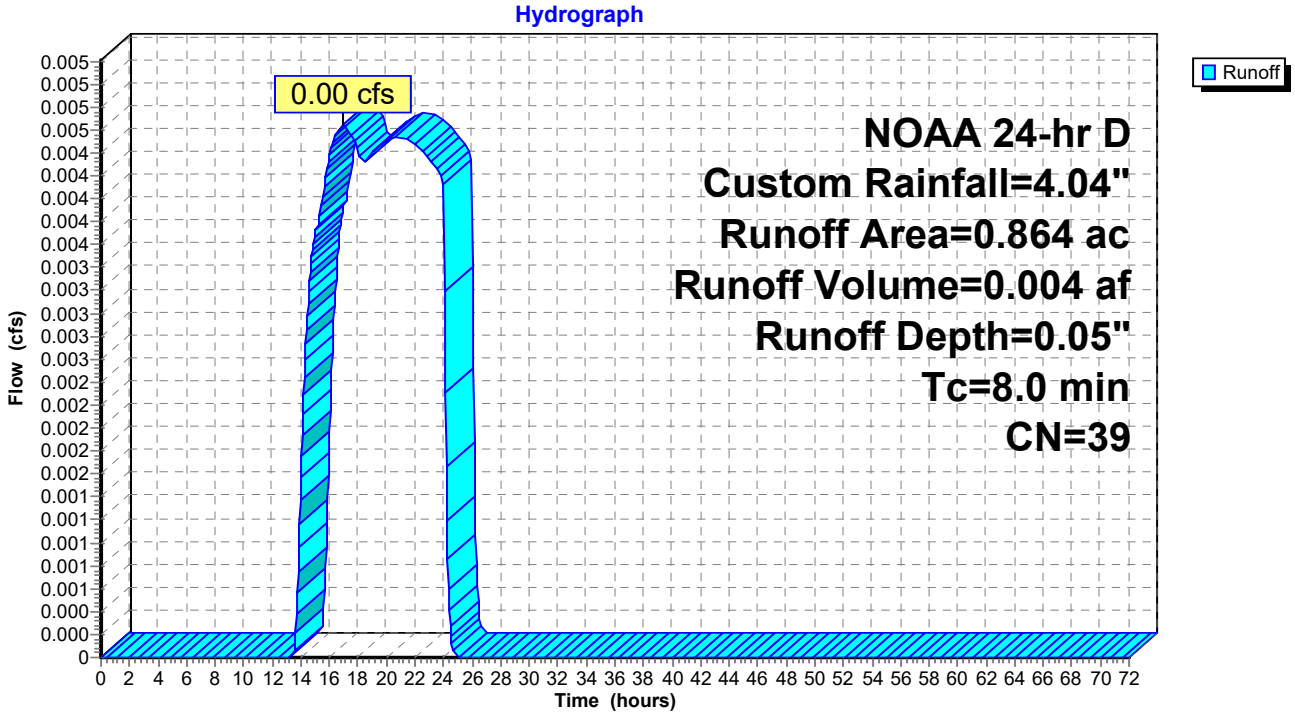
Runoff = 0.00 cfs @ 16.96 hrs, Volume= 0.004 af, Depth= 0.05"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 0.99" for Custom event
Inflow = 2.83 cfs @ 12.04 hrs, Volume= 0.221 af
Outflow = 0.18 cfs @ 13.35 hrs, Volume= 0.162 af, Atten= 94%, Lag= 78.2 min
Primary = 0.18 cfs @ 13.35 hrs, Volume= 0.162 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.37' @ 13.35 hrs Surf.Area= 5,697 sf Storage= 6,061 cf

Plug-Flow detention time= 482.3 min calculated for 0.162 af (73% of inflow)
Center-of-Mass det. time= 377.6 min (1,140.4 - 762.8)

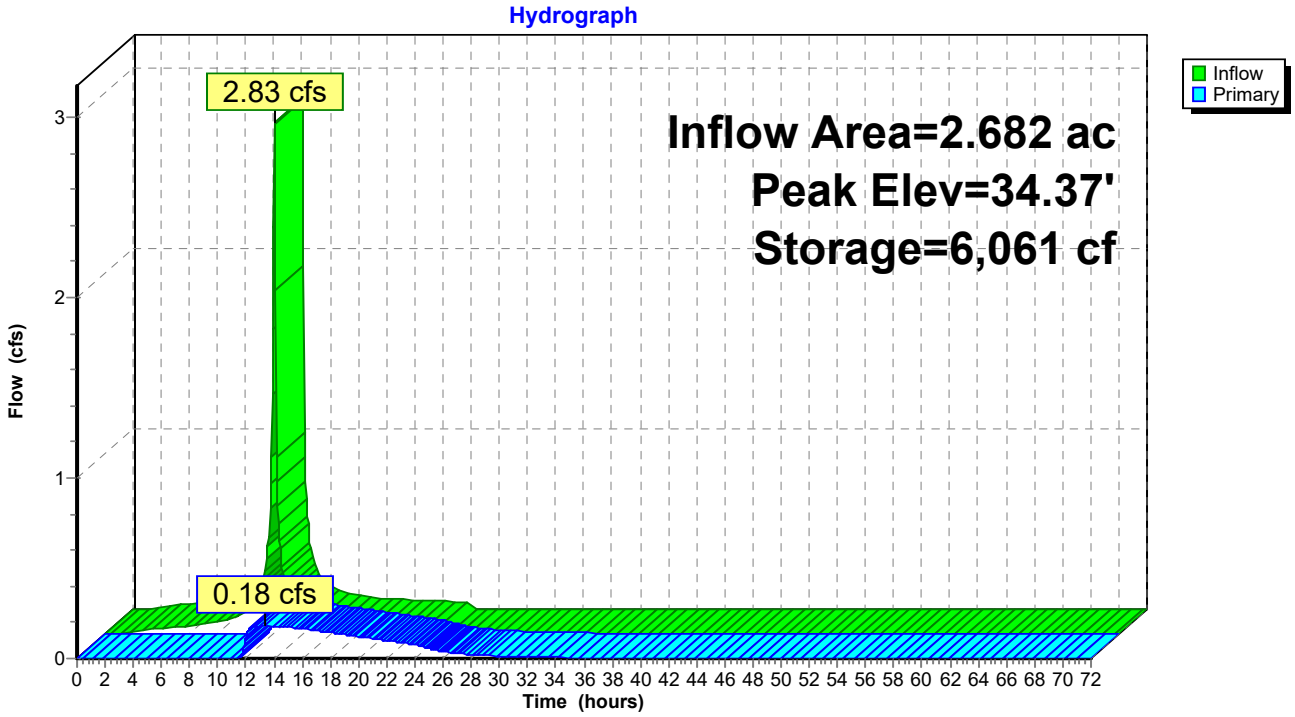
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 13.35 hrs HW=34.37' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.18 cfs @ 3.67 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

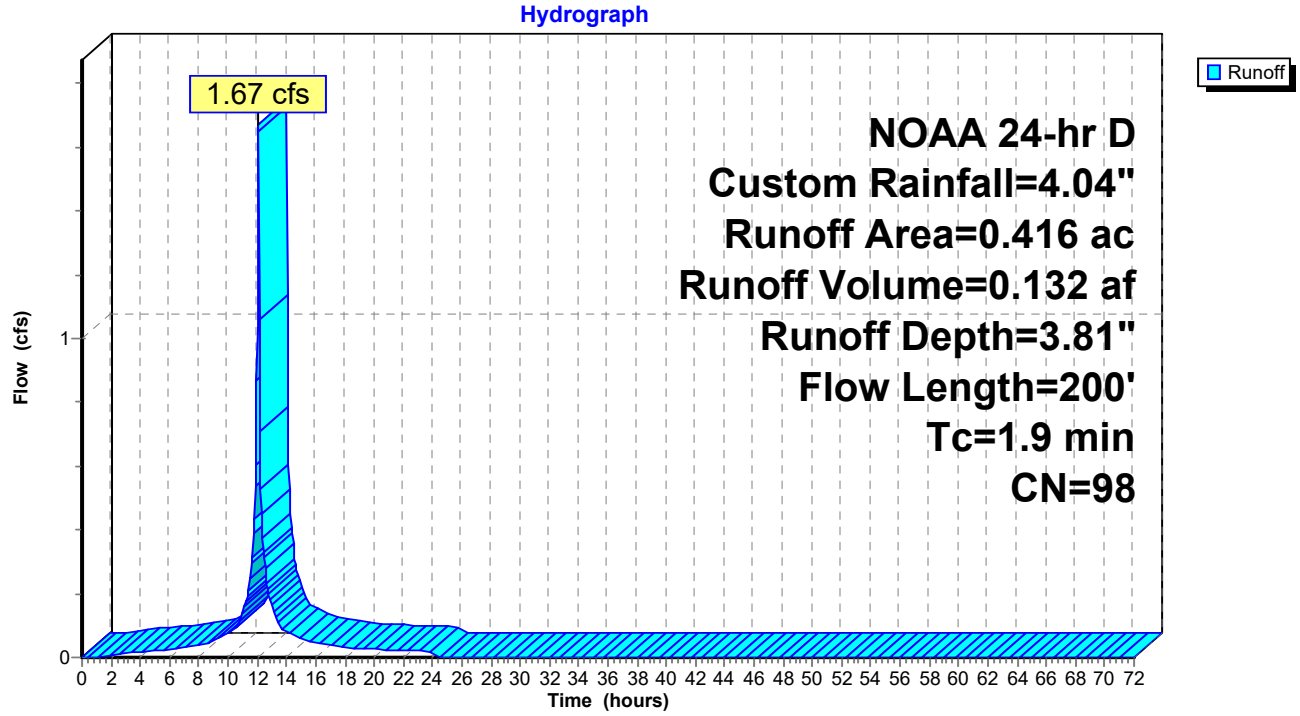
Runoff = 1.67 cfs @ 12.09 hrs, Volume= 0.132 af, Depth= 3.81"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 0.82" for Custom event
Inflow = 2.03 cfs @ 12.10 hrs, Volume= 0.183 af
Outflow = 0.16 cfs @ 13.33 hrs, Volume= 0.134 af, Atten= 92%, Lag= 74.0 min
Primary = 0.16 cfs @ 13.33 hrs, Volume= 0.134 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.09' @ 13.33 hrs Surf.Area= 5,354 sf Storage= 4,928 cf

Plug-Flow detention time= 473.1 min calculated for 0.134 af (73% of inflow)
Center-of-Mass det. time= 365.3 min (1,137.1 - 771.8)

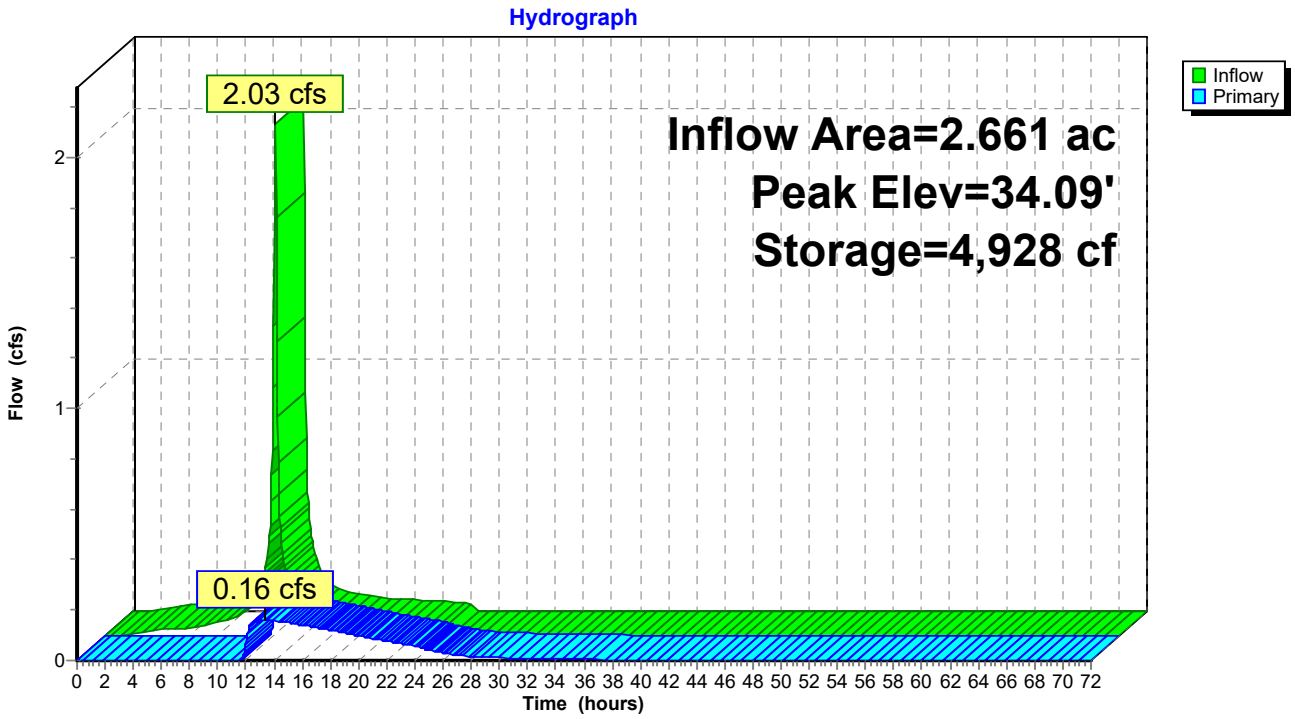
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 13.33 hrs HW=34.09' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.16 cfs @ 3.25 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

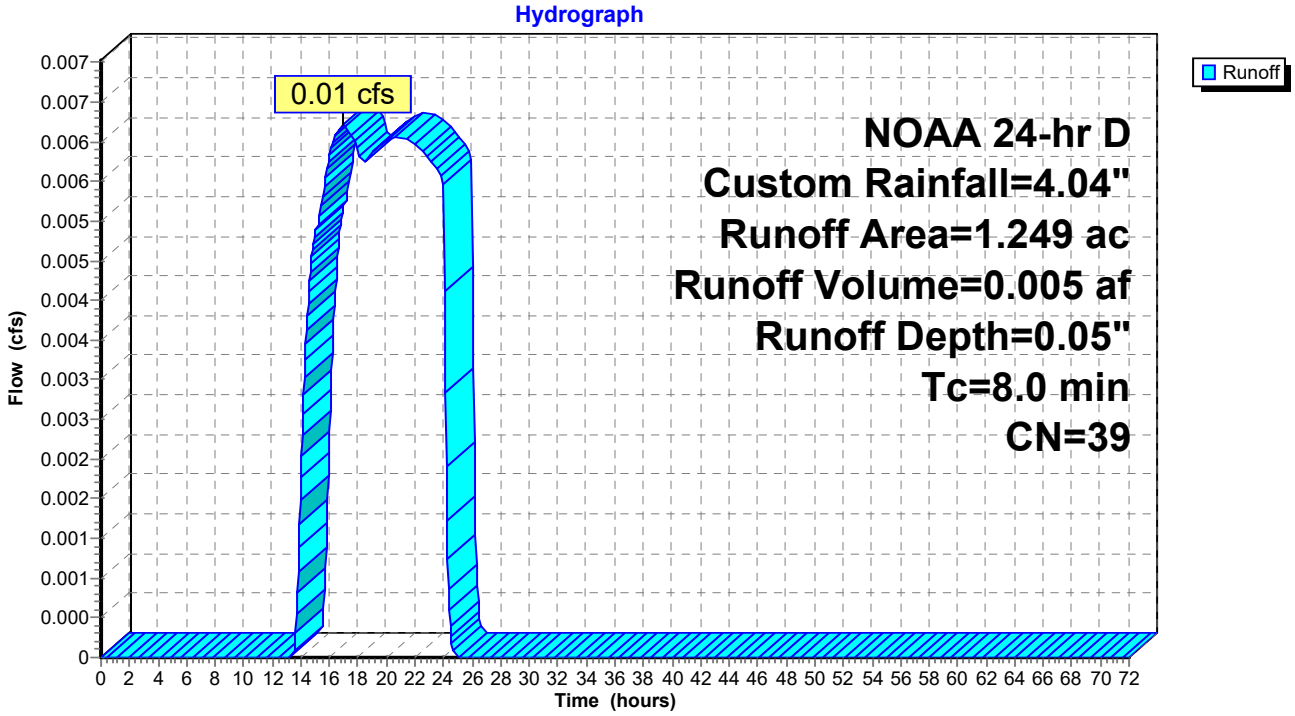
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.005 af, Depth= 0.05"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 0.99" for Custom event
Inflow = 1.67 cfs @ 12.09 hrs, Volume= 0.137 af
Outflow = 0.22 cfs @ 12.67 hrs, Volume= 0.101 af, Atten= 87%, Lag= 34.8 min
Primary = 0.22 cfs @ 12.67 hrs, Volume= 0.101 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.63' @ 12.67 hrs Surf.Area= 1,989 sf Storage= 3,347 cf

Plug-Flow detention time= 313.3 min calculated for 0.101 af (74% of inflow)
Center-of-Mass det. time= 206.5 min (972.5 - 766.1)

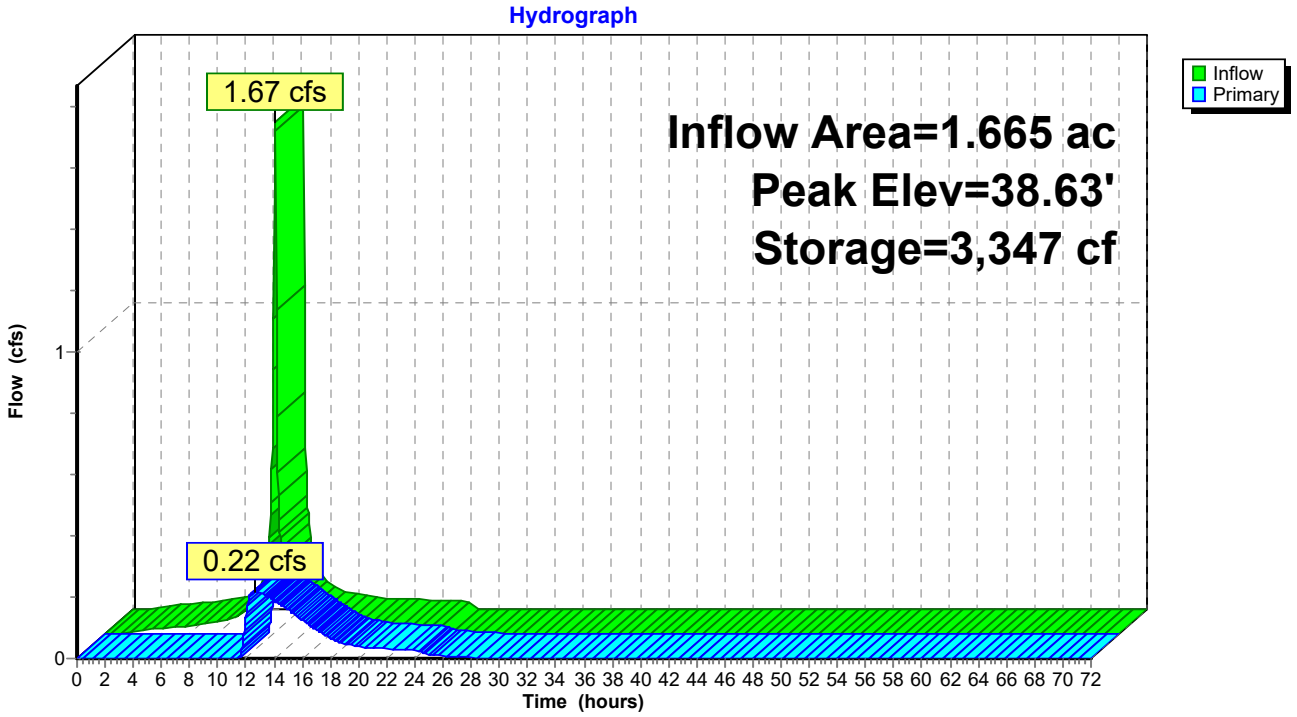
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.67 hrs HW=38.63' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.22 cfs @ 4.40 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 1.00" for Custom event
Inflow = 3.27 cfs @ 12.04 hrs, Volume= 0.342 af
Outflow = 0.22 cfs @ 15.76 hrs, Volume= 0.278 af, Atten= 93%, Lag= 223.0 min
Primary = 0.22 cfs @ 15.76 hrs, Volume= 0.278 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.87' @ 15.76 hrs Surf.Area= 6,928 sf Storage= 8,405 cf

Plug-Flow detention time= 513.7 min calculated for 0.278 af (81% of inflow)
Center-of-Mass det. time= 419.7 min (1,242.5 - 822.8)

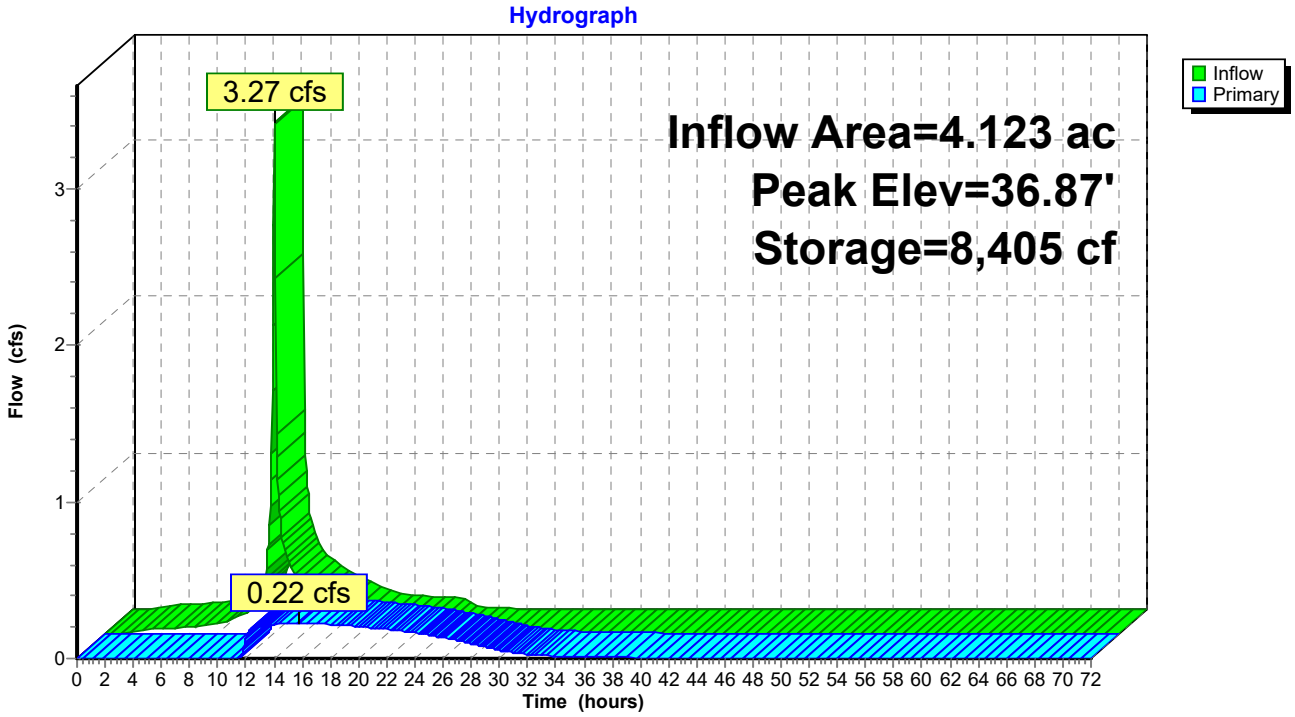
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 15.76 hrs HW=36.87' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.22 cfs @ 4.57 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 1.27" for Custom event
Inflow = 3.47 cfs @ 12.07 hrs, Volume= 0.316 af
Outflow = 3.11 cfs @ 12.11 hrs, Volume= 0.265 af, Atten= 10%, Lag= 2.4 min
Primary = 3.11 cfs @ 12.11 hrs, Volume= 0.265 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.61' @ 12.11 hrs Surf.Area= 5,541 sf Storage= 3,074 cf

Plug-Flow detention time= 150.6 min calculated for 0.265 af (84% of inflow)
Center-of-Mass det. time= 71.8 min (833.3 - 761.4)

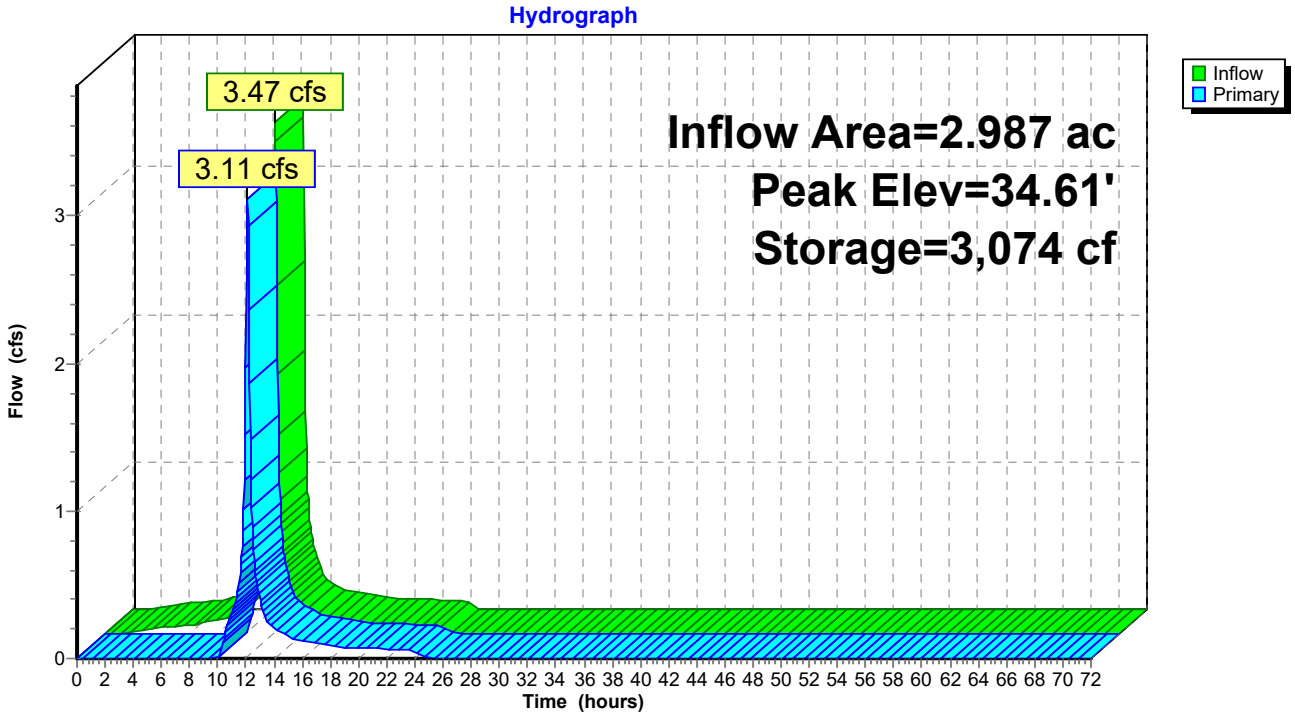
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.05 cfs @ 12.11 hrs HW=34.61' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 3.05 cfs @ 1.27 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

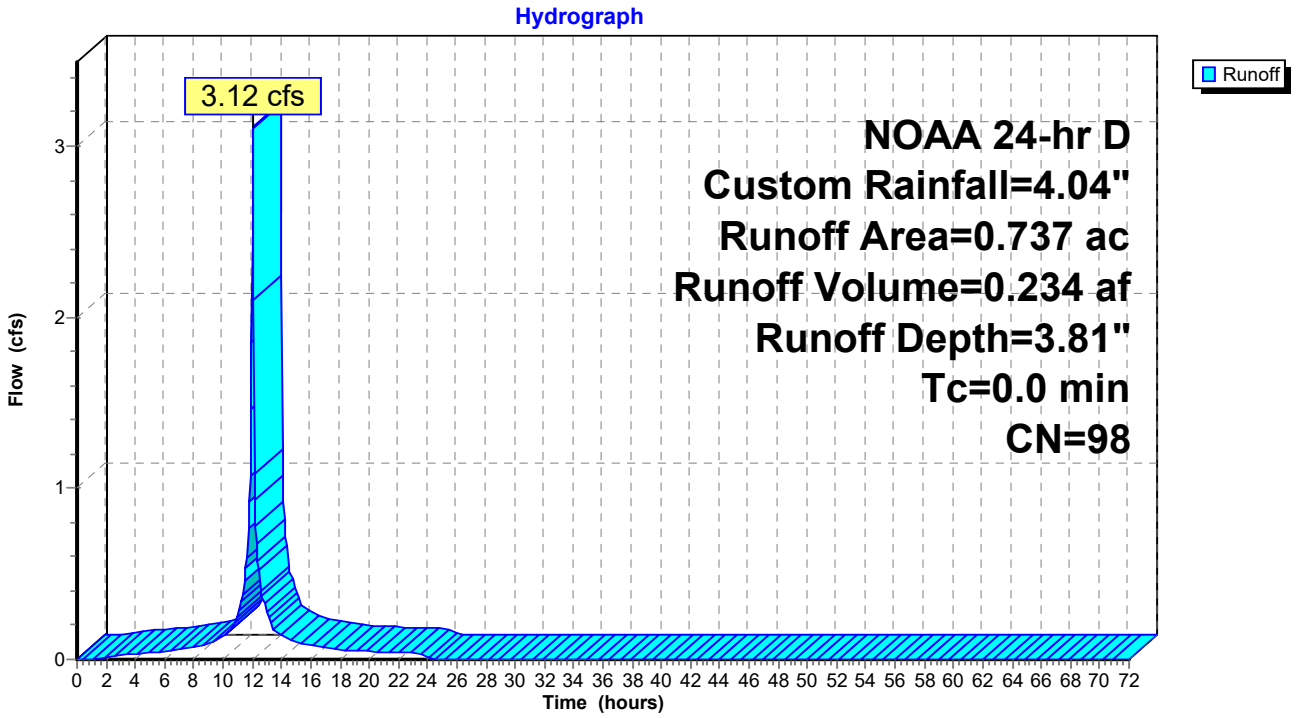
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 3.12 cfs @ 12.04 hrs, Volume= 0.234 af, Depth= 3.81"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 0.94" for Custom event
Inflow = 2.99 cfs @ 12.10 hrs, Volume= 0.441 af
Outflow = 0.22 cfs @ 17.08 hrs, Volume= 0.370 af, Atten= 93%, Lag= 298.6 min
Primary = 0.22 cfs @ 17.08 hrs, Volume= 0.370 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.64' @ 17.08 hrs Surf.Area= 6,560 sf Storage= 8,505 cf

Plug-Flow detention time= 605.3 min calculated for 0.370 af (84% of inflow)
Center-of-Mass det. time= 441.7 min (1,447.2 - 1,005.5)

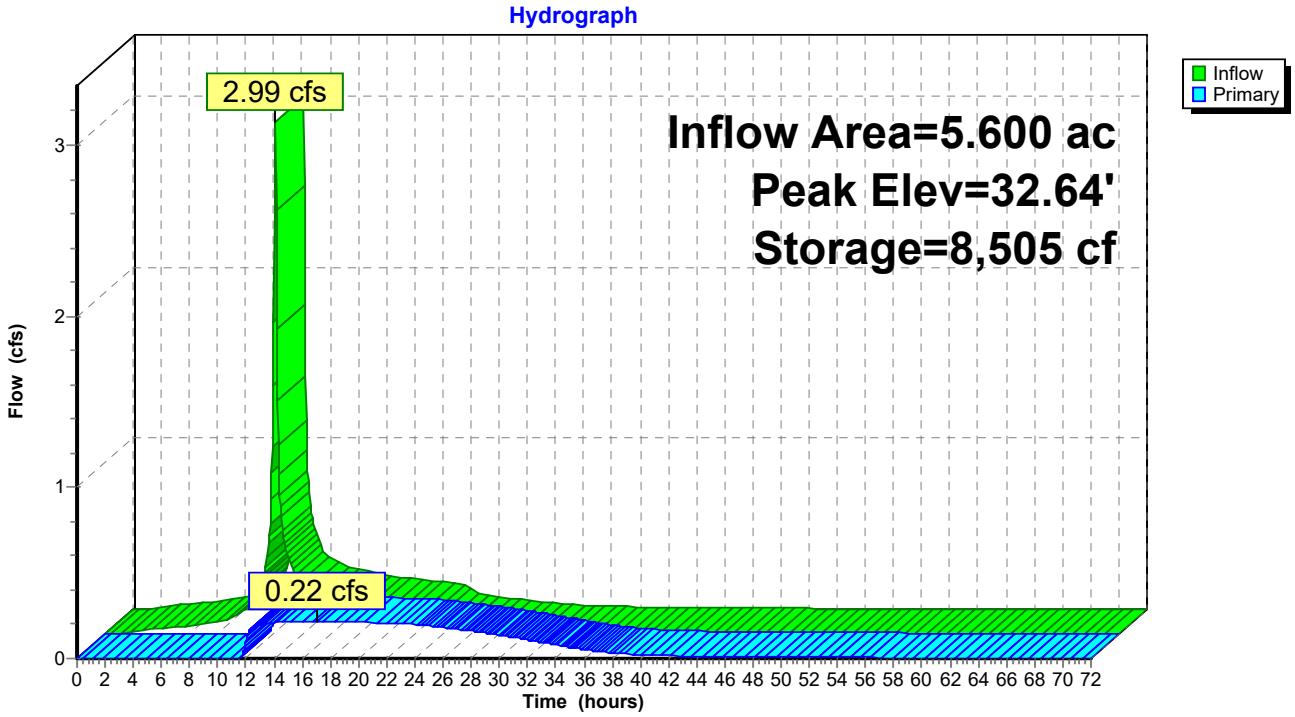
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 17.08 hrs HW=32.64' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.22 cfs @ 4.44 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

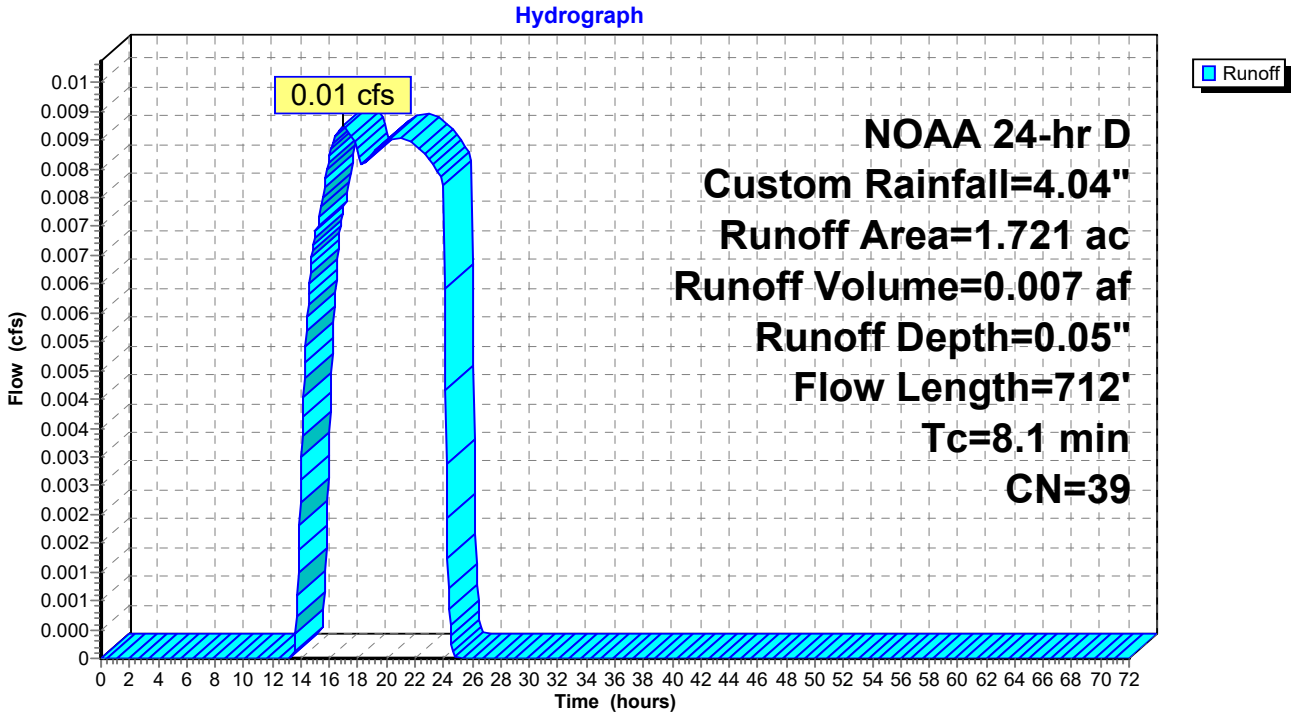
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.007 af, Depth= 0.05"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 0.78" for Custom event
Inflow = 1.80 cfs @ 12.10 hrs, Volume= 0.167 af
Outflow = 1.71 cfs @ 12.13 hrs, Volume= 0.124 af, Atten= 5%, Lag= 1.5 min
Primary = 1.71 cfs @ 12.13 hrs, Volume= 0.124 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.96' @ 12.13 hrs Surf.Area= 1,969 sf Storage= 2,074 cf

Plug-Flow detention time= 199.0 min calculated for 0.124 af (74% of inflow)
Center-of-Mass det. time= 90.1 min (863.9 - 773.8)

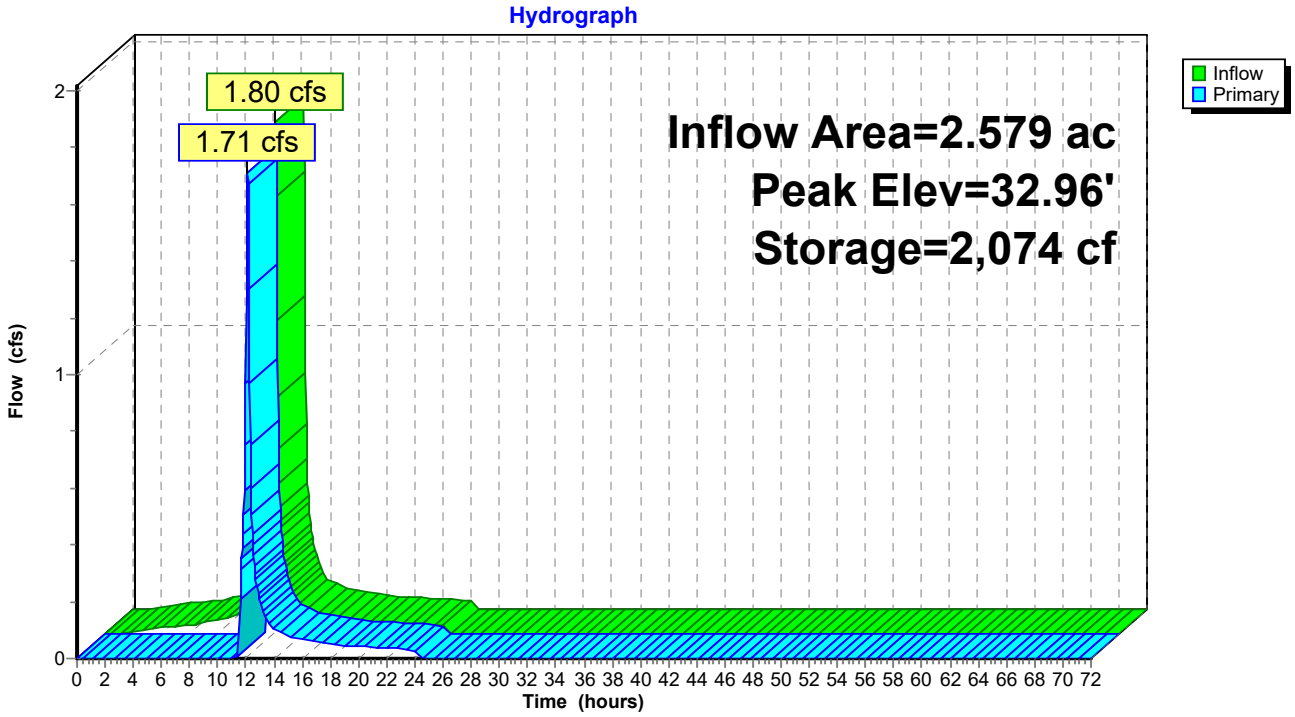
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.65 cfs @ 12.13 hrs HW=32.96' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 1.65 cfs @ 1.03 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 0.96" for Custom event
Inflow = 2.62 cfs @ 12.09 hrs, Volume= 0.240 af
Outflow = 0.15 cfs @ 14.00 hrs, Volume= 0.186 af, Atten= 94%, Lag= 114.7 min
Primary = 0.15 cfs @ 14.00 hrs, Volume= 0.186 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.78' @ 14.00 hrs Surf.Area= 9,431 sf Storage= 6,863 cf

Plug-Flow detention time= 666.2 min calculated for 0.185 af (77% of inflow)
Center-of-Mass det. time= 569.5 min (1,337.1 - 767.6)

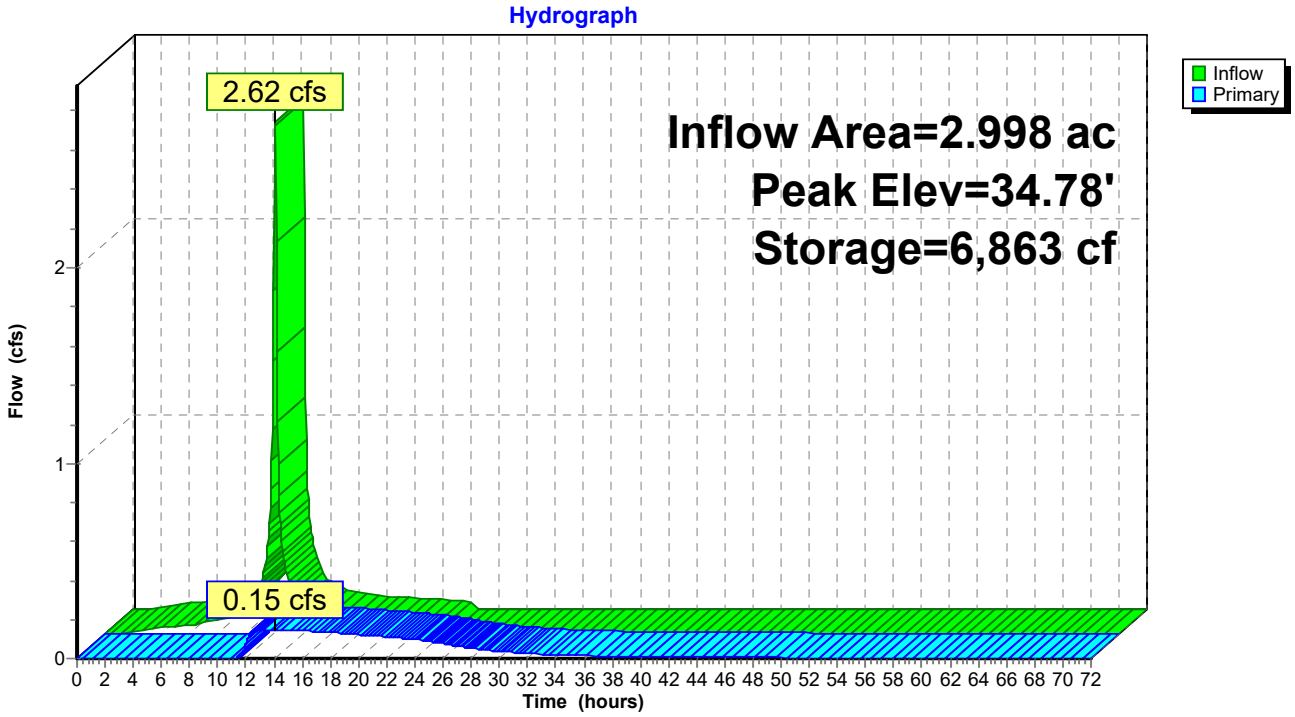
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 14.00 hrs HW=34.78' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.15 cfs @ 3.00 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

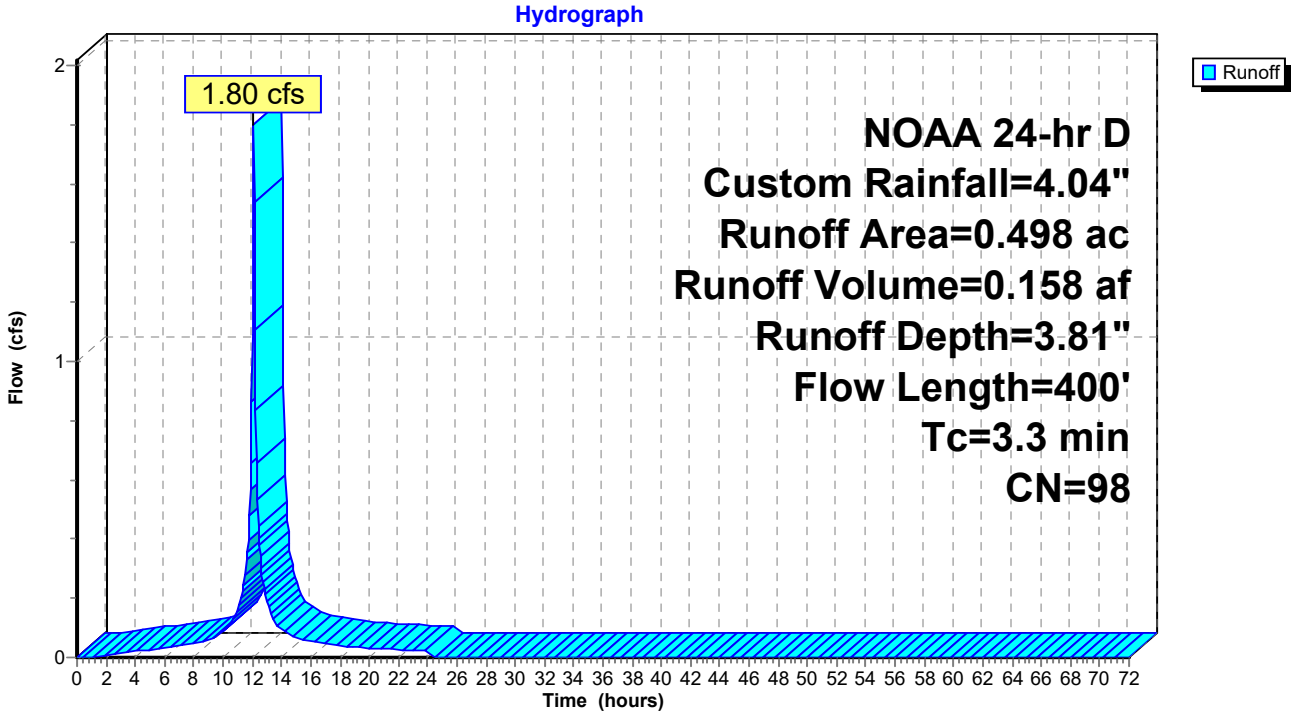
Runoff = 1.80 cfs @ 12.10 hrs, Volume= 0.158 af, Depth= 3.81"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 0.61" for Custom event
Inflow = 12.50 cfs @ 12.16 hrs, Volume= 1.022 af
Outflow = 3.84 cfs @ 12.57 hrs, Volume= 1.000 af, Atten= 69%, Lag= 24.6 min
Primary = 3.84 cfs @ 12.57 hrs, Volume= 1.000 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.16' @ 12.57 hrs Surf.Area= 9,158 sf Storage= 19,511 cf

Plug-Flow detention time= 450.3 min calculated for 1.000 af (98% of inflow)
Center-of-Mass det. time= 437.5 min (1,283.0 - 845.5)

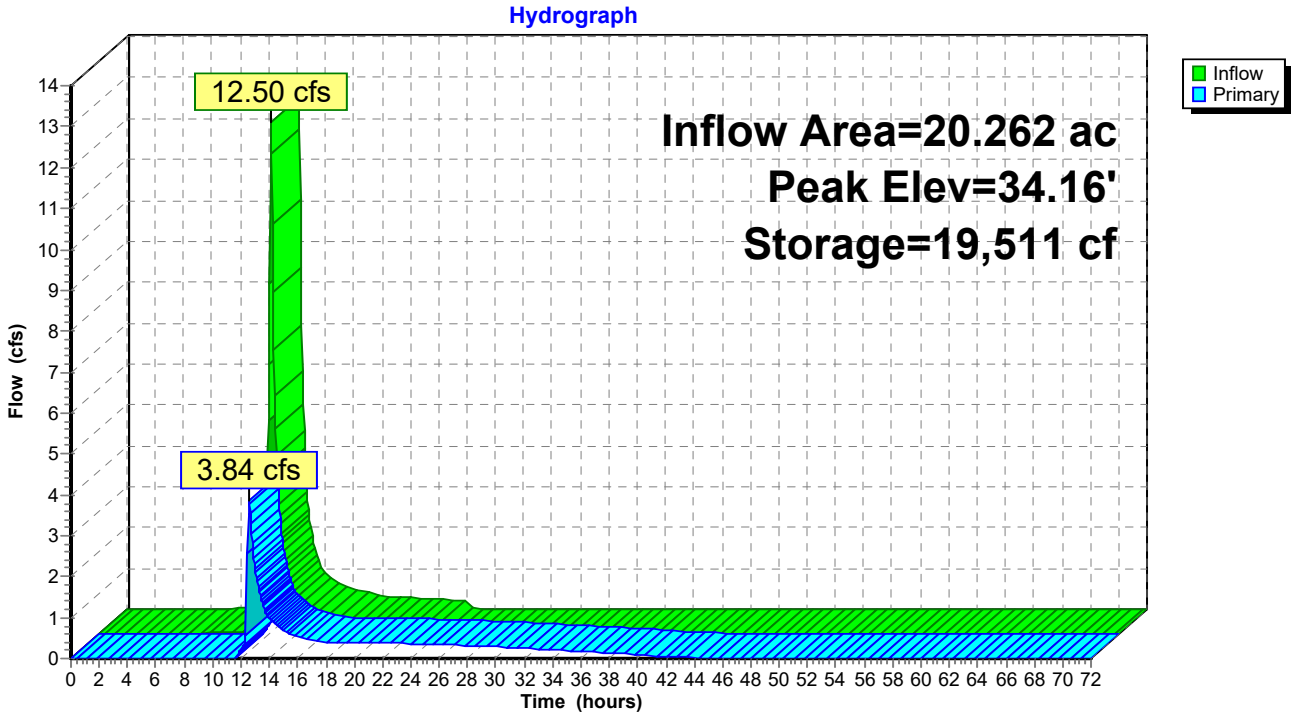
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.79 cfs @ 12.57 hrs HW=34.16' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.39 cfs @ 8.04 fps)
└**2=Orifice/Grate** (Weir Controls 3.39 cfs @ 1.31 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

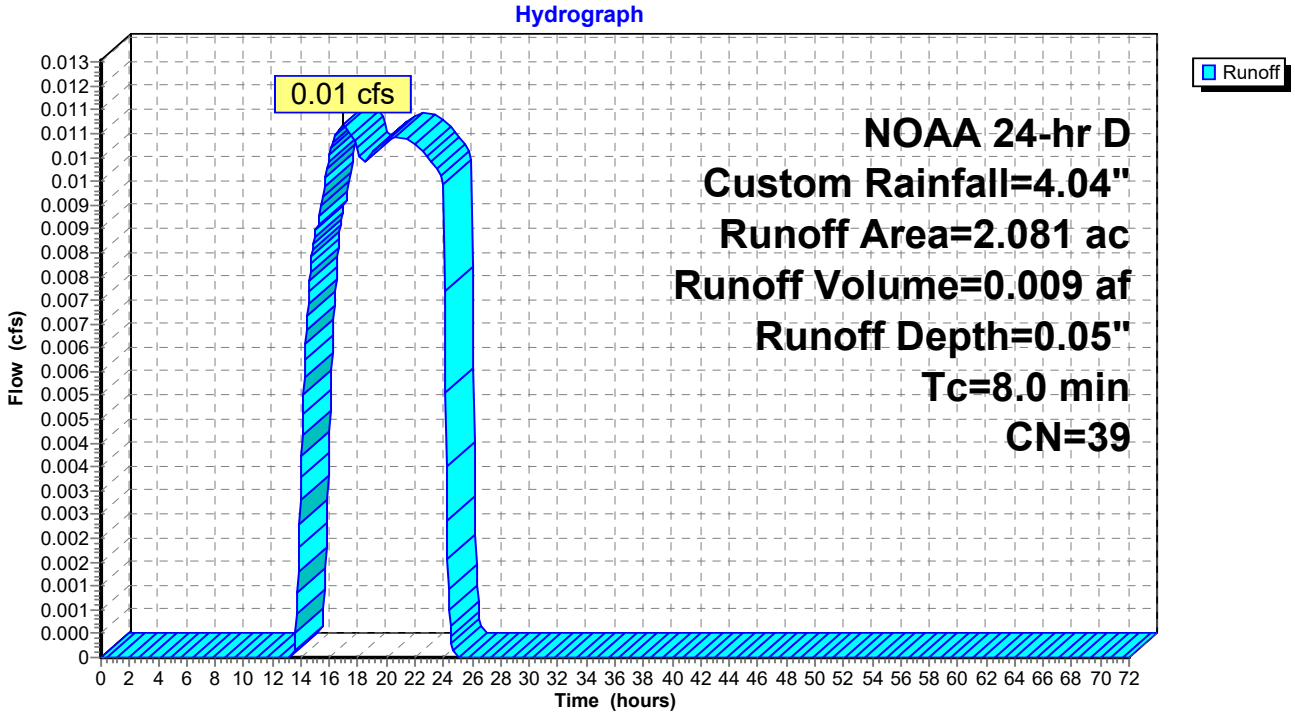
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.009 af, Depth= 0.05"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 0.76" for Custom event
Inflow = 18.36 cfs @ 12.14 hrs, Volume= 3.806 af
Outflow = 2.72 cfs @ 14.49 hrs, Volume= 3.189 af, Atten= 85%, Lag= 141.0 min
Primary = 2.72 cfs @ 14.49 hrs, Volume= 3.189 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 27.18' @ 14.49 hrs Surf.Area= 24,644 sf Storage= 60,027 cf

Plug-Flow detention time= 856.4 min calculated for 3.189 af (84% of inflow)
Center-of-Mass det. time= 675.1 min (1,839.6 - 1,164.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) x 2

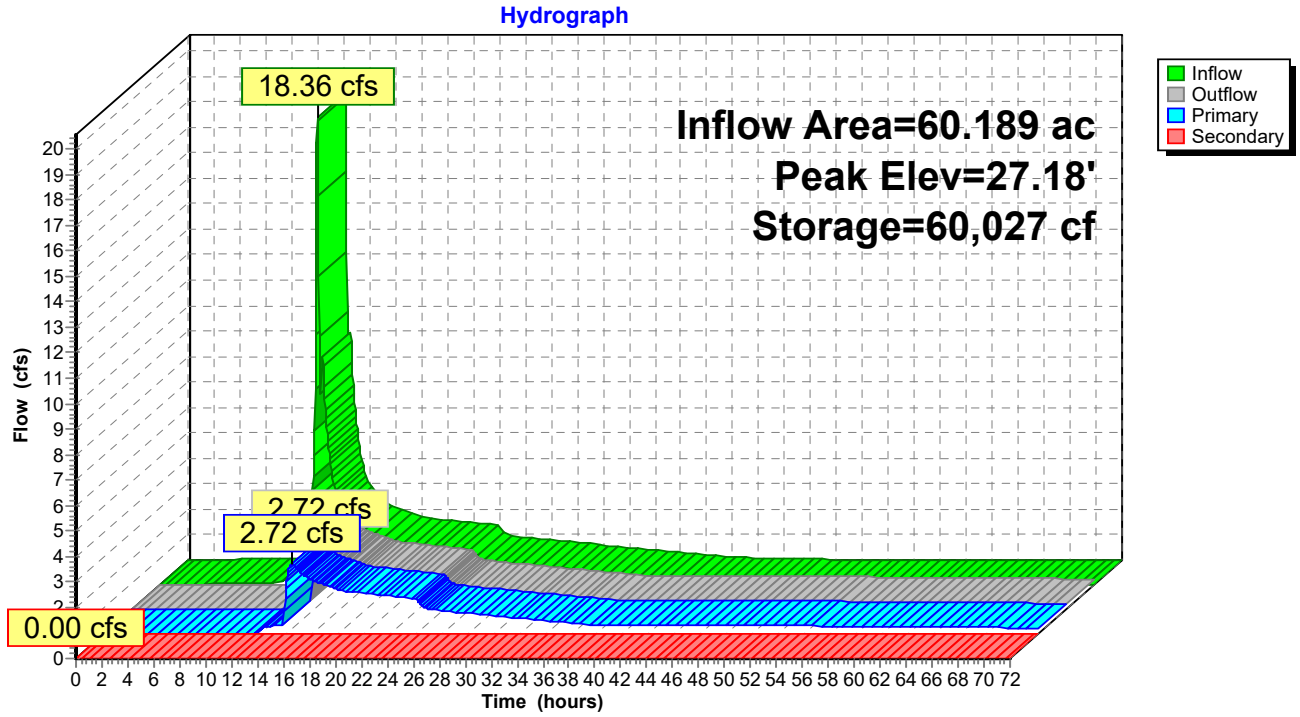
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.69 cfs @ 14.49 hrs HW=27.18' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.54 fps)
└**2=Orifice/Grate** (Weir Controls 2.32 cfs @ 0.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.22' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 1.11" for Custom event
Inflow = 1.98 cfs @ 12.09 hrs, Volume= 0.166 af
Outflow = 0.14 cfs @ 13.41 hrs, Volume= 0.121 af, Atten= 93%, Lag= 78.8 min
Primary = 0.14 cfs @ 13.41 hrs, Volume= 0.121 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.82' @ 13.41 hrs Surf.Area= 6,372 sf Storage= 4,608 cf

Plug-Flow detention time= 520.0 min calculated for 0.121 af (73% of inflow)
Center-of-Mass det. time= 415.3 min (1,179.7 - 764.4)

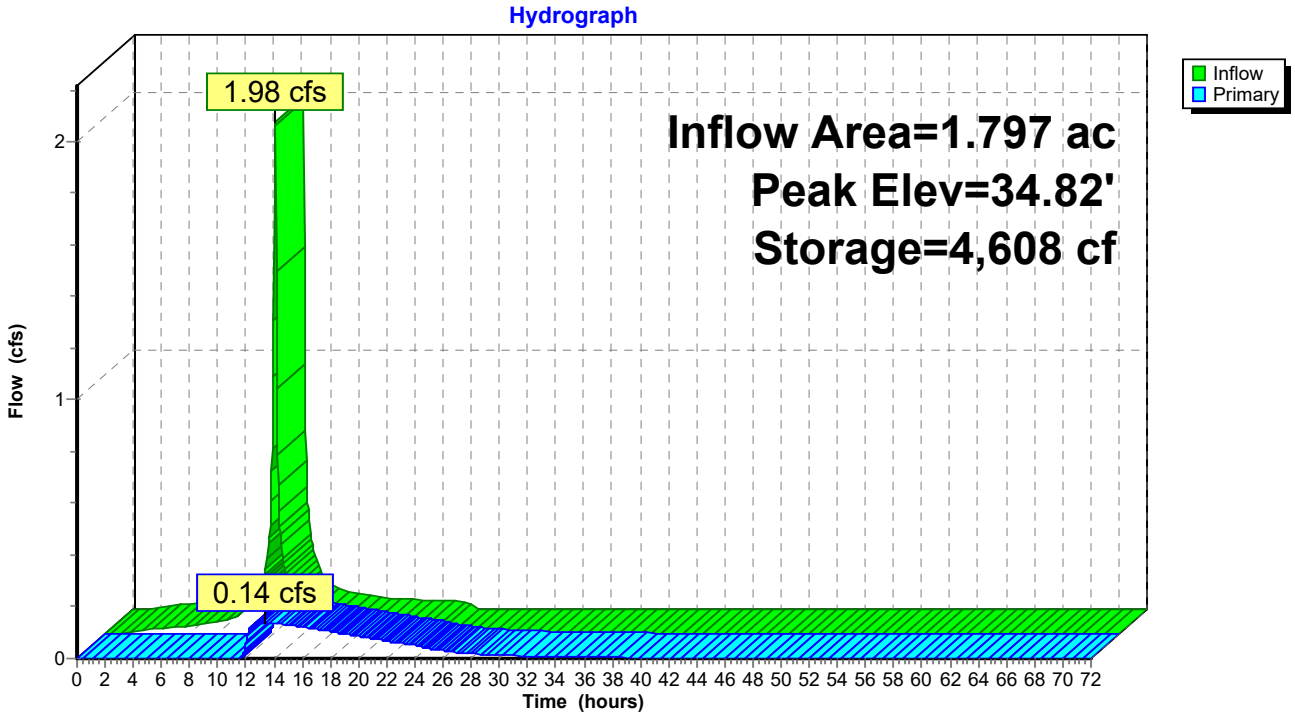
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 13.41 hrs HW=34.82' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.14 cfs @ 2.78 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

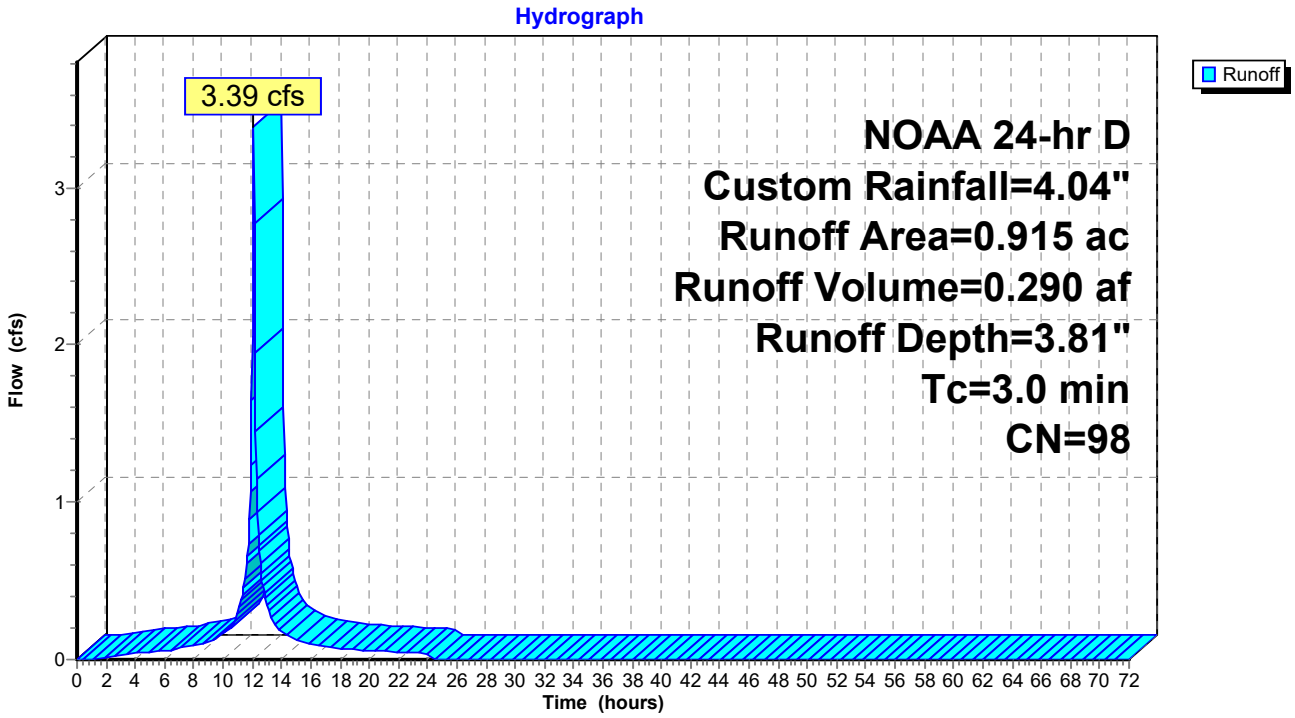
Runoff = 3.39 cfs @ 12.10 hrs, Volume= 0.290 af, Depth= 3.81"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

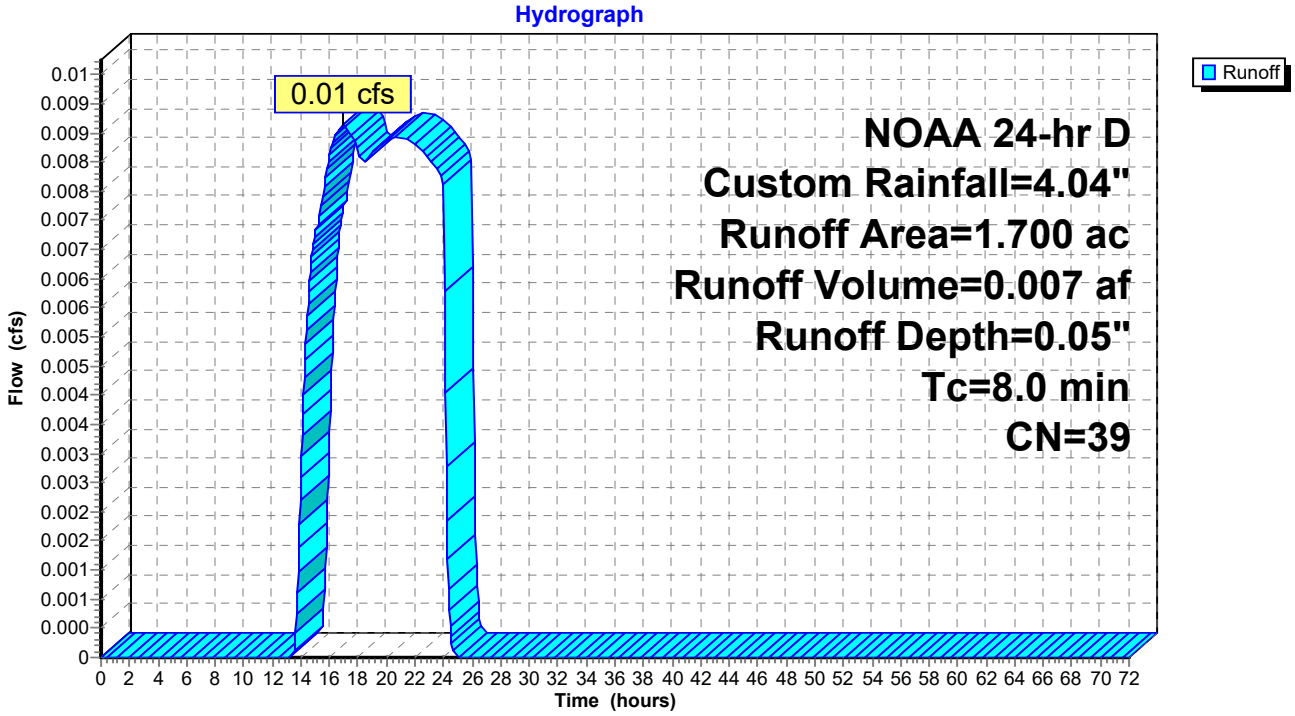
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.007 af, Depth= 0.05"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 1.36" for Custom event
Inflow = 3.29 cfs @ 12.10 hrs, Volume= 0.289 af
Outflow = 2.86 cfs @ 12.15 hrs, Volume= 0.211 af, Atten= 13%, Lag= 2.7 min
Primary = 2.86 cfs @ 12.15 hrs, Volume= 0.211 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.86' @ 12.15 hrs Surf.Area= 5,641 sf Storage= 4,164 cf

Plug-Flow detention time= 198.9 min calculated for 0.211 af (73% of inflow)
Center-of-Mass det. time= 95.1 min (857.1 - 762.0)

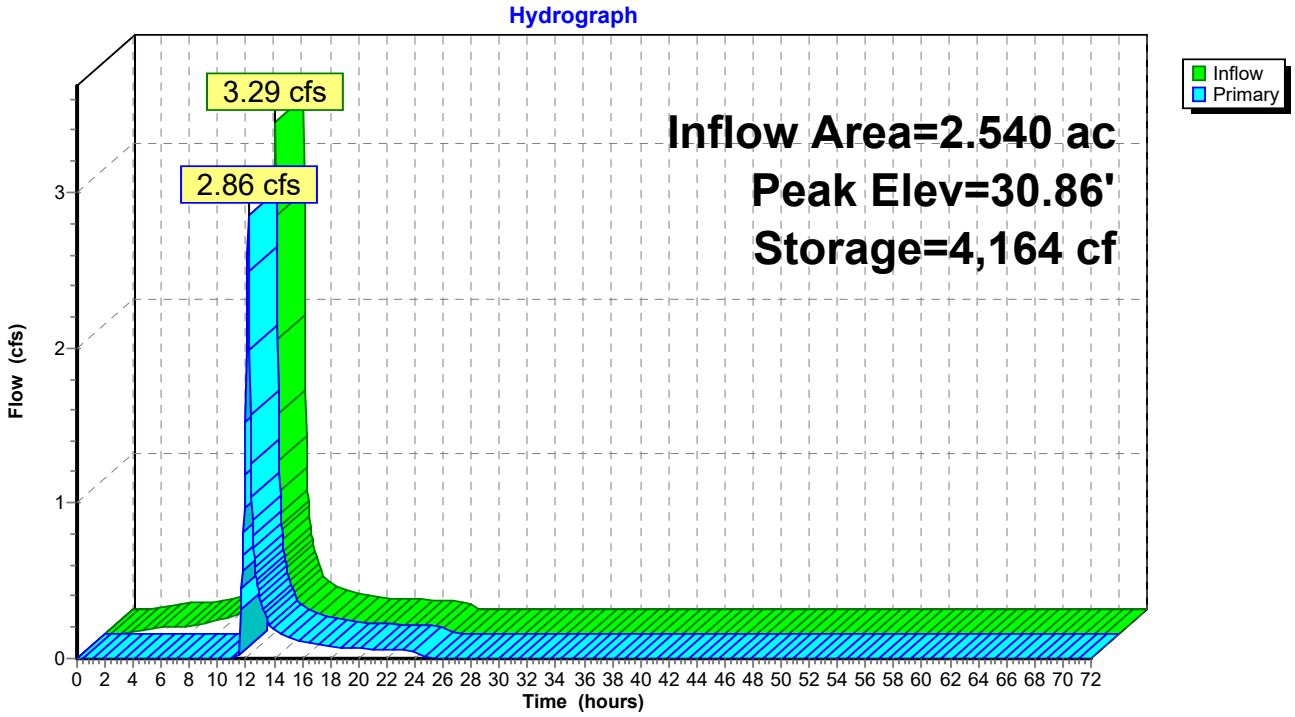
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.82 cfs @ 12.15 hrs HW=30.86' (Free Discharge)
1=Orifice/Grate (Weir Controls 2.82 cfs @ 1.24 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 1.14" for Custom event
Inflow = 2.79 cfs @ 12.10 hrs, Volume= 0.247 af
Outflow = 2.30 cfs @ 12.15 hrs, Volume= 0.181 af, Atten= 18%, Lag= 3.3 min
Primary = 2.30 cfs @ 12.15 hrs, Volume= 0.181 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.58' @ 12.15 hrs Surf.Area= 7,044 sf Storage= 3,724 cf

Plug-Flow detention time= 204.6 min calculated for 0.181 af (73% of inflow)
Center-of-Mass det. time= 98.7 min (863.7 - 764.9)

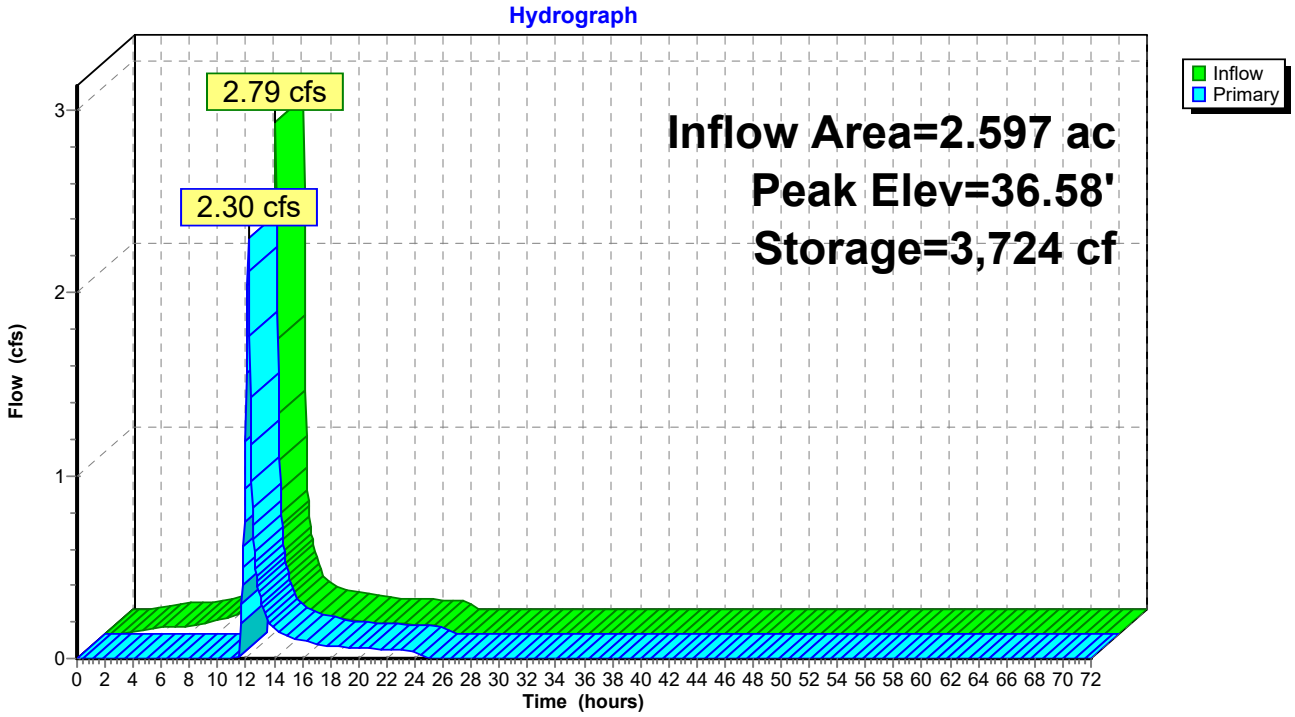
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.28 cfs @ 12.15 hrs HW=36.58' (Free Discharge)
1=Orifice/Grate (Weir Controls 2.28 cfs @ 1.15 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

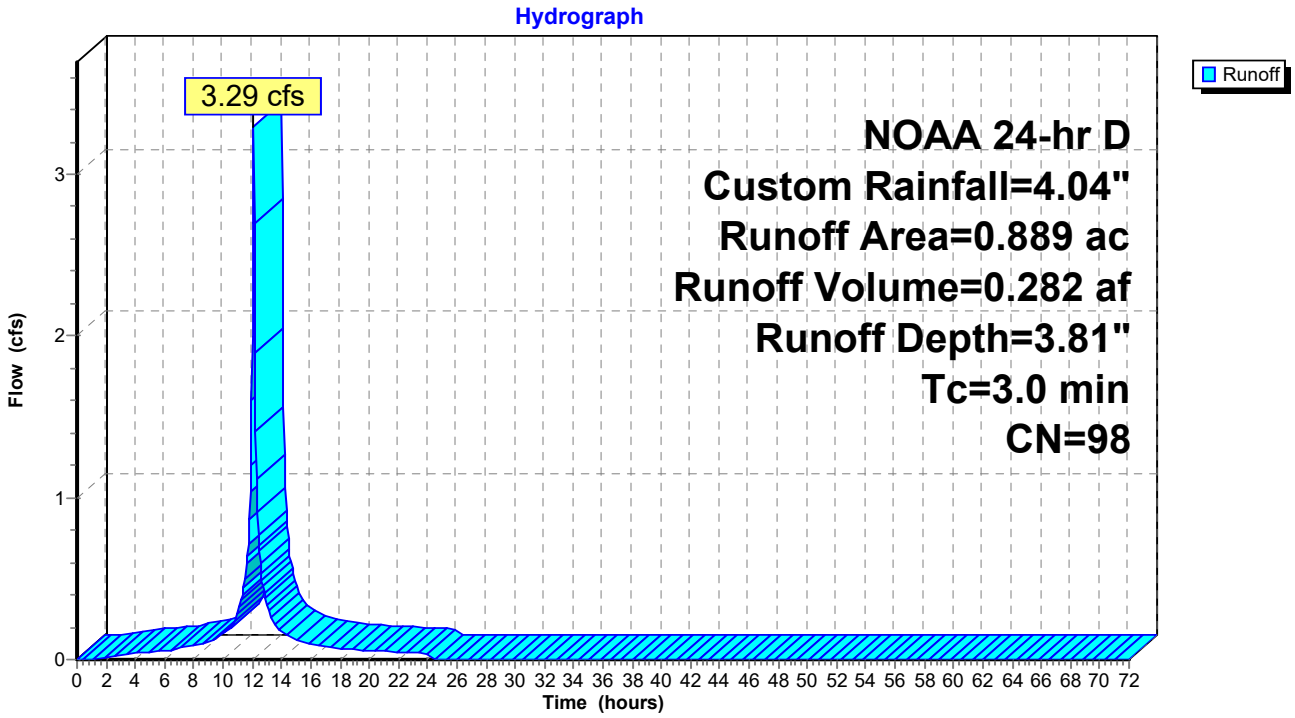
Runoff = 3.29 cfs @ 12.10 hrs, Volume= 0.282 af, Depth= 3.81"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 0.41" for Custom event
Inflow = 5.46 cfs @ 12.11 hrs, Volume= 0.504 af
Outflow = 4.72 cfs @ 12.17 hrs, Volume= 0.368 af, Atten= 14%, Lag= 3.2 min
Primary = 4.72 cfs @ 12.17 hrs, Volume= 0.368 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.08' @ 12.17 hrs Surf.Area= 8,070 sf Storage= 7,548 cf

Plug-Flow detention time= 194.3 min calculated for 0.368 af (73% of inflow)
Center-of-Mass det. time= 95.6 min (849.5 - 753.9)

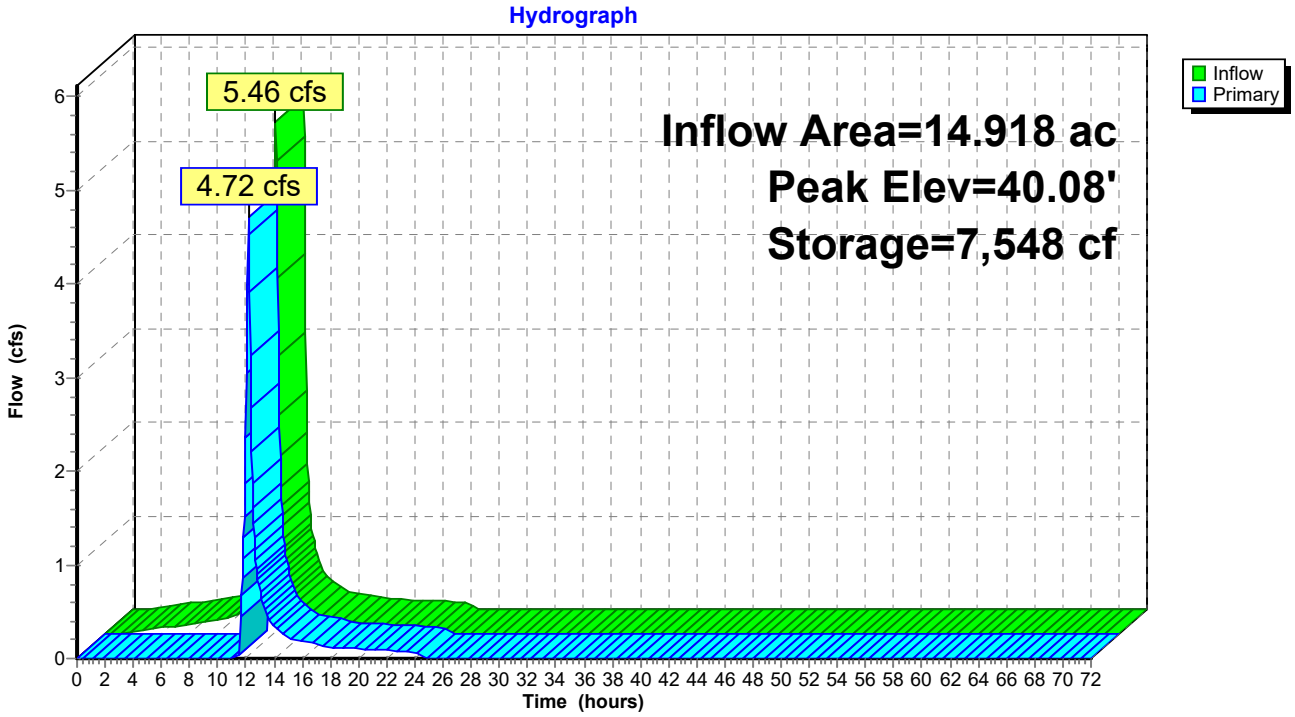
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.63 cfs @ 12.17 hrs HW=40.08' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.63 cfs @ 1.46 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

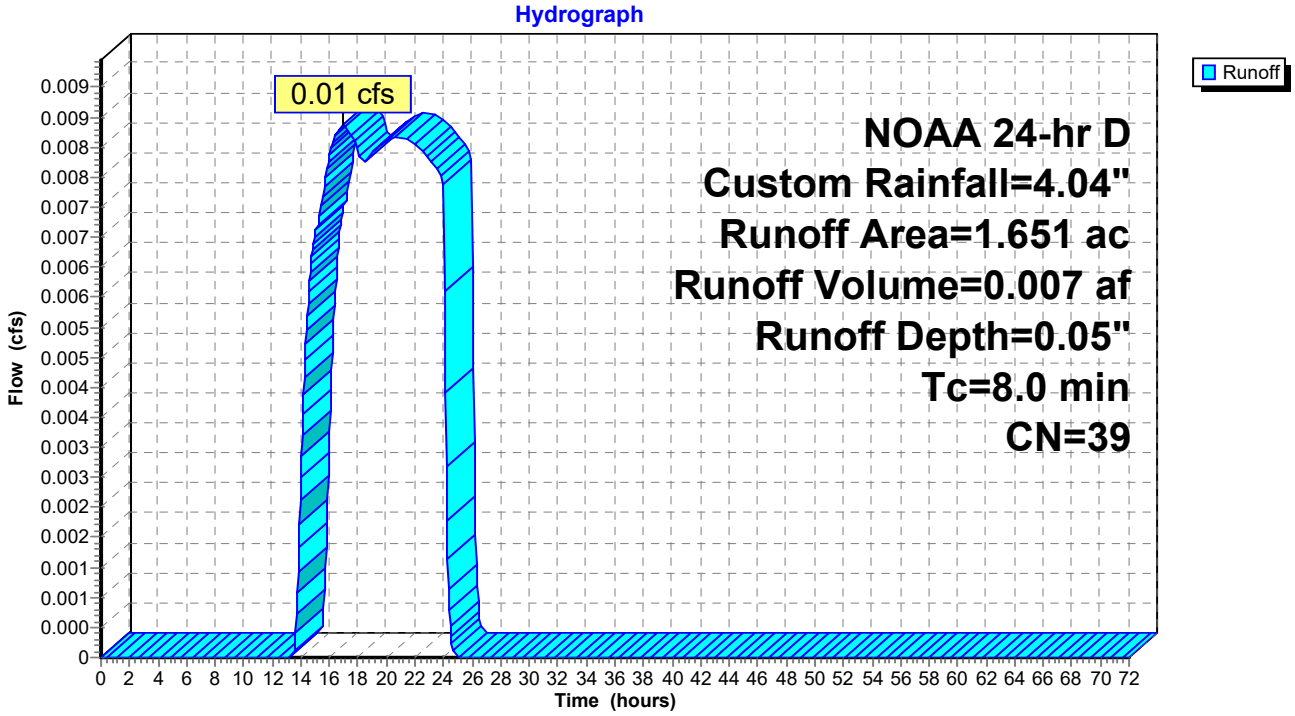
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.007 af, Depth= 0.05"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 0.99" for Custom event
Inflow = 2.75 cfs @ 12.06 hrs, Volume= 0.248 af
Outflow = 2.54 cfs @ 12.10 hrs, Volume= 0.215 af, Atten= 8%, Lag= 2.2 min
Primary = 2.54 cfs @ 12.10 hrs, Volume= 0.215 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.03' @ 12.10 hrs Surf.Area= 3,962 sf Storage= 1,954 cf

Plug-Flow detention time= 131.2 min calculated for 0.215 af (87% of inflow)
Center-of-Mass det. time= 62.0 min (827.5 - 765.6)

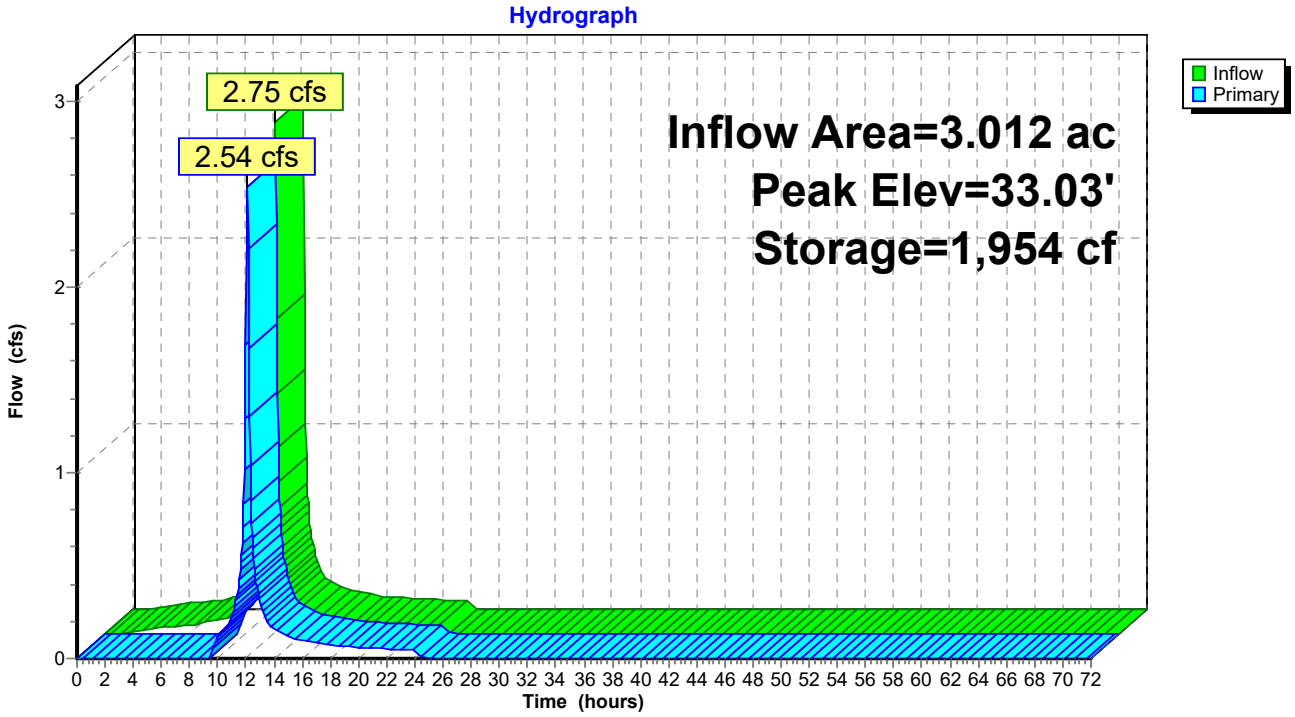
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.53 cfs @ 12.10 hrs HW=33.03' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.53 cfs @ 1.19 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 3.81" for Custom event
Inflow = 5.28 cfs @ 12.11 hrs, Volume= 0.538 af
Outflow = 4.78 cfs @ 12.16 hrs, Volume= 0.392 af, Atten= 9%, Lag= 3.0 min
Primary = 4.78 cfs @ 12.16 hrs, Volume= 0.392 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.47' @ 12.16 hrs Surf.Area= 6,404 sf Storage= 7,638 cf

Plug-Flow detention time= 192.3 min calculated for 0.392 af (73% of inflow)
Center-of-Mass det. time= 93.4 min (849.3 - 756.0)

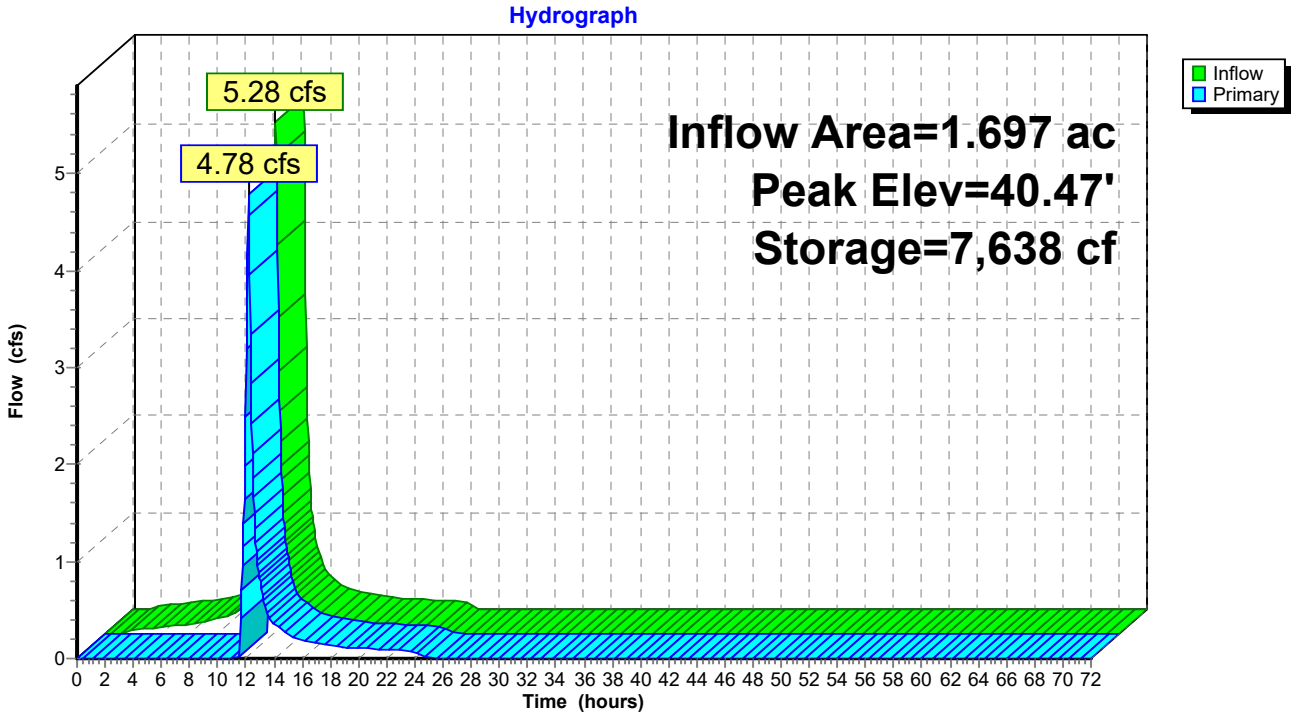
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.70 cfs @ 12.16 hrs HW=40.47' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.70 cfs @ 1.46 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

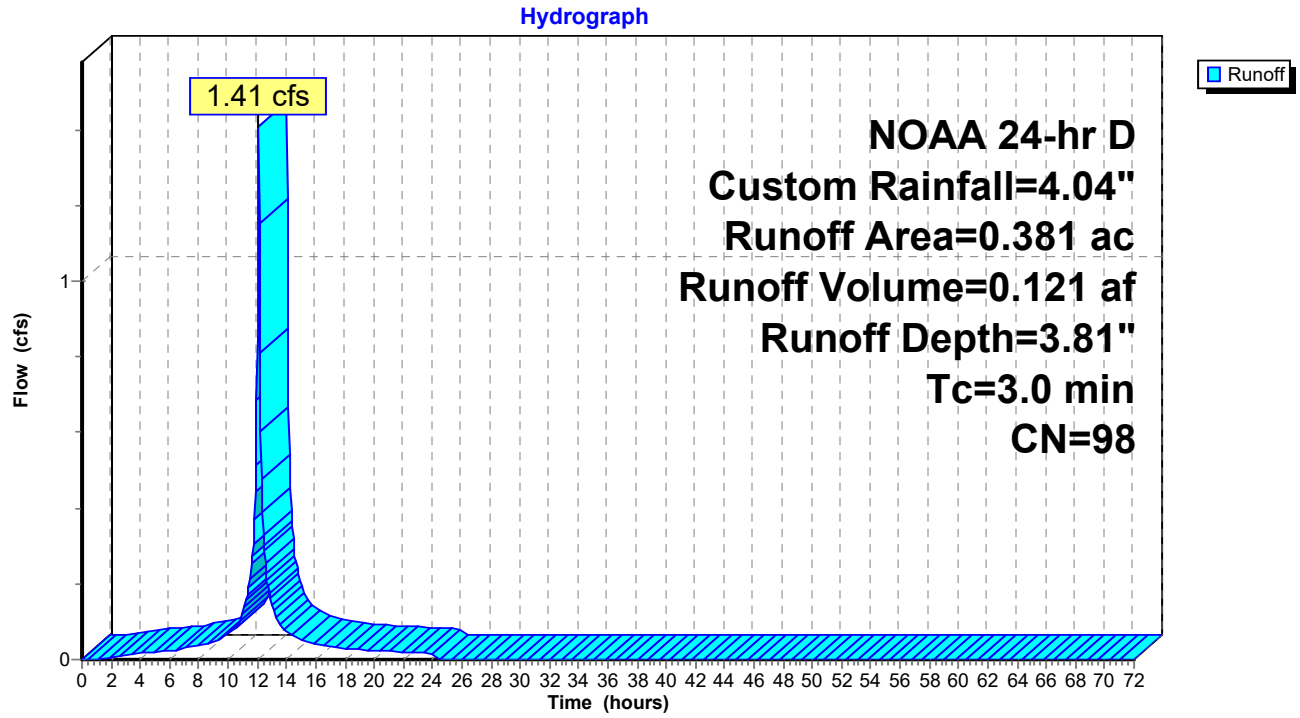
Runoff = 1.41 cfs @ 12.10 hrs, Volume= 0.121 af, Depth= 3.81"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

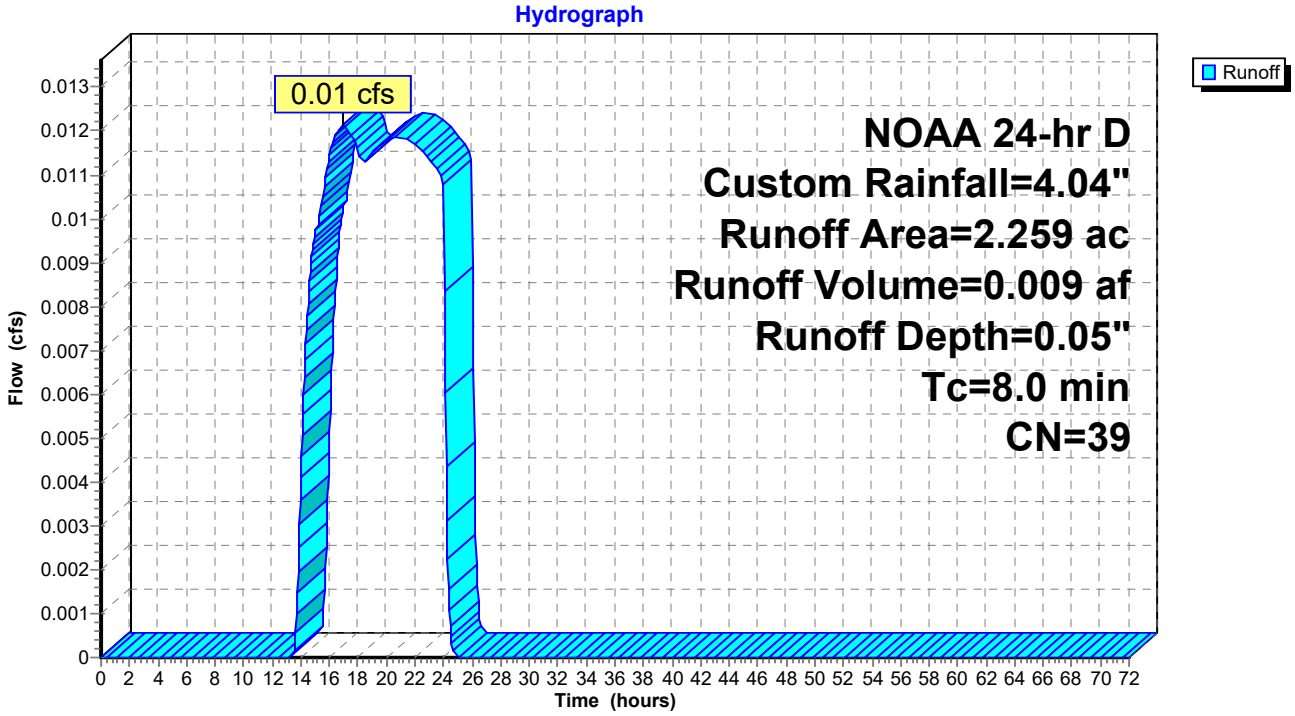
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.009 af, Depth= 0.05"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

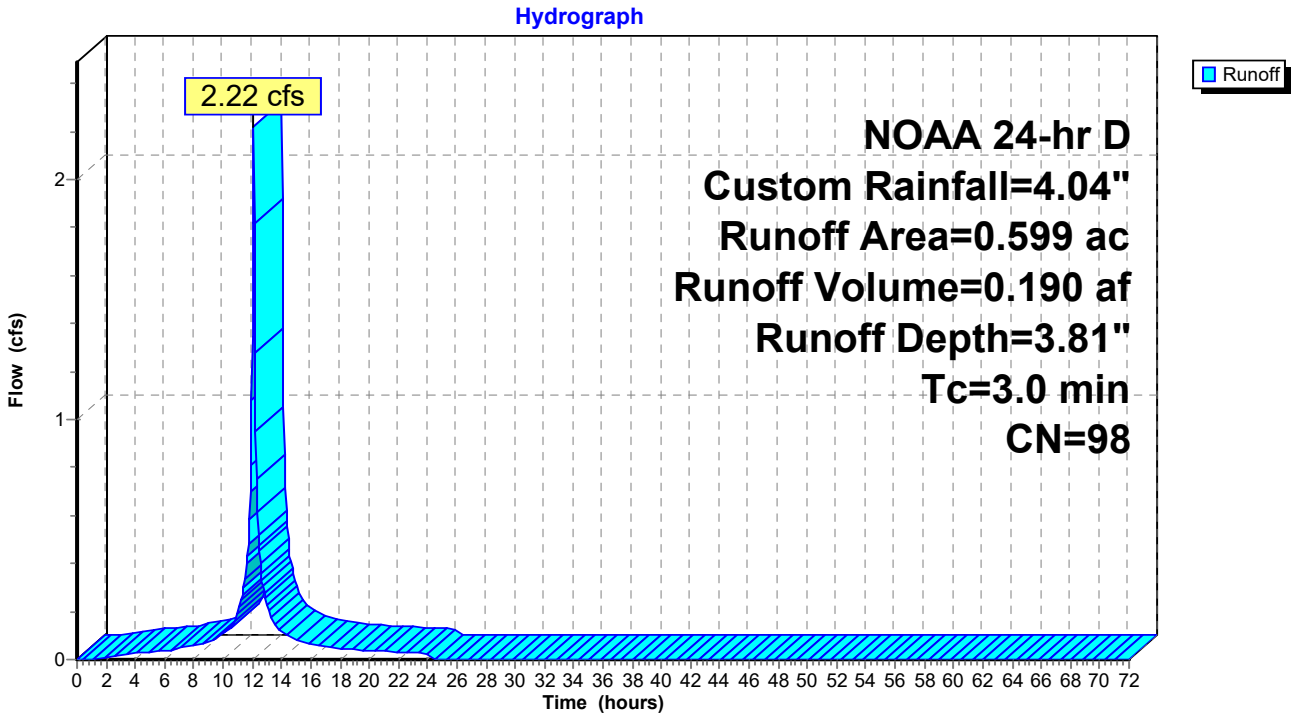
Runoff = 2.22 cfs @ 12.10 hrs, Volume= 0.190 af, Depth= 3.81"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 1.37" for Custom event
Inflow = 2.23 cfs @ 12.10 hrs, Volume= 0.198 af
Outflow = 2.05 cfs @ 12.14 hrs, Volume= 0.146 af, Atten= 8%, Lag= 2.1 min
Primary = 2.05 cfs @ 12.14 hrs, Volume= 0.146 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.52' @ 12.14 hrs Surf.Area= 3,218 sf Storage= 2,649 cf

Plug-Flow detention time= 194.3 min calculated for 0.146 af (74% of inflow)
Center-of-Mass det. time= 90.9 min (853.1 - 762.2)

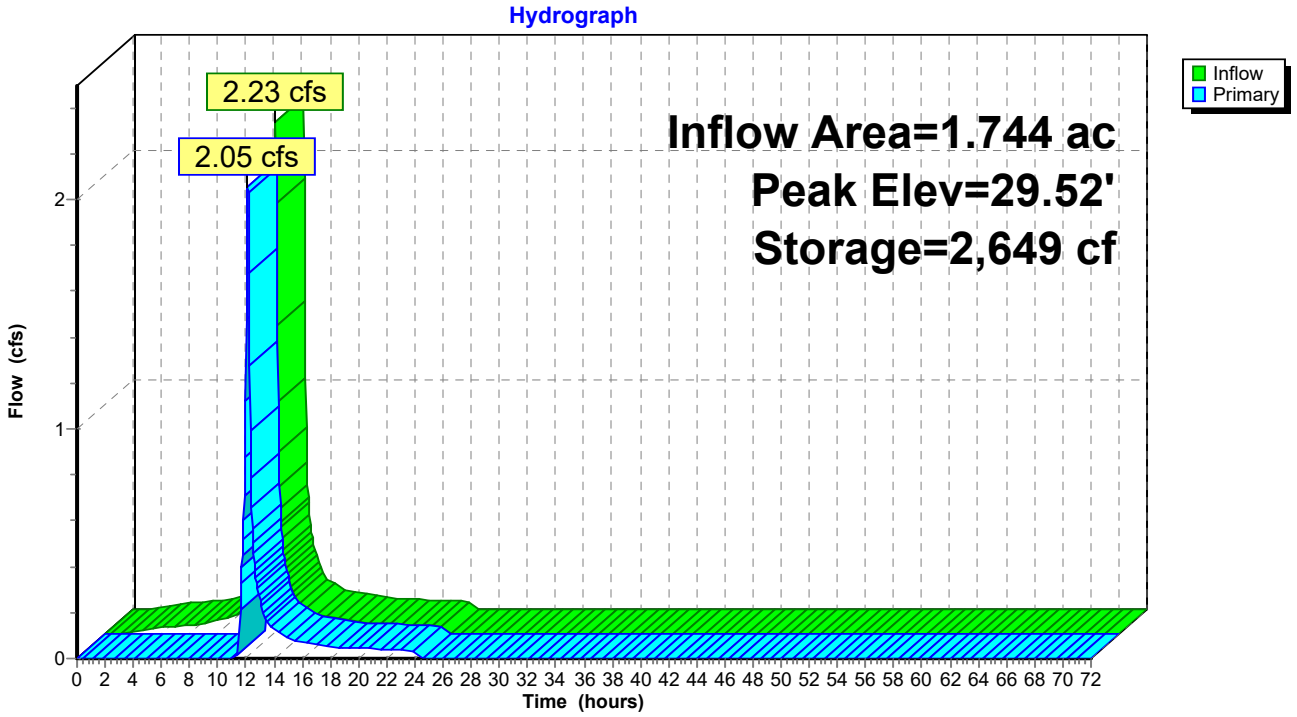
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.00 cfs @ 12.14 hrs HW=29.51' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.00 cfs @ 1.10 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

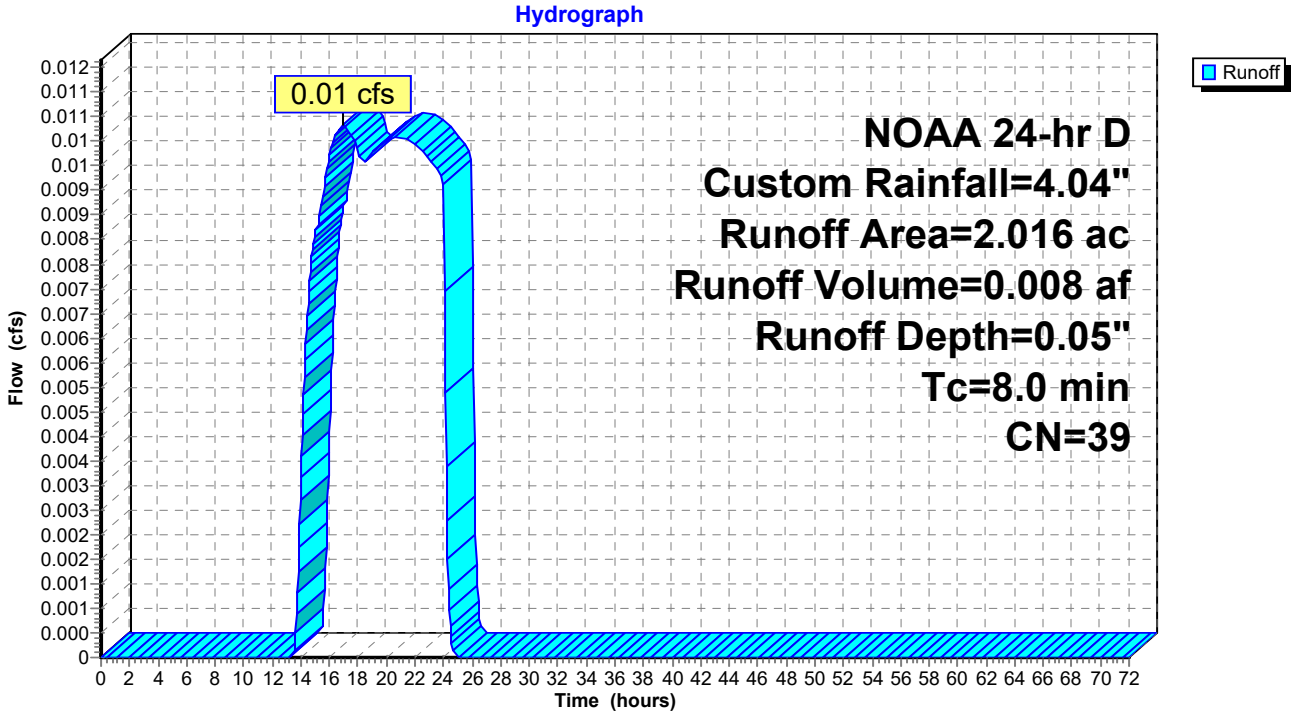
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

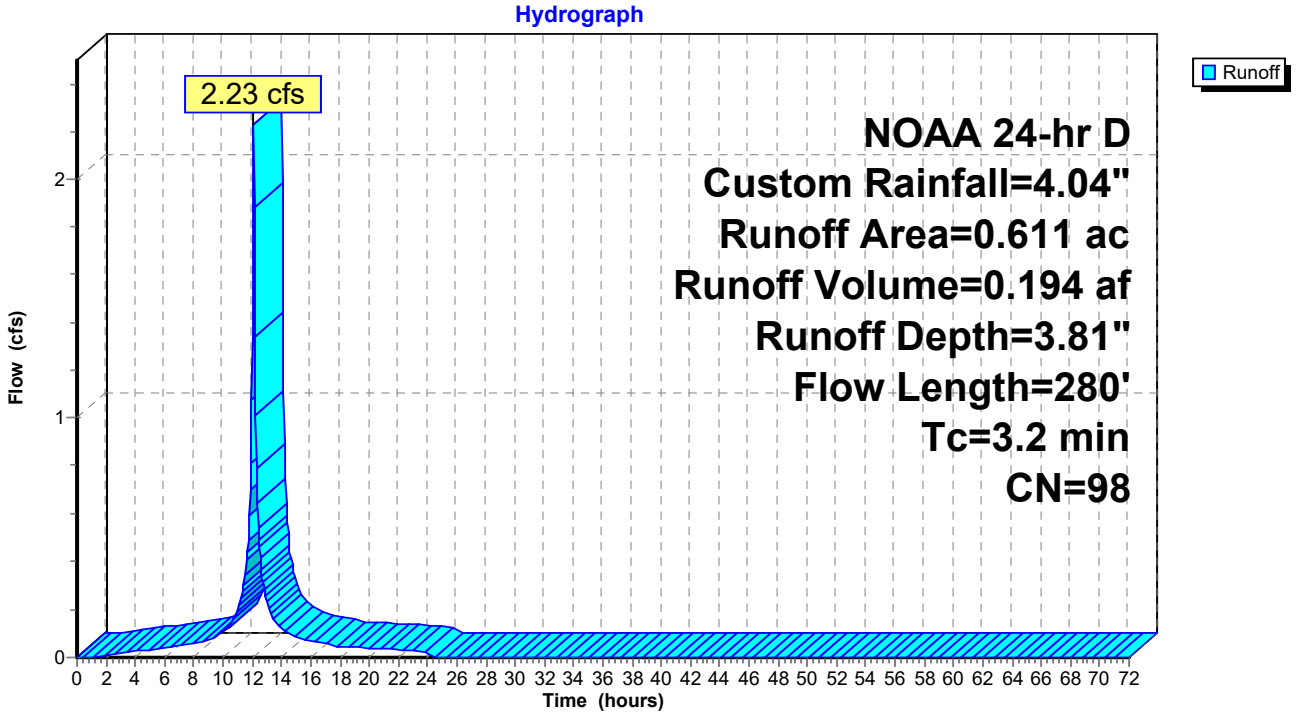
Runoff = 2.23 cfs @ 12.10 hrs, Volume= 0.194 af, Depth= 3.81"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 1.66" for Custom event
Inflow = 4.14 cfs @ 12.10 hrs, Volume= 0.360 af
Outflow = 3.11 cfs @ 12.17 hrs, Volume= 0.203 af, Atten= 25%, Lag= 4.4 min
Primary = 3.11 cfs @ 12.17 hrs, Volume= 0.203 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.13' @ 12.17 hrs Surf.Area= 5,046 sf Storage= 7,620 cf

Plug-Flow detention time= 266.4 min calculated for 0.202 af (56% of inflow)
Center-of-Mass det. time= 134.0 min (893.3 - 759.3)

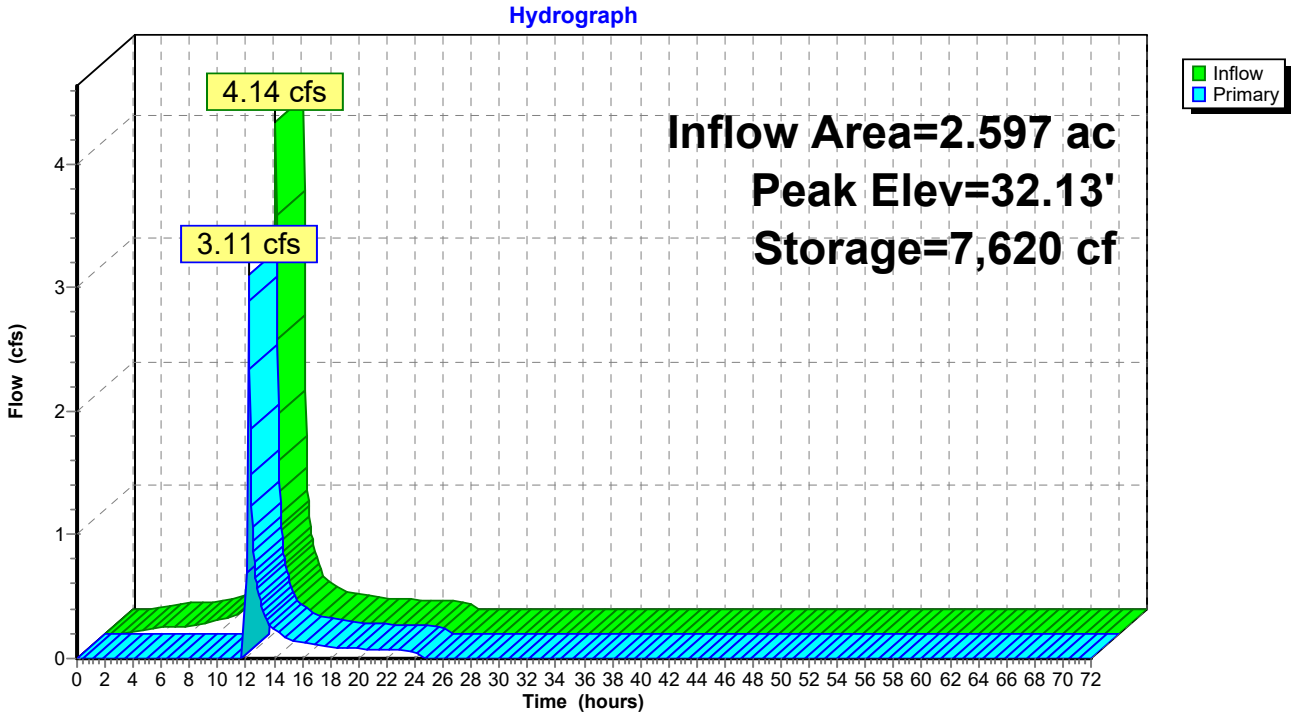
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.90 cfs @ 12.17 hrs HW=32.13' (Free Discharge)
1=Orifice/Grate (Weir Controls 2.90 cfs @ 1.25 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

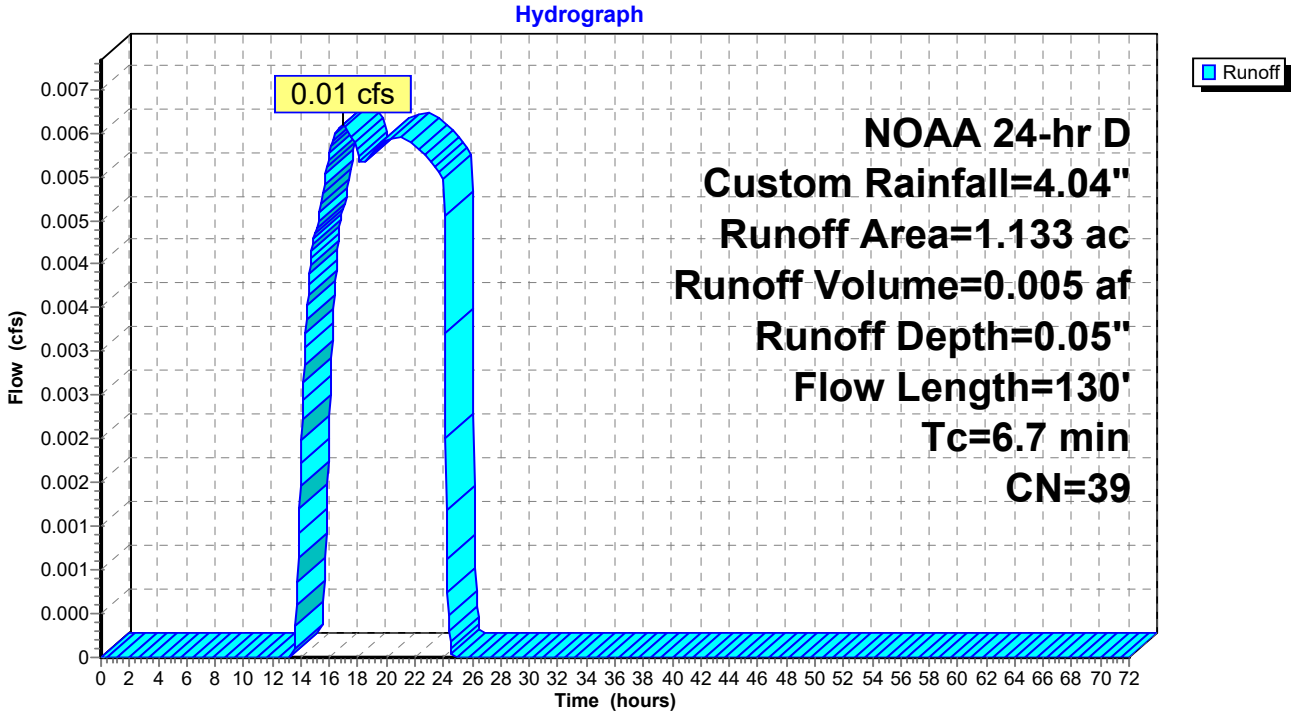
Runoff = 0.01 cfs @ 16.95 hrs, Volume= 0.005 af, Depth= 0.05"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 1.18" for Custom event
Inflow = 2.77 cfs @ 12.10 hrs, Volume= 0.244 af
Outflow = 0.39 cfs @ 12.70 hrs, Volume= 0.179 af, Atten= 86%, Lag= 35.8 min
Primary = 0.39 cfs @ 12.70 hrs, Volume= 0.179 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.72' @ 12.70 hrs Surf.Area= 5,773 sf Storage= 6,395 cf

Plug-Flow detention time= 441.0 min calculated for 0.179 af (73% of inflow)
Center-of-Mass det. time= 335.6 min (1,100.0 - 764.4)

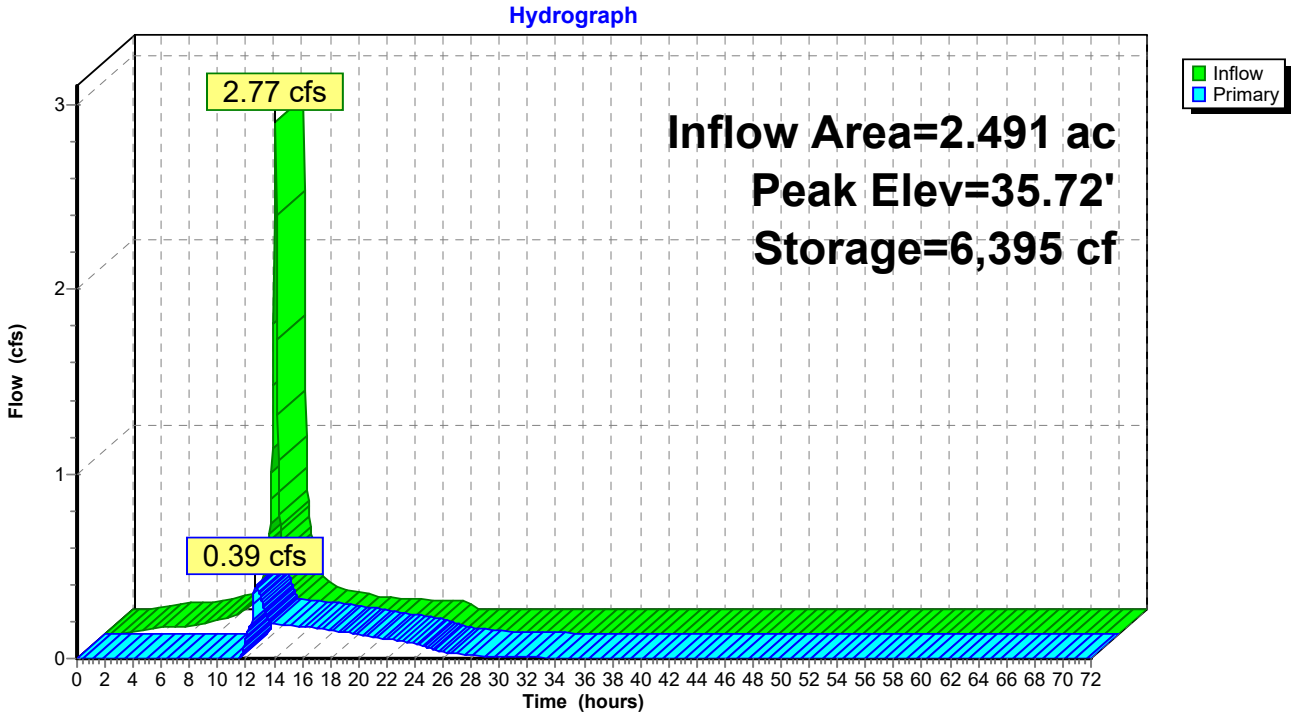
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.39 cfs @ 12.70 hrs HW=35.72' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.19 cfs @ 3.88 fps)
└**2=Orifice/Grate** (Weir Controls 0.20 cfs @ 0.51 fps)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

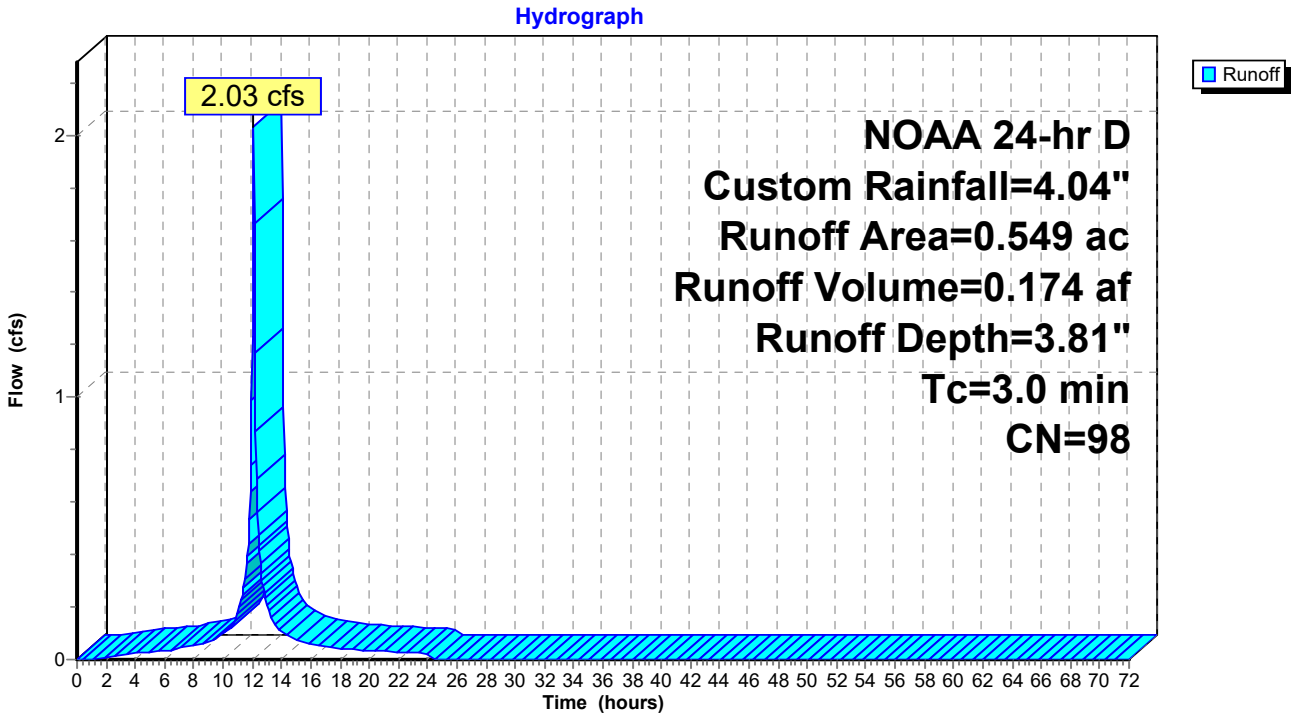
Runoff = 2.03 cfs @ 12.10 hrs, Volume= 0.174 af, Depth= 3.81"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

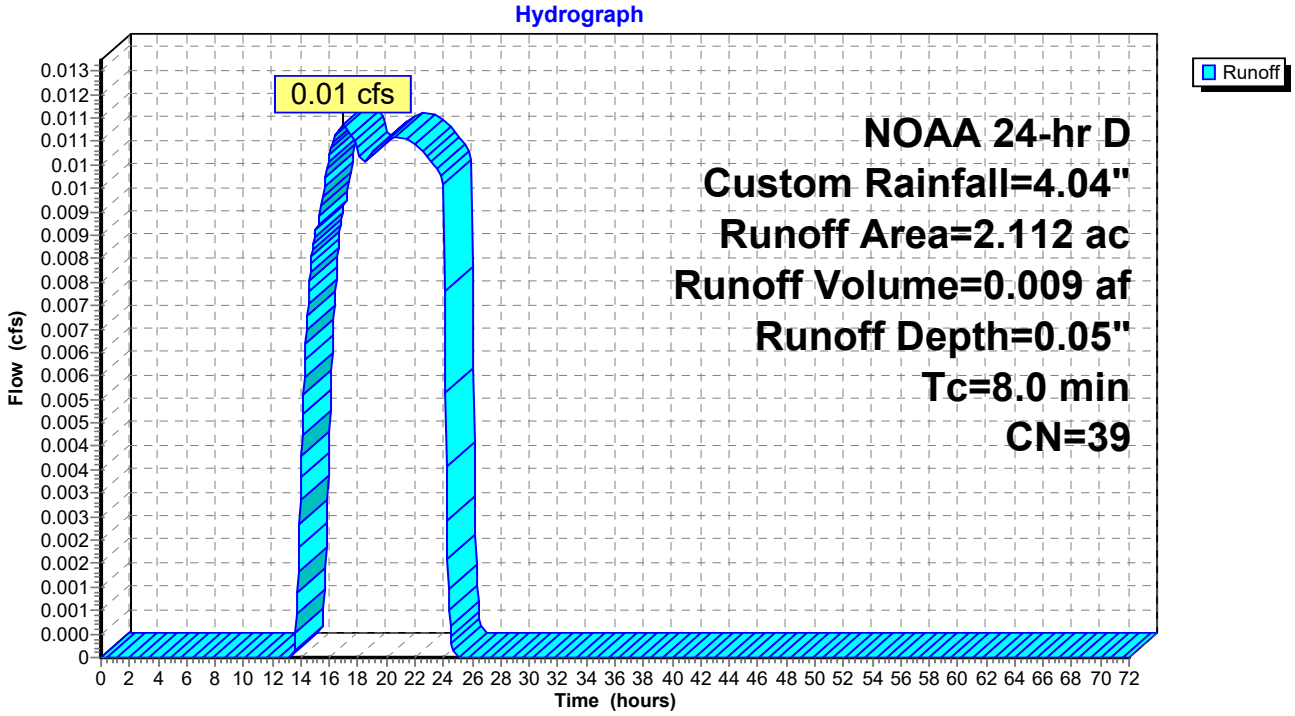
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.009 af, Depth= 0.05"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

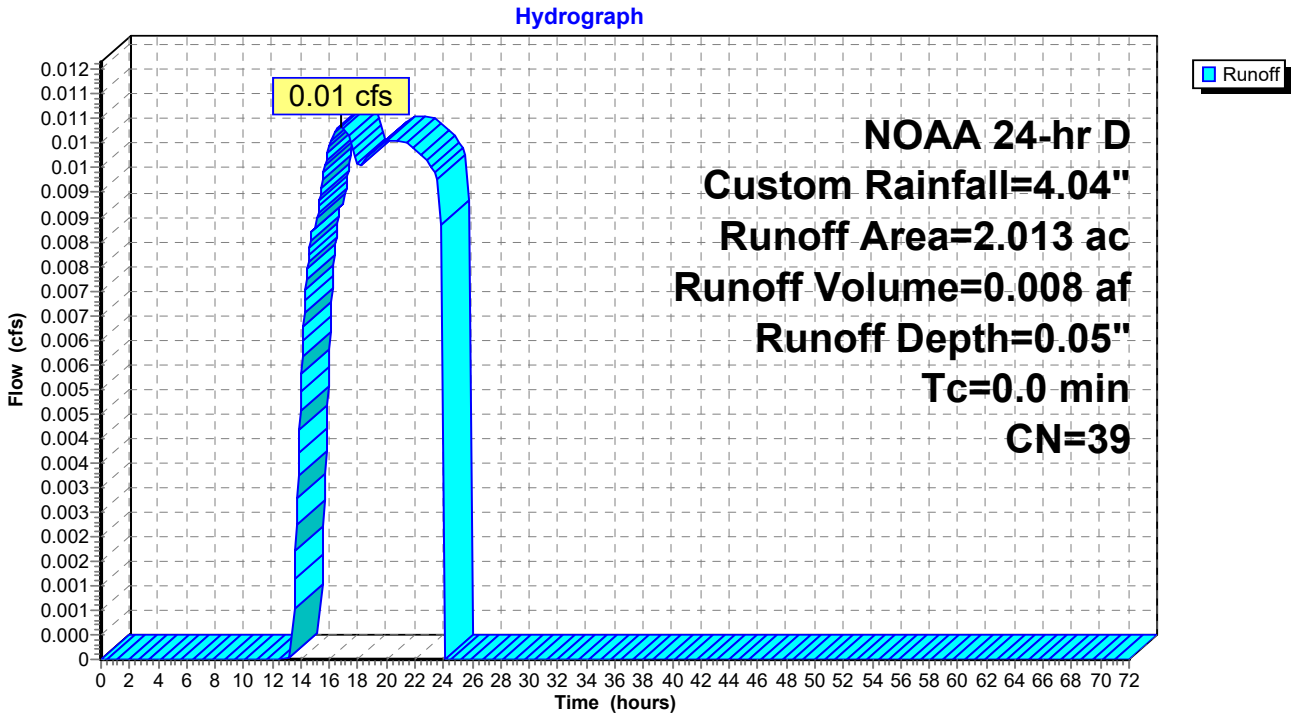
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.01 cfs @ 16.84 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

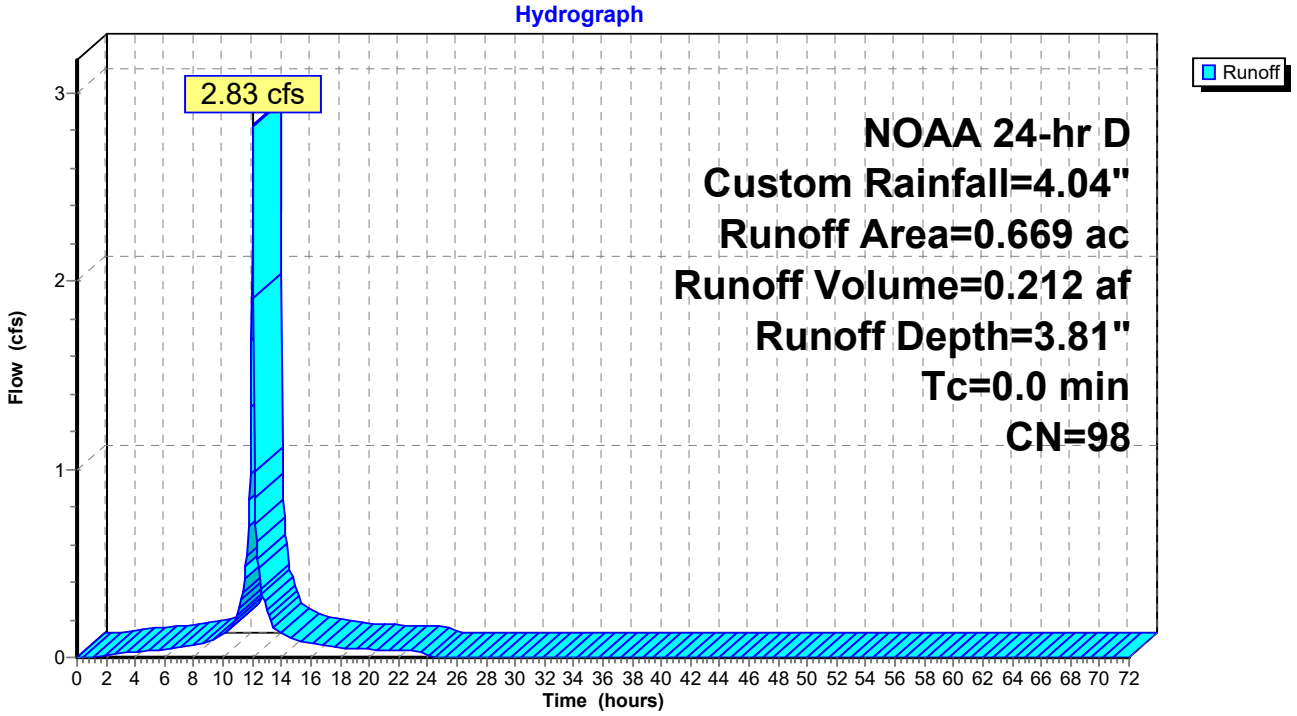
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.83 cfs @ 12.04 hrs, Volume= 0.212 af, Depth= 3.81"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

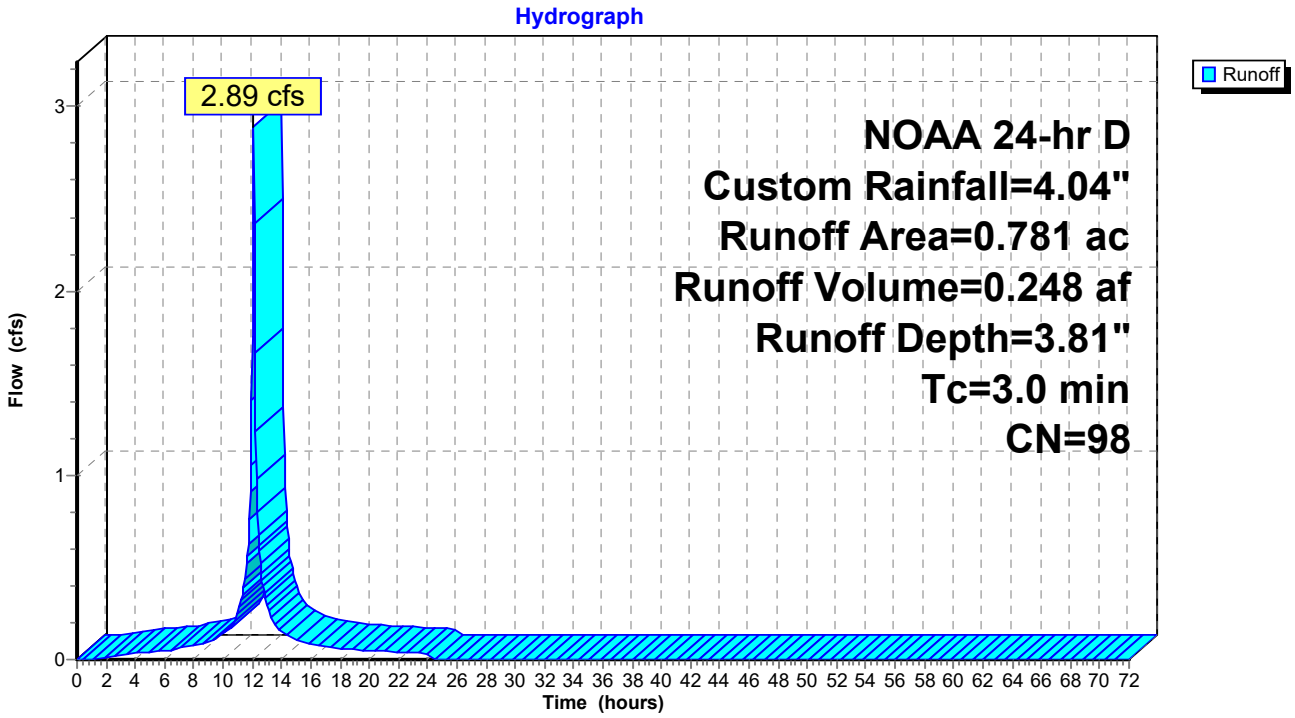
Runoff = 2.89 cfs @ 12.10 hrs, Volume= 0.248 af, Depth= 3.81"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

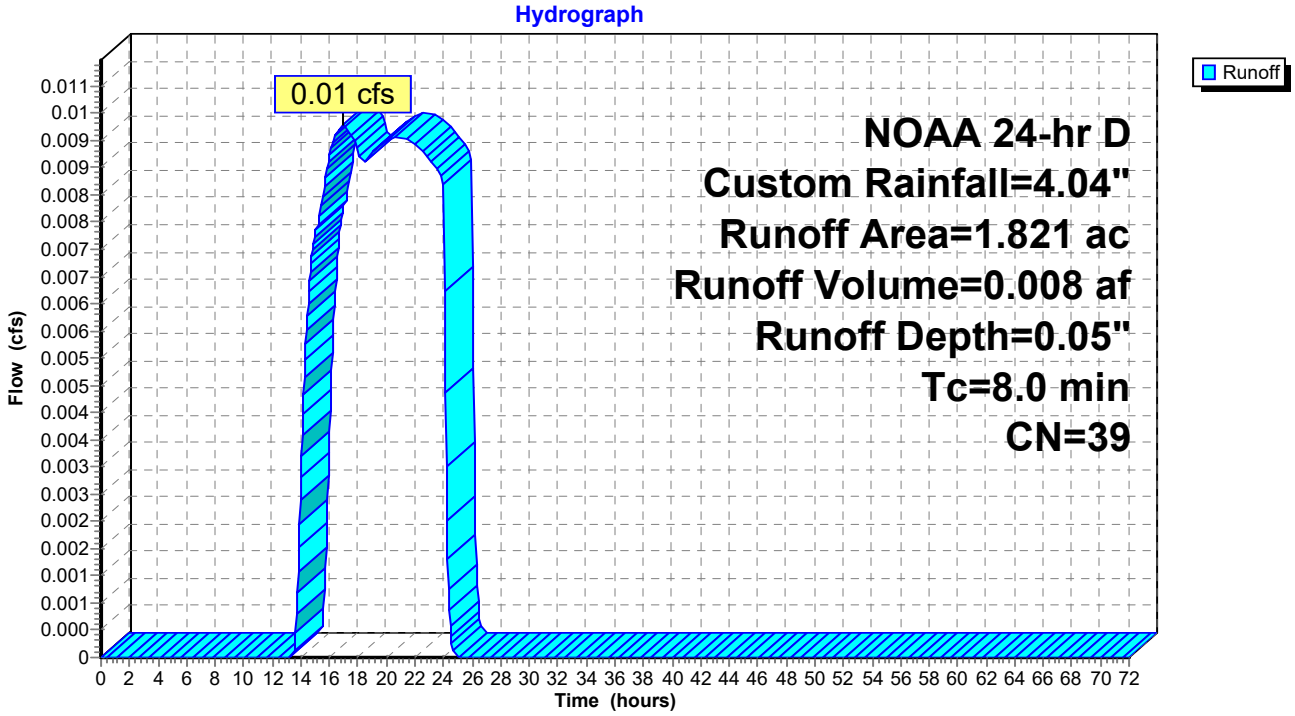
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

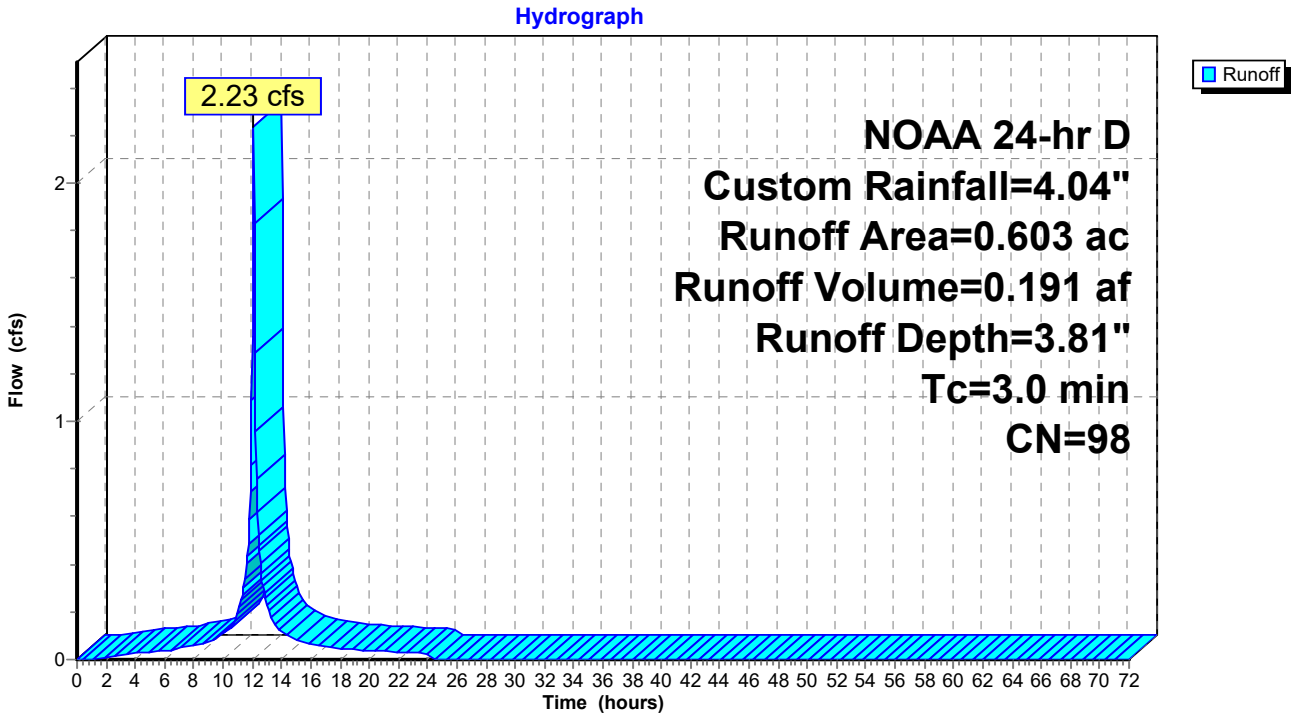
Runoff = 2.23 cfs @ 12.10 hrs, Volume= 0.191 af, Depth= 3.81"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

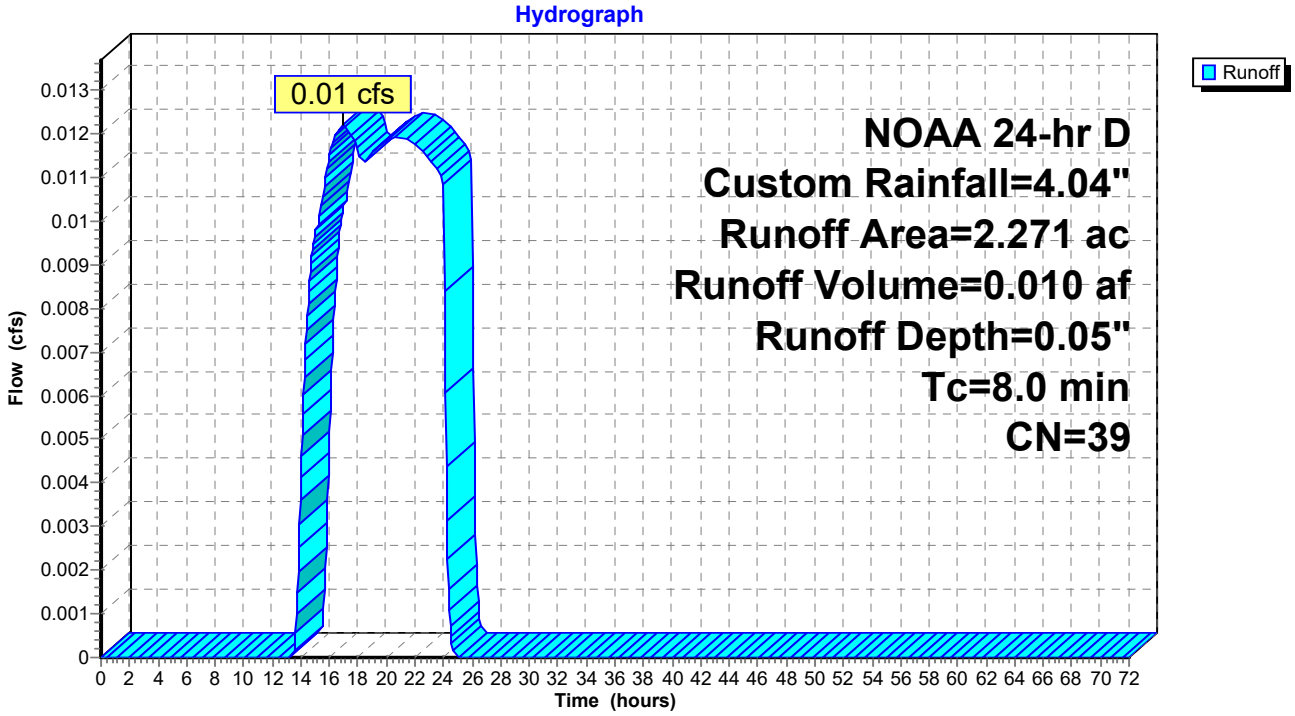
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.010 af, Depth= 0.05"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

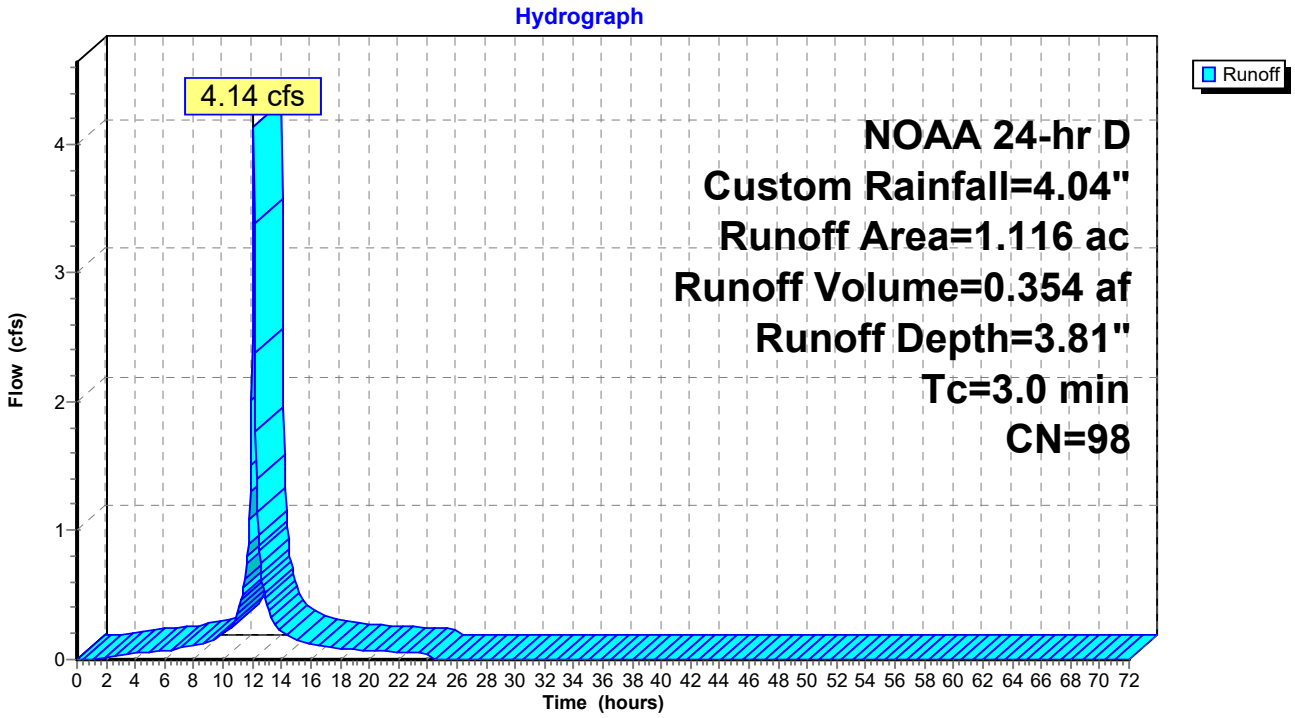
Runoff = 4.14 cfs @ 12.10 hrs, Volume= 0.354 af, Depth= 3.81"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

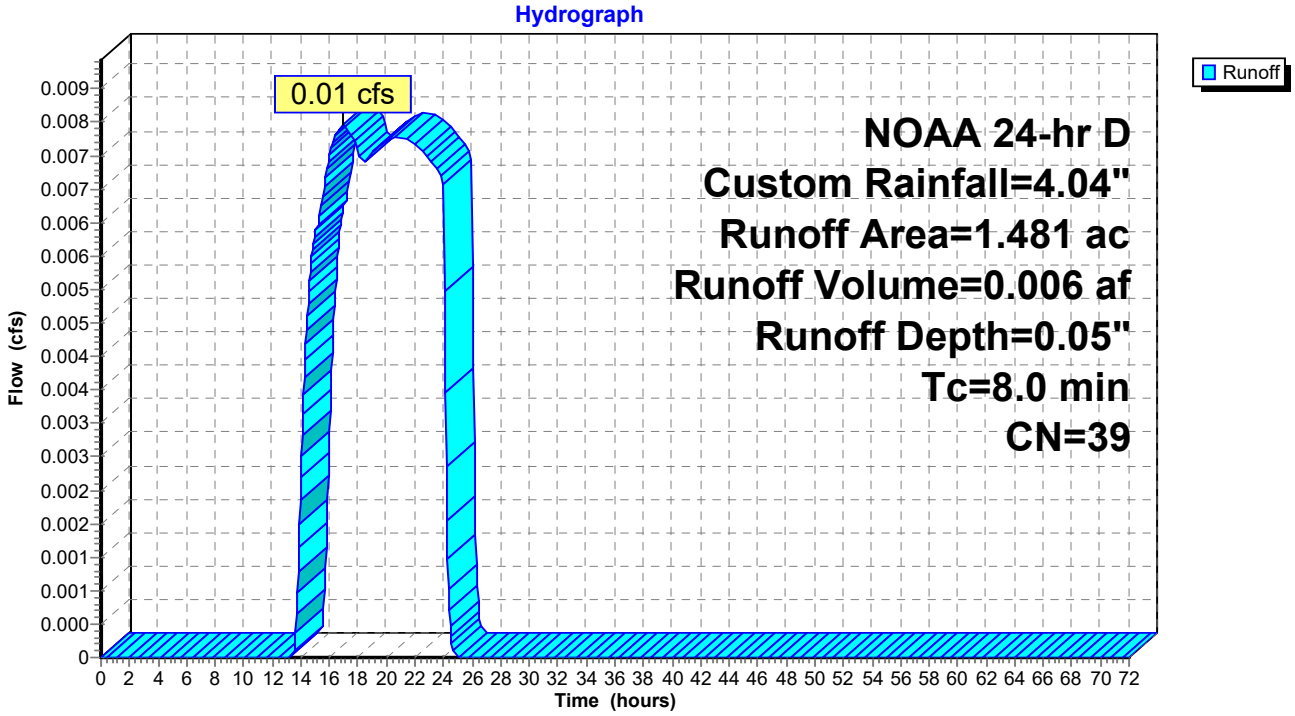
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.006 af, Depth= 0.05"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

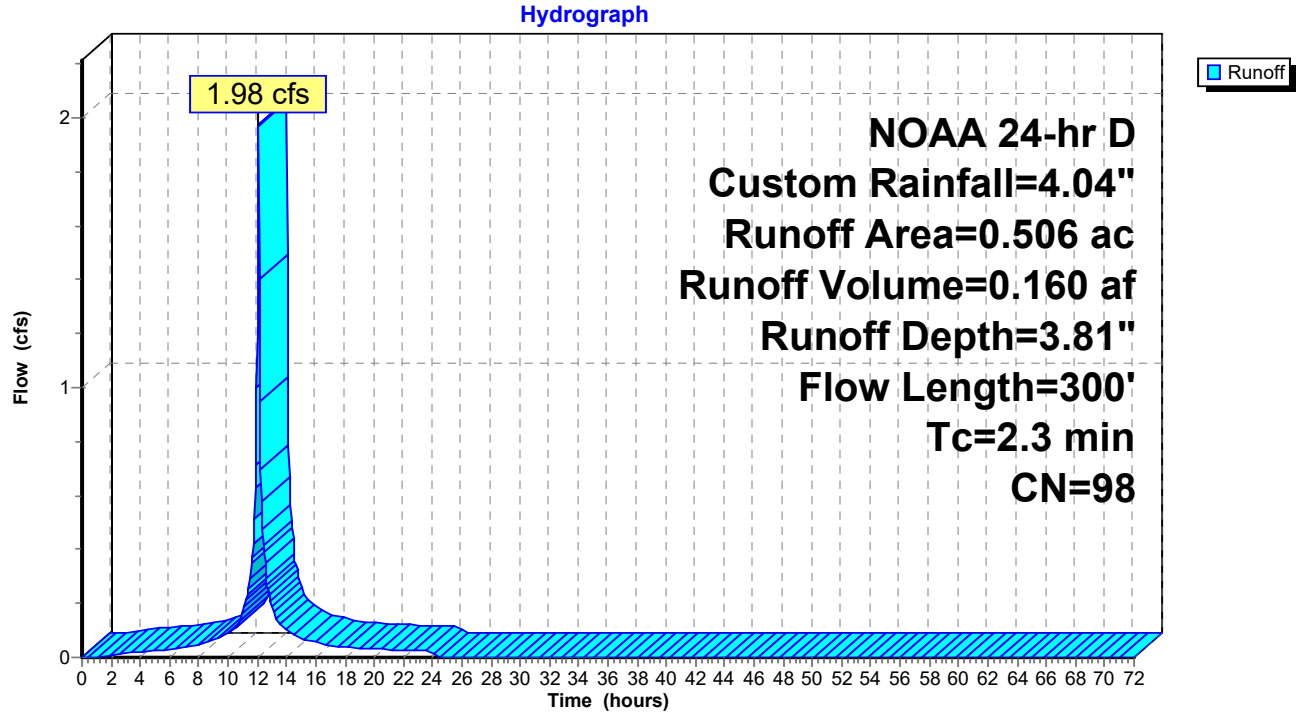
Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.160 af, Depth= 3.81"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

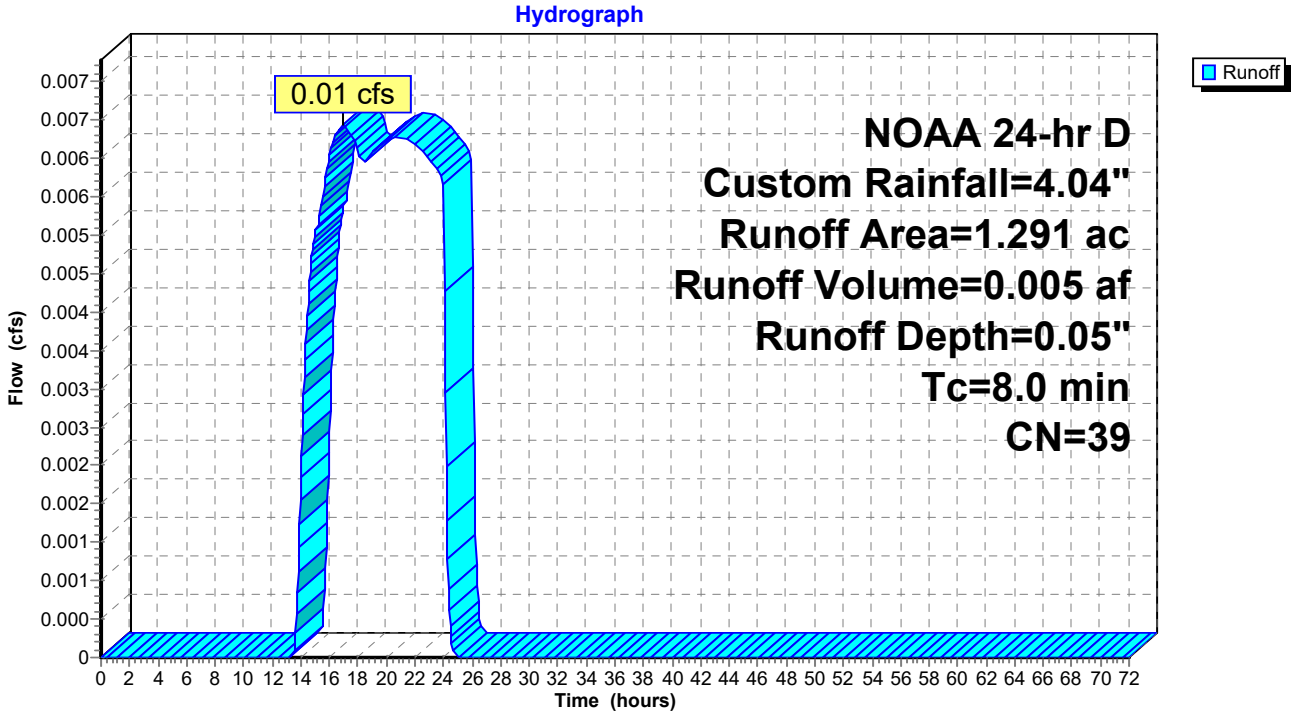
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.005 af, Depth= 0.05"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

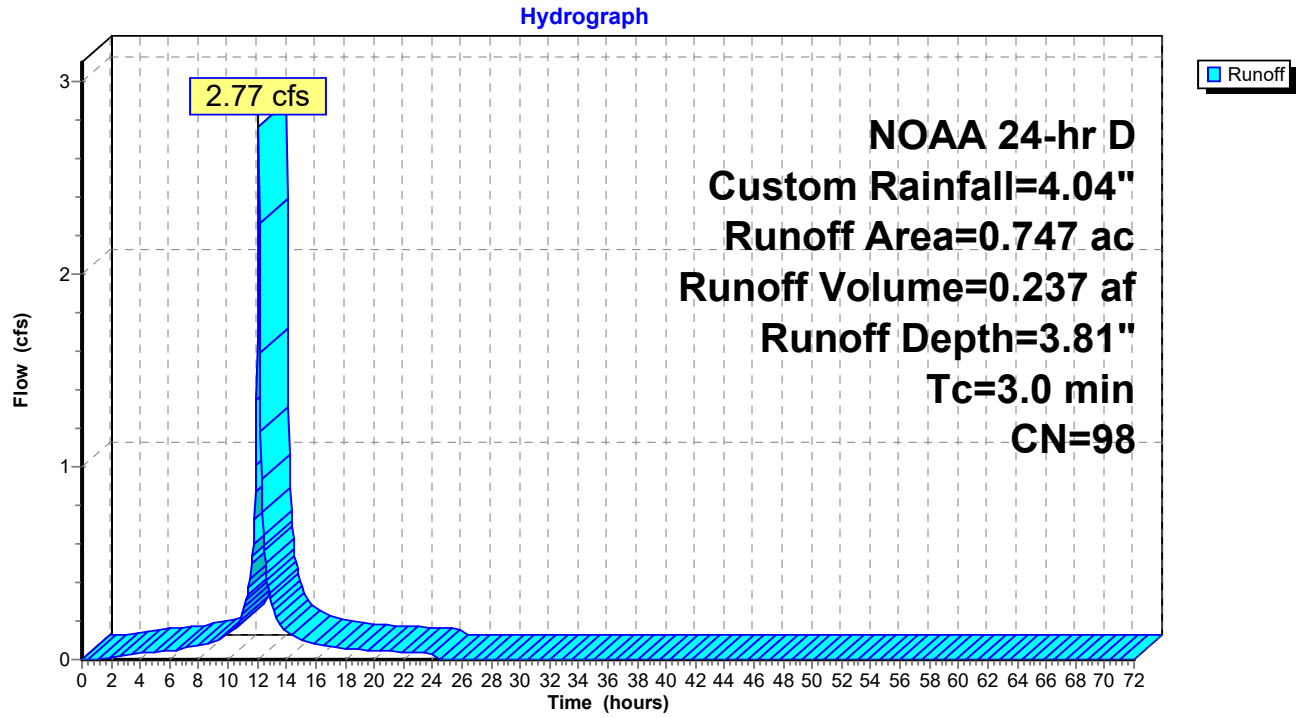
Runoff = 2.77 cfs @ 12.10 hrs, Volume= 0.237 af, Depth= 3.81"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

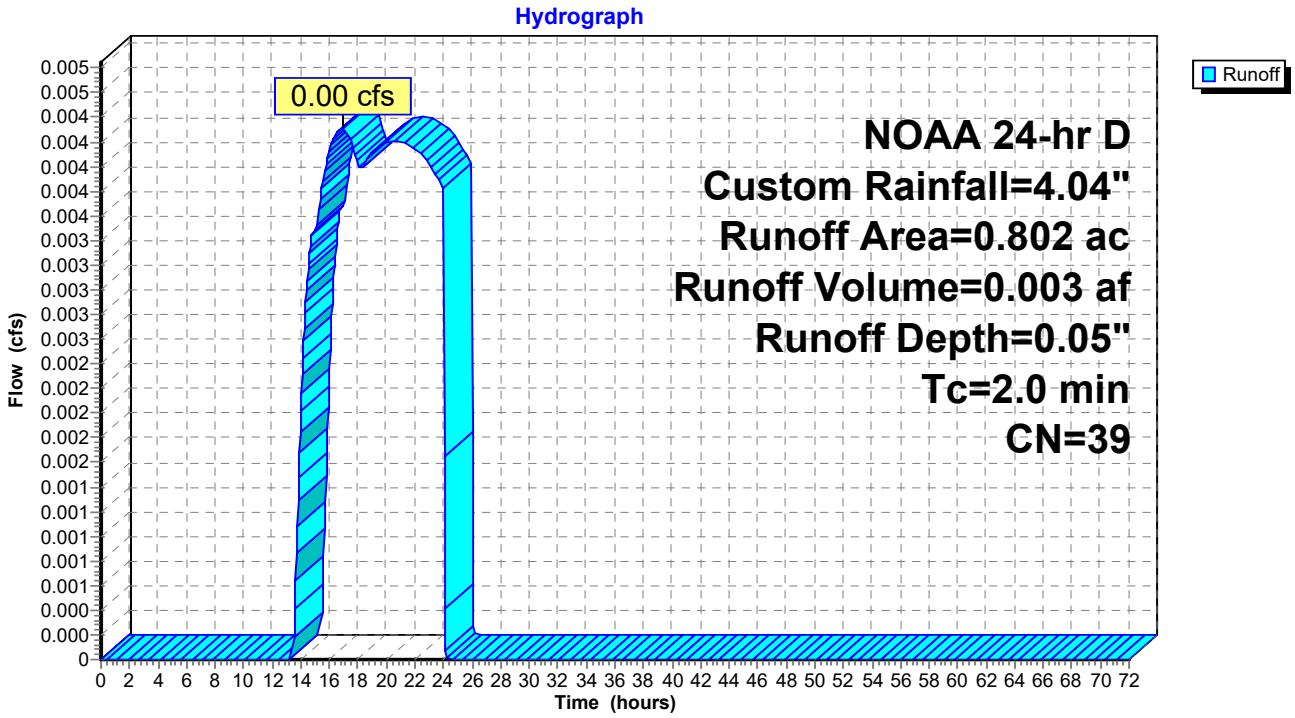
Runoff = 0.00 cfs @ 16.90 hrs, Volume= 0.003 af, Depth= 0.05"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

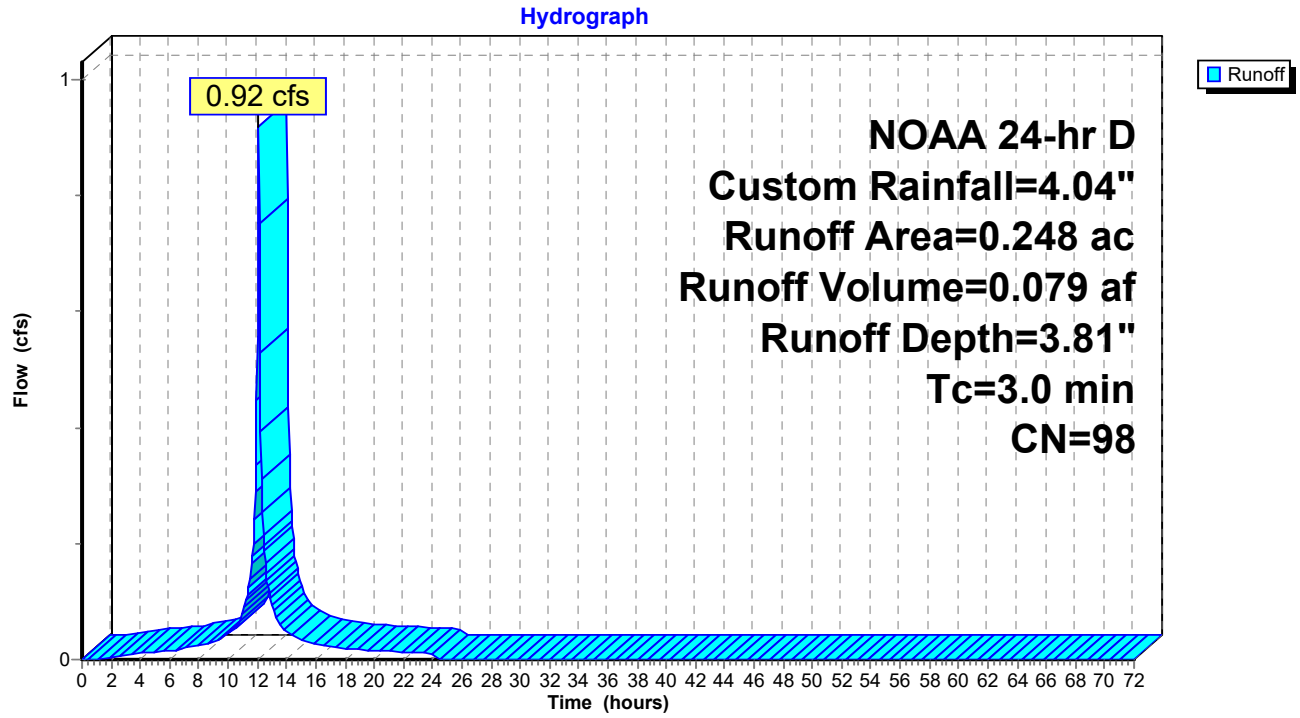
Runoff = 0.92 cfs @ 12.10 hrs, Volume= 0.079 af, Depth= 3.81"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

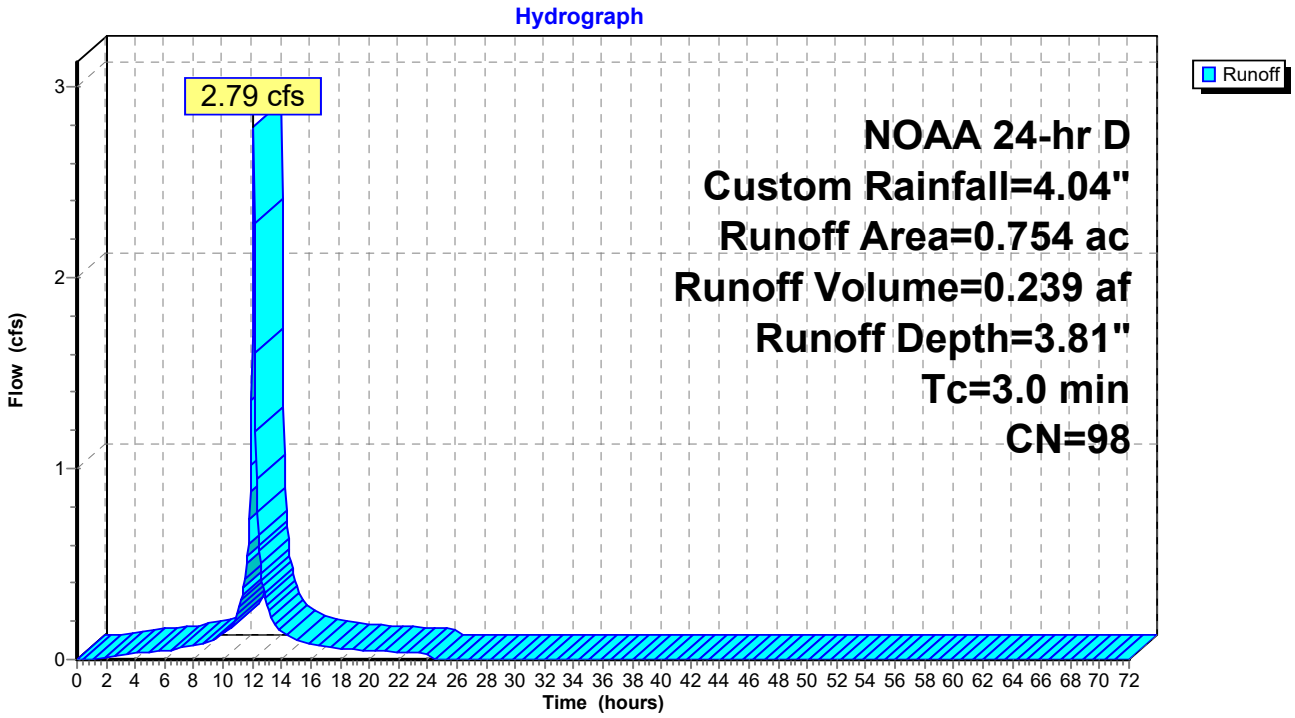
Runoff = 2.79 cfs @ 12.10 hrs, Volume= 0.239 af, Depth= 3.81"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

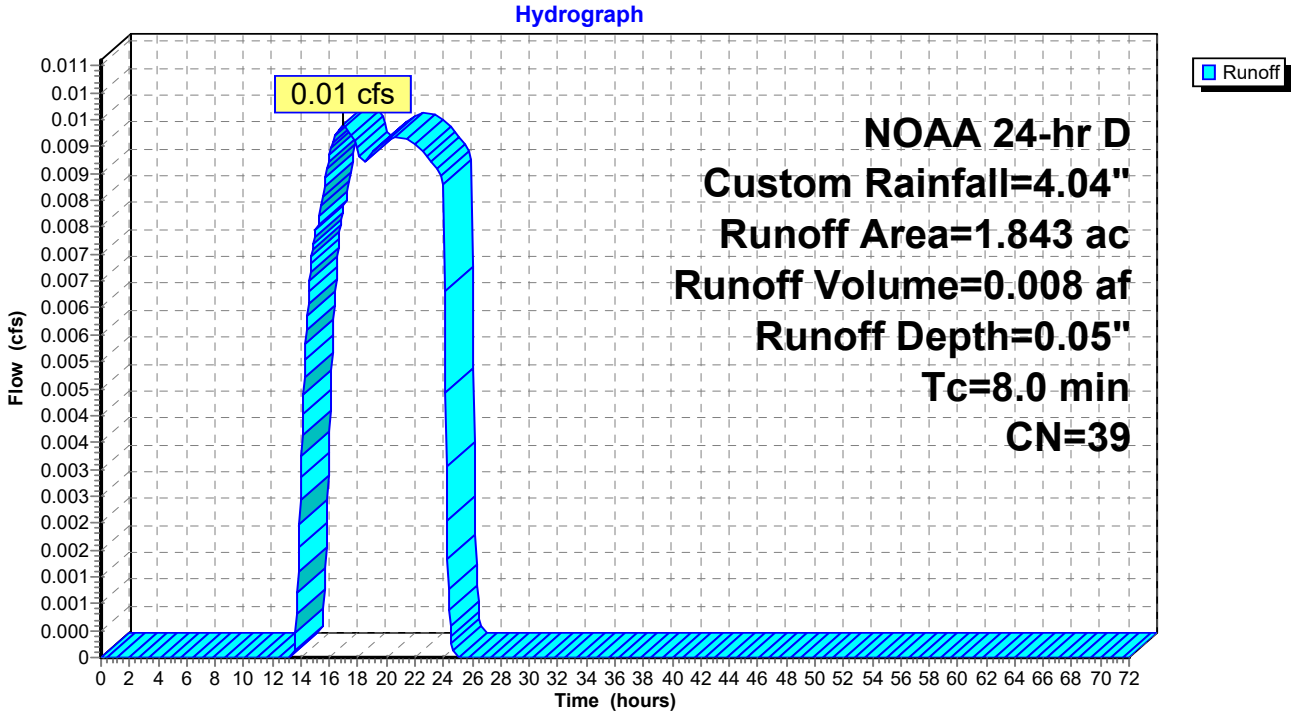
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.008 af, Depth= 0.05"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

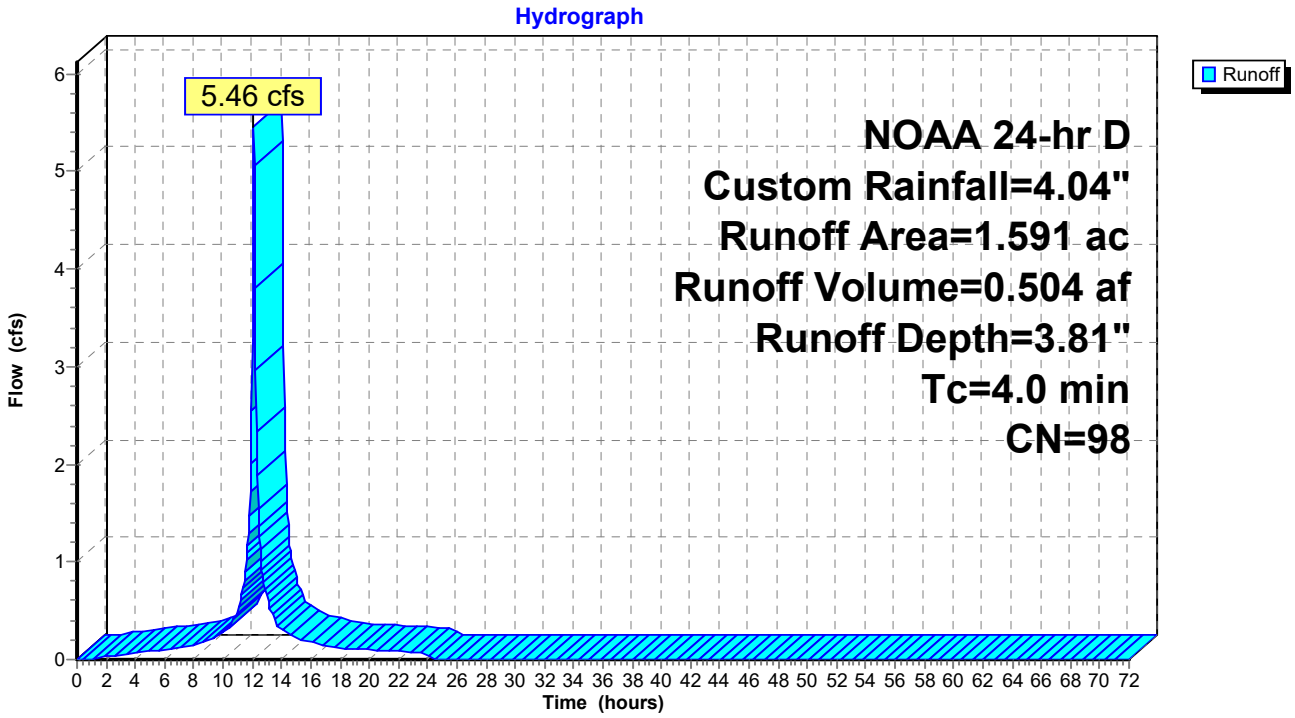
Runoff = 5.46 cfs @ 12.11 hrs, Volume= 0.504 af, Depth= 3.81"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

[45] Hint: Runoff=Zero

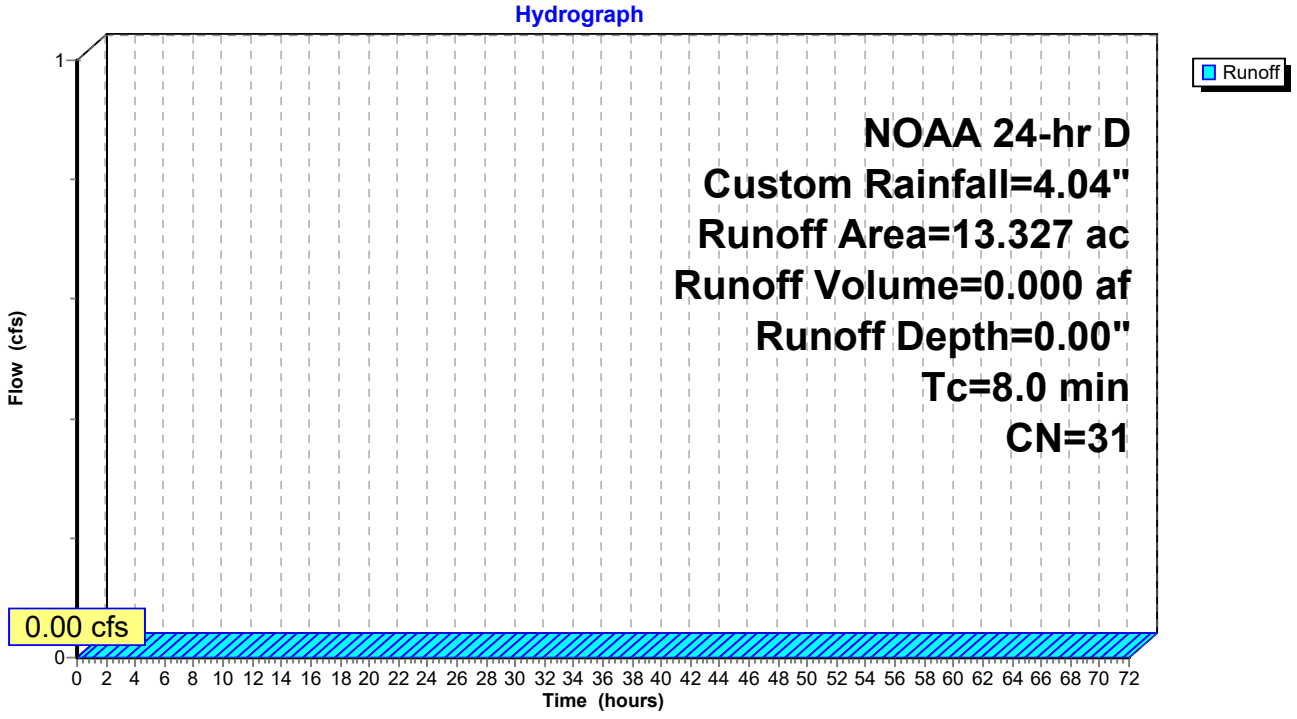
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

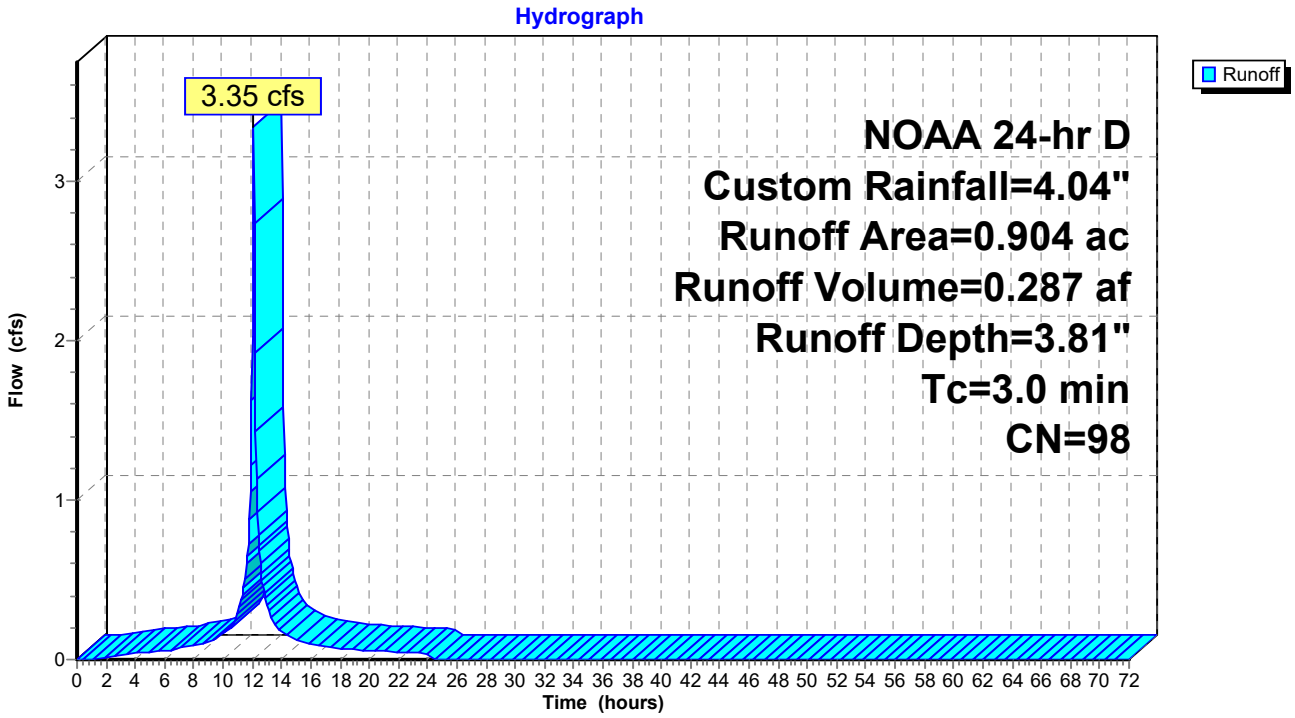
Runoff = 3.35 cfs @ 12.10 hrs, Volume= 0.287 af, Depth= 3.81"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

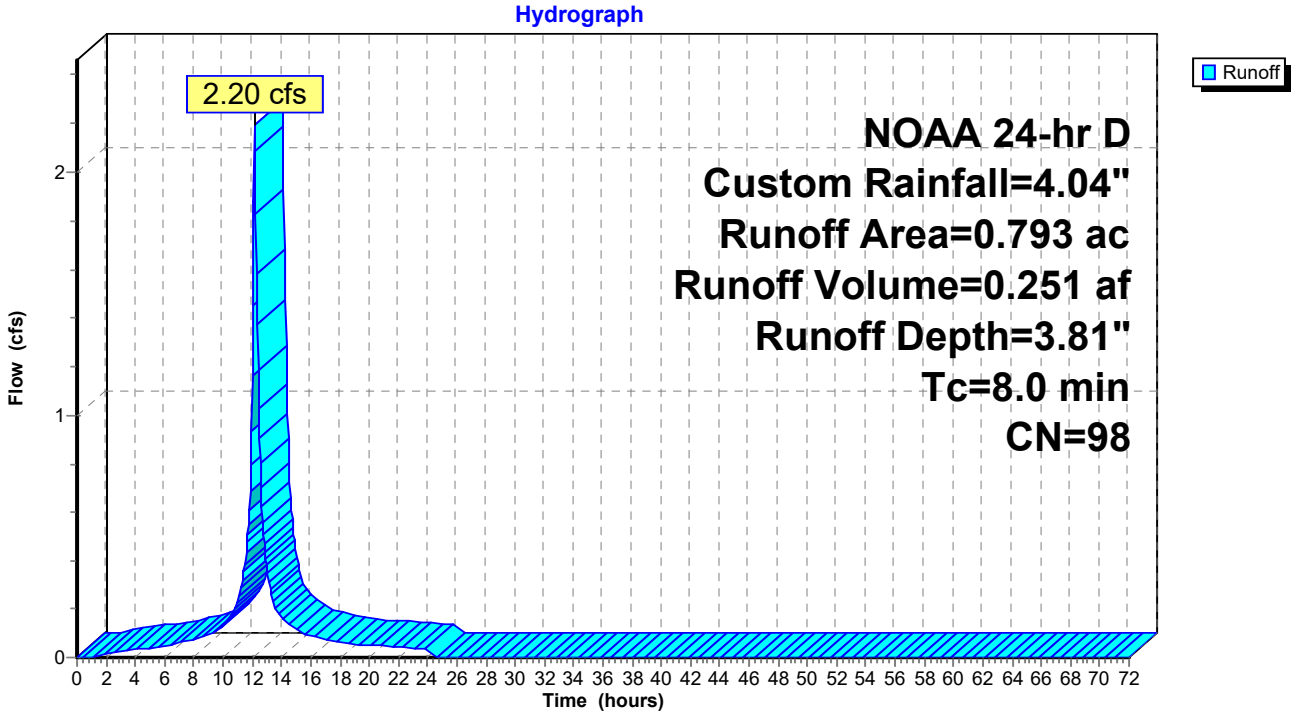
Runoff = 2.20 cfs @ 12.16 hrs, Volume= 0.251 af, Depth= 3.81"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

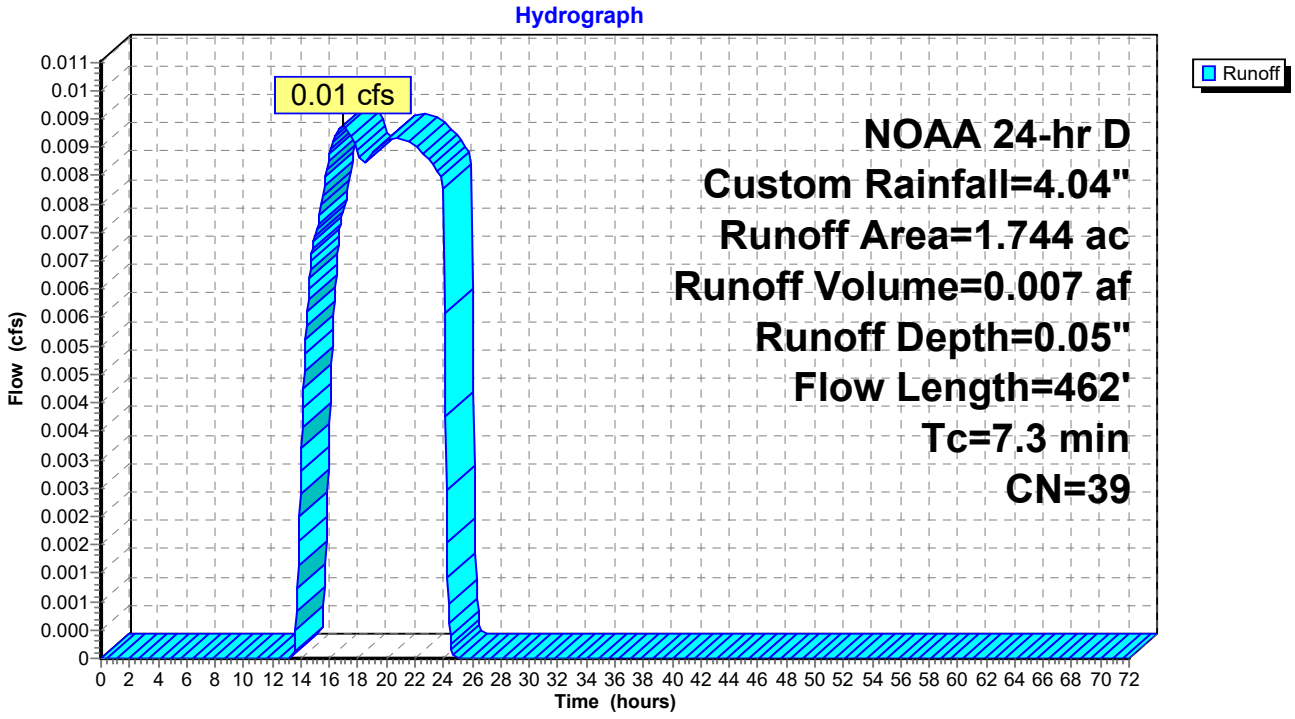
Runoff = 0.01 cfs @ 16.95 hrs, Volume= 0.007 af, Depth= 0.05"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[79] Warning: Submerged Pond 69P Primary device # 1 by 0.36'
[81] Warning: Exceeded Pond 88P by 1.05' @ 25.65 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth > 0.98" for Custom event
Inflow = 3.55 cfs @ 12.10 hrs, Volume= 0.741 af
Outflow = 0.31 cfs @ 23.22 hrs, Volume= 0.559 af, Atten= 91%, Lag= 667.2 min
Primary = 0.31 cfs @ 23.22 hrs, Volume= 0.559 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.20' @ 23.22 hrs Surf.Area= 8,469 sf Storage= 18,214 cf

Plug-Flow detention time= 786.3 min calculated for 0.559 af (75% of inflow)
Center-of-Mass det. time= 615.3 min (1,639.1 - 1,023.8)

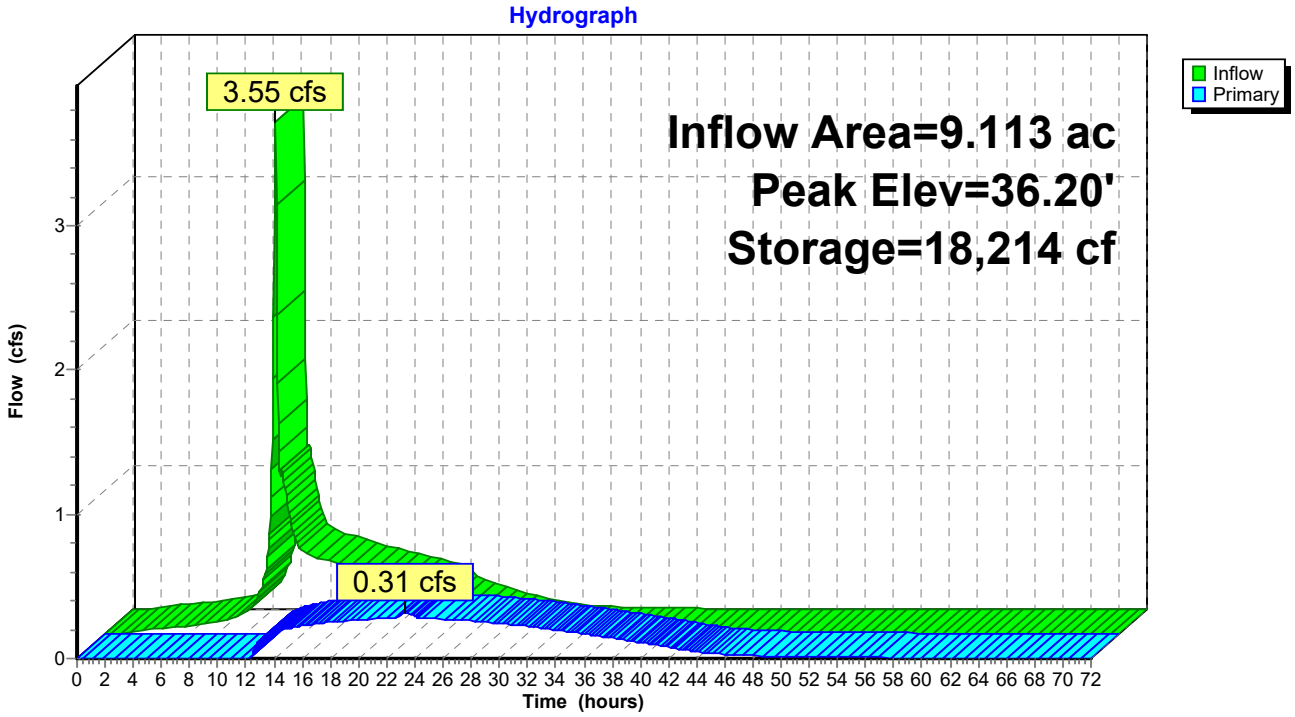
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 23.22 hrs HW=36.20' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.67 fps)
2=Orifice/Grate (Weir Controls 0.01 cfs @ 0.19 fps)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

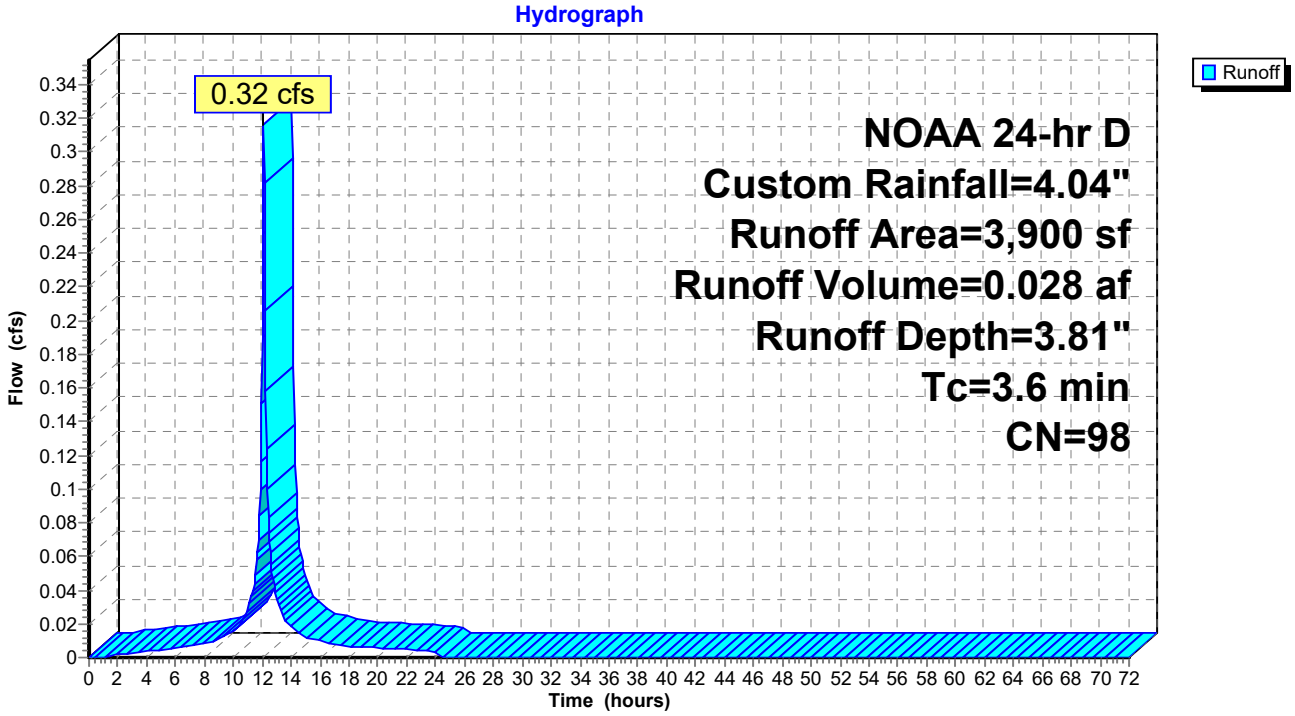
Runoff = 0.32 cfs @ 12.11 hrs, Volume= 0.028 af, Depth= 3.81"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

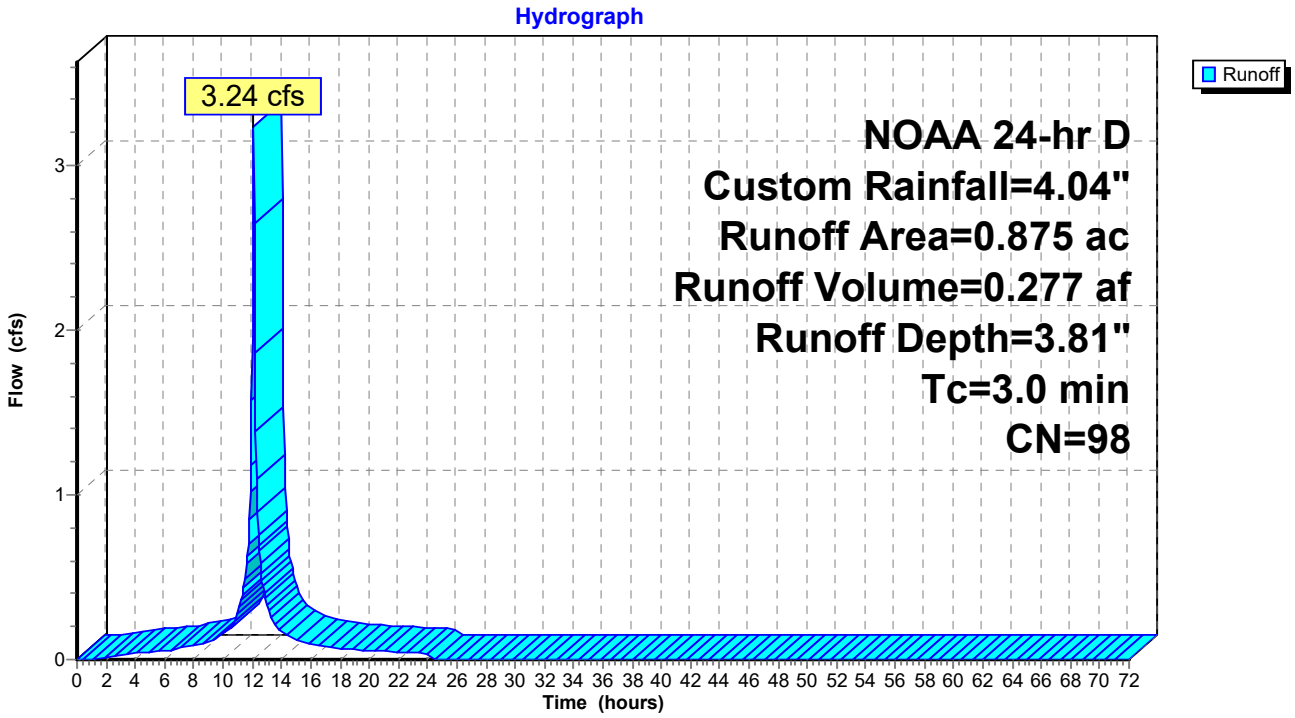
Runoff = 3.24 cfs @ 12.10 hrs, Volume= 0.277 af, Depth= 3.81"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

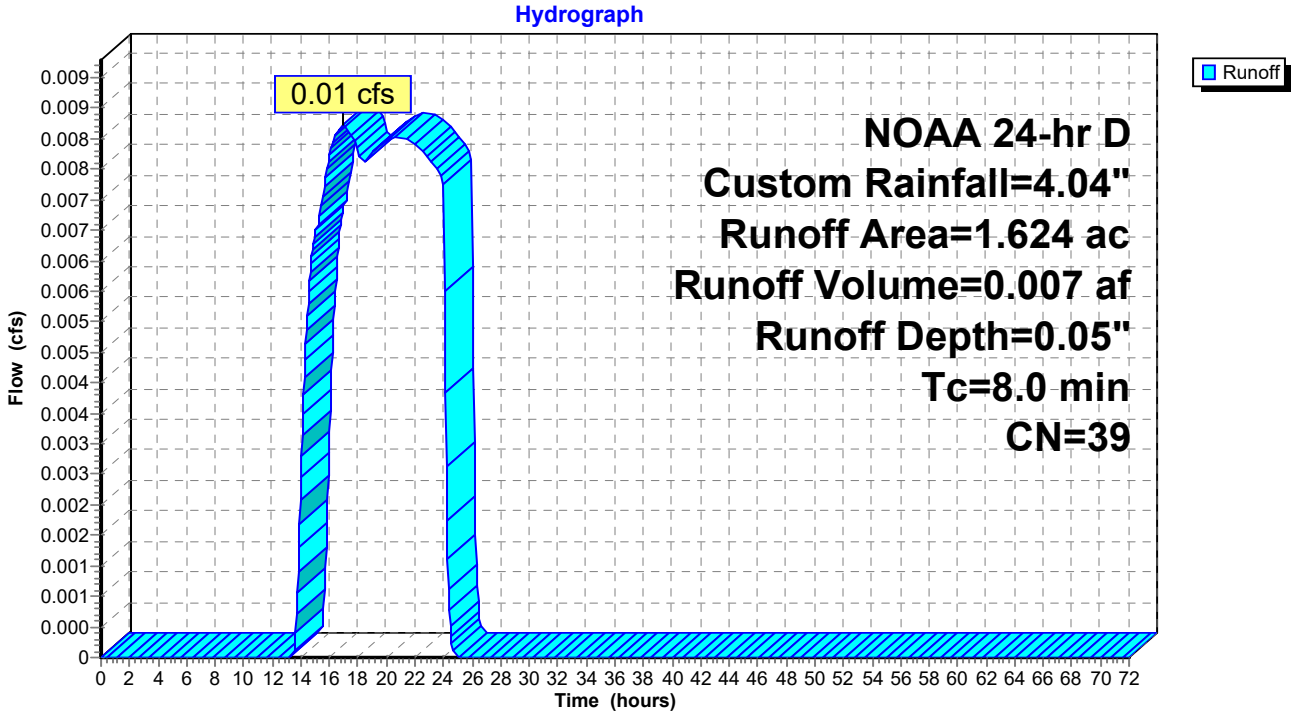
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 0.007 af, Depth= 0.05"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

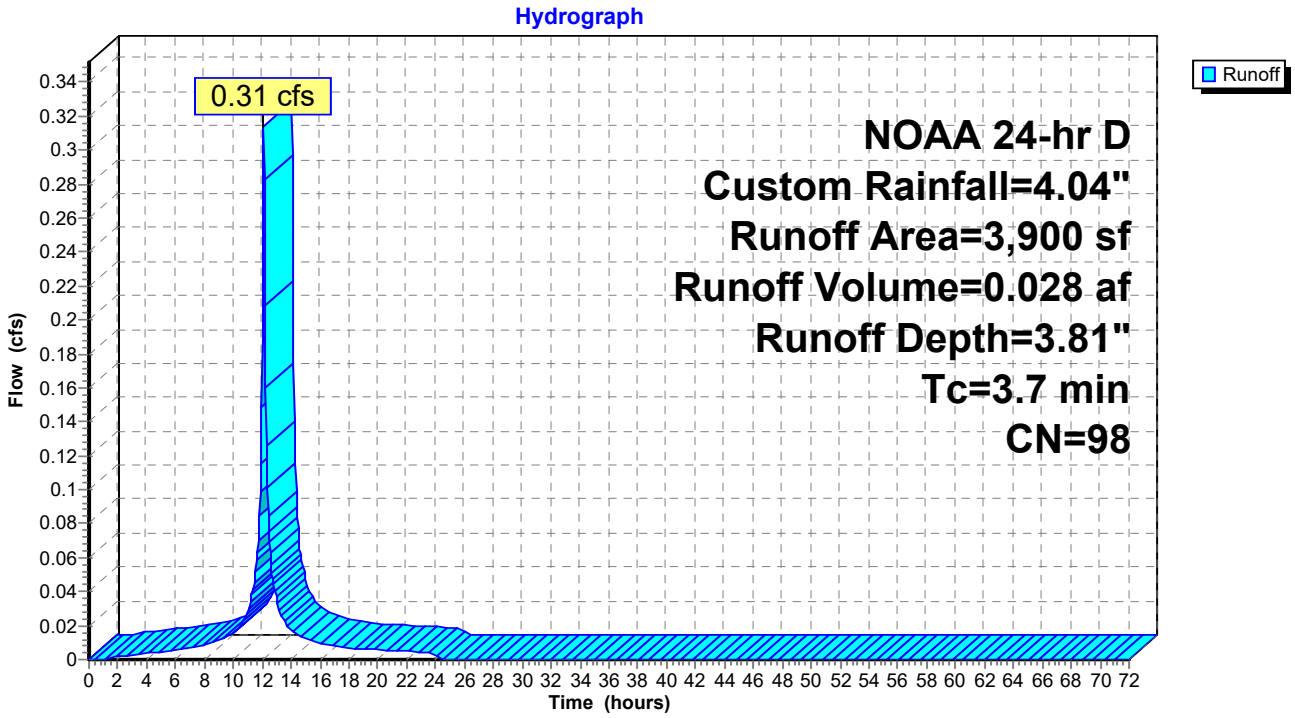
Runoff = 0.31 cfs @ 12.11 hrs, Volume= 0.028 af, Depth= 3.81"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

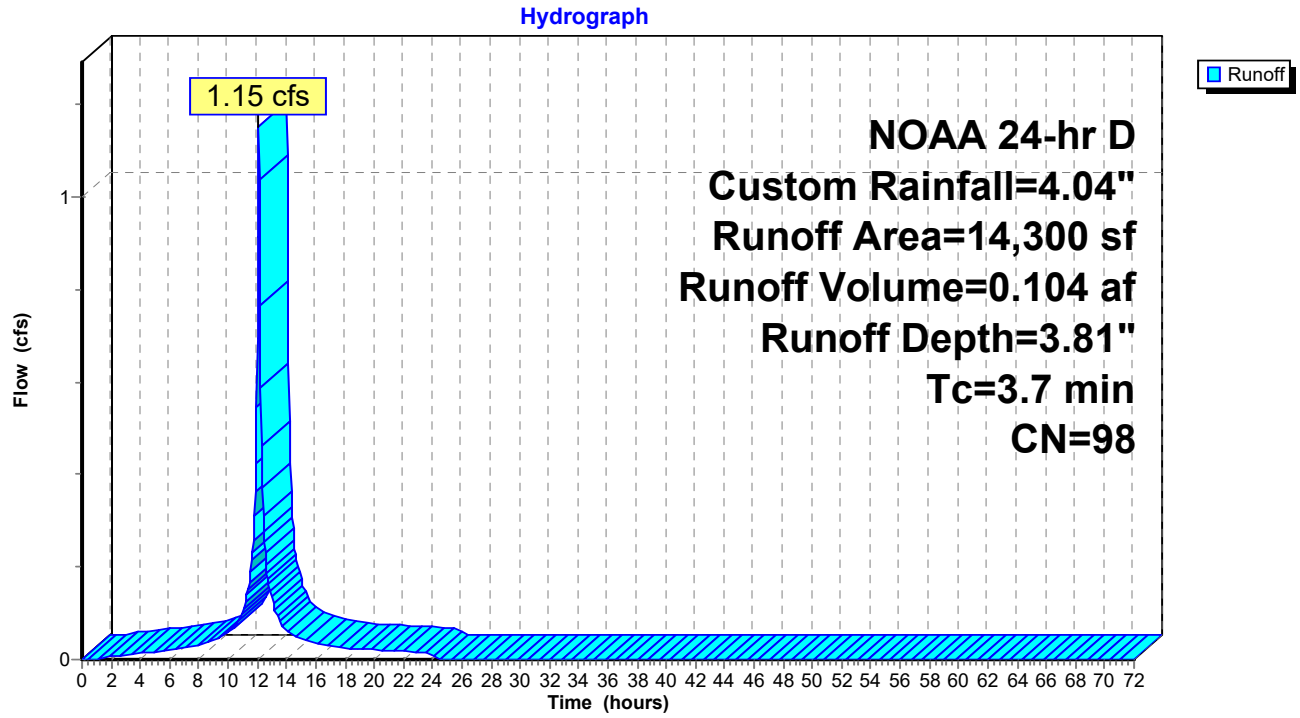
Runoff = 1.15 cfs @ 12.11 hrs, Volume= 0.104 af, Depth= 3.81"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

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

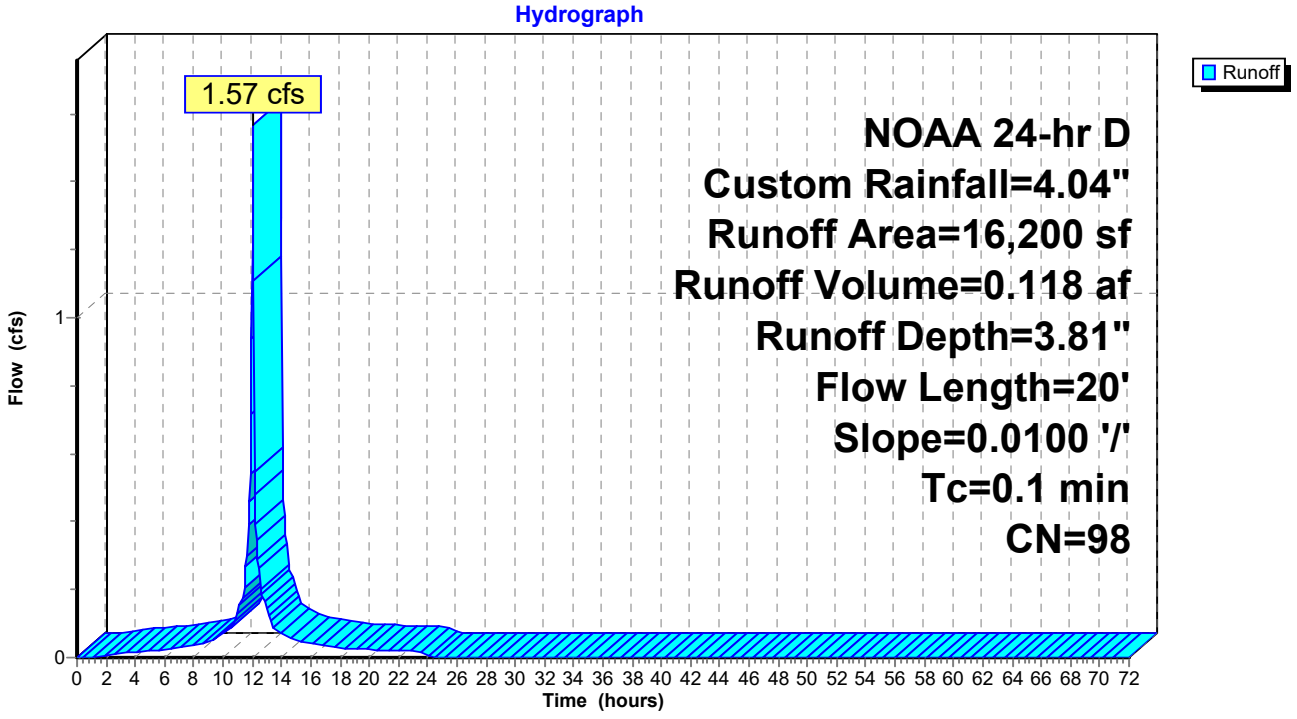
Runoff = 1.57 cfs @ 12.05 hrs, Volume= 0.118 af, Depth= 3.81"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

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

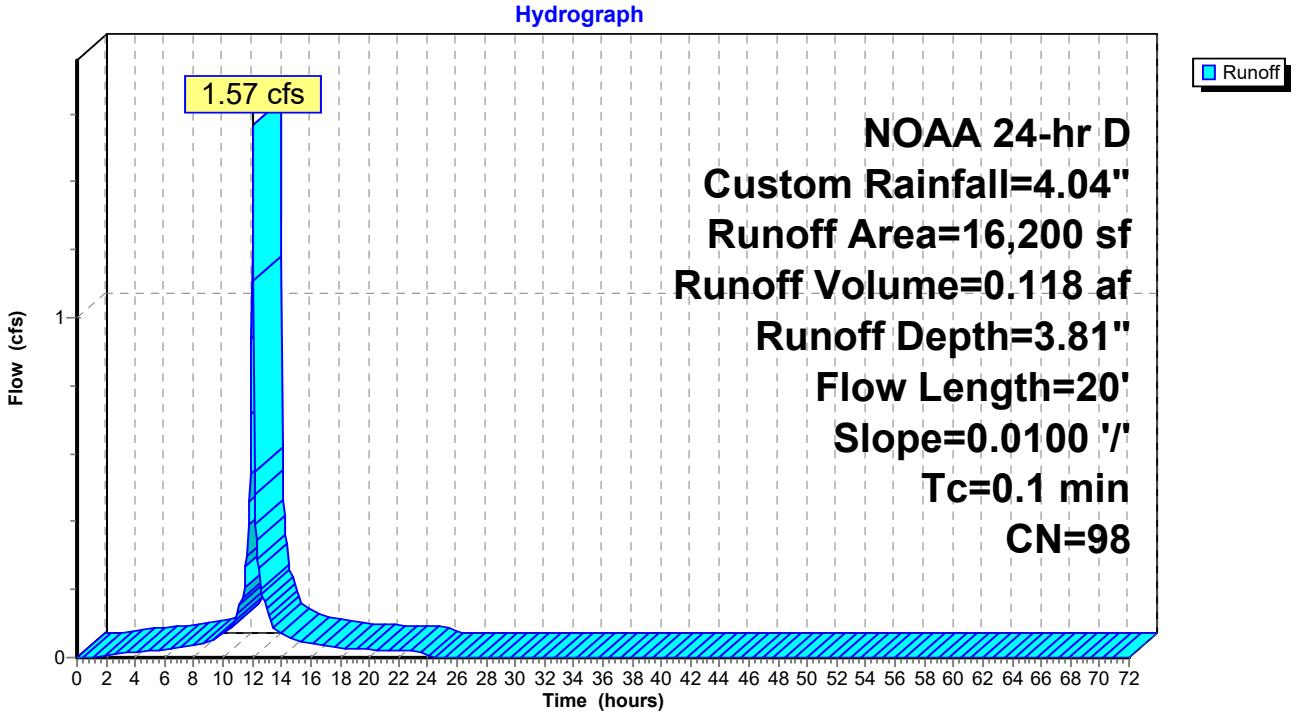
Runoff = 1.57 cfs @ 12.05 hrs, Volume= 0.118 af, Depth= 3.81"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

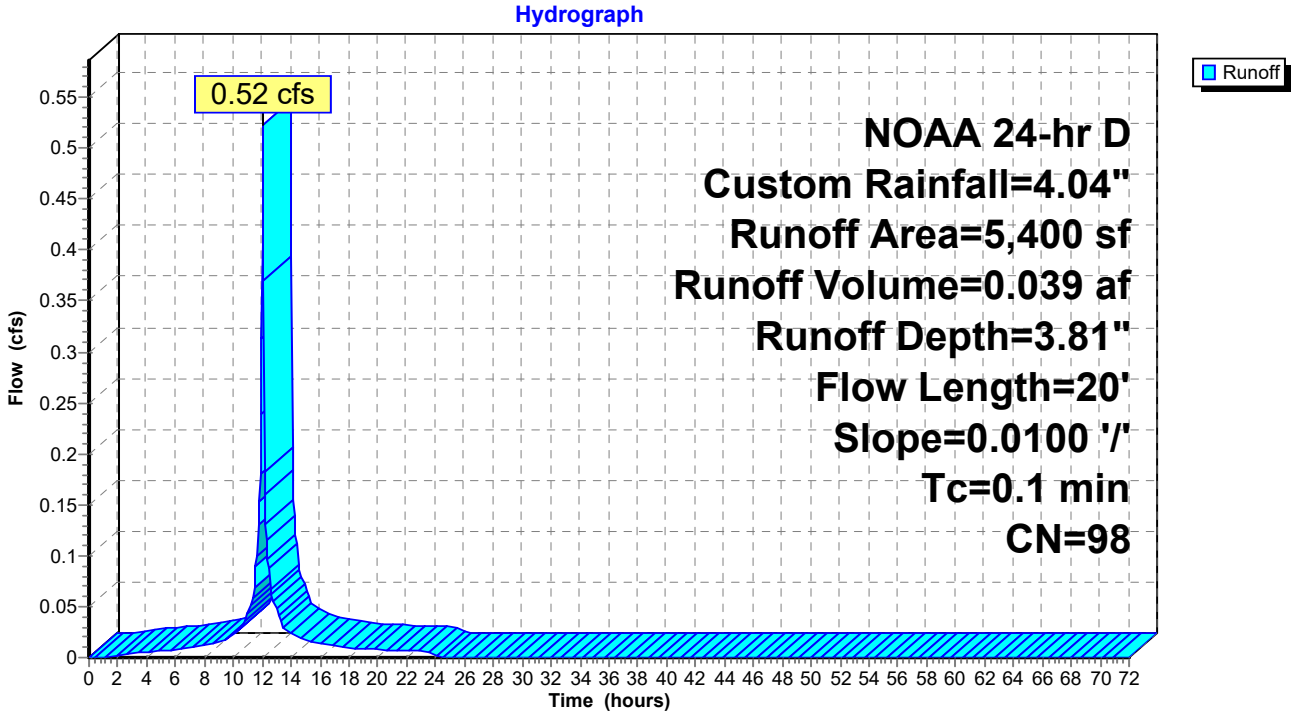
Runoff = 0.52 cfs @ 12.05 hrs, Volume= 0.039 af, Depth= 3.81"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

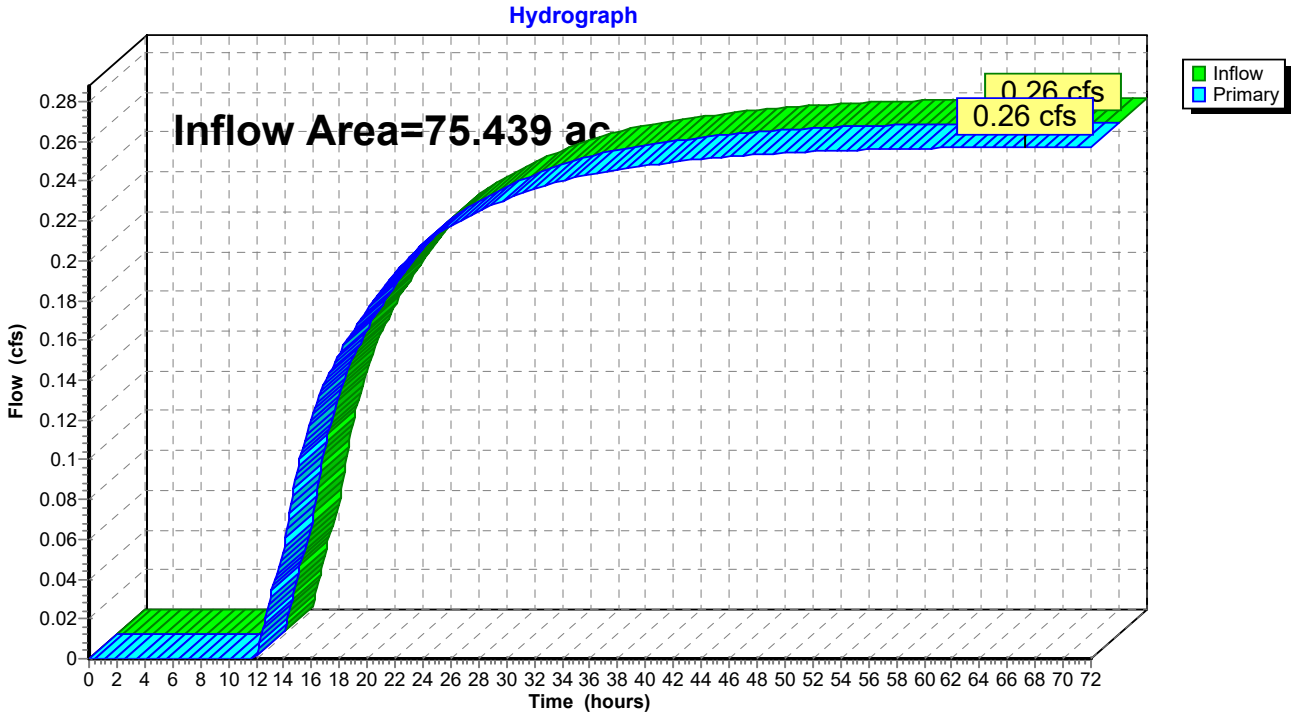


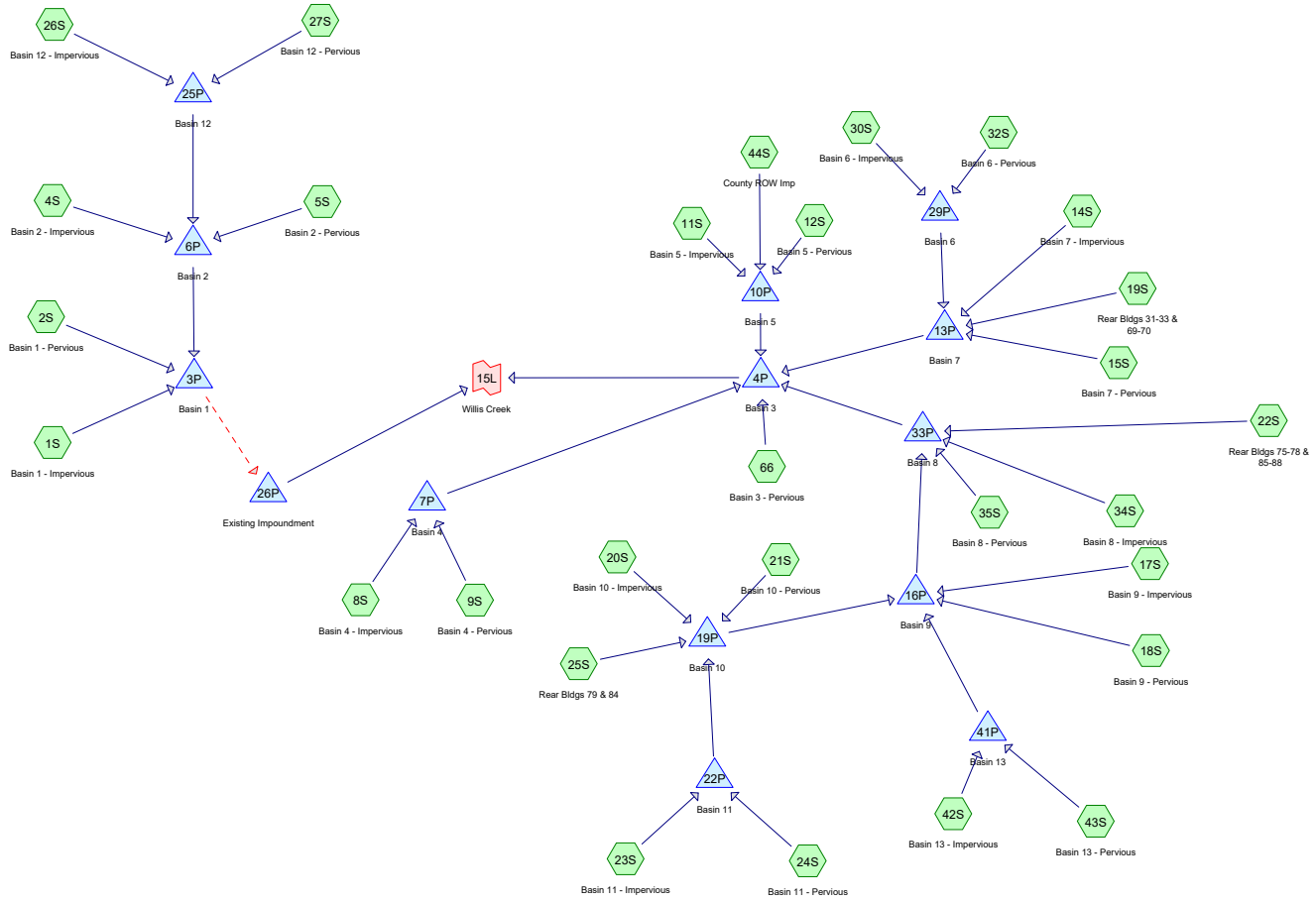
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.18" for Custom event
Inflow = 0.26 cfs @ 67.33 hrs, Volume= 1.117 af
Primary = 0.26 cfs @ 67.33 hrs, Volume= 1.117 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	4.04	2

Summary for Subcatchment 1S: Basin 1 - Impervious

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

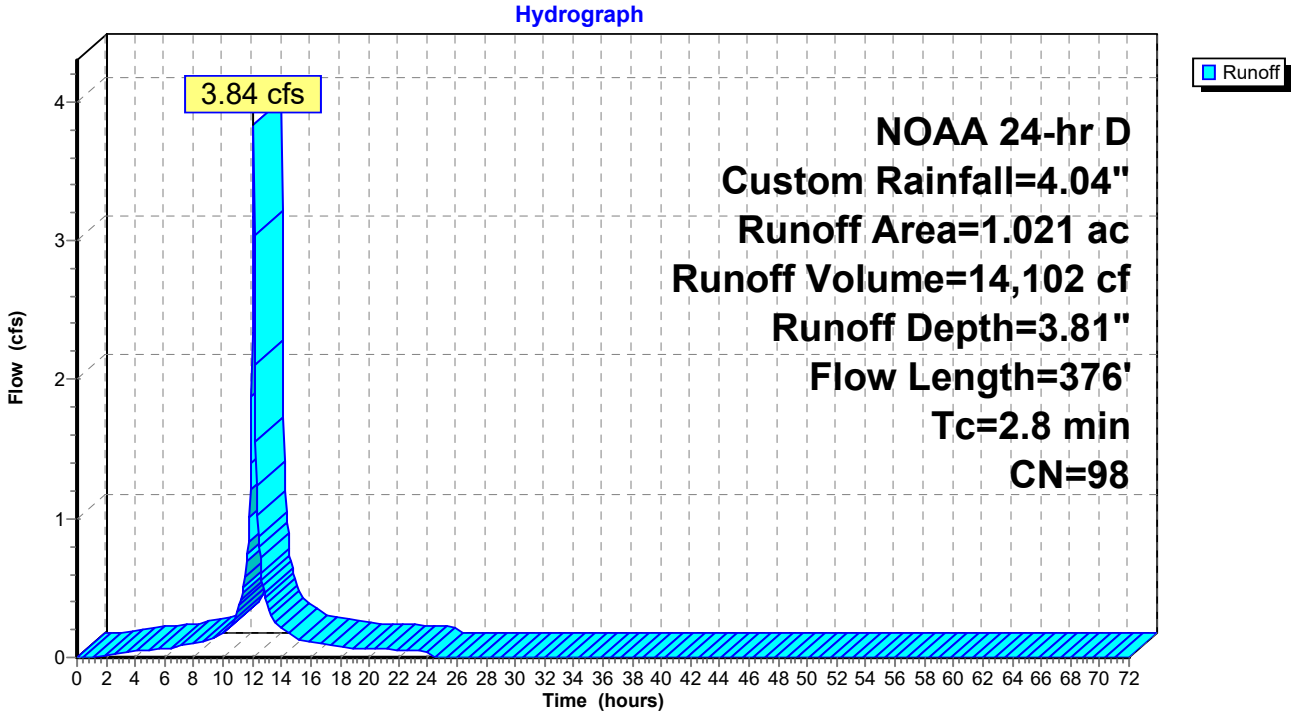
Runoff = 3.84 cfs @ 12.10 hrs, Volume= 14,102 cf, Depth= 3.81"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

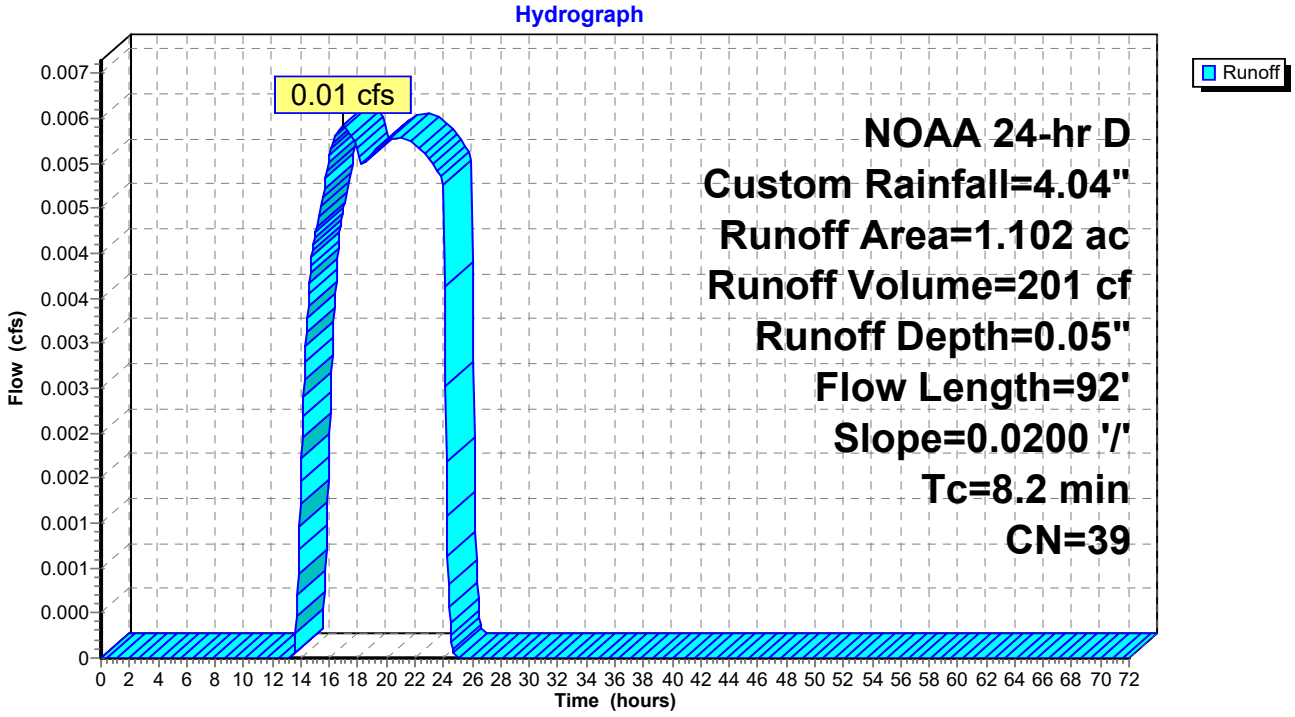
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 201 cf, Depth= 0.05"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 1.20" for Custom event
Inflow = 3.98 cfs @ 12.10 hrs, Volume= 28,177 cf
Outflow = 1.12 cfs @ 12.38 hrs, Volume= 24,168 cf, Atten= 72%, Lag= 16.9 min
Primary = 0.19 cfs @ 12.38 hrs, Volume= 16,860 cf
Secondary = 0.93 cfs @ 12.38 hrs, Volume= 7,308 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.58' @ 12.38 hrs Surf.Area= 6,494 sf Storage= 8,356 cf

Plug-Flow detention time= 470.7 min calculated for 24,168 cf (86% of inflow)
Center-of-Mass det. time= 318.8 min (1,377.9 - 1,059.2)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

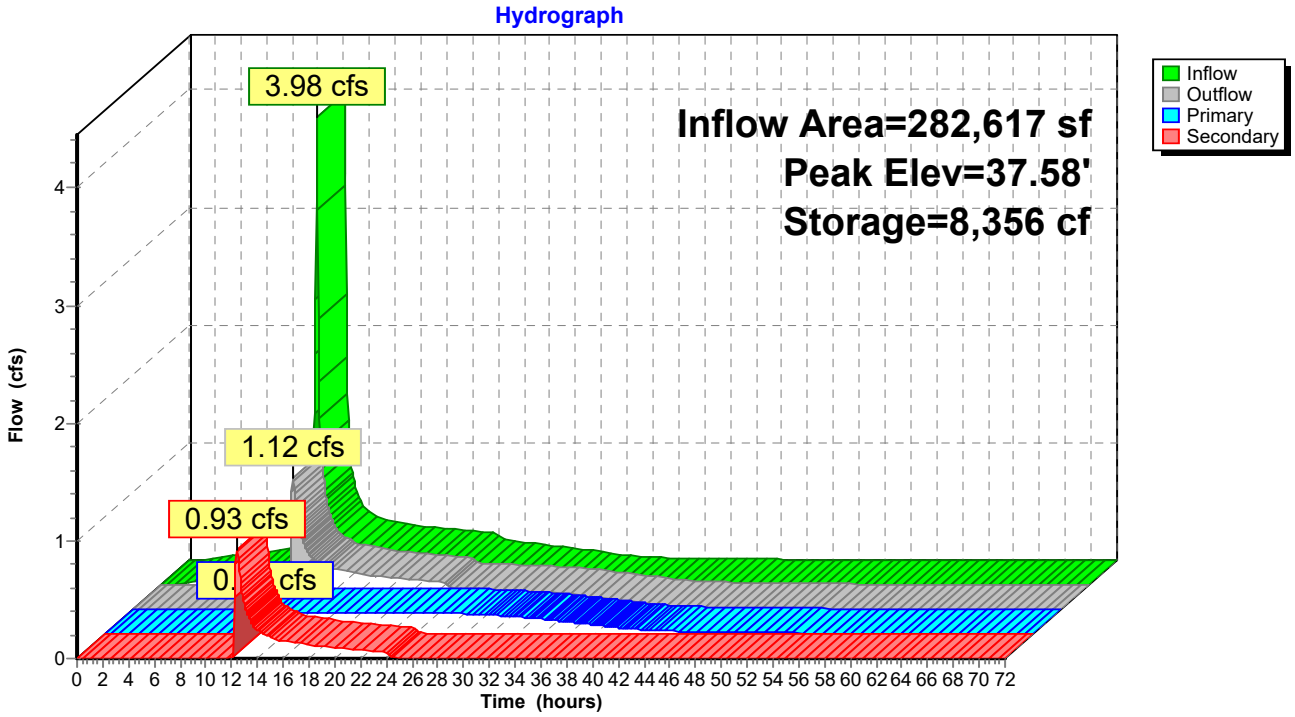
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 12.38 hrs HW=37.58' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.19 cfs @ 3.88 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.91 cfs @ 12.38 hrs HW=37.58' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 0.91 cfs @ 0.72 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 1.55" for Custom event
Inflow = 25.91 cfs @ 12.19 hrs, Volume= 122,352 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 26.72' @ 72.00 hrs Surf.Area= 47,530 sf Storage= 122,352 cf

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

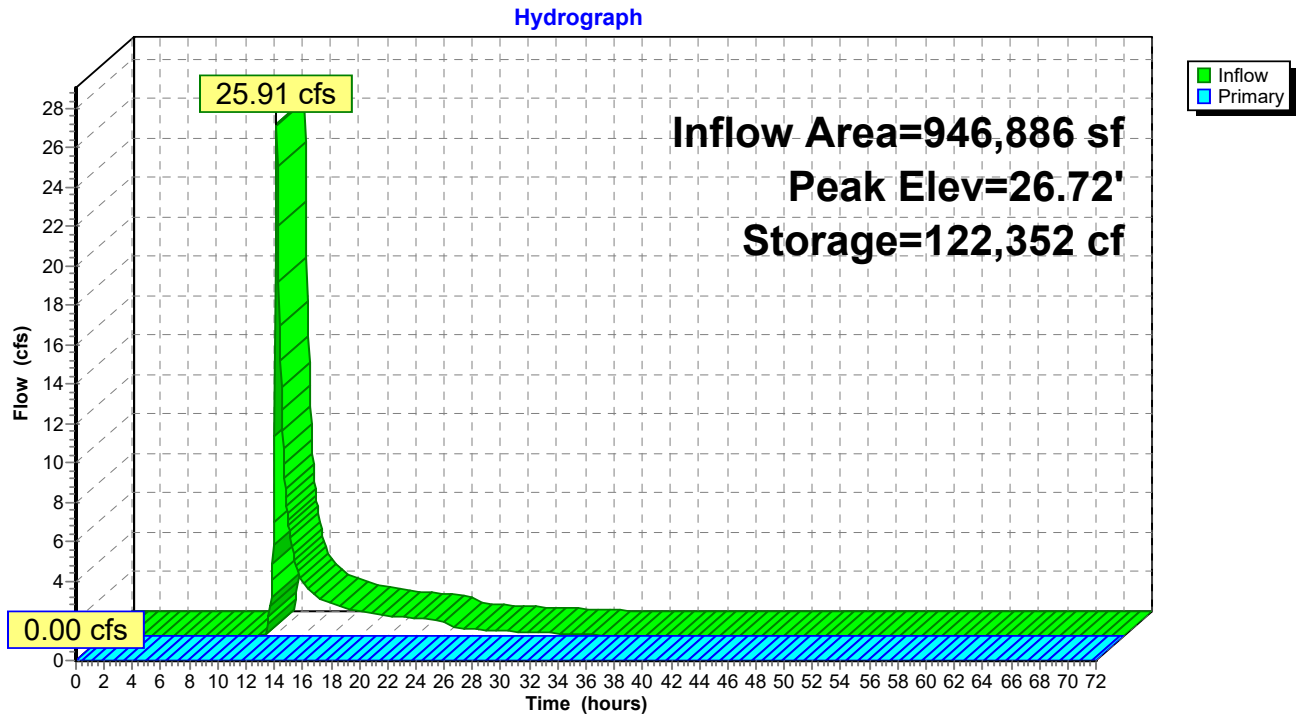
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

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

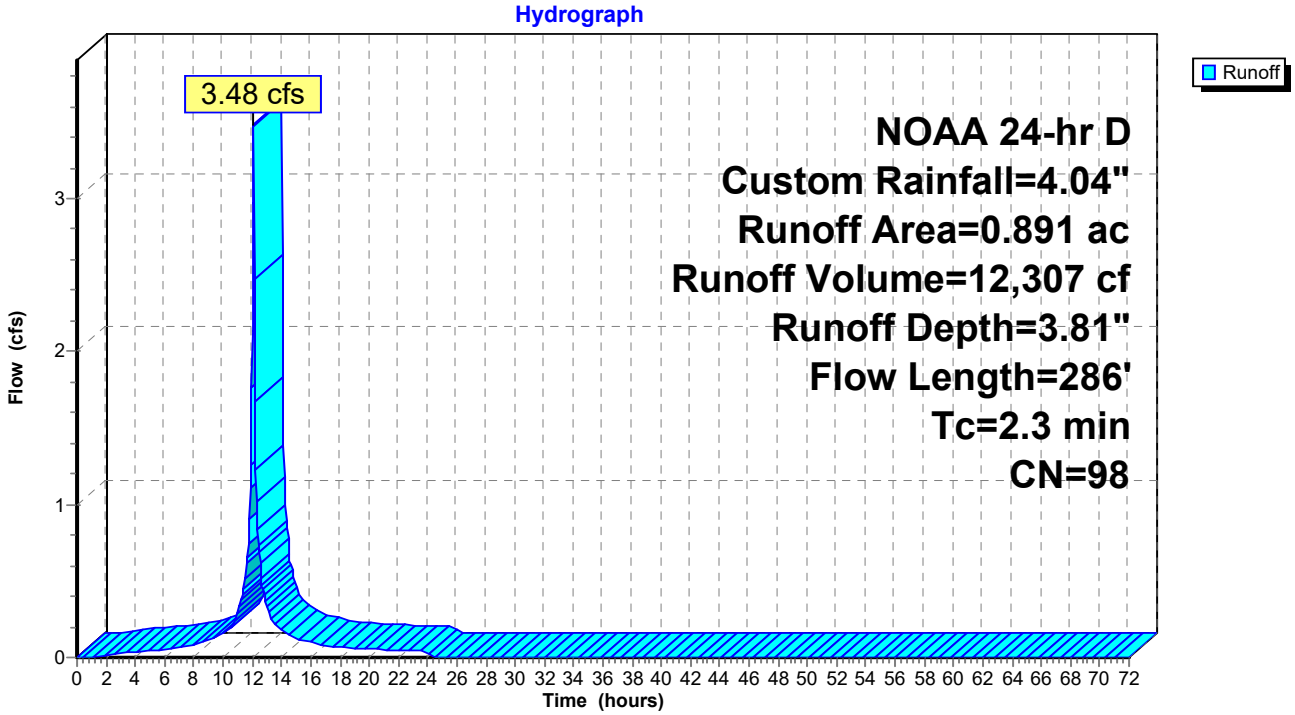
Runoff = 3.48 cfs @ 12.09 hrs, Volume= 12,307 cf, Depth= 3.81"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

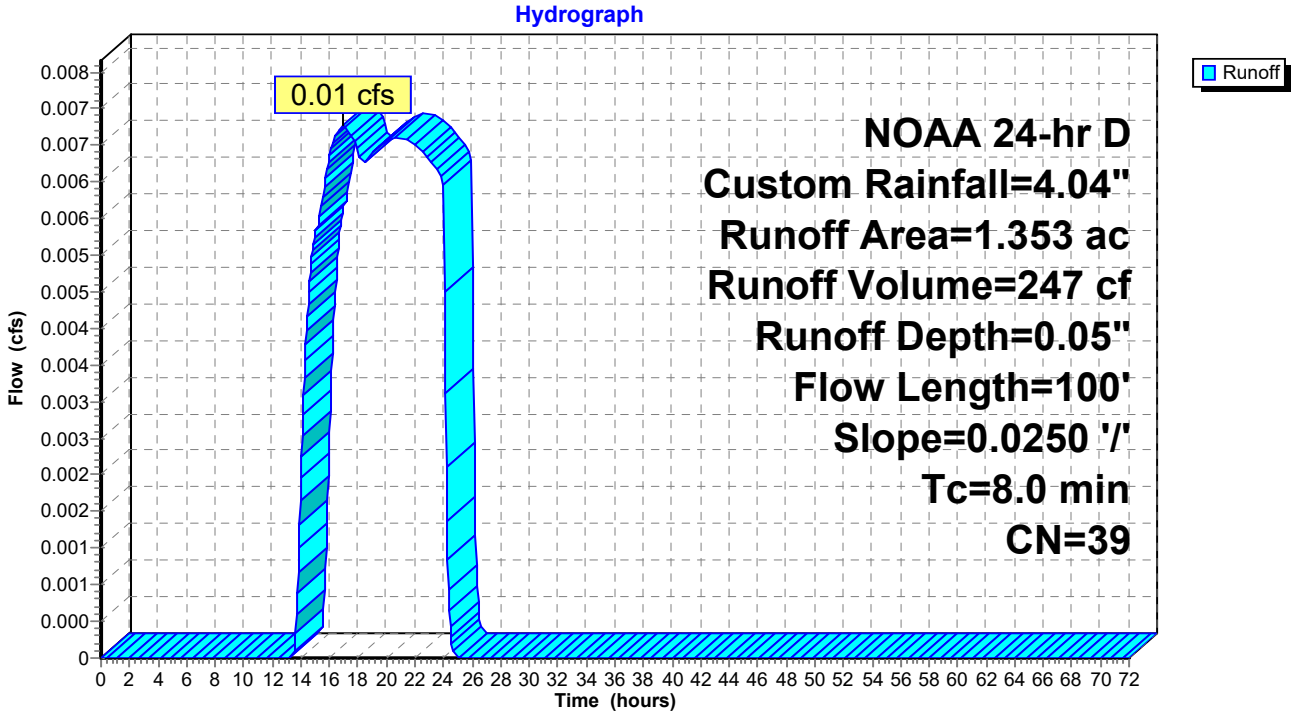
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 247 cf, Depth= 0.05"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[81] Warning: Exceeded Pond 25P by 0.07' @ 18.10 hrs

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 1.09" for Custom event
Inflow = 3.54 cfs @ 12.09 hrs, Volume= 17,316 cf
Outflow = 0.21 cfs @ 15.77 hrs, Volume= 13,874 cf, Atten= 94%, Lag= 220.9 min
Primary = 0.21 cfs @ 15.77 hrs, Volume= 13,874 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.63' @ 15.77 hrs Surf.Area= 7,251 sf Storage= 9,245 cf

Plug-Flow detention time= 625.1 min calculated for 13,874 cf (80% of inflow)
Center-of-Mass det. time= 480.4 min (1,369.9 - 889.5)

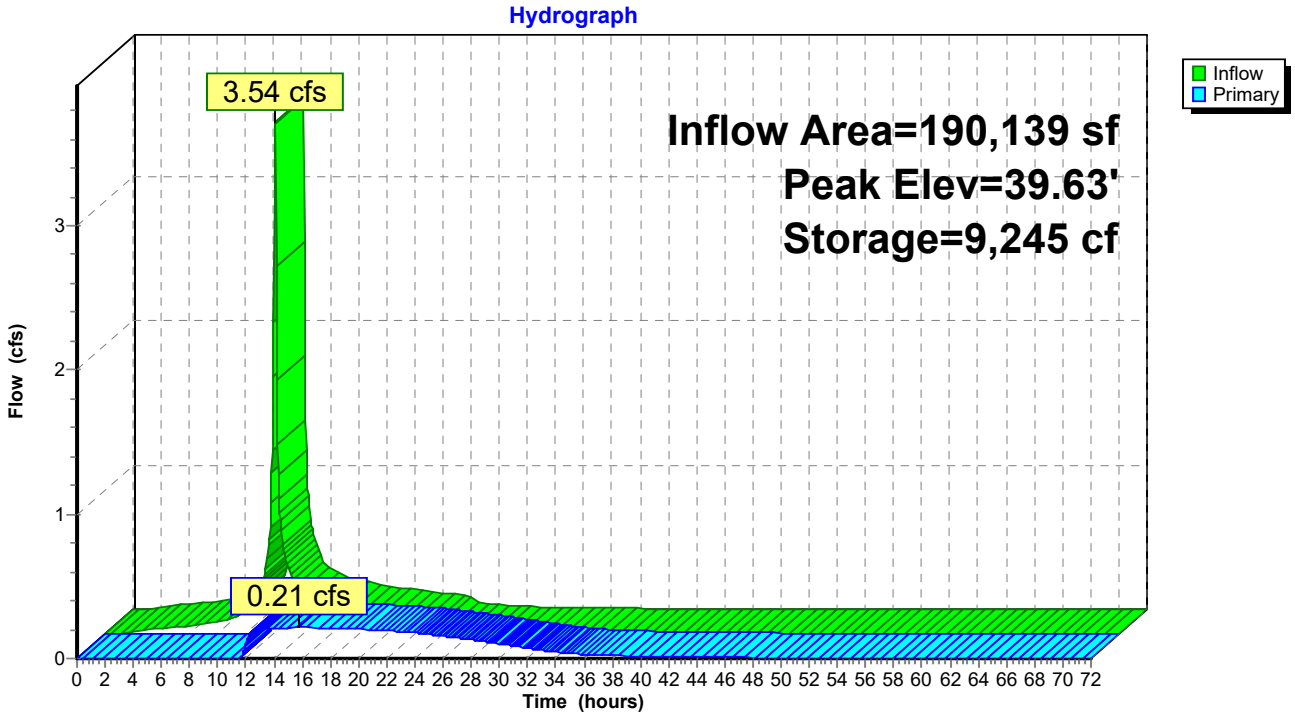
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 15.77 hrs HW=39.63' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.33 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 1.79" for Custom event
Inflow = 4.20 cfs @ 12.11 hrs, Volume= 16,421 cf
Outflow = 0.78 cfs @ 12.57 hrs, Volume= 11,971 cf, Atten= 81%, Lag= 27.7 min
Primary = 0.78 cfs @ 12.57 hrs, Volume= 11,971 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.05' @ 12.57 hrs Surf.Area= 6,346 sf Storage= 9,905 cf

Plug-Flow detention time= 495.2 min calculated for 11,971 cf (73% of inflow)
Center-of-Mass det. time= 392.7 min (1,151.7 - 759.0)

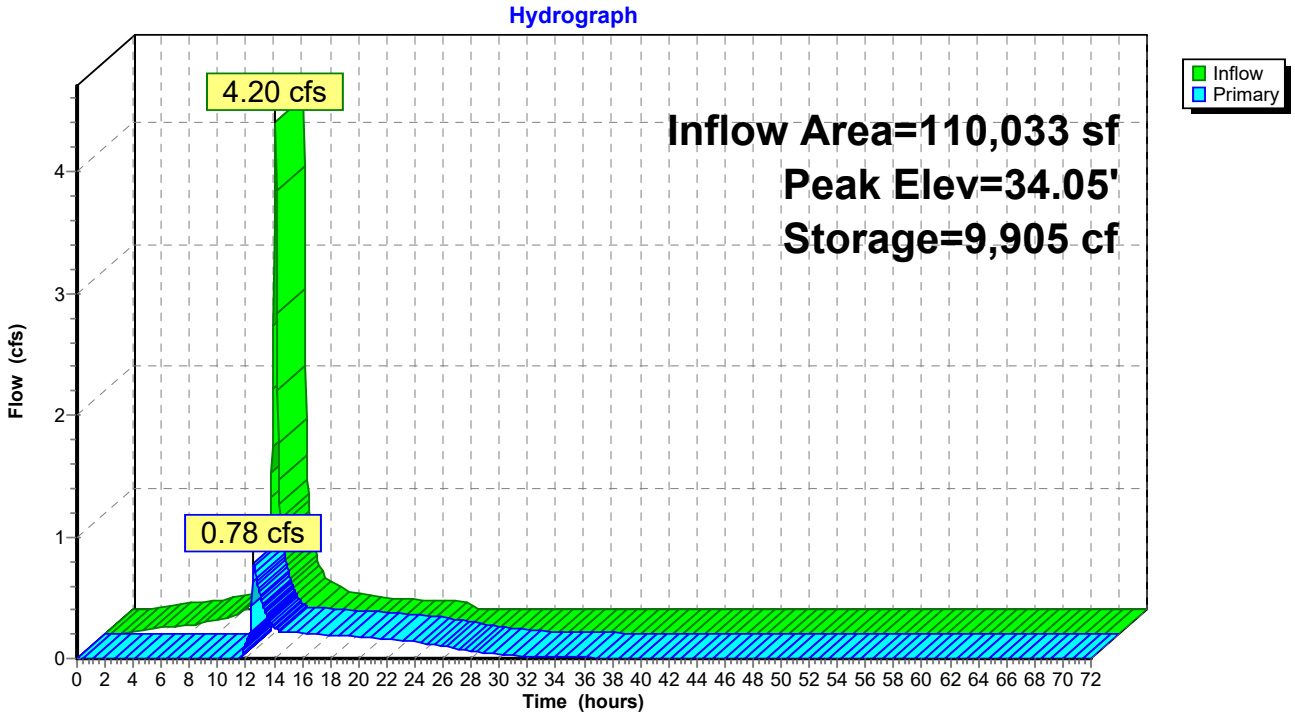
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.77 cfs @ 12.57 hrs HW=34.05' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.22 cfs @ 4.47 fps)
2=Orifice/Grate (Weir Controls 0.55 cfs @ 0.72 fps)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

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

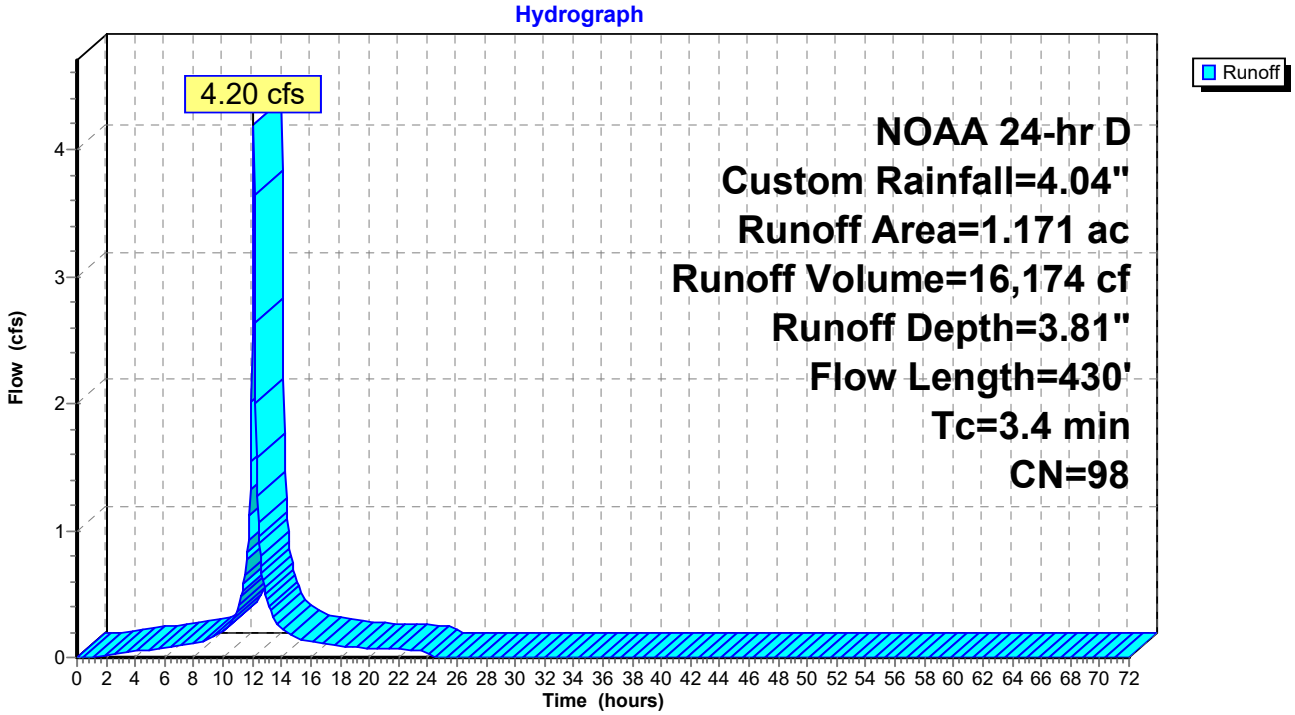
Runoff = 4.20 cfs @ 12.11 hrs, Volume= 16,174 cf, Depth= 3.81"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

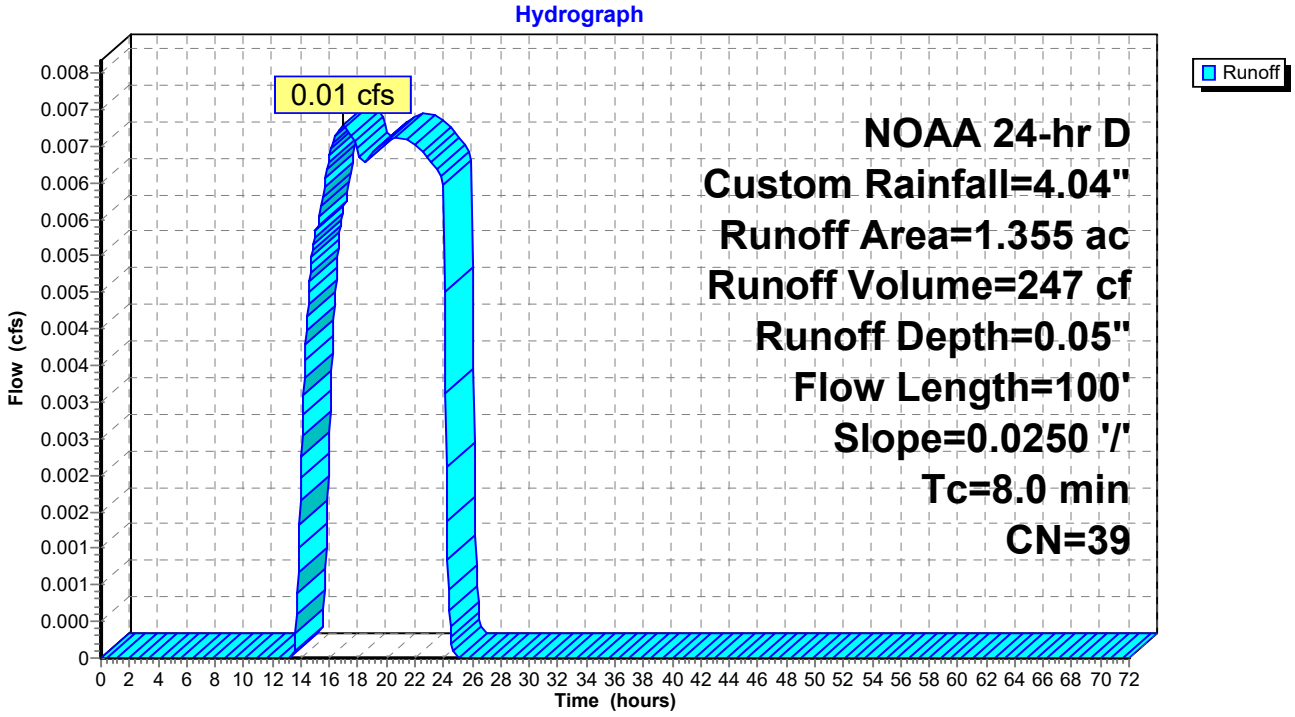
Runoff = 0.01 cfs @ 16.96 hrs, Volume= 247 cf, Depth= 0.05"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 2.29" for Custom event
Inflow = 4.37 cfs @ 12.10 hrs, Volume= 16,605 cf
Outflow = 3.94 cfs @ 12.13 hrs, Volume= 11,602 cf, Atten= 10%, Lag= 1.8 min
Primary = 3.94 cfs @ 12.13 hrs, Volume= 11,602 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.74' @ 12.13 hrs Surf.Area= 3,860 sf Storage= 5,670 cf

Plug-Flow detention time= 208.6 min calculated for 11,602 cf (70% of inflow)
Center-of-Mass det. time= 98.1 min (865.3 - 767.2)

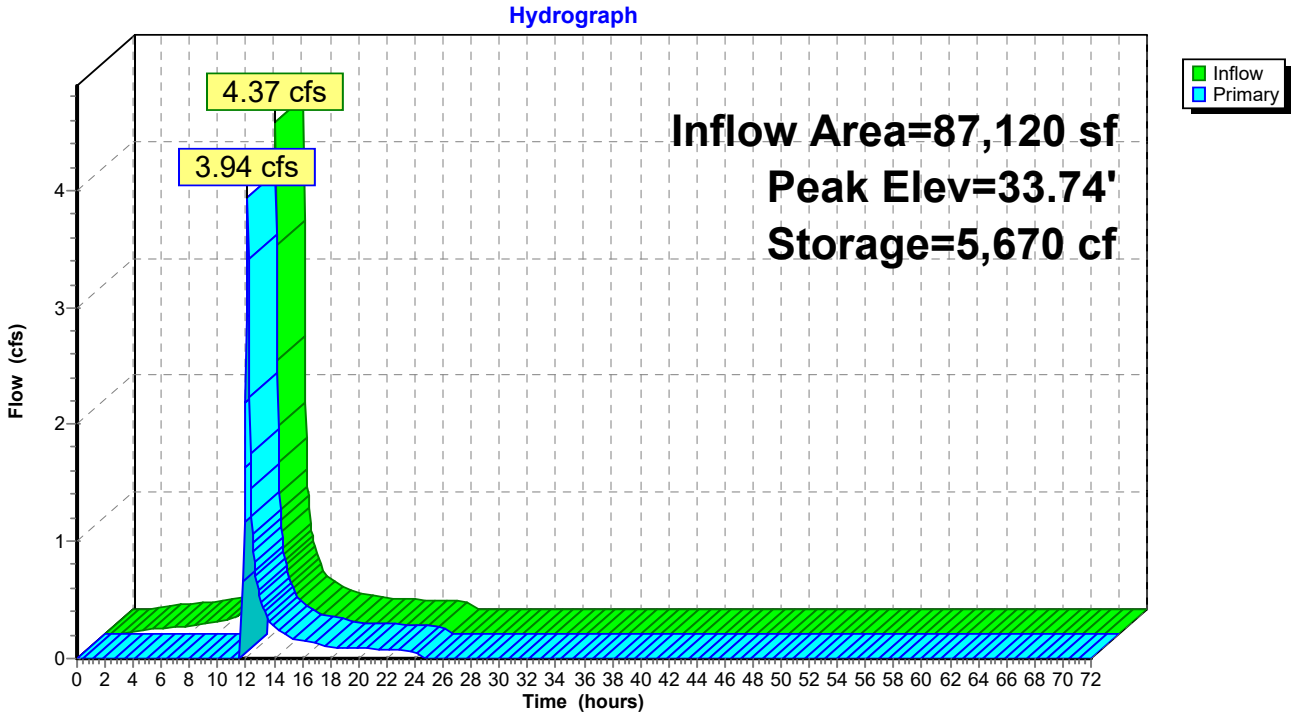
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.82 cfs @ 12.13 hrs HW=33.73' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.82 cfs @ 1.37 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

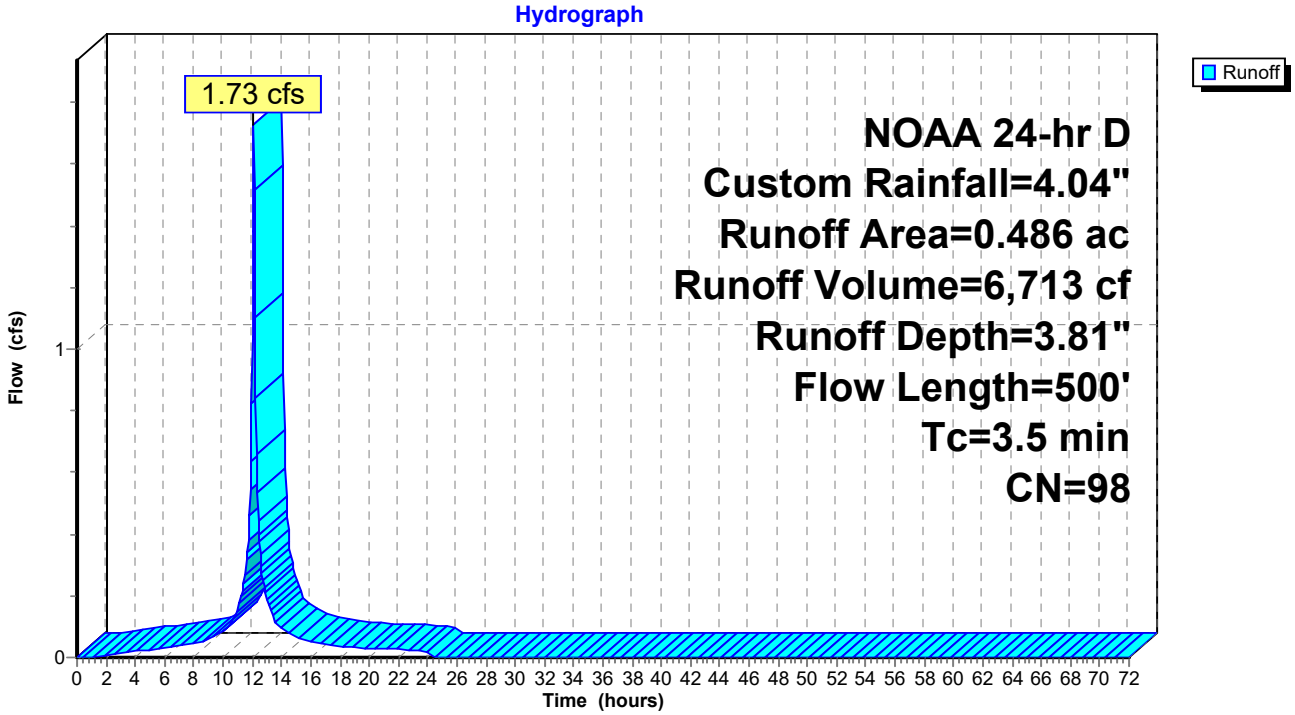
Runoff = 1.73 cfs @ 12.11 hrs, Volume= 6,713 cf, Depth= 3.81"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

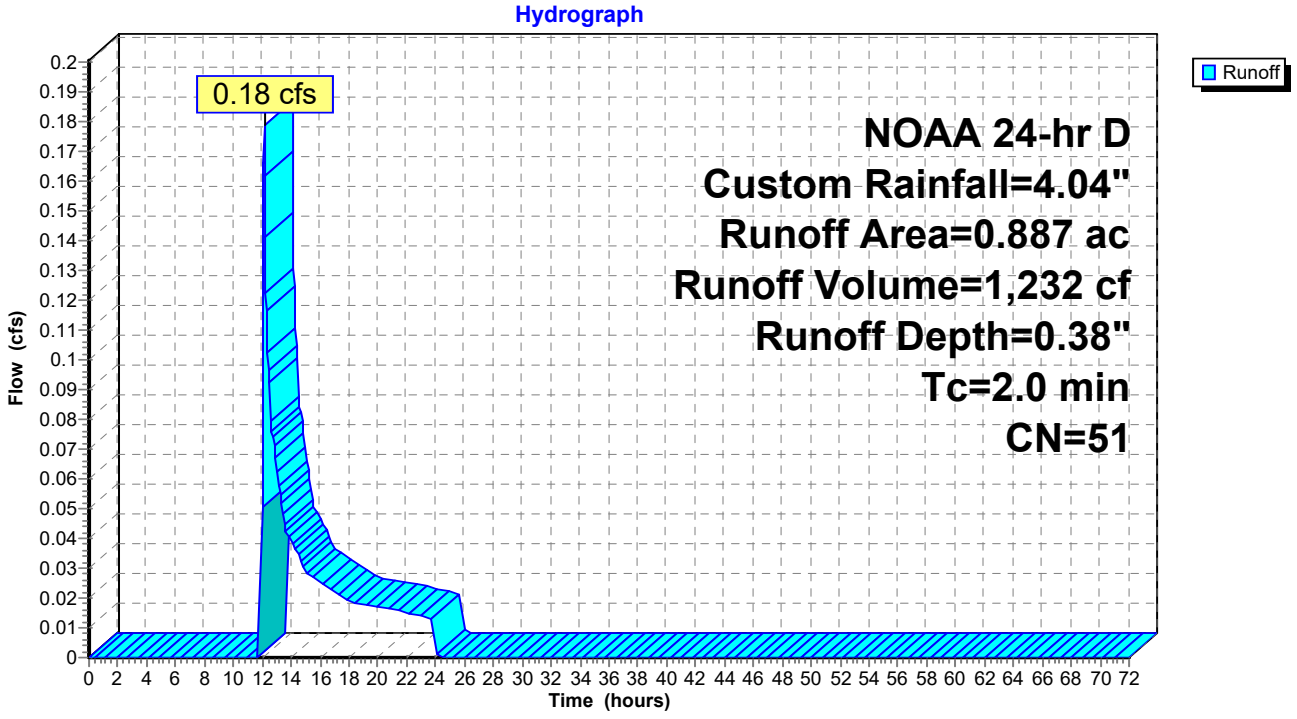
Runoff = 0.18 cfs @ 12.12 hrs, Volume= 1,232 cf, Depth= 0.38"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 2.49" for Custom event
Inflow = 7.94 cfs @ 12.17 hrs, Volume= 37,065 cf
Outflow = 7.64 cfs @ 12.21 hrs, Volume= 32,023 cf, Atten= 4%, Lag= 2.5 min
Primary = 7.64 cfs @ 12.21 hrs, Volume= 32,023 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.34' @ 12.21 hrs Surf.Area= 5,041 sf Storage= 6,367 cf

Plug-Flow detention time= 116.1 min calculated for 32,023 cf (86% of inflow)
Center-of-Mass det. time= 49.4 min (860.8 - 811.4)

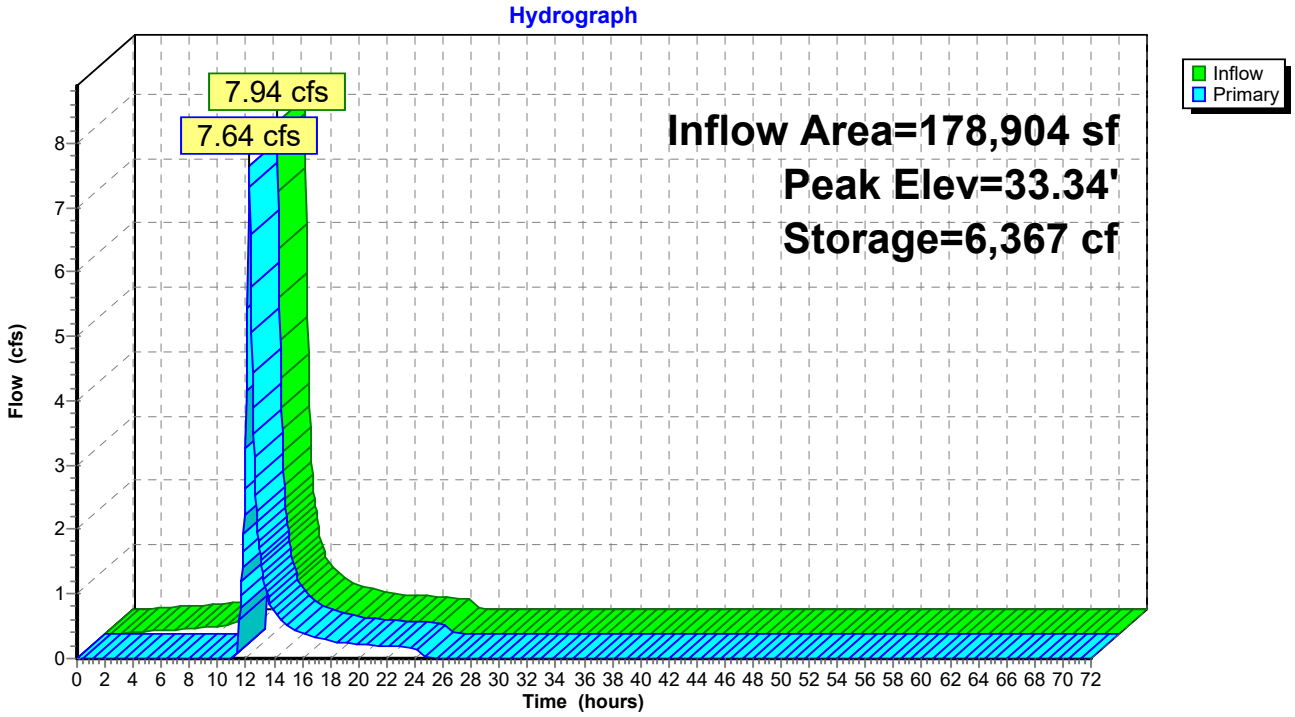
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.55 cfs @ 12.21 hrs HW=33.34' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 7.55 cfs @ 1.72 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

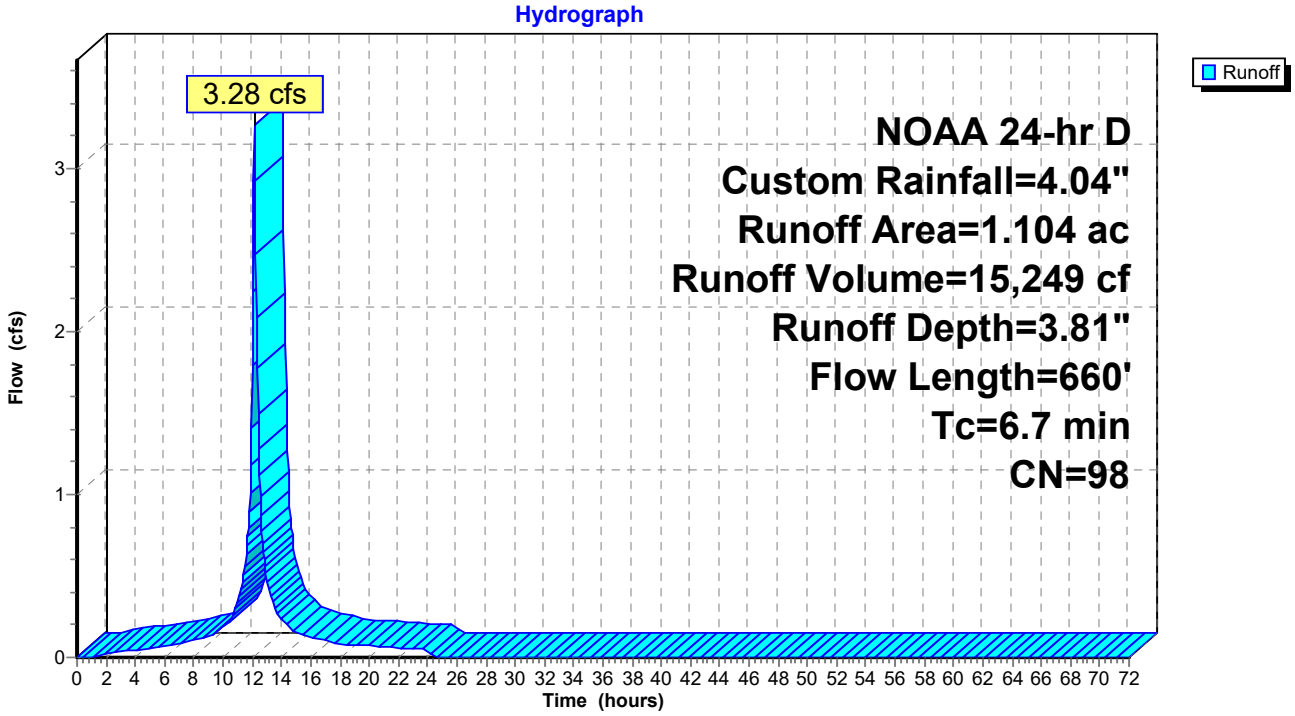
Runoff = 3.28 cfs @ 12.15 hrs, Volume= 15,249 cf, Depth= 3.81"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

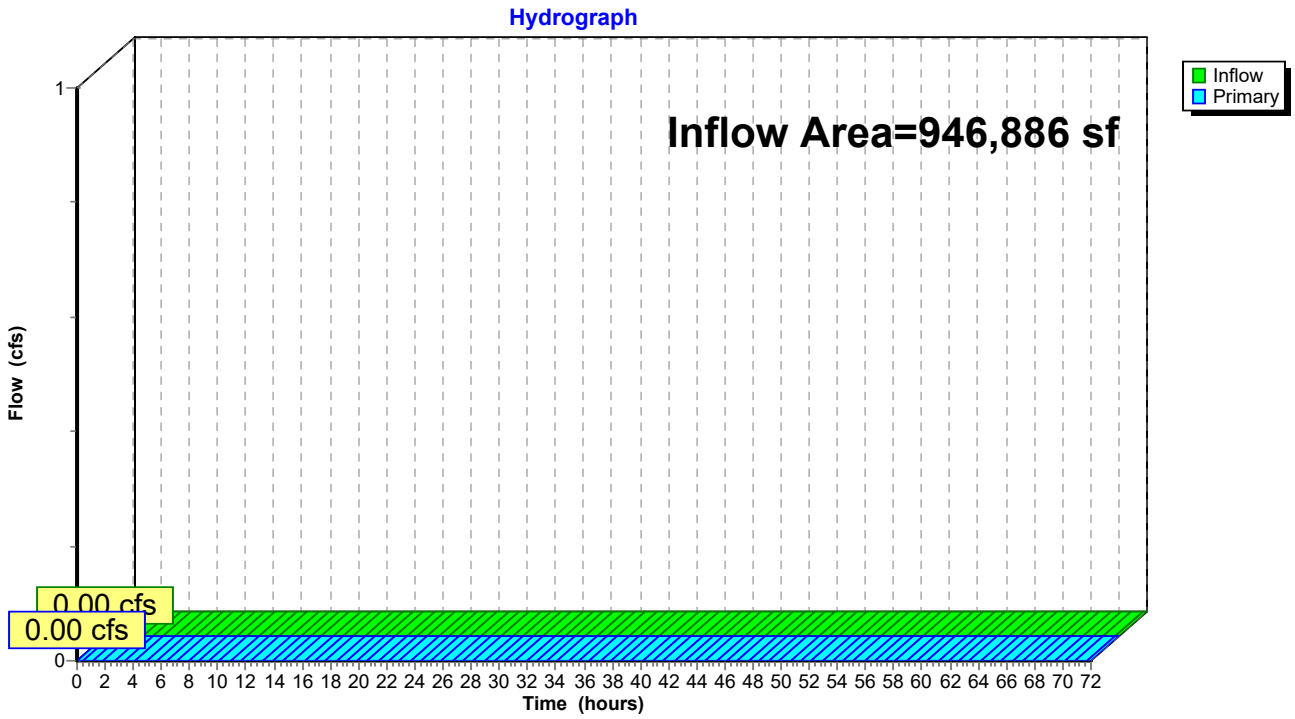


Summary for Link 15L: Willis Creek

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

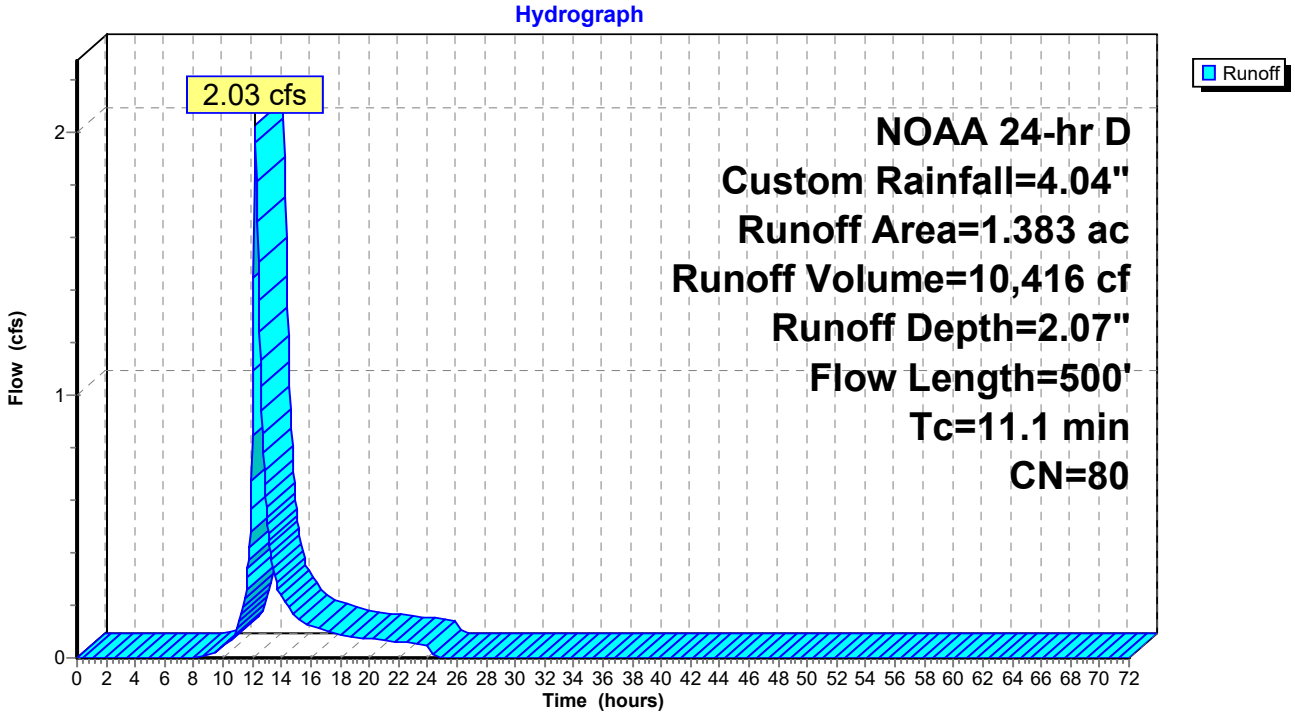
Runoff = 2.03 cfs @ 12.21 hrs, Volume= 10,416 cf, Depth= 2.07"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.46' @ 12.10 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 1.41" for Custom event
Inflow = 10.48 cfs @ 12.13 hrs, Volume= 47,066 cf
Outflow = 10.08 cfs @ 12.17 hrs, Volume= 42,833 cf, Atten= 4%, Lag= 2.3 min
Primary = 10.08 cfs @ 12.17 hrs, Volume= 42,833 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.26' @ 12.17 hrs Surf.Area= 5,616 sf Storage= 6,039 cf

Plug-Flow detention time= 103.5 min calculated for 42,833 cf (91% of inflow)
Center-of-Mass det. time= 41.1 min (925.7 - 884.6)

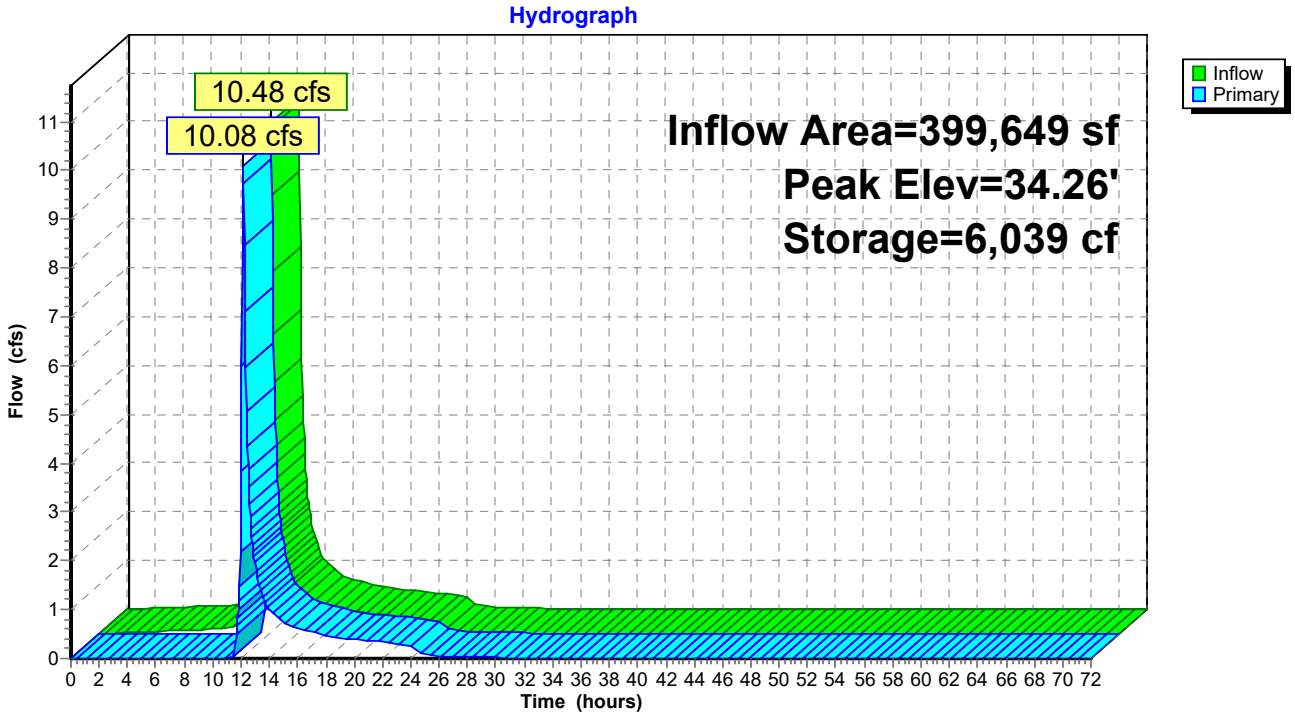
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.87 cfs @ 12.17 hrs HW=34.26' (Free Discharge)
1=Orifice/Grate (Weir Controls 9.87 cfs @ 1.88 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

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

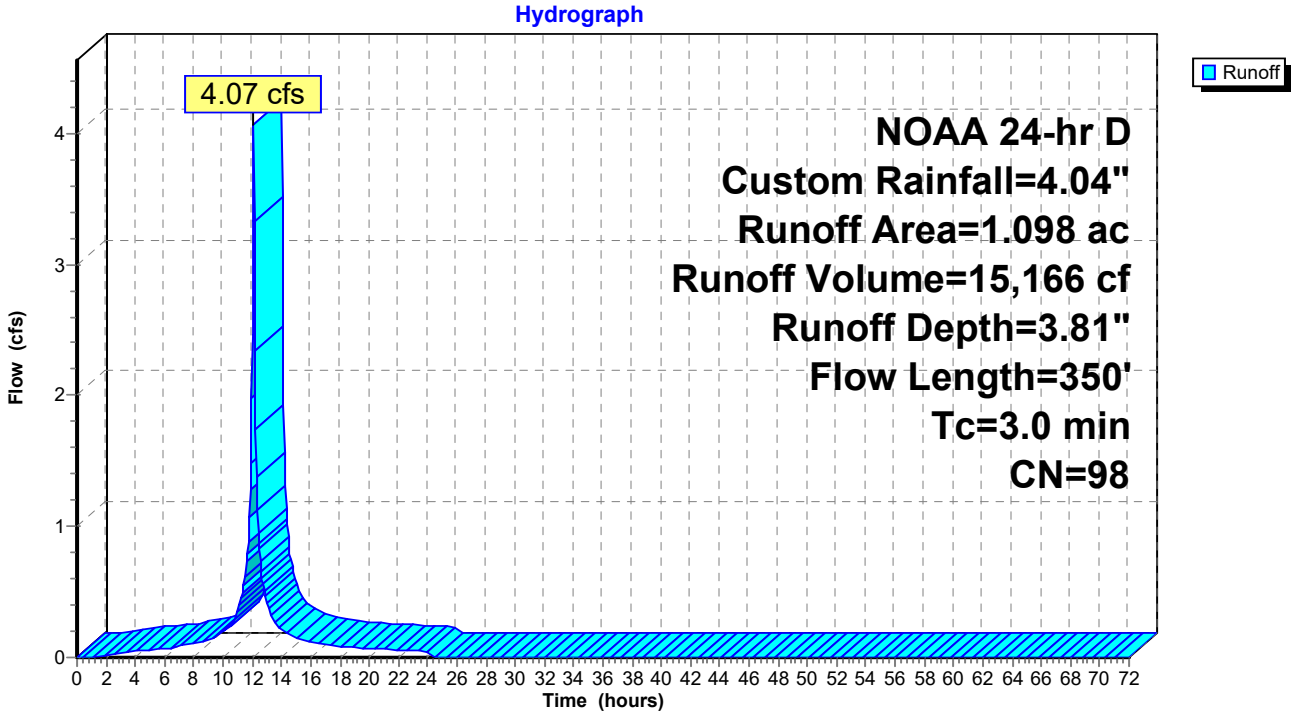
Runoff = 4.07 cfs @ 12.10 hrs, Volume= 15,166 cf, Depth= 3.81"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

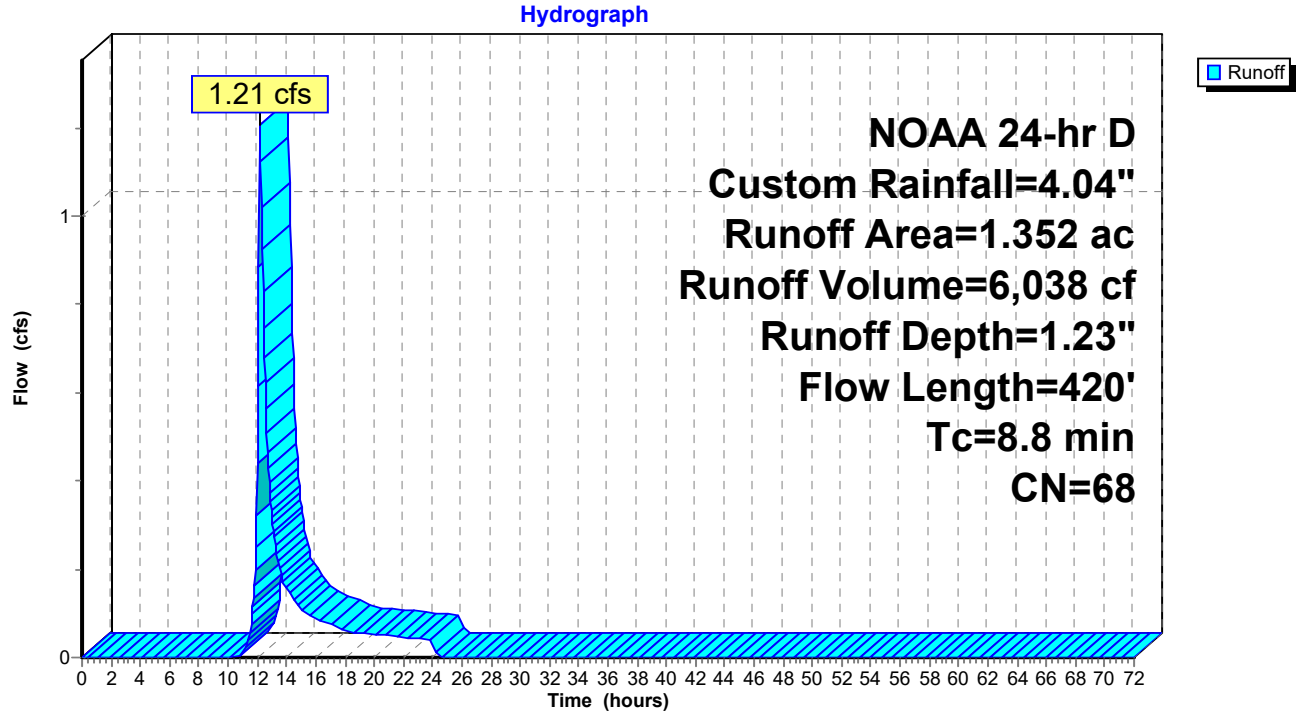
Runoff = 1.21 cfs @ 12.19 hrs, Volume= 6,038 cf, Depth= 1.23"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 1.43" for Custom event
Inflow = 6.13 cfs @ 12.11 hrs, Volume= 24,289 cf
Outflow = 5.78 cfs @ 12.15 hrs, Volume= 19,070 cf, Atten= 6%, Lag= 2.4 min
Primary = 5.78 cfs @ 12.15 hrs, Volume= 19,070 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.20' @ 12.15 hrs Surf.Area= 4,840 sf Storage= 6,274 cf

Plug-Flow detention time= 160.6 min calculated for 19,070 cf (79% of inflow)
Center-of-Mass det. time= 67.2 min (878.1 - 810.8)

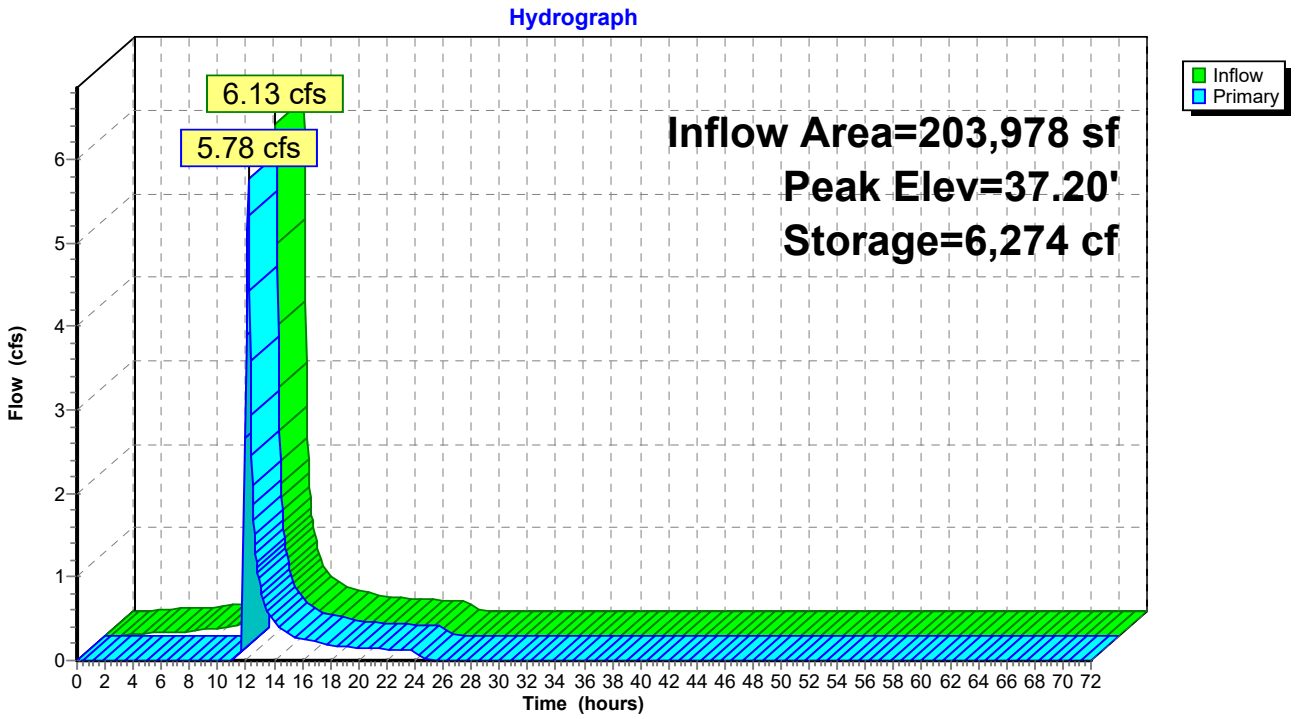
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.73 cfs @ 12.15 hrs HW=37.20' (Free Discharge)
1=Orifice/Grate (Weir Controls 5.73 cfs @ 1.56 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

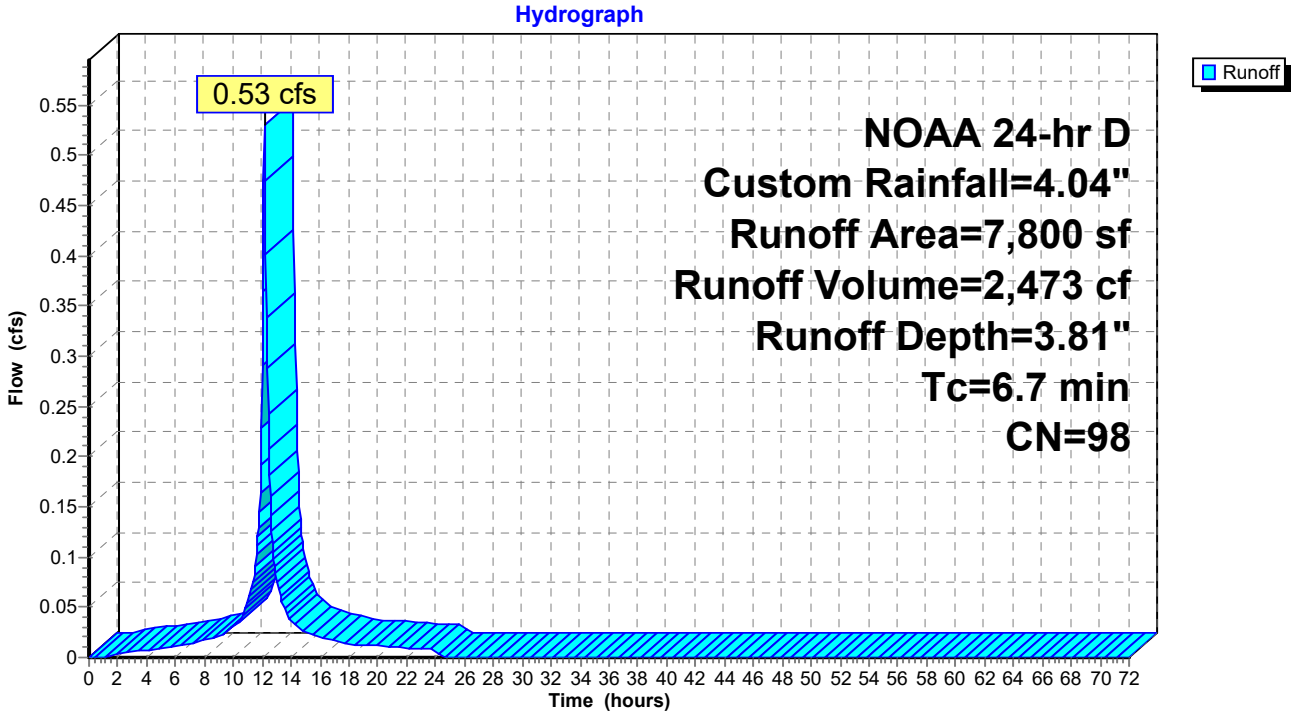
Runoff = 0.53 cfs @ 12.15 hrs, Volume= 2,473 cf, Depth= 3.81"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

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

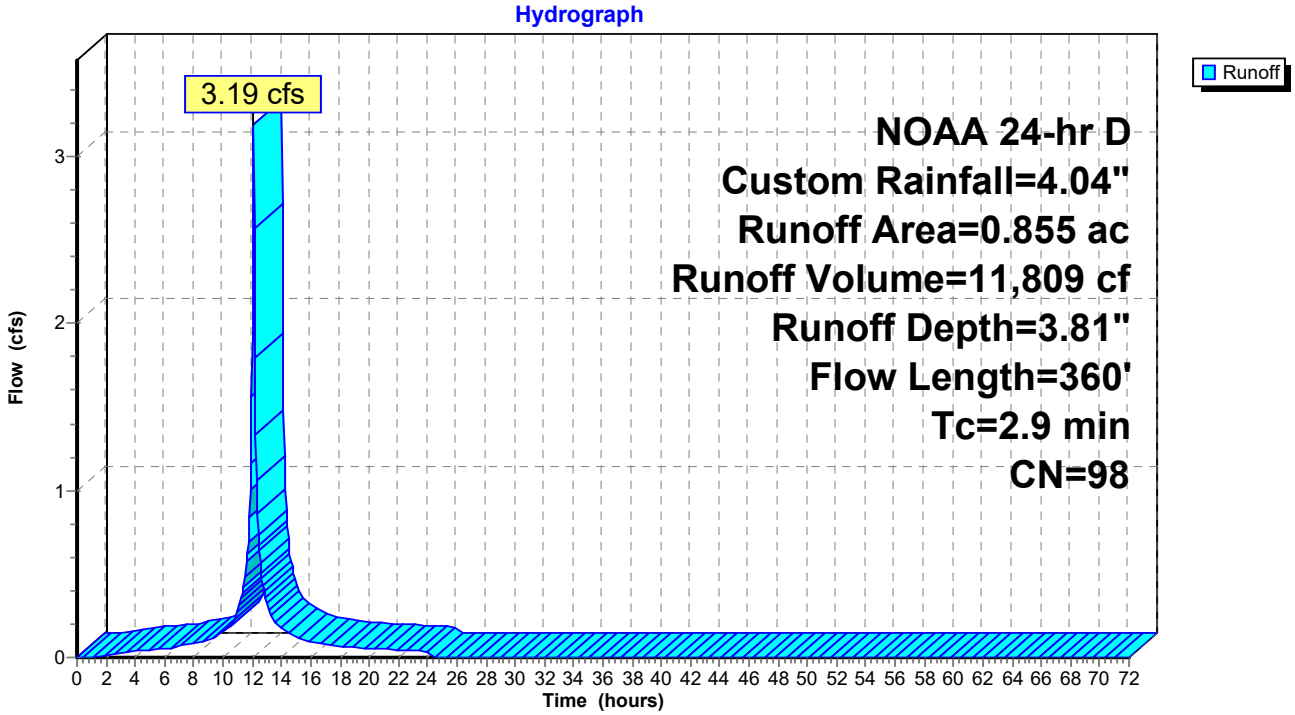
Runoff = 3.19 cfs @ 12.10 hrs, Volume= 11,809 cf, Depth= 3.81"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

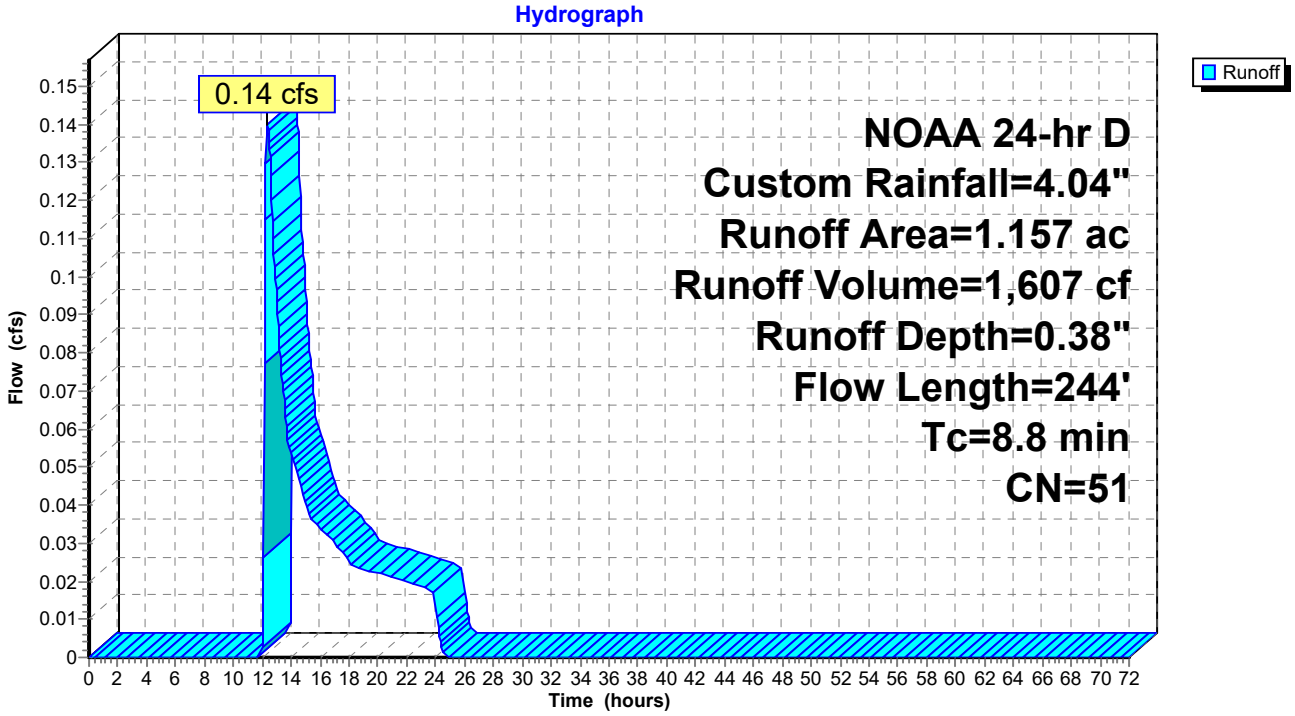
Runoff = 0.14 cfs @ 12.36 hrs, Volume= 1,607 cf, Depth= 0.38"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 1.44" for Custom event
Inflow = 3.30 cfs @ 12.11 hrs, Volume= 13,605 cf
Outflow = 3.02 cfs @ 12.15 hrs, Volume= 10,047 cf, Atten= 9%, Lag= 2.5 min
Primary = 3.02 cfs @ 12.15 hrs, Volume= 10,047 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.14' @ 12.15 hrs Surf.Area= 4,661 sf Storage= 4,223 cf

Plug-Flow detention time= 196.9 min calculated for 10,047 cf (74% of inflow)
Center-of-Mass det. time= 92.5 min (859.5 - 767.0)

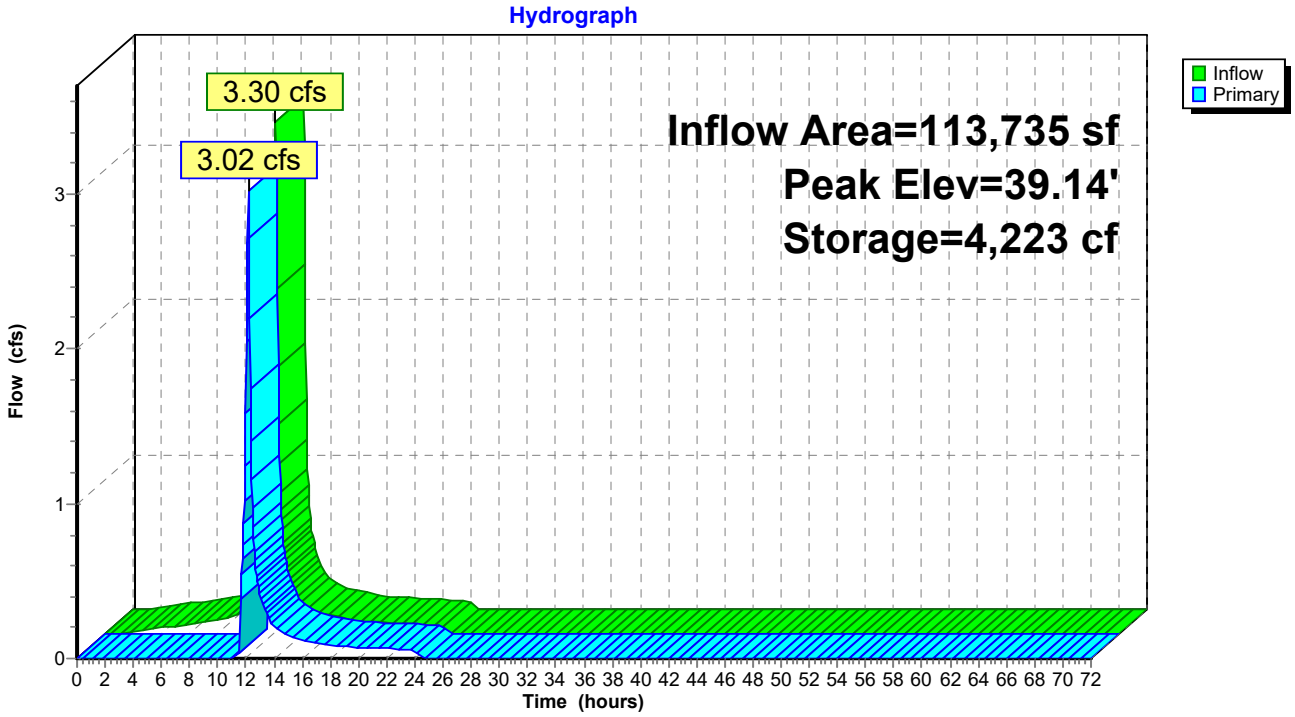
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.00 cfs @ 12.15 hrs HW=39.14' (Free Discharge)
1=Orifice/Grate (Weir Controls 3.00 cfs @ 1.26 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

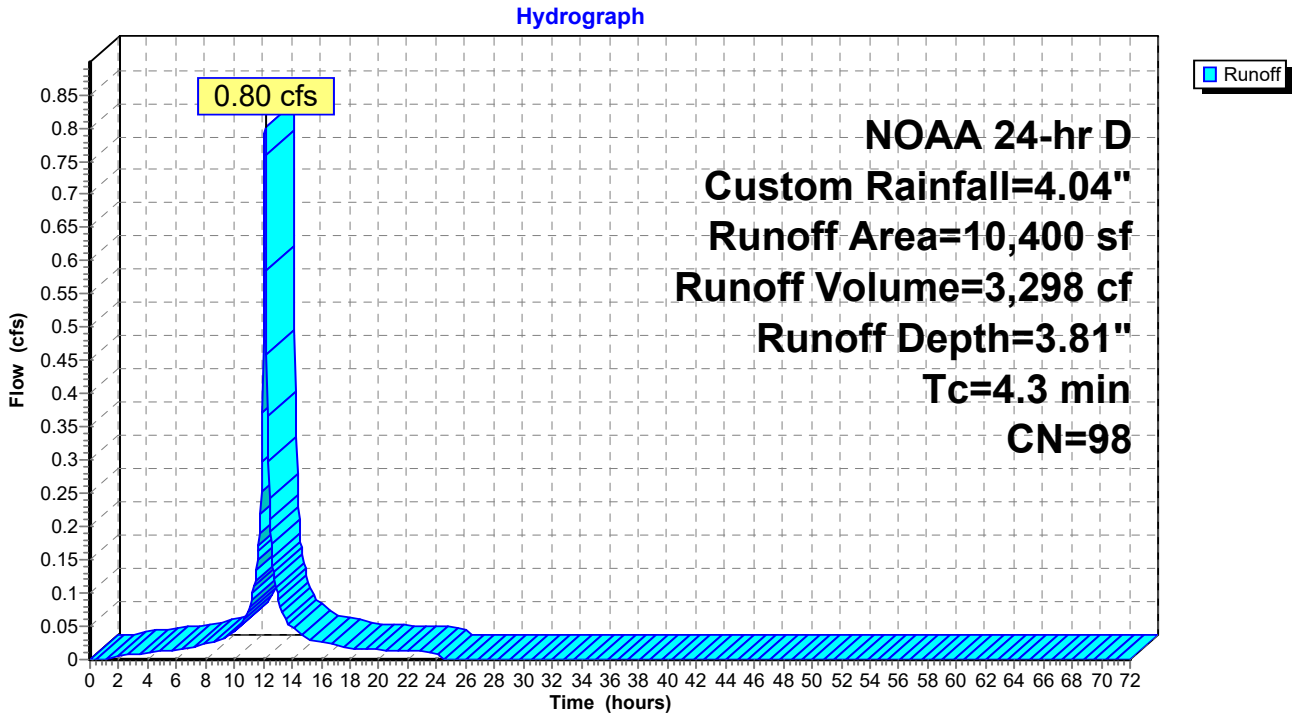
Runoff = 0.80 cfs @ 12.12 hrs, Volume= 3,298 cf, Depth= 3.81"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

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

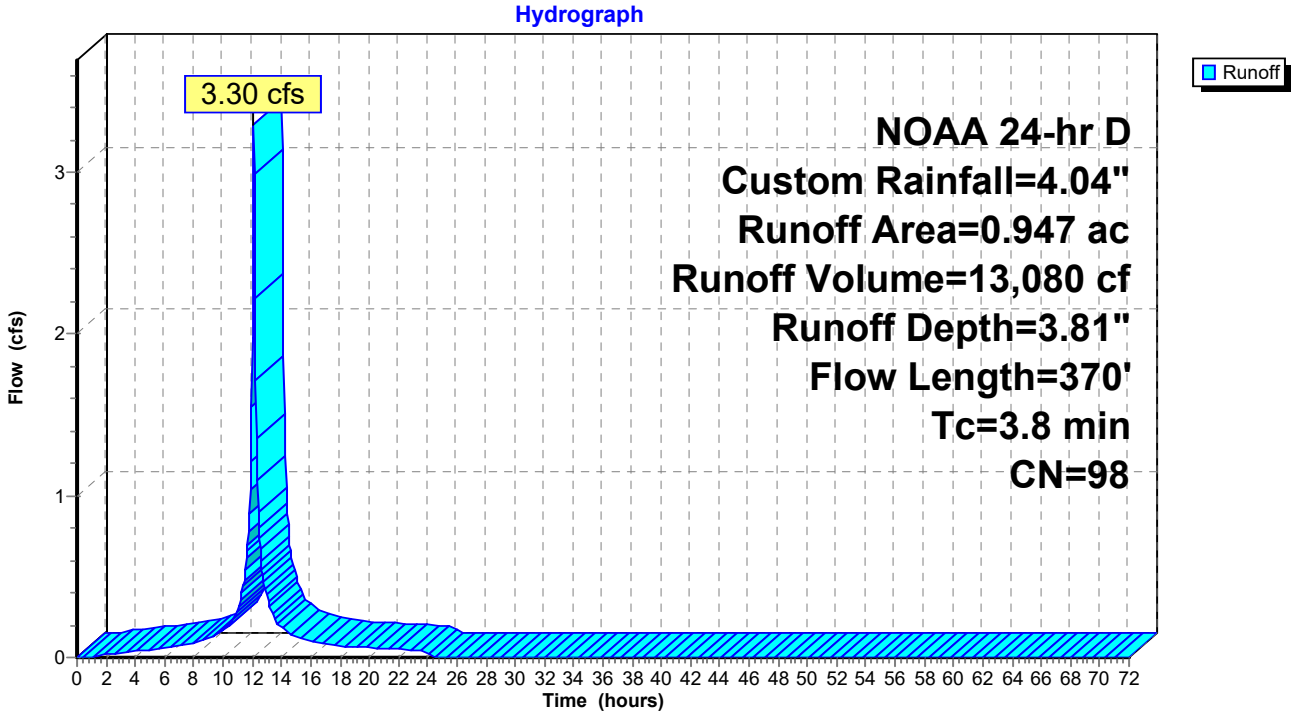
Runoff = 3.30 cfs @ 12.11 hrs, Volume= 13,080 cf, Depth= 3.81"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

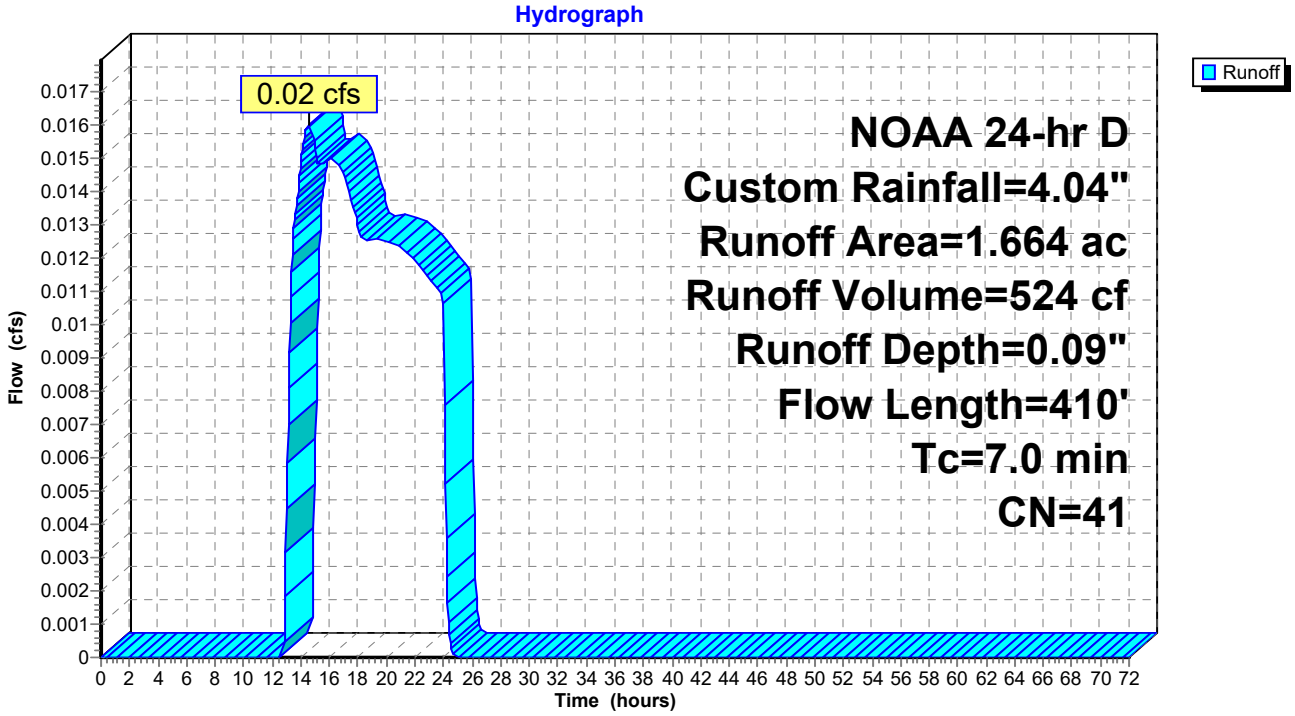
Runoff = 0.02 cfs @ 14.55 hrs, Volume= 524 cf, Depth= 0.09"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 0.85" for Custom event
Inflow = 1.68 cfs @ 12.10 hrs, Volume= 6,520 cf
Outflow = 0.11 cfs @ 13.48 hrs, Volume= 4,762 cf, Atten= 93%, Lag= 82.9 min
Primary = 0.11 cfs @ 13.48 hrs, Volume= 4,762 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.62' @ 13.48 hrs Surf.Area= 7,132 sf Storage= 4,144 cf

Plug-Flow detention time= 571.9 min calculated for 4,762 cf (73% of inflow)
Center-of-Mass det. time= 461.7 min (1,232.8 - 771.1)

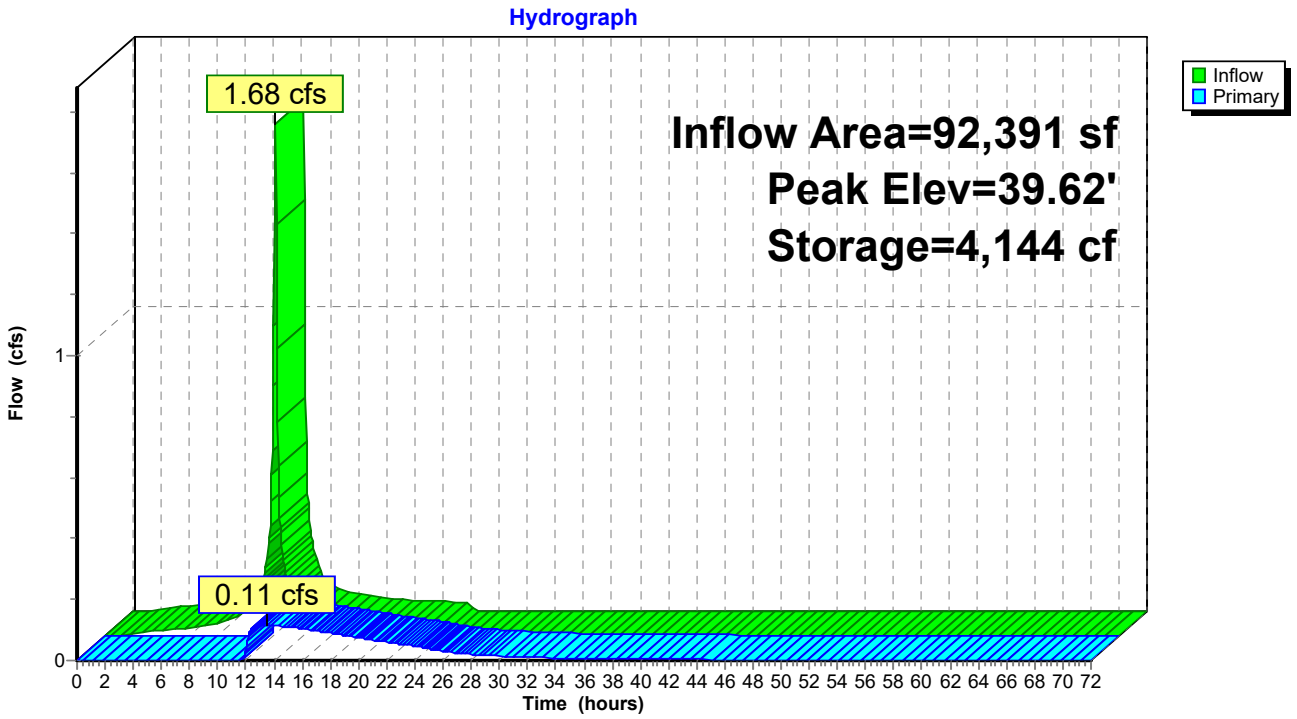
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 13.48 hrs HW=39.62' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.11 cfs @ 2.34 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

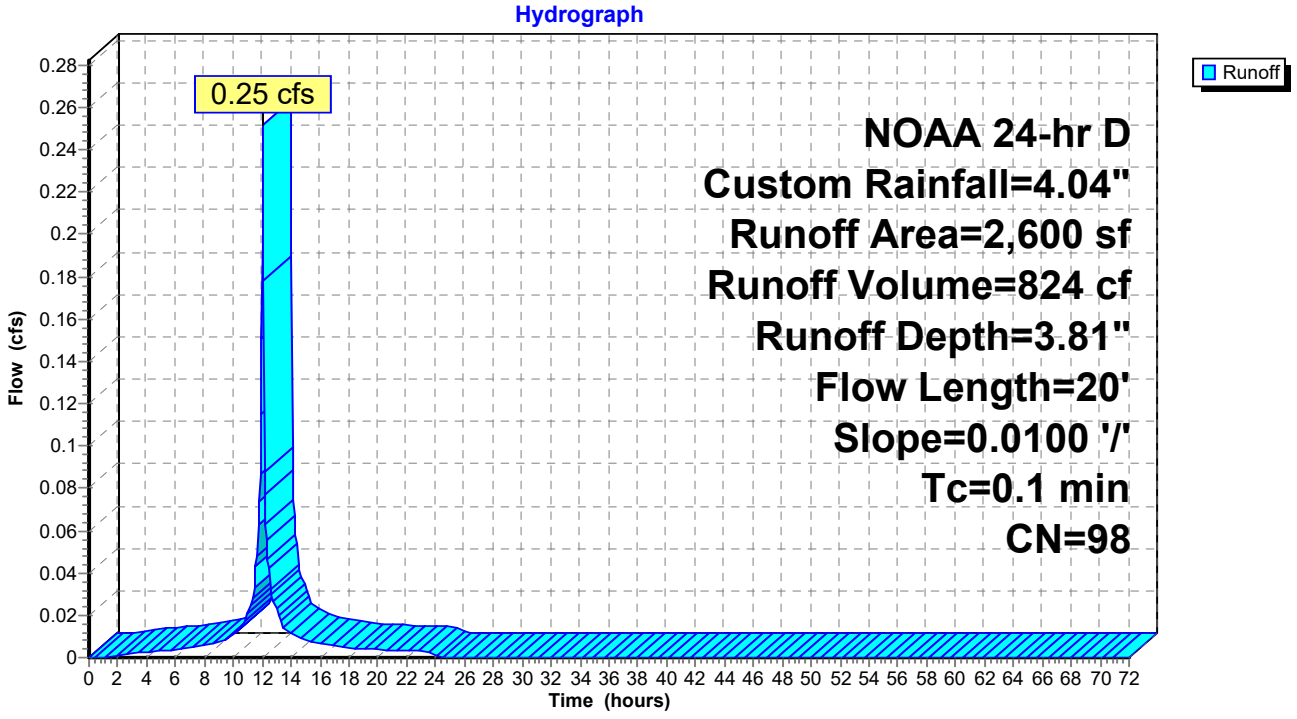
Runoff = 0.25 cfs @ 12.05 hrs, Volume= 824 cf, Depth= 3.81"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

Inflow = 0.93 cfs @ 12.38 hrs, Volume= 7,308 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.31' @ 24.85 hrs Surf.Area= 12,610 sf Storage= 7,306 cf

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

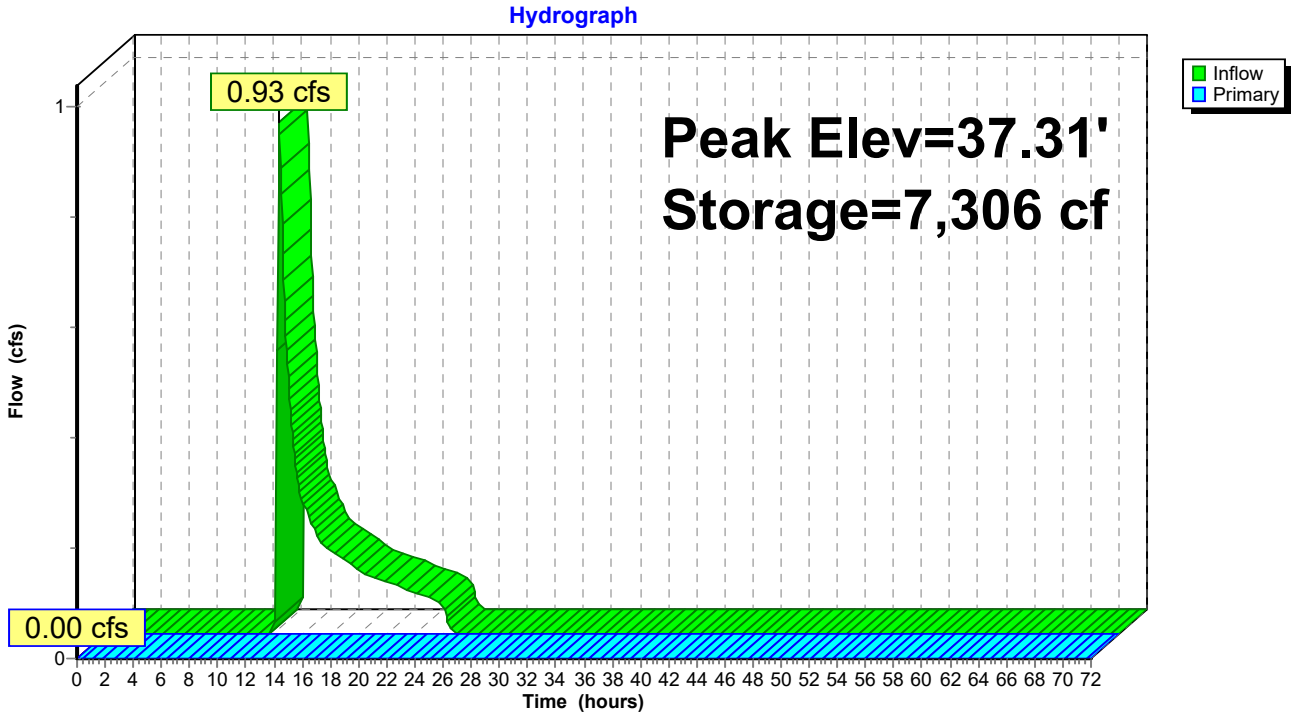
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

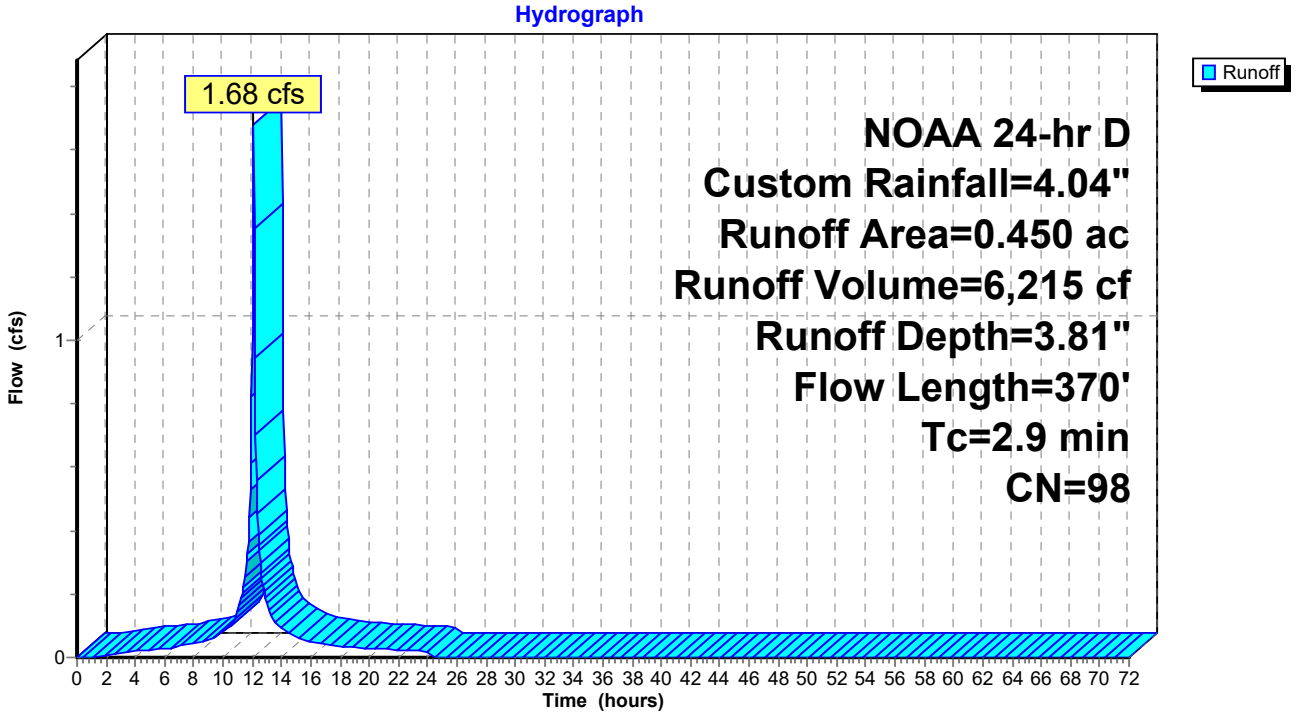
Runoff = 1.68 cfs @ 12.10 hrs, Volume= 6,215 cf, Depth= 3.81"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

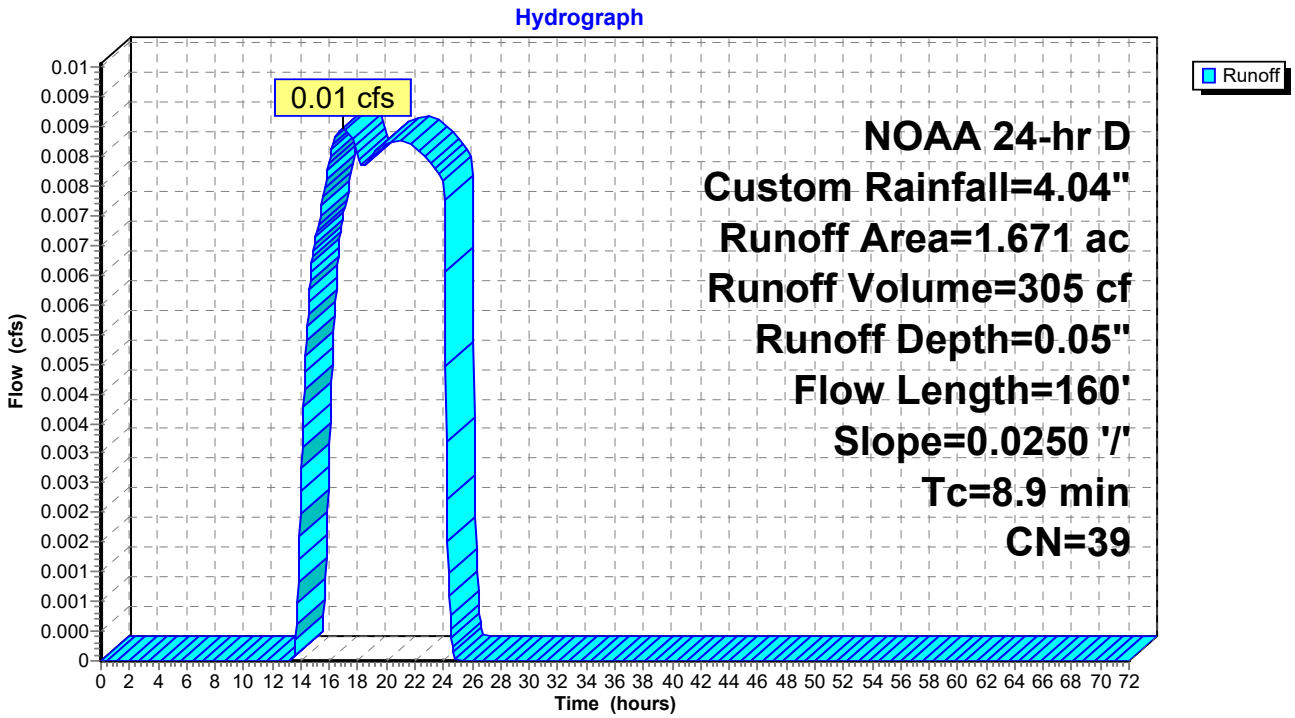
Runoff = 0.01 cfs @ 16.97 hrs, Volume= 305 cf, Depth= 0.05"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 2.07" for Custom event
Inflow = 2.39 cfs @ 12.15 hrs, Volume= 10,824 cf
Outflow = 2.28 cfs @ 12.19 hrs, Volume= 8,928 cf, Atten= 5%, Lag= 2.0 min
Primary = 2.28 cfs @ 12.19 hrs, Volume= 8,928 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.98' @ 12.19 hrs Surf.Area= 2,887 sf Storage= 2,248 cf

Plug-Flow detention time= 144.6 min calculated for 8,928 cf (82% of inflow)
Center-of-Mass det. time= 62.8 min (868.7 - 805.9)

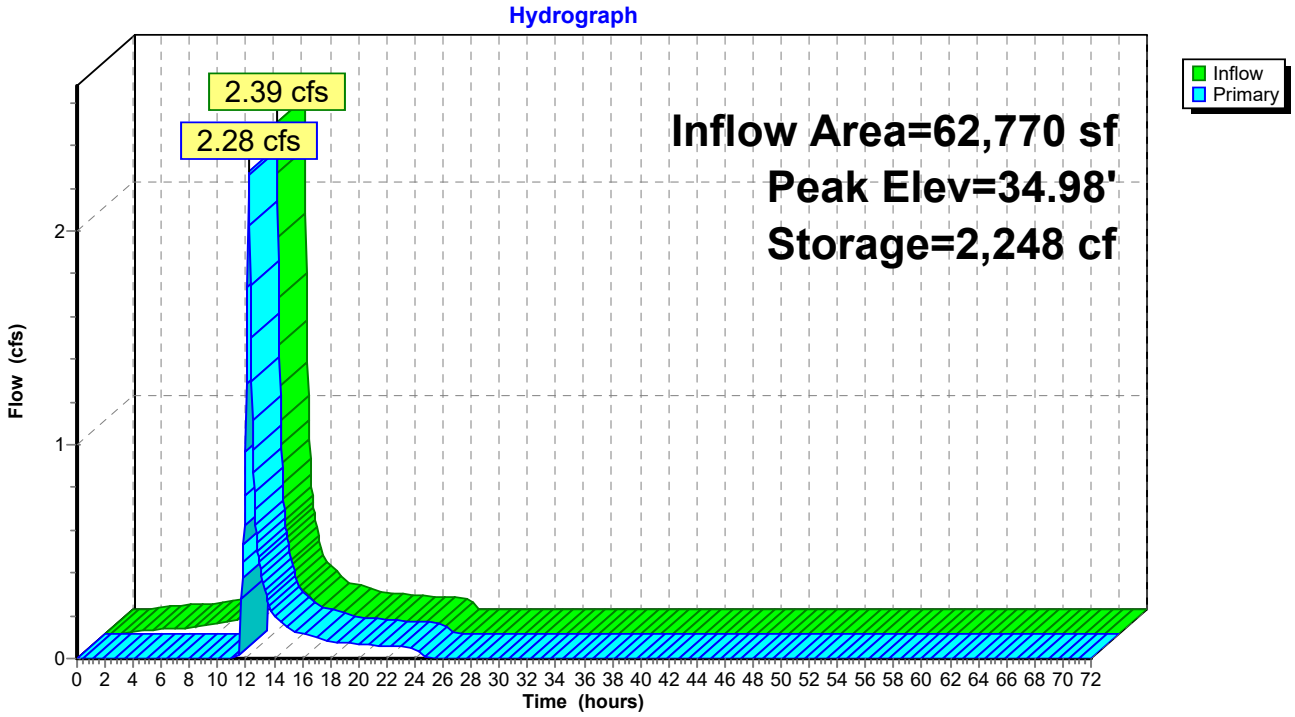
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.24 cfs @ 12.19 hrs HW=34.98' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 2.24 cfs @ 1.14 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

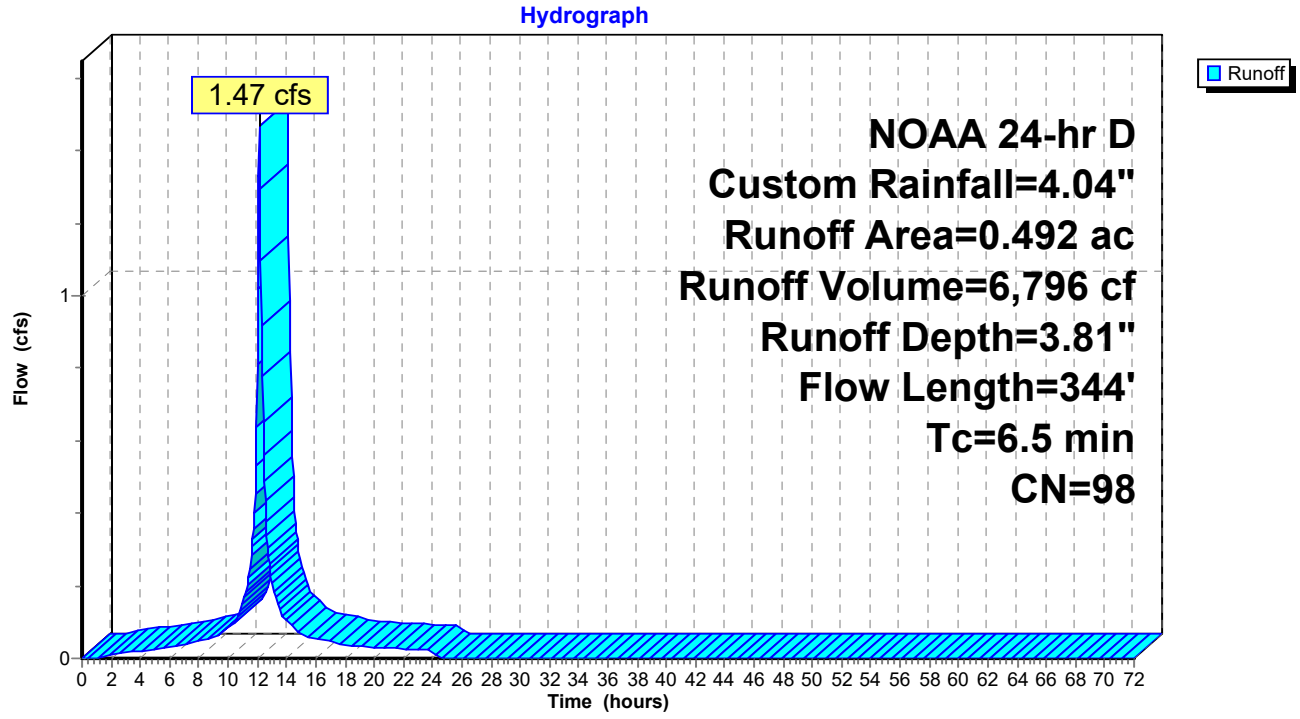
Runoff = 1.47 cfs @ 12.15 hrs, Volume= 6,796 cf, Depth= 3.81"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

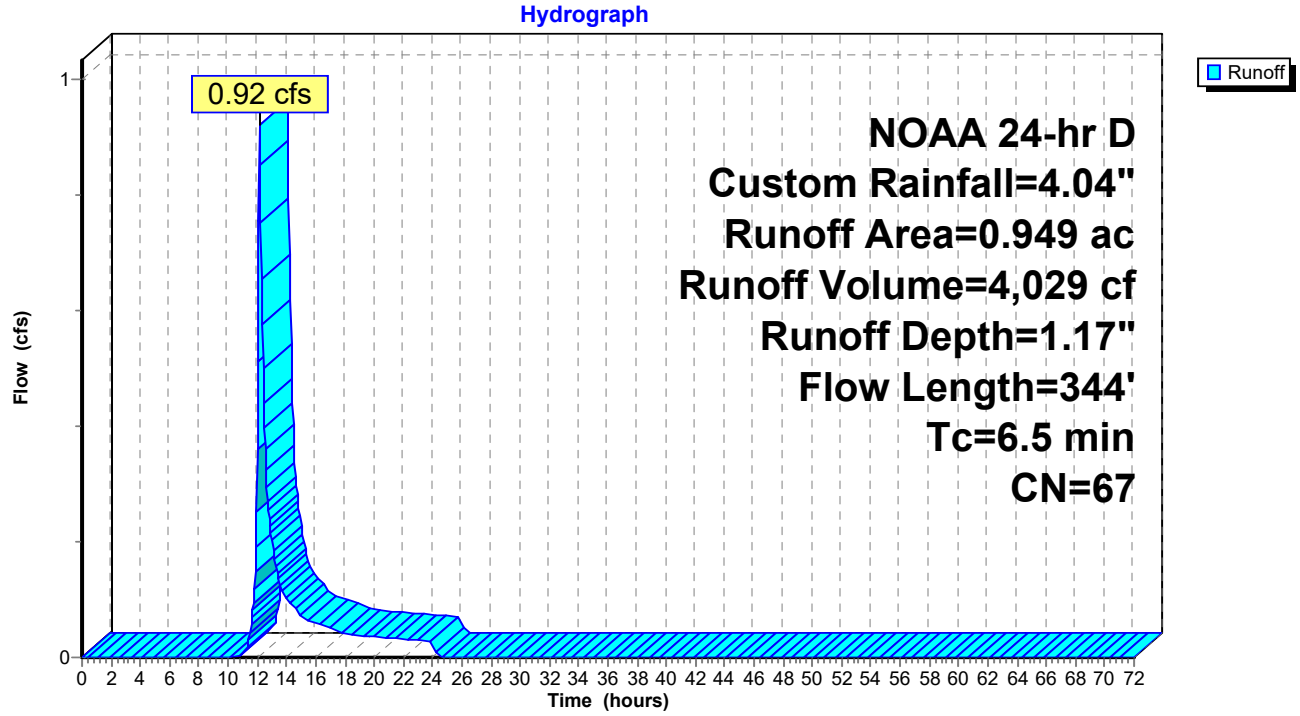
Runoff = 0.92 cfs @ 12.16 hrs, Volume= 4,029 cf, Depth= 1.17"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.28' @ 12.25 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 1.61" for Custom event
Inflow = 15.55 cfs @ 12.16 hrs, Volume= 70,490 cf
Outflow = 15.06 cfs @ 12.20 hrs, Volume= 66,565 cf, Atten= 3%, Lag= 2.2 min
Primary = 15.06 cfs @ 12.20 hrs, Volume= 66,565 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.53' @ 12.20 hrs Surf.Area= 5,401 sf Storage= 11,322 cf

Plug-Flow detention time= 146.7 min calculated for 66,565 cf (94% of inflow)
Center-of-Mass det. time= 106.9 min (985.9 - 879.0)

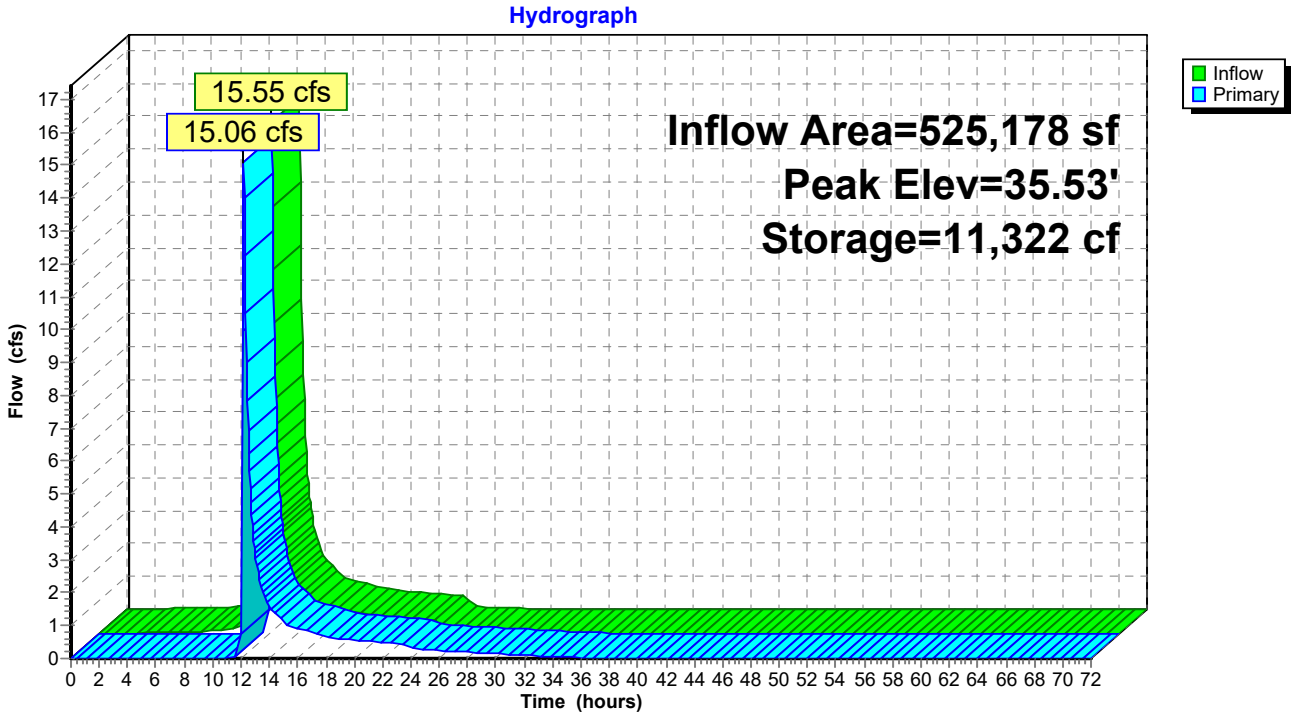
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=15.04 cfs @ 12.20 hrs HW=35.53' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.31 cfs @ 6.23 fps)
└**2=Orifice/Grate** (Weir Controls 14.73 cfs @ 2.14 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

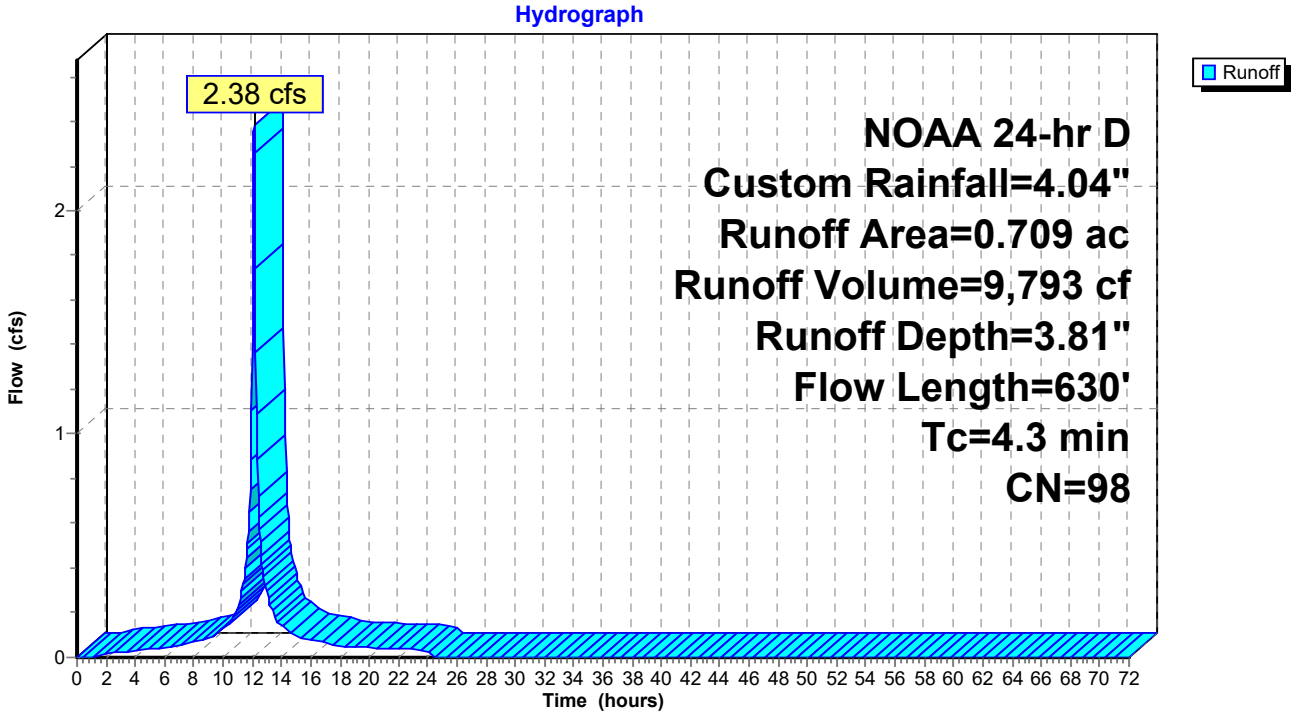
Runoff = 2.38 cfs @ 12.12 hrs, Volume= 9,793 cf, Depth= 3.81"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

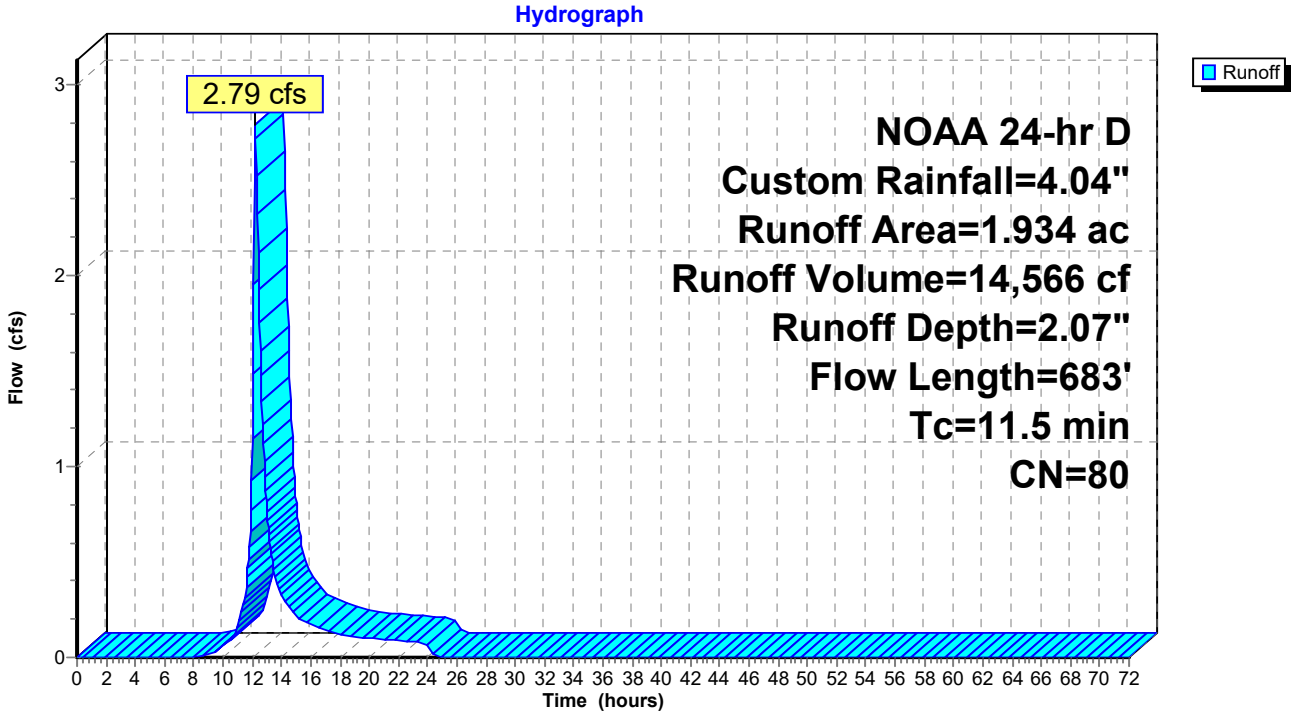
Runoff = 2.79 cfs @ 12.22 hrs, Volume= 14,566 cf, Depth= 2.07"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 1.26" for Custom event
Inflow = 2.14 cfs @ 12.13 hrs, Volume= 9,354 cf
Outflow = 0.16 cfs @ 13.58 hrs, Volume= 6,792 cf, Atten= 92%, Lag= 87.2 min
Primary = 0.16 cfs @ 13.58 hrs, Volume= 6,792 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.09' @ 13.58 hrs Surf.Area= 6,692 sf Storage= 6,076 cf

Plug-Flow detention time= 533.9 min calculated for 6,787 cf (73% of inflow)
Center-of-Mass det. time= 429.9 min (1,195.7 - 765.9)

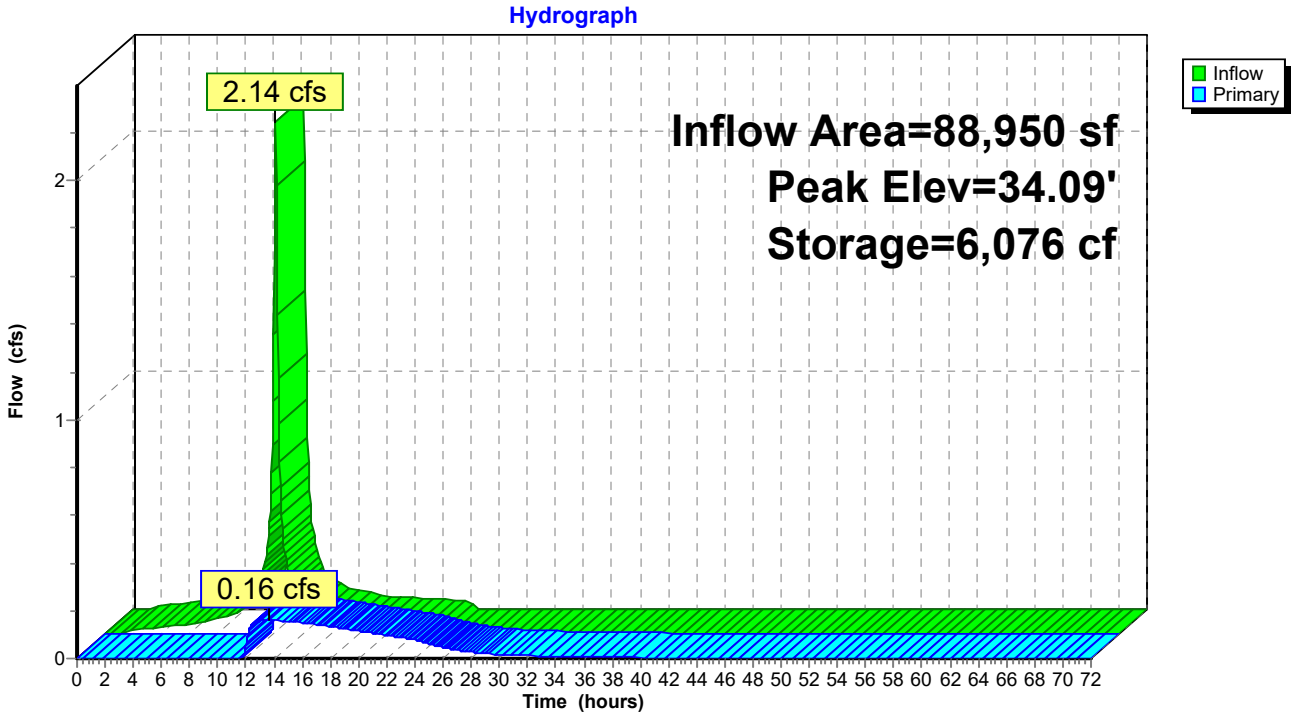
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 13.58 hrs HW=34.09' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.16 cfs @ 3.27 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

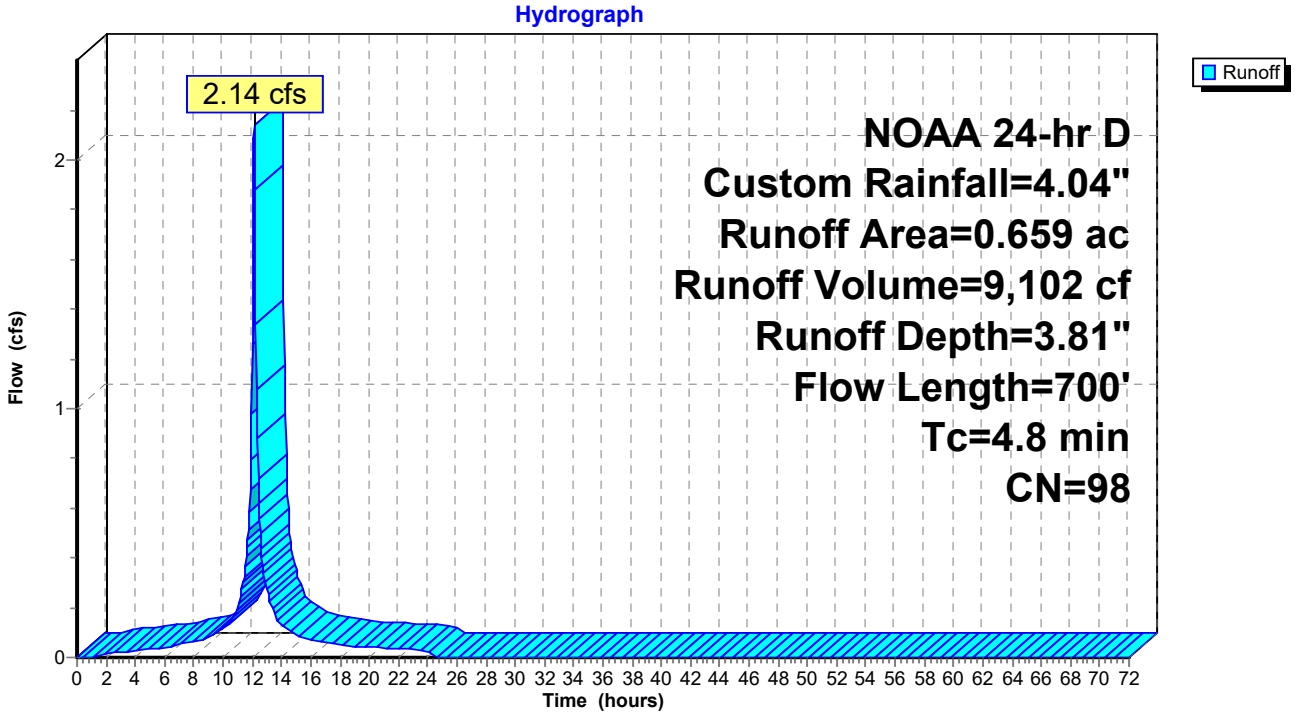
Runoff = 2.14 cfs @ 12.13 hrs, Volume= 9,102 cf, Depth= 3.81"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

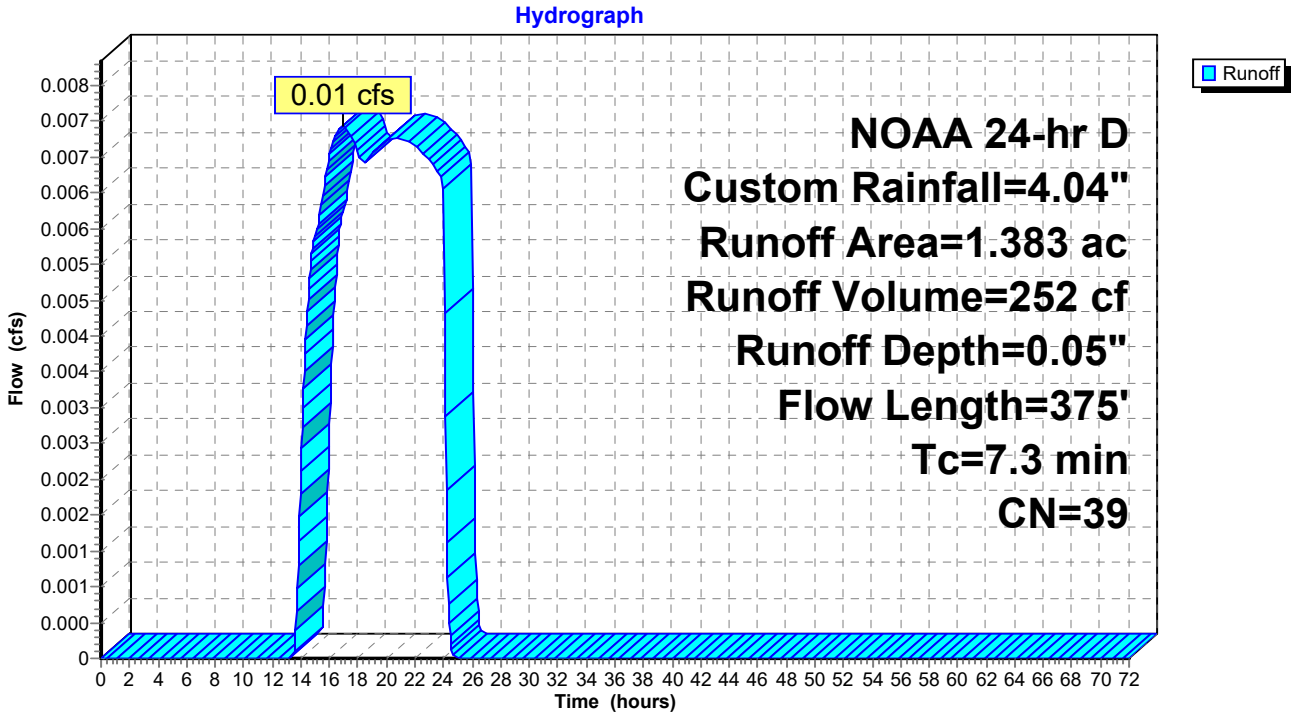
Runoff = 0.01 cfs @ 16.95 hrs, Volume= 252 cf, Depth= 0.05"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

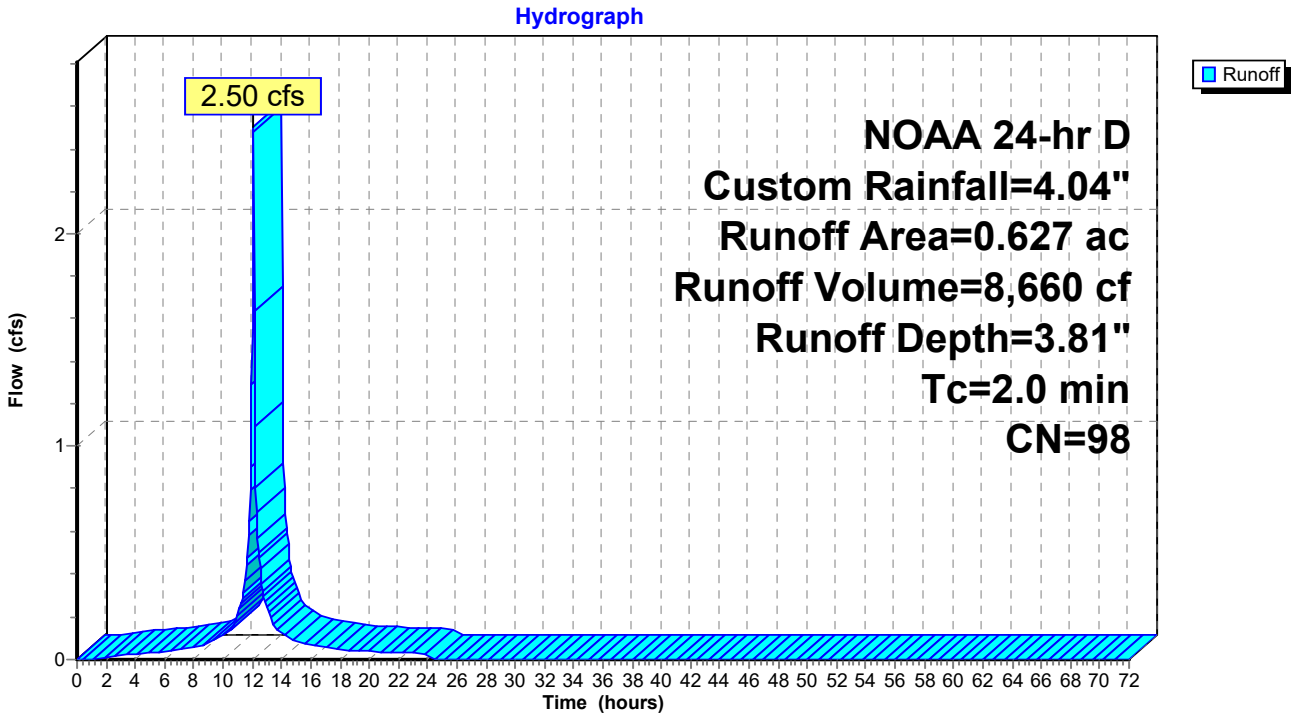
Runoff = 2.50 cfs @ 12.09 hrs, Volume= 8,660 cf, Depth= 3.81"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

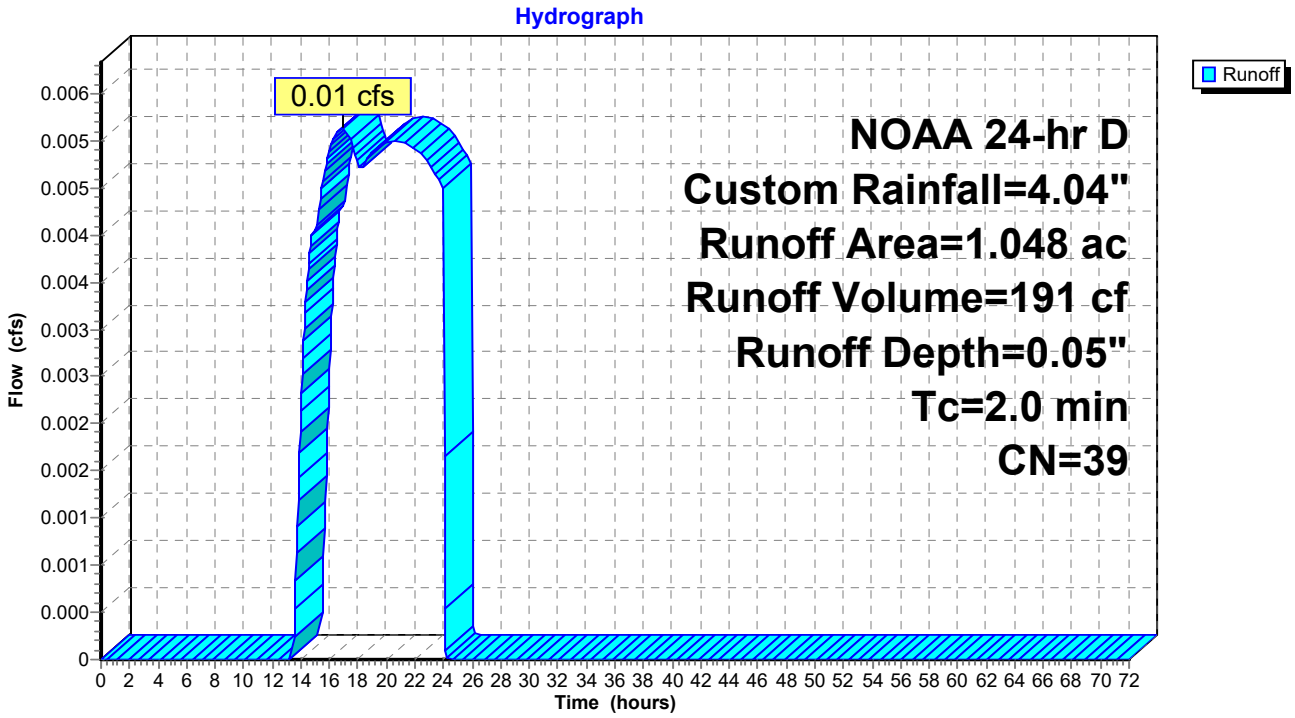
Runoff = 0.01 cfs @ 16.90 hrs, Volume= 191 cf, Depth= 0.05"
Routed to Pond 4P : Basin 3

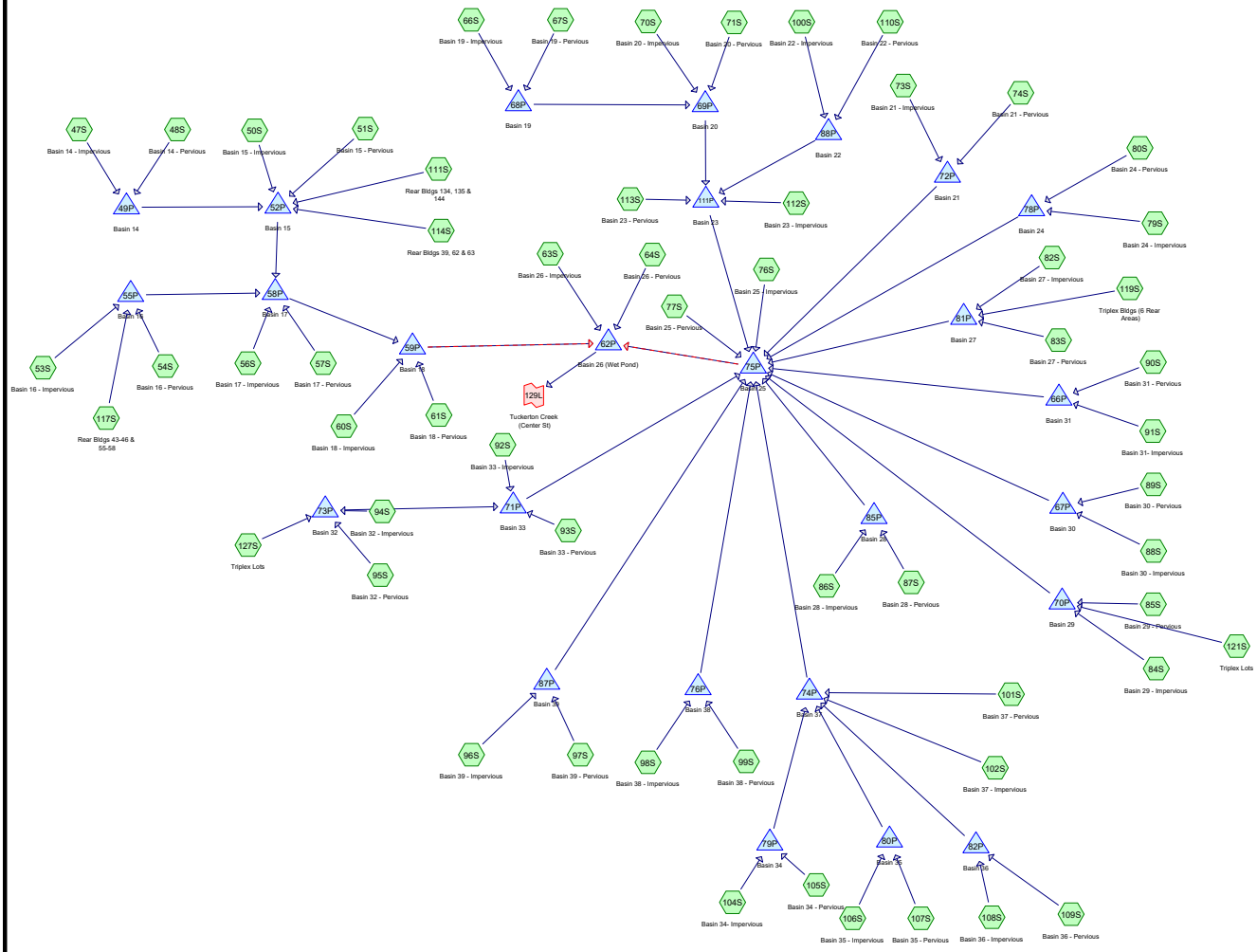
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=4.04"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	5.38	2

Summary for Subcatchment 47S: Basin 14 - Impervious

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

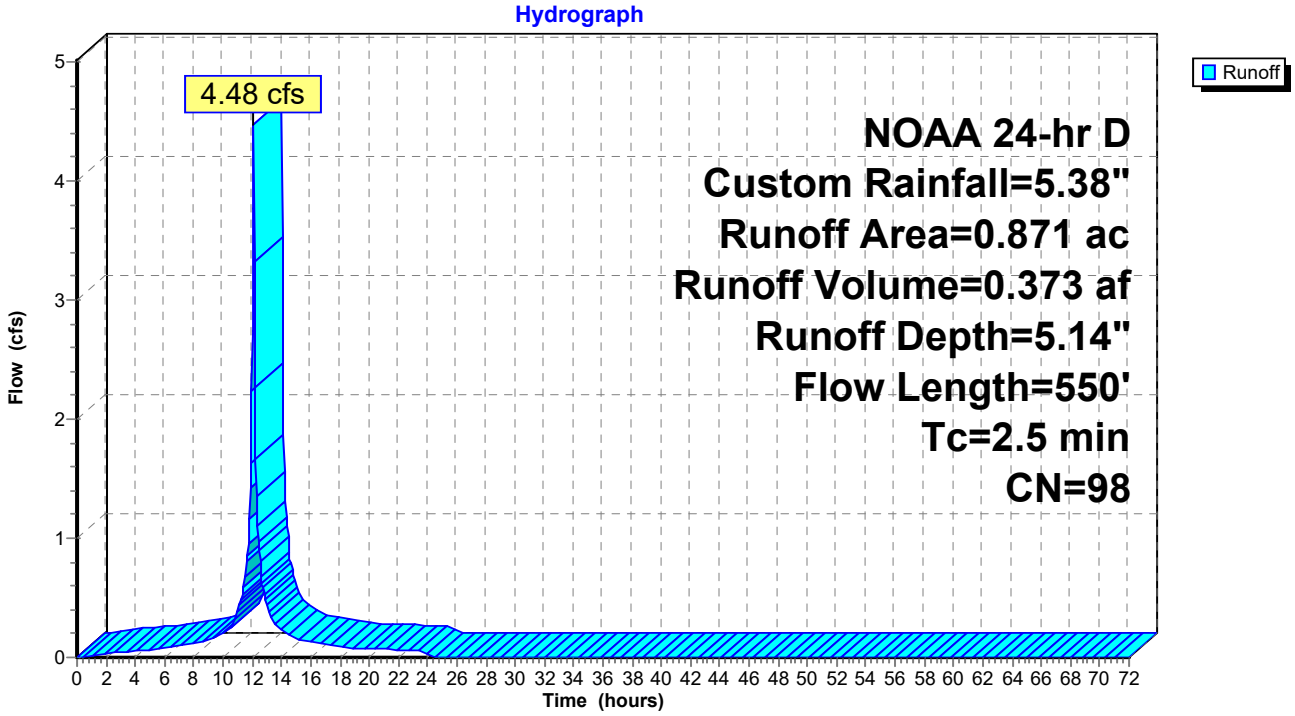
Runoff = 4.48 cfs @ 12.09 hrs, Volume= 0.373 af, Depth= 5.14"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

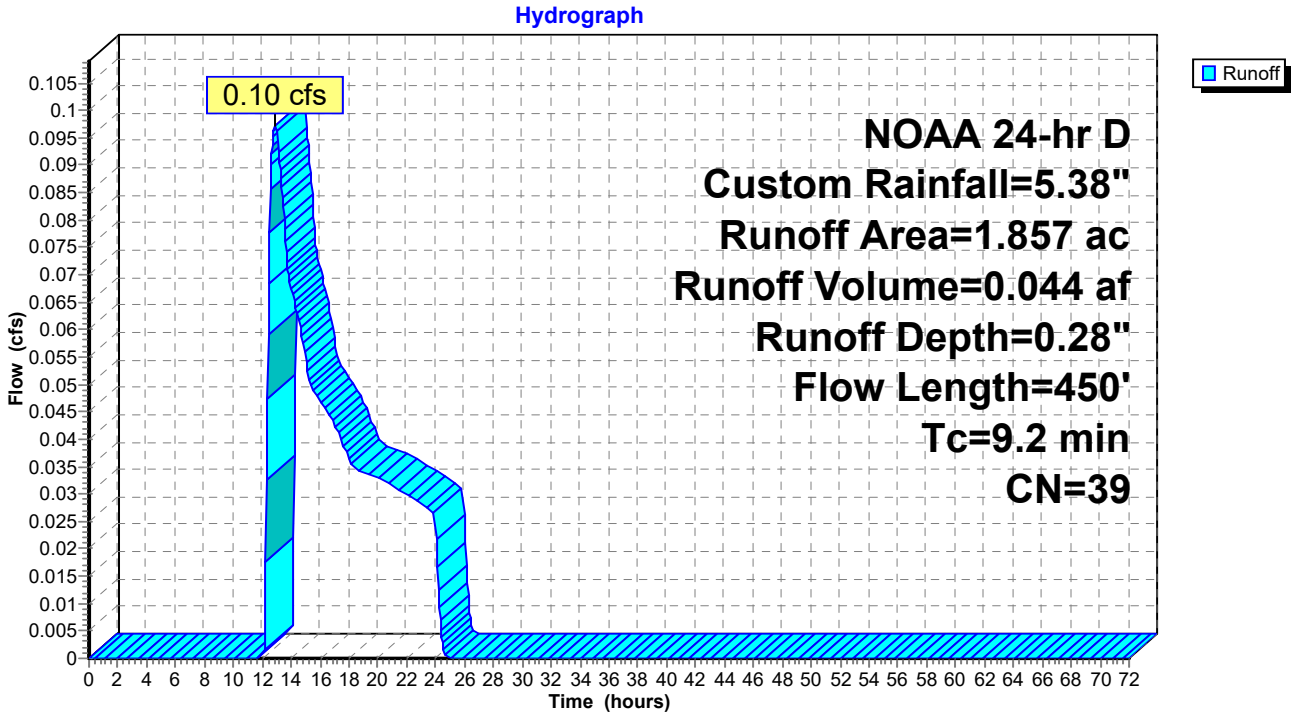
Runoff = 0.10 cfs @ 12.91 hrs, Volume= 0.044 af, Depth= 0.28"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 1.83" for Custom event
Inflow = 4.48 cfs @ 12.09 hrs, Volume= 0.417 af
Outflow = 0.21 cfs @ 14.97 hrs, Volume= 0.340 af, Atten= 95%, Lag= 172.6 min
Primary = 0.21 cfs @ 14.97 hrs, Volume= 0.340 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.08' @ 14.97 hrs Surf.Area= 10,386 sf Storage= 11,929 cf

Plug-Flow detention time= 736.1 min calculated for 0.340 af (81% of inflow)
Center-of-Mass det. time= 647.4 min (1,422.3 - 775.0)

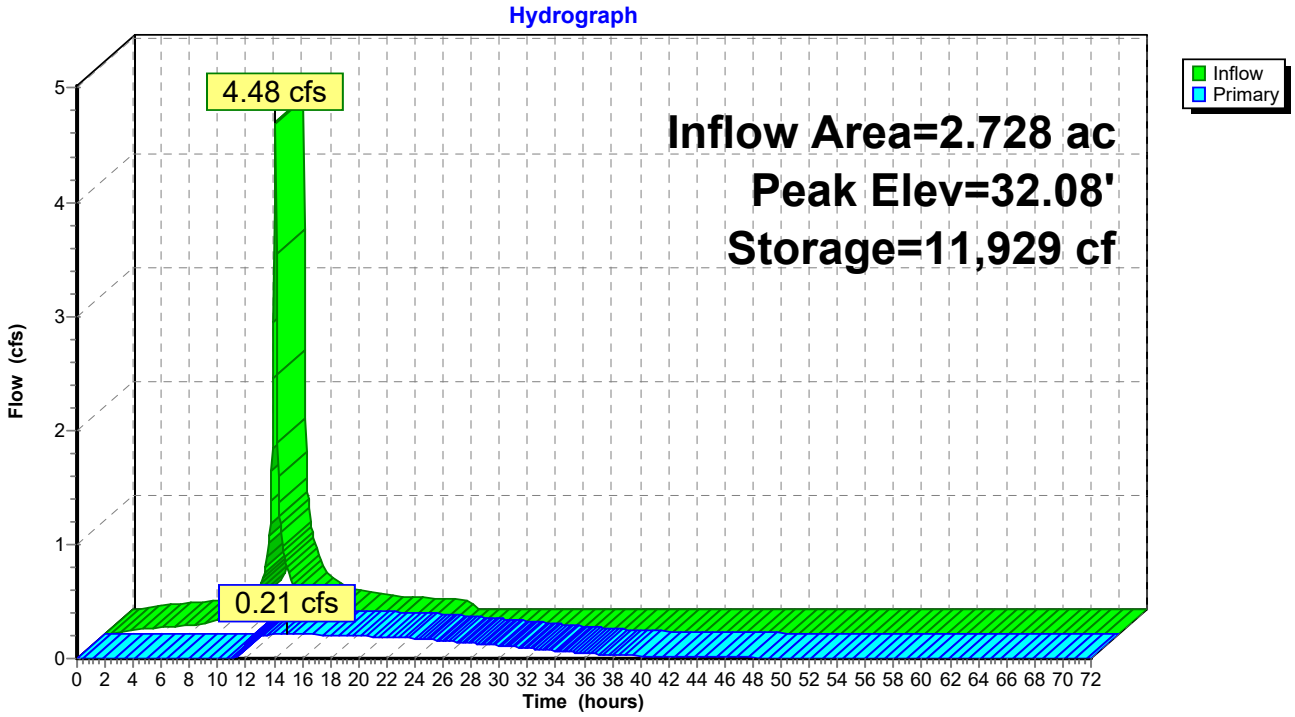
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 14.97 hrs HW=32.08' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.31 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

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

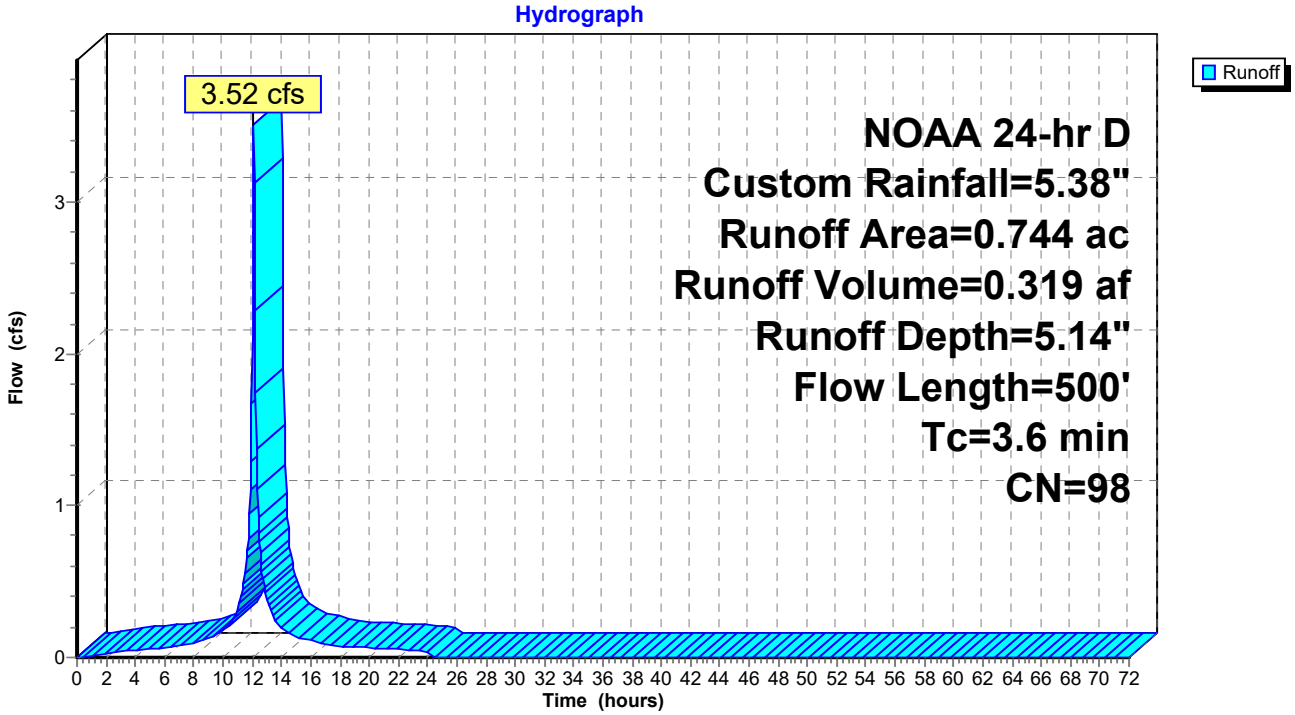
Runoff = 3.52 cfs @ 12.11 hrs, Volume= 0.319 af, Depth= 5.14"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

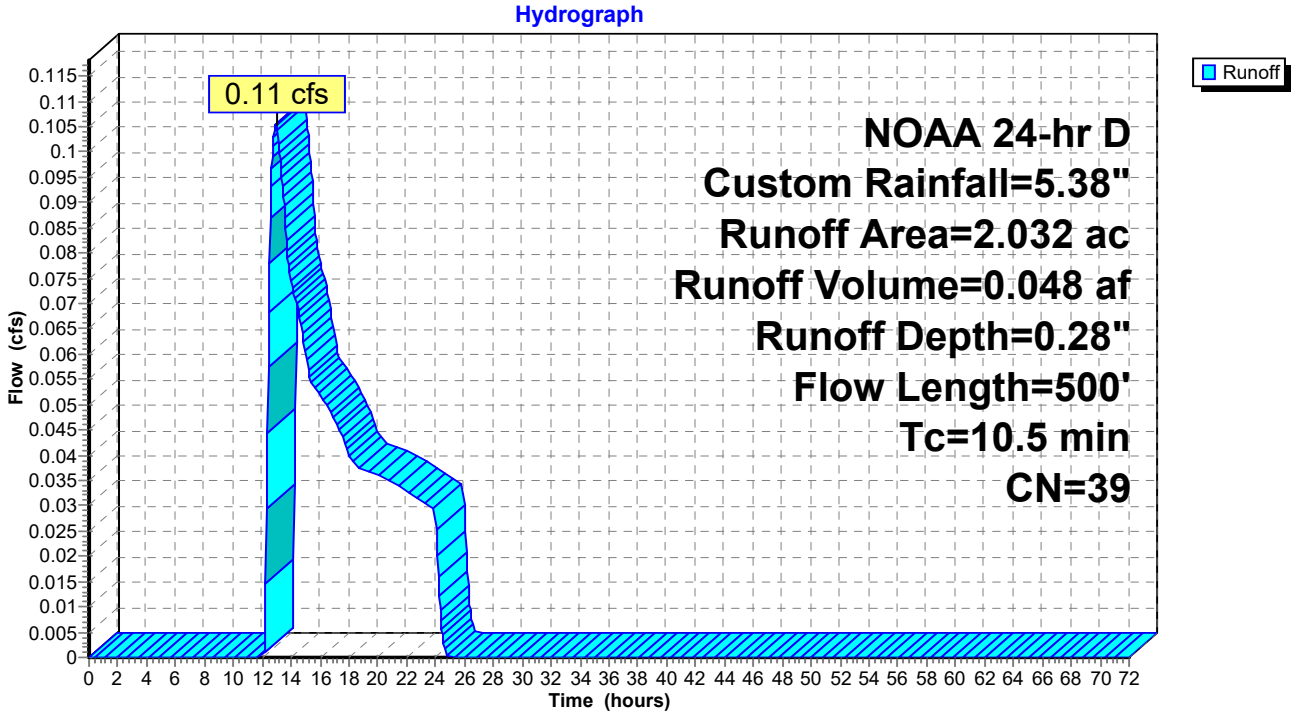
Runoff = 0.11 cfs @ 12.95 hrs, Volume= 0.048 af, Depth= 0.28"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 1.03' @ 24.10 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 1.65" for Custom event
Inflow = 4.51 cfs @ 12.11 hrs, Volume= 0.783 af
Outflow = 0.33 cfs @ 18.09 hrs, Volume= 0.716 af, Atten= 93%, Lag= 359.1 min
Primary = 0.33 cfs @ 18.09 hrs, Volume= 0.716 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.97' @ 18.09 hrs Surf.Area= 7,044 sf Storage= 14,155 cf

Plug-Flow detention time= 620.6 min calculated for 0.716 af (91% of inflow)
Center-of-Mass det. time= 507.3 min (1,564.4 - 1,057.1)

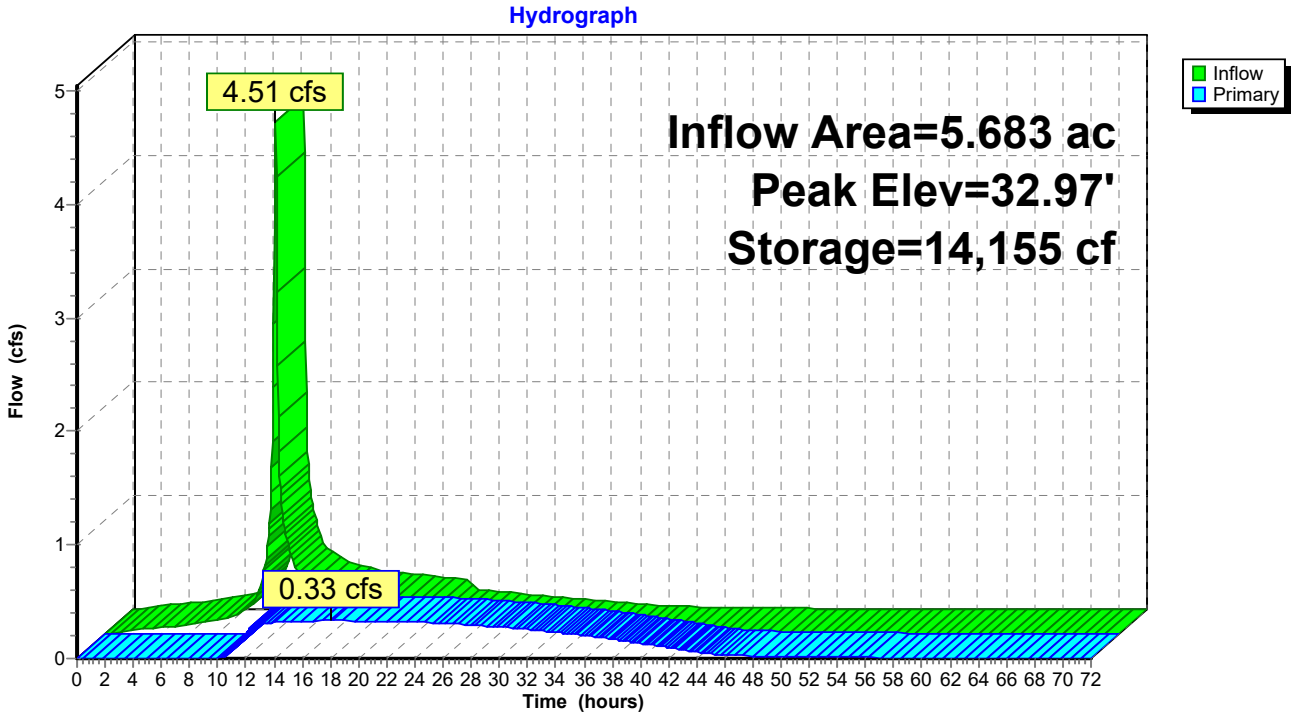
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 18.09 hrs HW=32.97' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.33 cfs @ 6.78 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

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

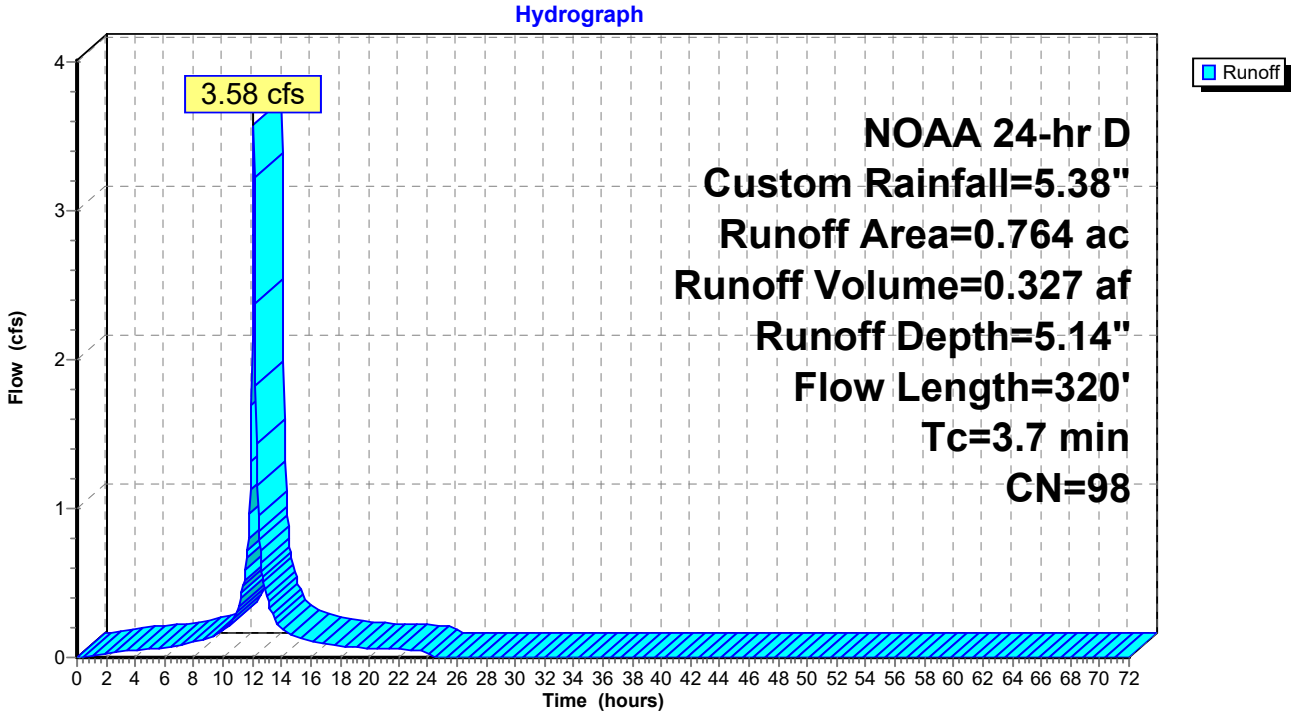
Runoff = 3.58 cfs @ 12.11 hrs, Volume= 0.327 af, Depth= 5.14"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

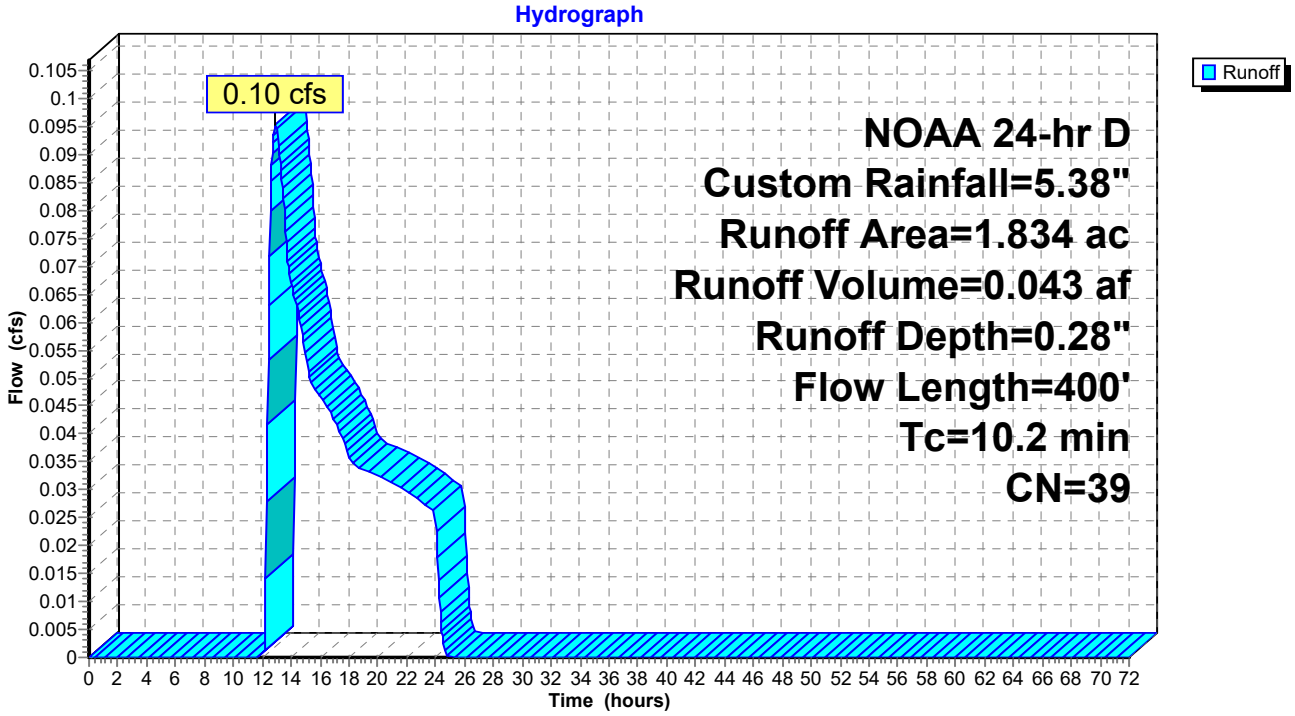
Runoff = 0.10 cfs @ 12.94 hrs, Volume= 0.043 af, Depth= 0.28"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 2.10" for Custom event
Inflow = 5.12 cfs @ 12.11 hrs, Volume= 0.511 af
Outflow = 4.86 cfs @ 12.14 hrs, Volume= 0.446 af, Atten= 5%, Lag= 1.8 min
Primary = 4.86 cfs @ 12.14 hrs, Volume= 0.446 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.40' @ 12.14 hrs Surf.Area= 3,374 sf Storage= 3,535 cf

Plug-Flow detention time= 128.9 min calculated for 0.446 af (87% of inflow)
Center-of-Mass det. time= 61.0 min (832.2 - 771.2)

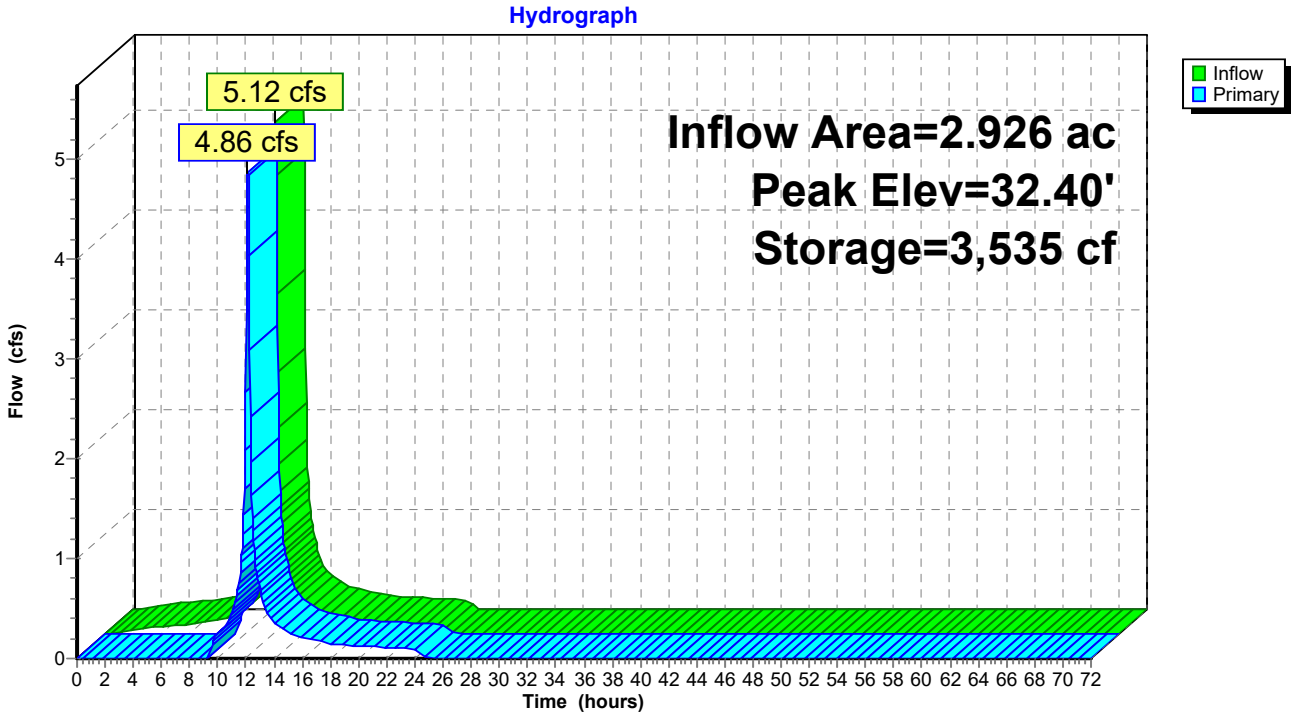
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.76 cfs @ 12.14 hrs HW=32.39' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.76 cfs @ 1.47 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

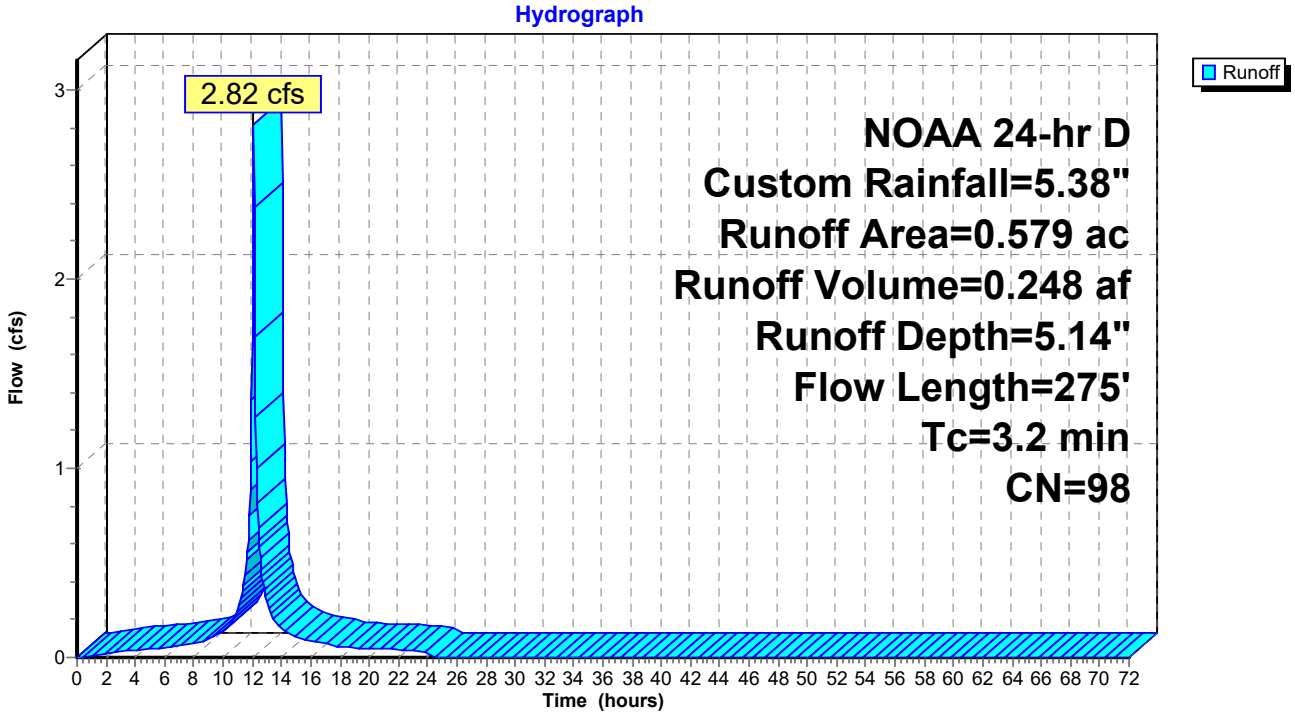
Runoff = 2.82 cfs @ 12.10 hrs, Volume= 0.248 af, Depth= 5.14"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

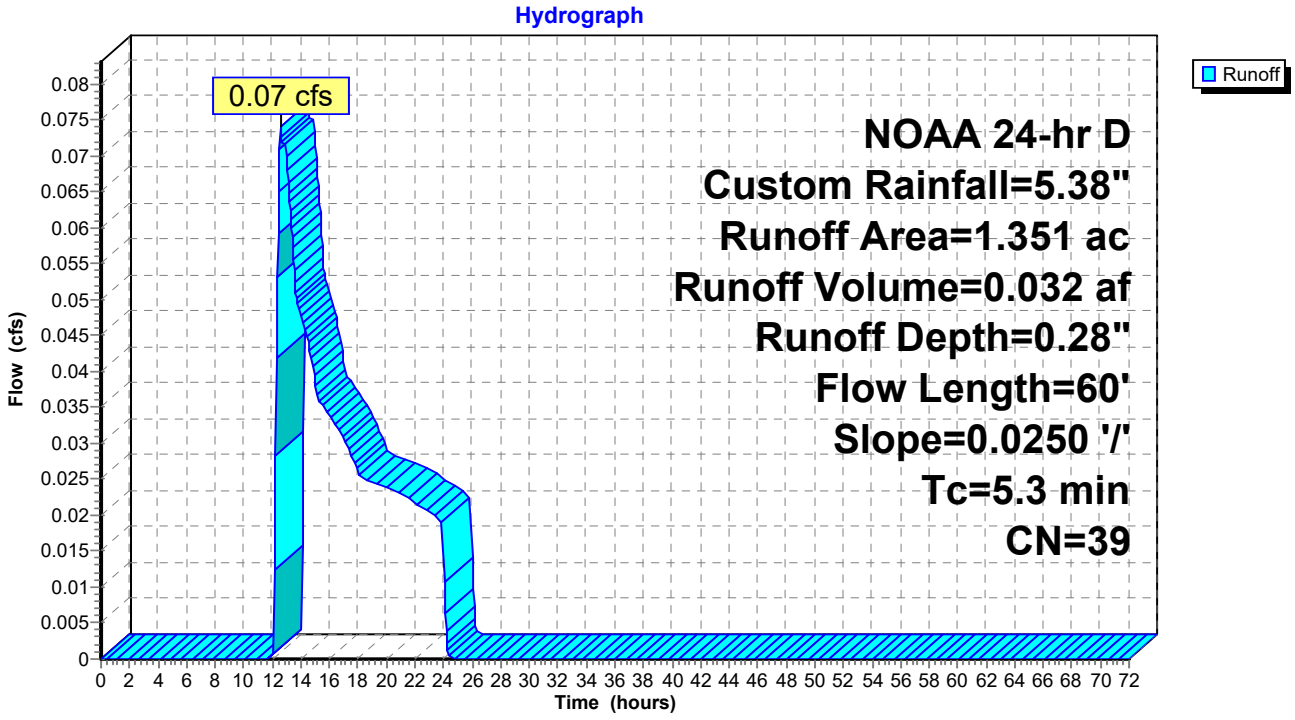
Runoff = 0.07 cfs @ 12.56 hrs, Volume= 0.032 af, Depth= 0.28"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 1.64" for Custom event
Inflow = 7.73 cfs @ 12.12 hrs, Volume= 1.442 af
Outflow = 7.49 cfs @ 12.15 hrs, Volume= 1.392 af, Atten= 3%, Lag= 1.7 min
Primary = 7.49 cfs @ 12.15 hrs, Volume= 1.392 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.66' @ 12.15 hrs Surf.Area= 3,830 sf Storage= 3,184 cf

Plug-Flow detention time= 88.9 min calculated for 1.391 af (96% of inflow)
Center-of-Mass det. time= 31.2 min (1,216.5 - 1,185.3)

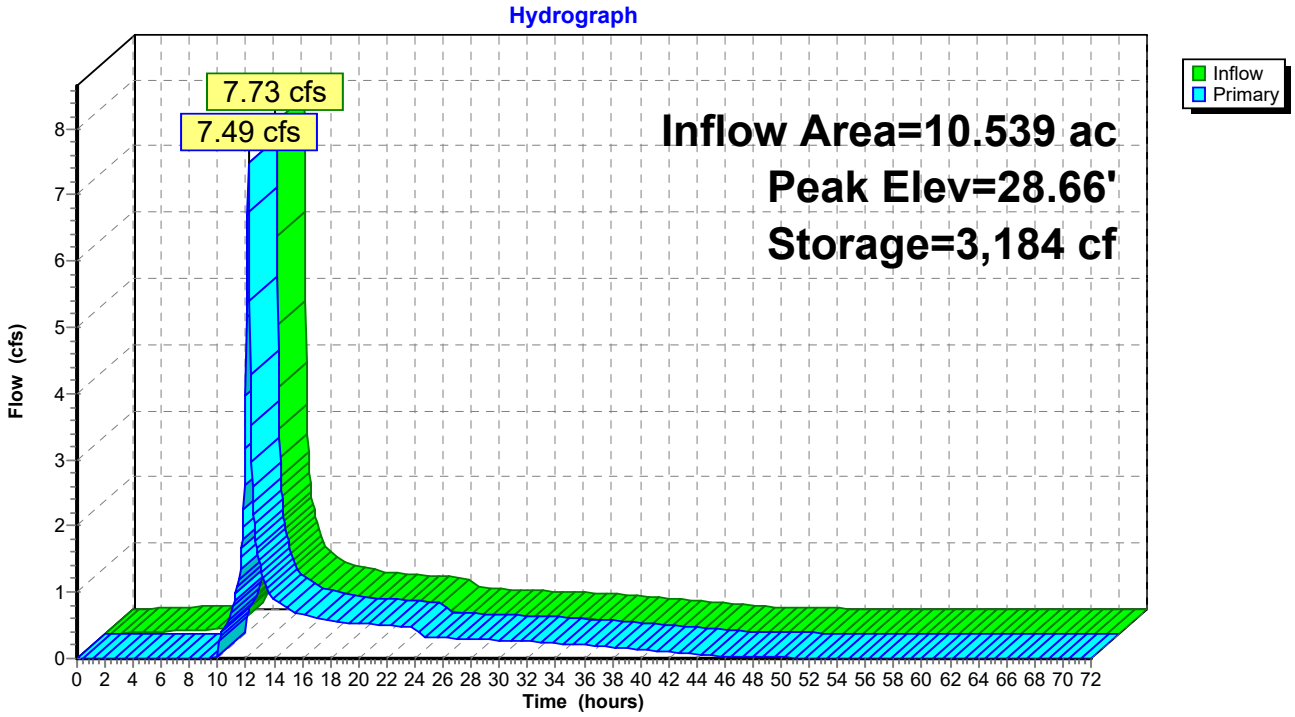
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.47 cfs @ 12.15 hrs HW=28.66' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 7.47 cfs @ 1.71 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

[79] Warning: Submerged Pond 58P Primary device # 1 by 0.12'

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 1.61" for Custom event
Inflow = 11.01 cfs @ 12.12 hrs, Volume= 1.782 af
Outflow = 9.44 cfs @ 12.19 hrs, Volume= 1.706 af, Atten= 14%, Lag= 4.3 min
Primary = 9.37 cfs @ 12.19 hrs, Volume= 1.706 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.06 cfs @ 12.20 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.51' @ 12.19 hrs Surf.Area= 8,520 sf Storage= 15,269 cf

Plug-Flow detention time= 364.9 min calculated for 1.706 af (96% of inflow)
Center-of-Mass det. time= 295.6 min (1,416.1 - 1,120.5)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

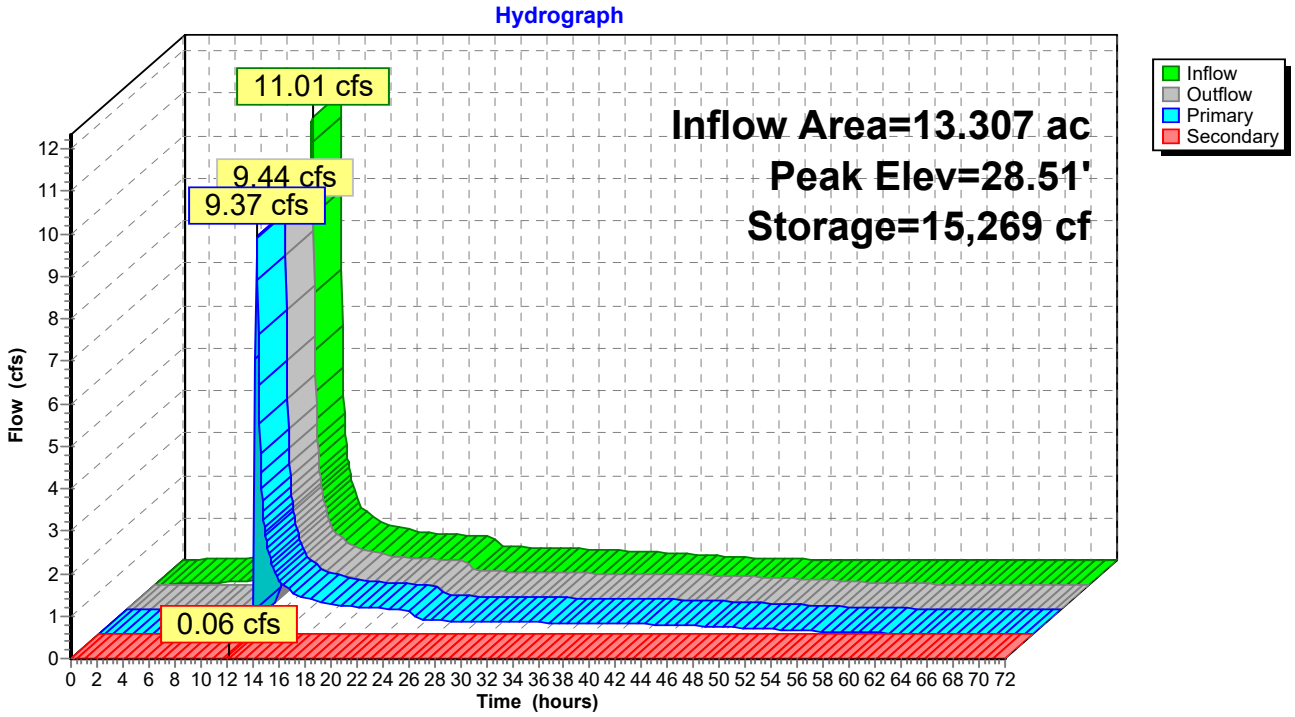
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=9.25 cfs @ 12.19 hrs HW=28.51' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.13 fps)
└**2=Orifice/Grate** (Weir Controls 8.95 cfs @ 1.82 fps)

Secondary OutFlow Max=0.06 cfs @ 12.20 hrs HW=28.51' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.06 cfs @ 0.24 fps)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

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

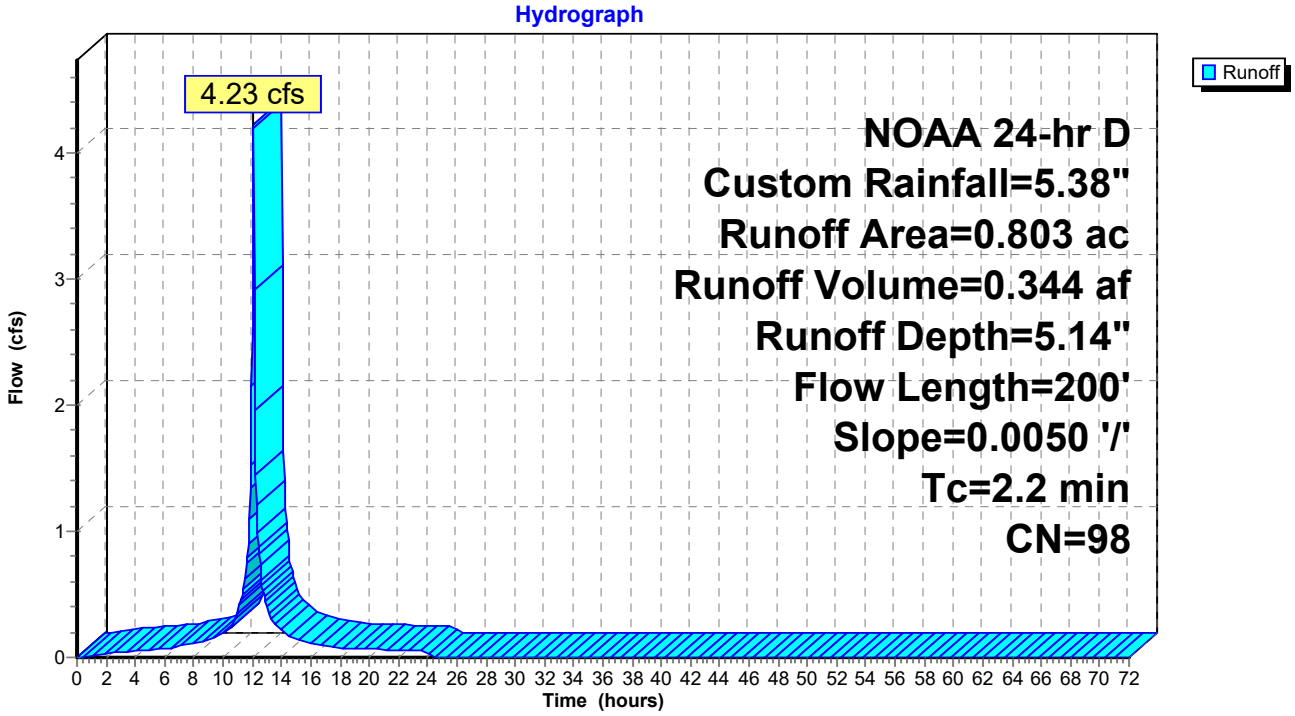
Runoff = 4.23 cfs @ 12.09 hrs, Volume= 0.344 af, Depth= 5.14"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

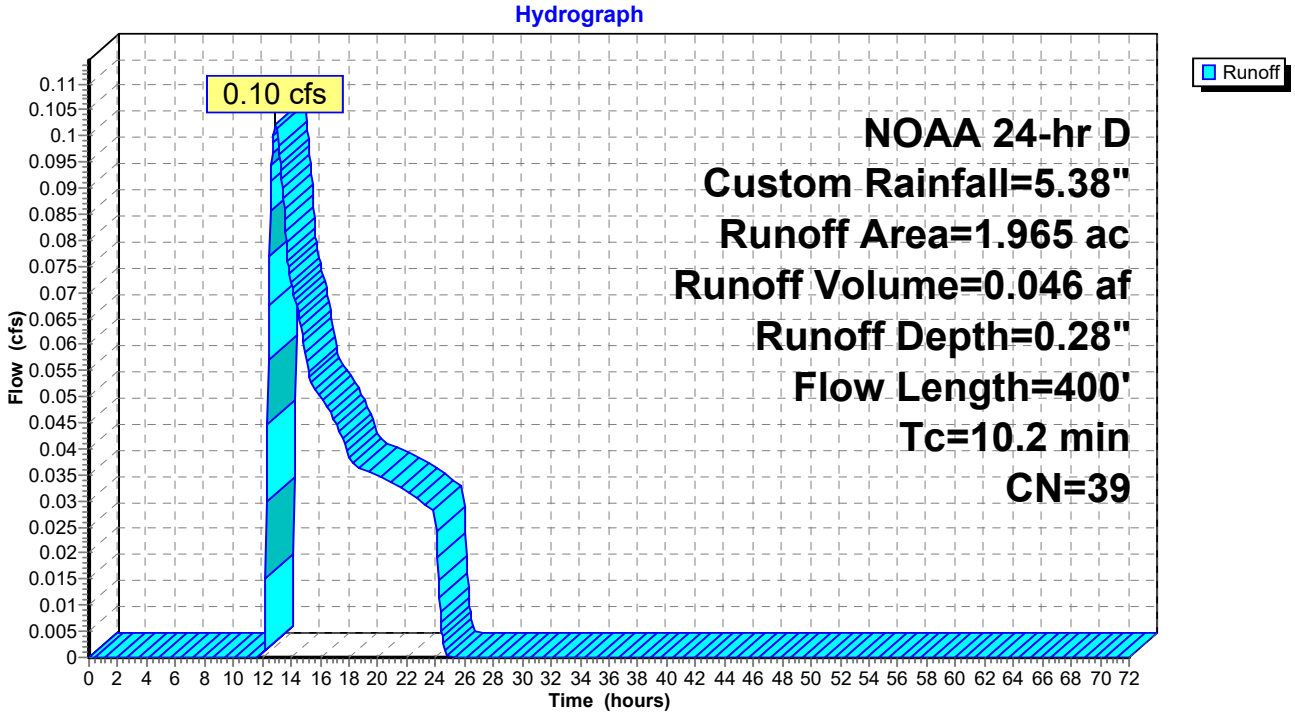
Runoff = 0.10 cfs @ 12.94 hrs, Volume= 0.046 af, Depth= 0.28"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

[79] Warning: Submerged Pond 75P Primary device # 1 by 0.15'

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 1.23" for Custom event
Inflow = 16.92 cfs @ 12.56 hrs, Volume= 7.739 af
Outflow = 0.34 cfs @ 58.19 hrs, Volume= 1.560 af, Atten= 98%, Lag= 2,737.6 min
Primary = 0.34 cfs @ 58.19 hrs, Volume= 1.560 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 24.75' @ 58.19 hrs Surf.Area= 142,382 sf Storage= 629,362 cf (271,548 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,184.7 min (2,632.6 - 1,448.0)

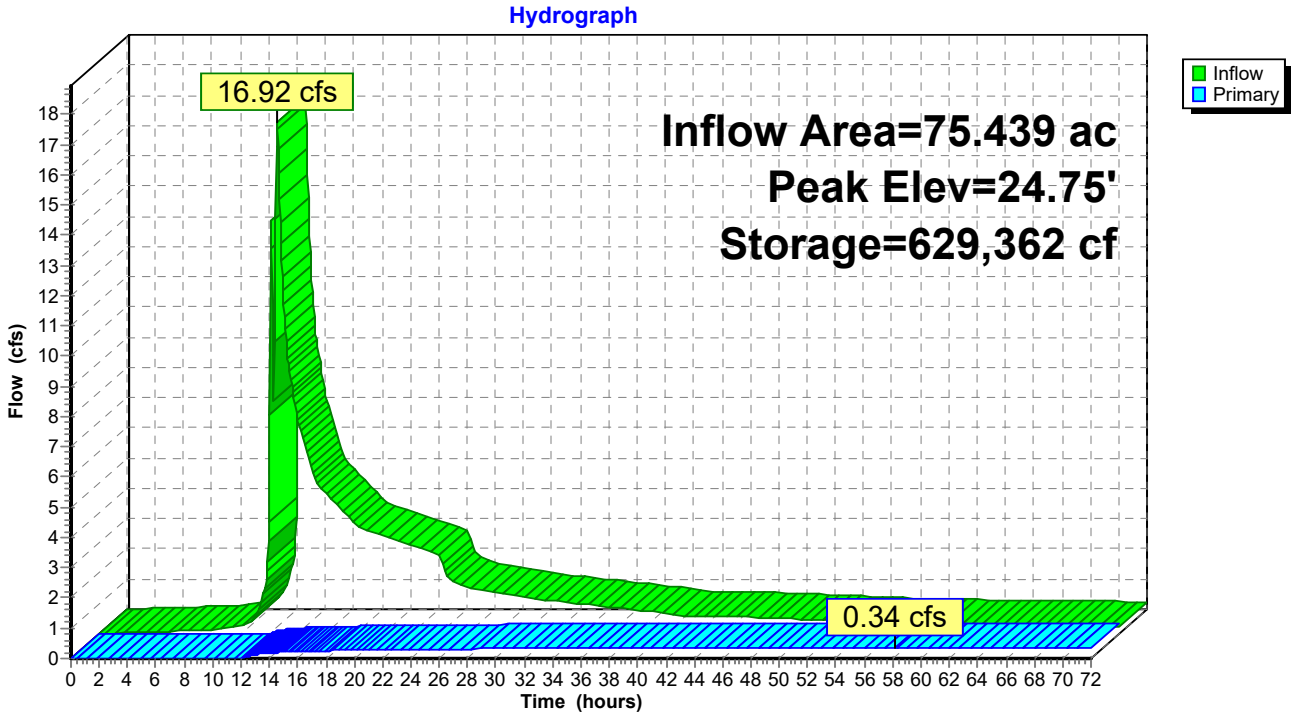
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.34 cfs @ 58.19 hrs HW=24.75' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.34 cfs @ 6.93 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

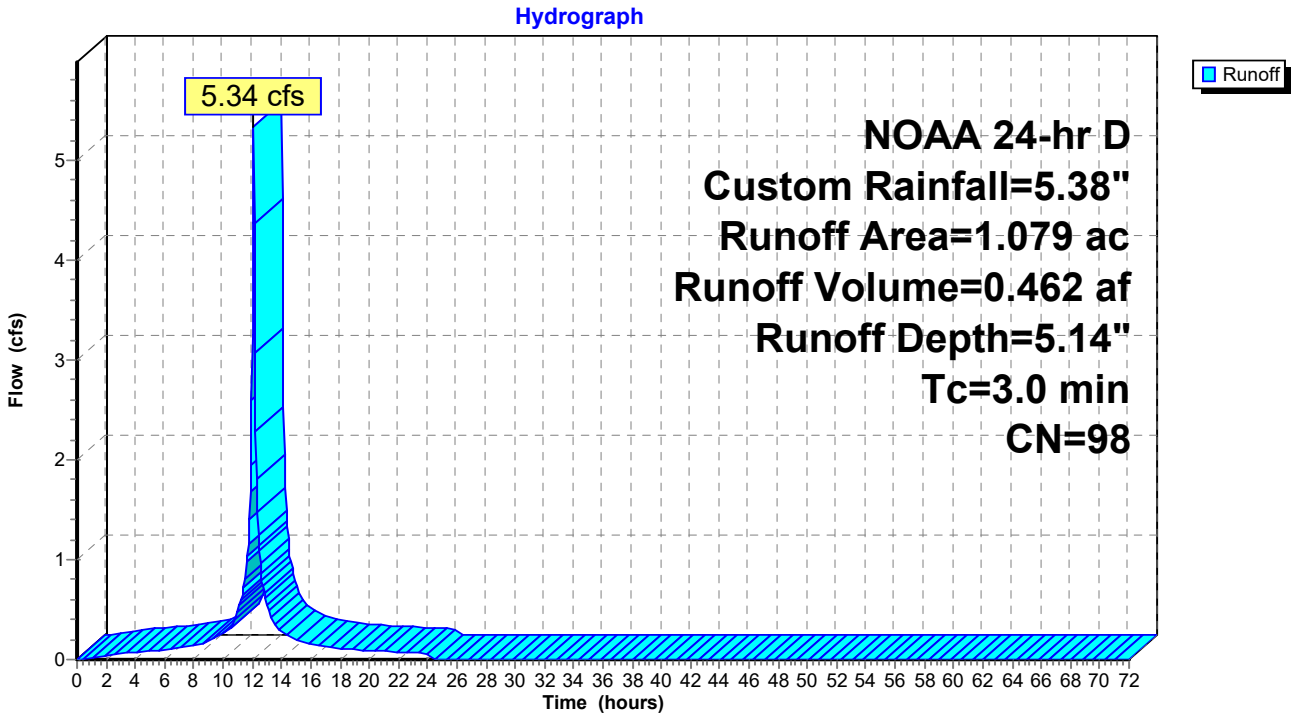
Runoff = 5.34 cfs @ 12.10 hrs, Volume= 0.462 af, Depth= 5.14"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

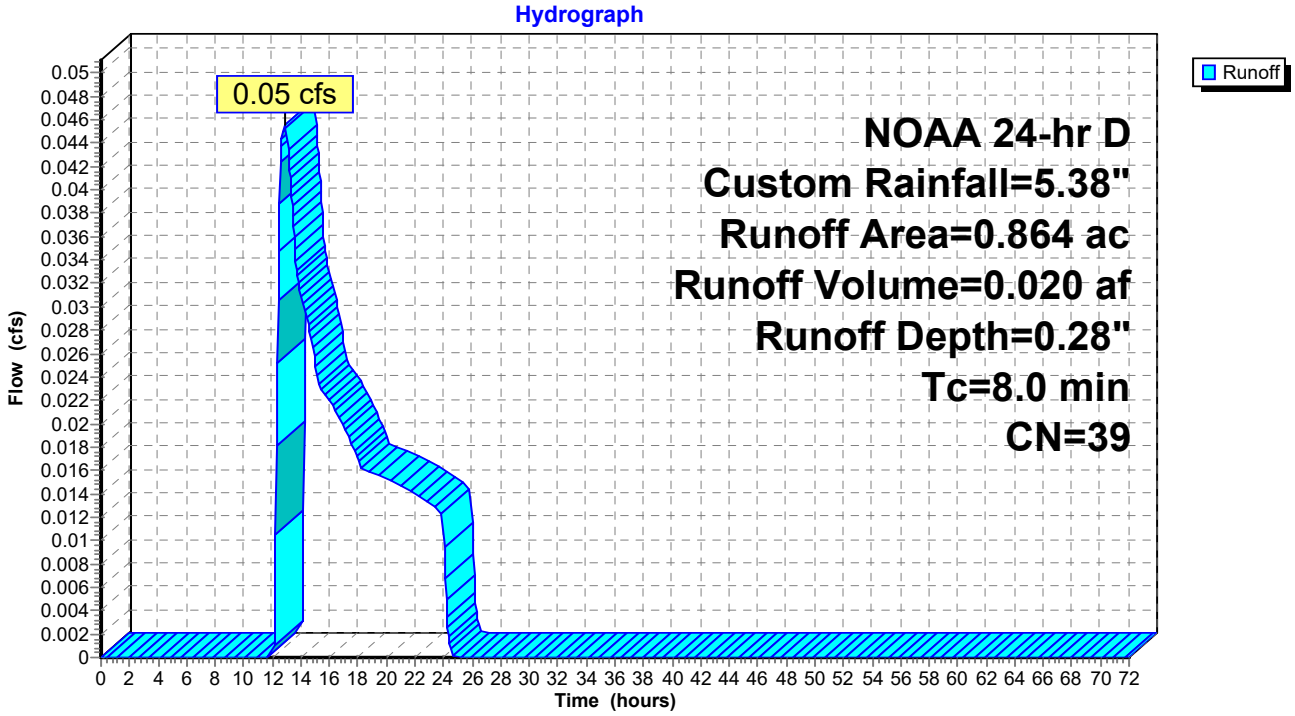
Runoff = 0.05 cfs @ 12.86 hrs, Volume= 0.020 af, Depth= 0.28"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 1.50" for Custom event
Inflow = 3.78 cfs @ 12.04 hrs, Volume= 0.334 af
Outflow = 0.24 cfs @ 14.09 hrs, Volume= 0.276 af, Atten= 94%, Lag= 122.8 min
Primary = 0.24 cfs @ 14.09 hrs, Volume= 0.276 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.78' @ 14.09 hrs Surf.Area= 6,491 sf Storage= 8,608 cf

Plug-Flow detention time= 508.0 min calculated for 0.275 af (82% of inflow)
Center-of-Mass det. time= 423.6 min (1,203.4 - 779.8)

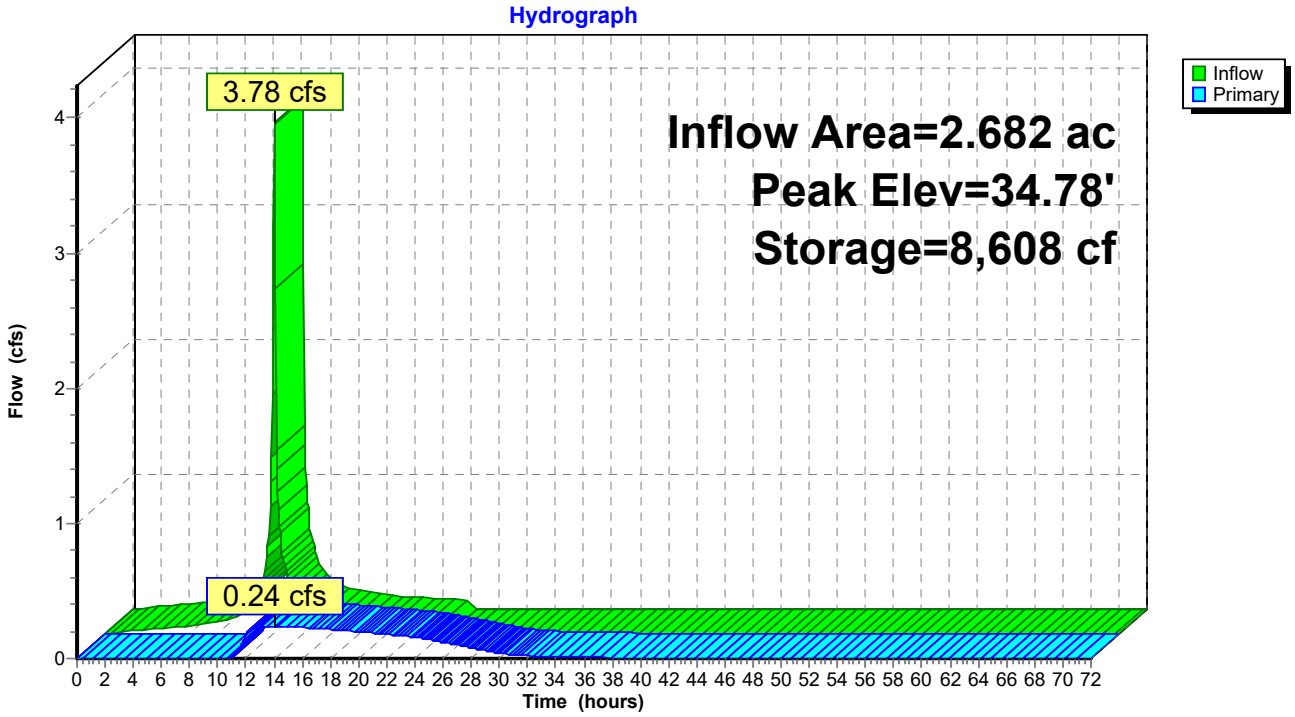
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 14.09 hrs HW=34.78' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.24 cfs @ 4.81 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

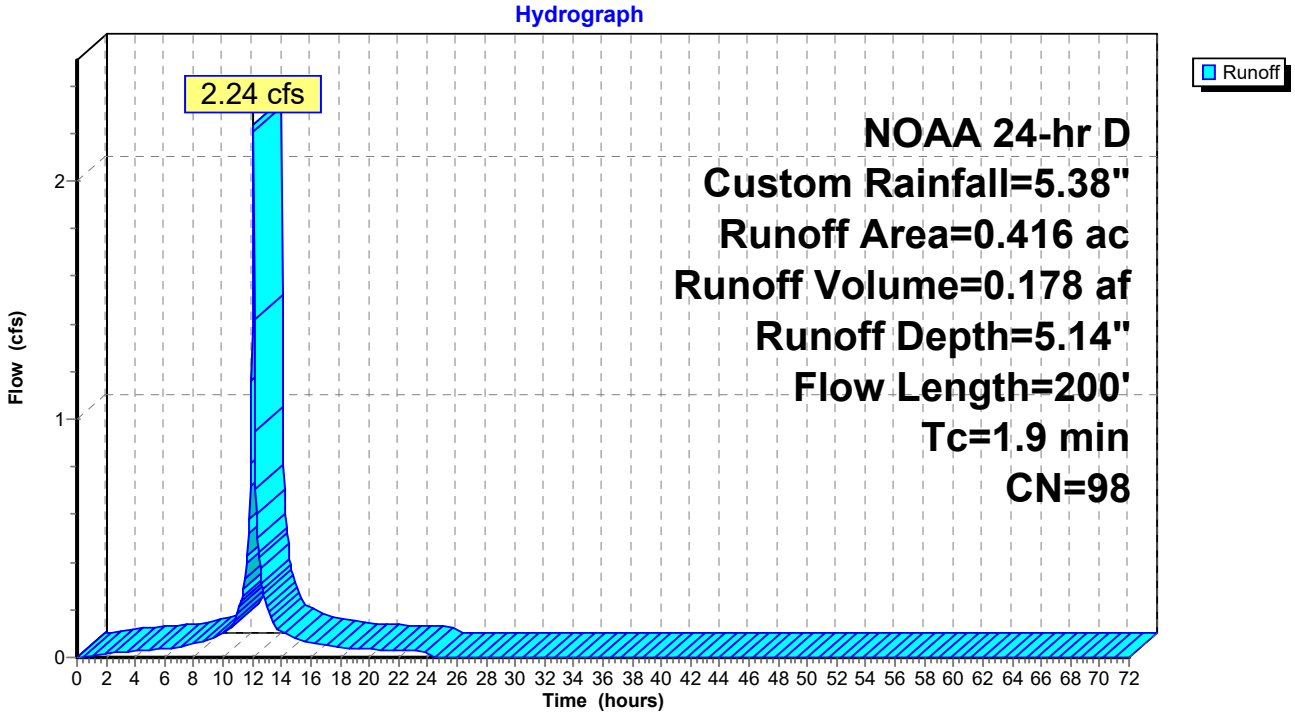
Runoff = 2.24 cfs @ 12.09 hrs, Volume= 0.178 af, Depth= 5.14"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 1.29" for Custom event
Inflow = 2.72 cfs @ 12.10 hrs, Volume= 0.285 af
Outflow = 0.21 cfs @ 14.10 hrs, Volume= 0.236 af, Atten= 92%, Lag= 120.0 min
Primary = 0.21 cfs @ 14.10 hrs, Volume= 0.236 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.46' @ 14.10 hrs Surf.Area= 5,986 sf Storage= 7,036 cf

Plug-Flow detention time= 481.2 min calculated for 0.236 af (83% of inflow)
Center-of-Mass det. time= 394.9 min (1,189.2 - 794.3)

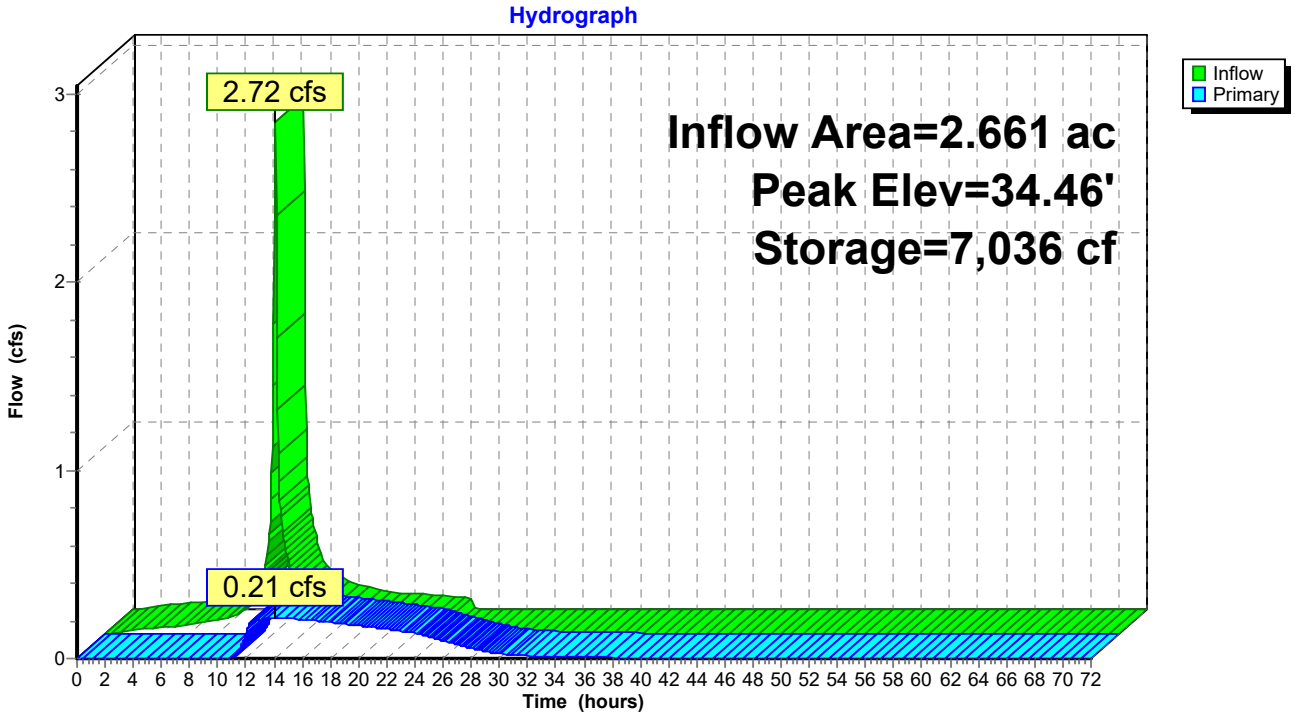
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 14.10 hrs HW=34.46' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.38 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

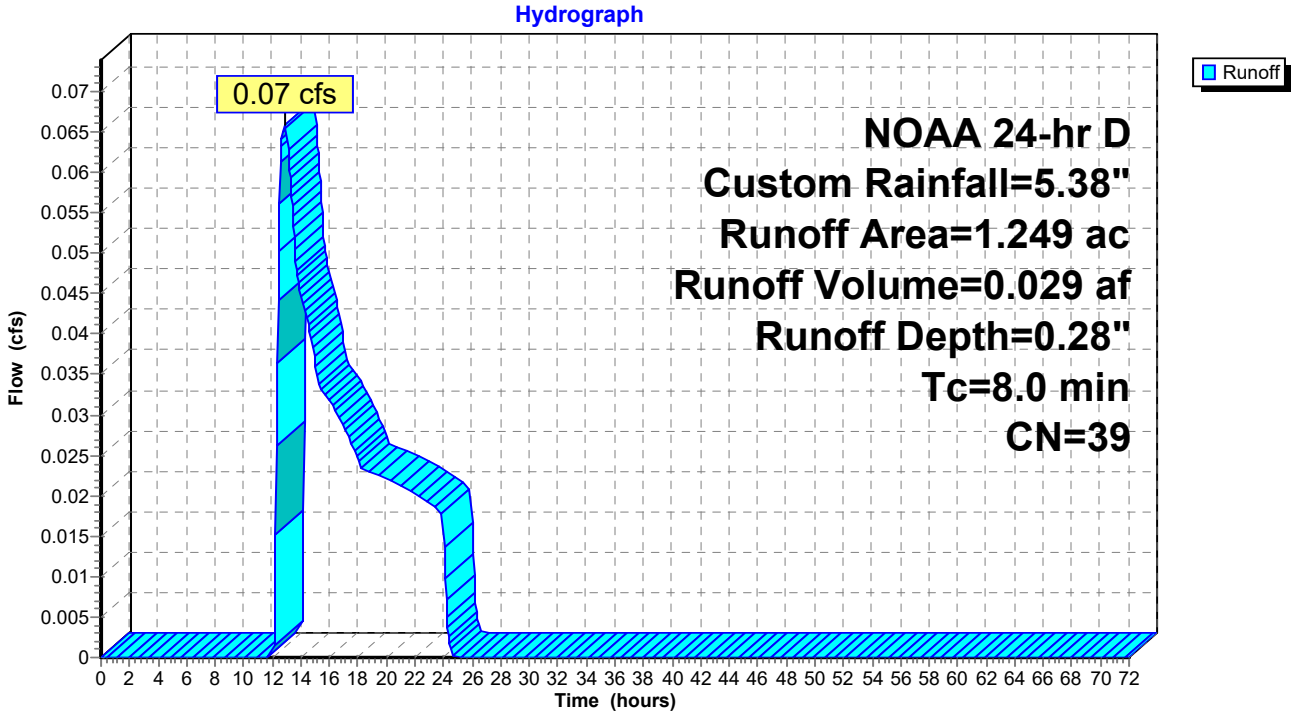
Runoff = 0.07 cfs @ 12.86 hrs, Volume= 0.029 af, Depth= 0.28"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 1.50" for Custom event
Inflow = 2.24 cfs @ 12.09 hrs, Volume= 0.208 af
Outflow = 0.28 cfs @ 12.99 hrs, Volume= 0.172 af, Atten= 88%, Lag= 54.4 min
Primary = 0.28 cfs @ 12.99 hrs, Volume= 0.172 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.17' @ 12.99 hrs Surf.Area= 2,204 sf Storage= 4,472 cf

Plug-Flow detention time= 291.8 min calculated for 0.172 af (83% of inflow)
Center-of-Mass det. time= 205.5 min (989.4 - 784.0)

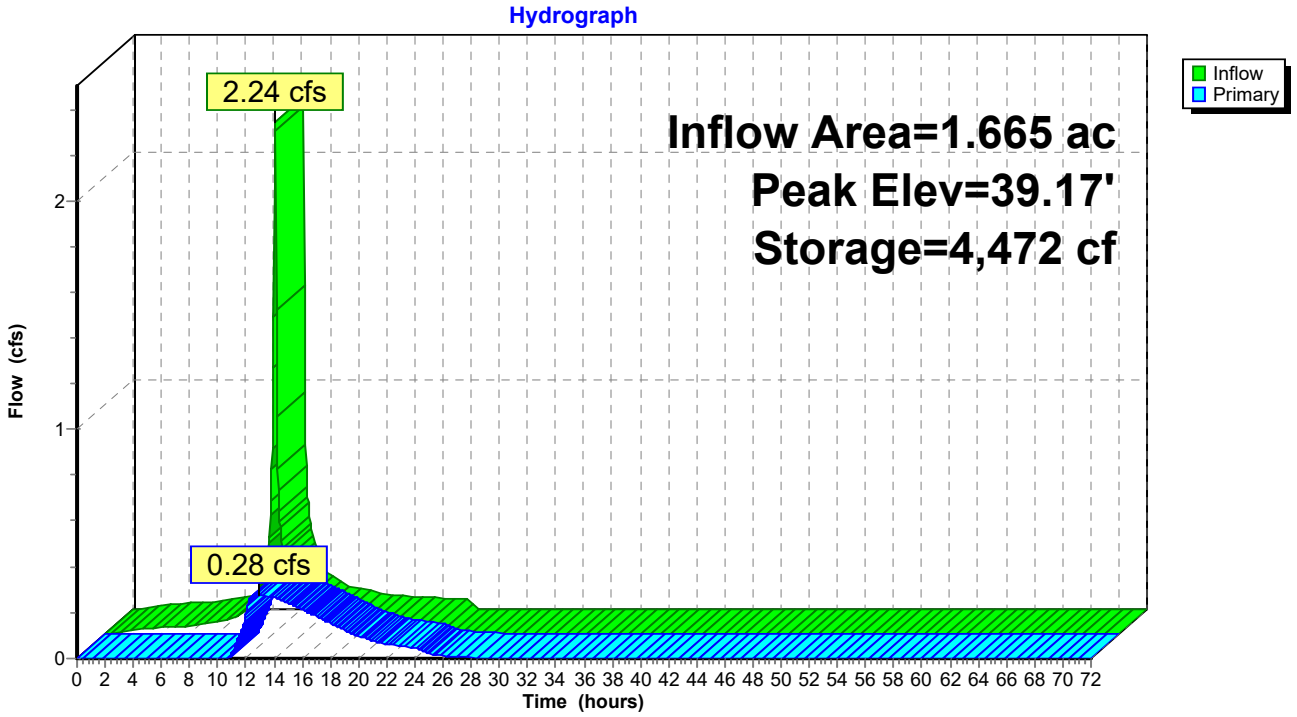
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 12.99 hrs HW=39.17' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.65 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 1.54" for Custom event
Inflow = 4.37 cfs @ 12.04 hrs, Volume= 0.528 af
Outflow = 0.76 cfs @ 12.91 hrs, Volume= 0.464 af, Atten= 83%, Lag= 51.8 min
Primary = 0.76 cfs @ 12.91 hrs, Volume= 0.464 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.05' @ 12.91 hrs Surf.Area= 7,454 sf Storage= 9,685 cf

Plug-Flow detention time= 436.8 min calculated for 0.464 af (88% of inflow)
Center-of-Mass det. time= 369.6 min (1,213.5 - 843.9)

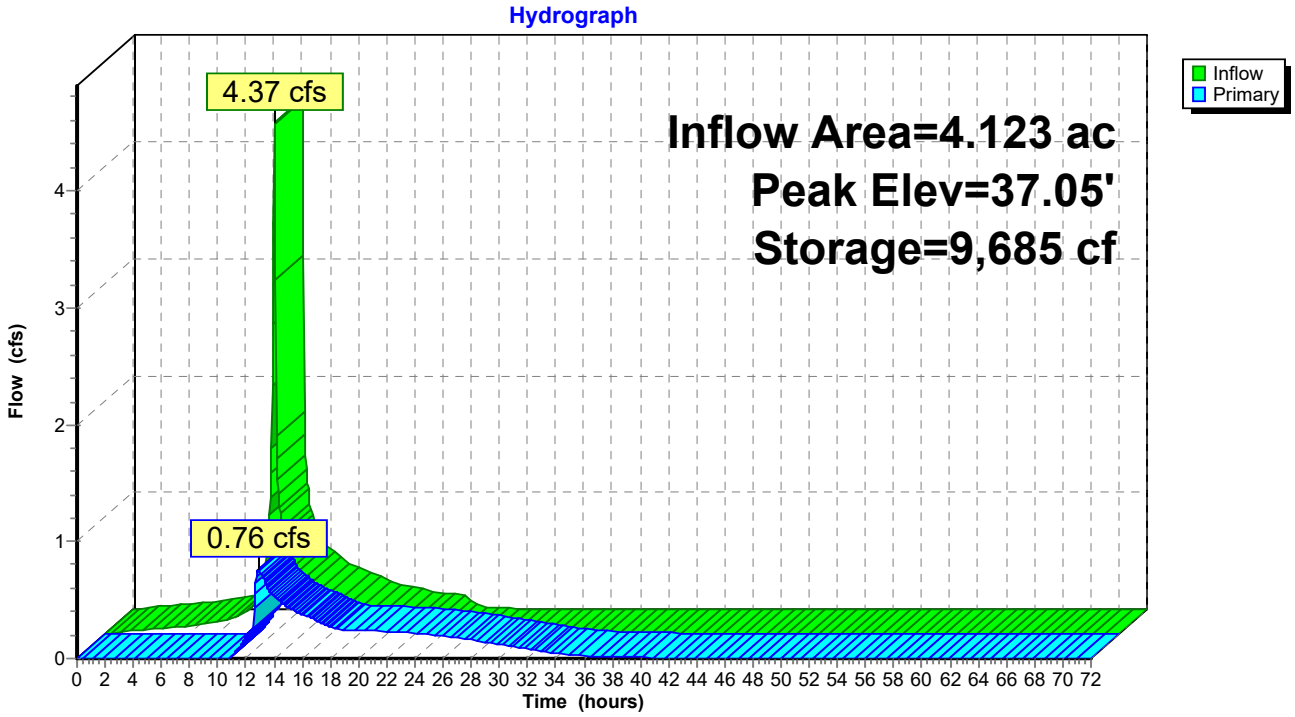
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.75 cfs @ 12.91 hrs HW=37.05' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.00 fps)
2=Orifice/Grate (Weir Controls 0.51 cfs @ 0.70 fps)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 1.86" for Custom event
Inflow = 4.63 cfs @ 12.07 hrs, Volume= 0.464 af
Outflow = 4.22 cfs @ 12.11 hrs, Volume= 0.412 af, Atten= 9%, Lag= 2.3 min
Primary = 4.22 cfs @ 12.11 hrs, Volume= 0.412 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.65' @ 12.11 hrs Surf.Area= 5,599 sf Storage= 3,265 cf

Plug-Flow detention time= 120.4 min calculated for 0.412 af (89% of inflow)
Center-of-Mass det. time= 59.4 min (832.6 - 773.3)

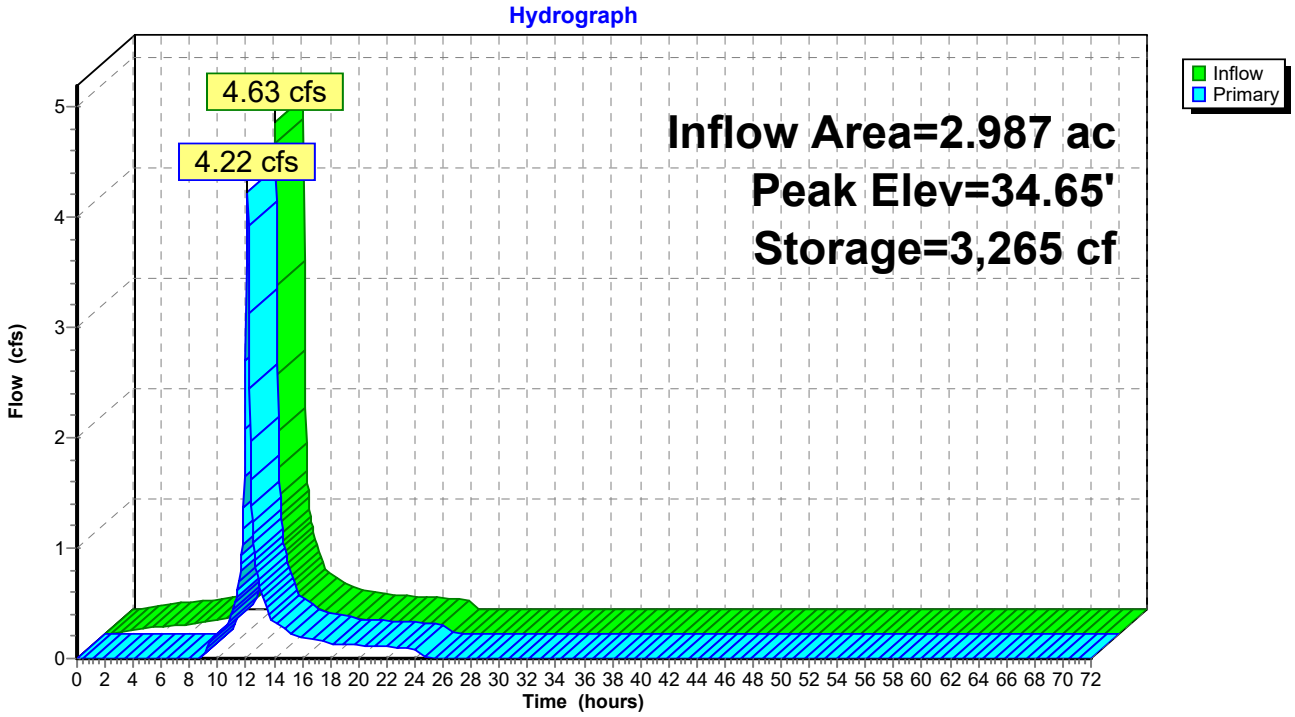
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.14 cfs @ 12.11 hrs HW=34.64' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.14 cfs @ 1.40 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

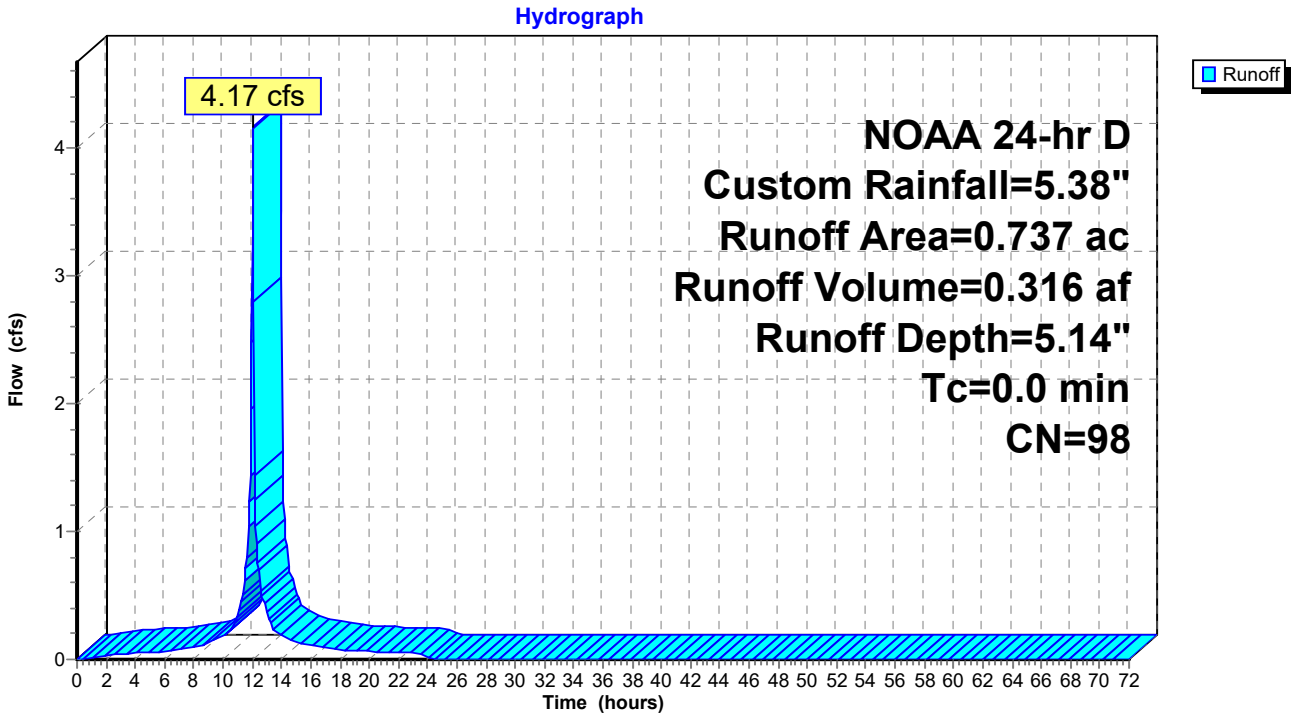
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 4.17 cfs @ 12.04 hrs, Volume= 0.316 af, Depth= 5.14"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 1.47" for Custom event
Inflow = 4.01 cfs @ 12.10 hrs, Volume= 0.688 af
Outflow = 0.29 cfs @ 19.56 hrs, Volume= 0.616 af, Atten= 93%, Lag= 447.4 min
Primary = 0.29 cfs @ 19.56 hrs, Volume= 0.616 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.25' @ 19.56 hrs Surf.Area= 7,749 sf Storage= 12,814 cf

Plug-Flow detention time= 660.3 min calculated for 0.616 af (90% of inflow)
Center-of-Mass det. time= 531.4 min (1,590.6 - 1,059.2)

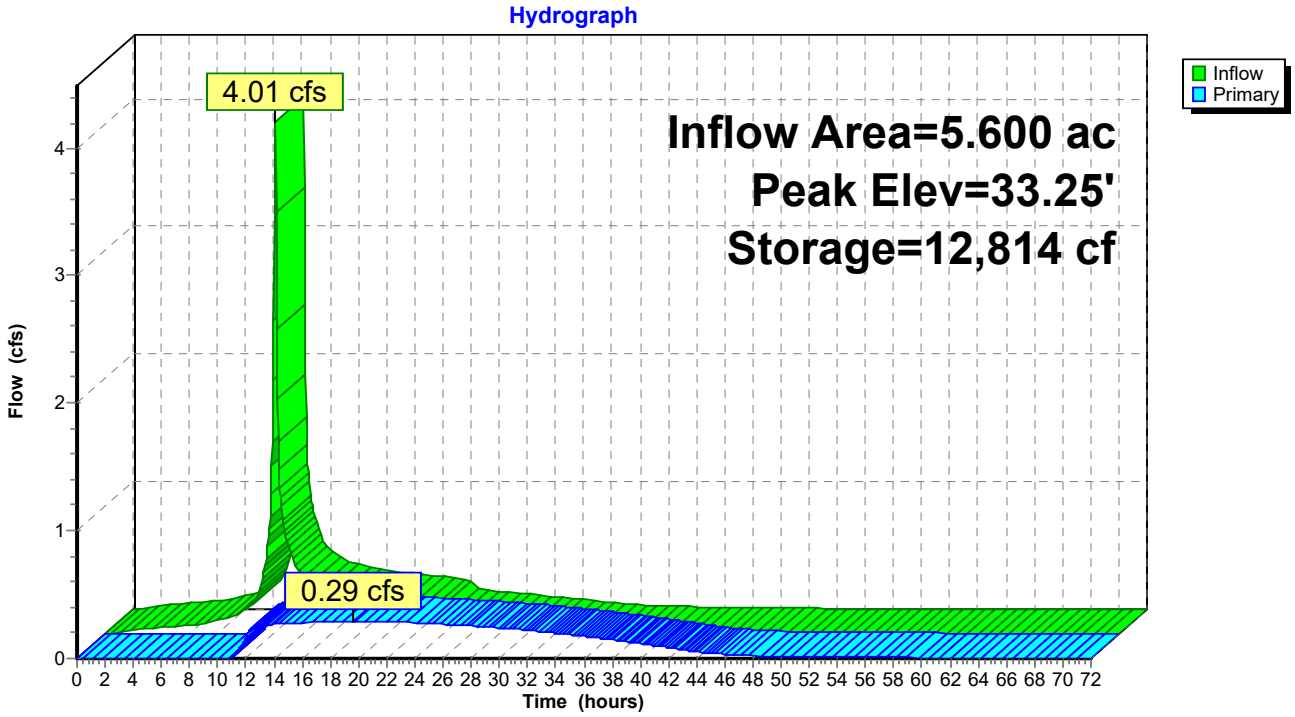
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 19.56 hrs HW=33.25' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.29 cfs @ 5.81 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

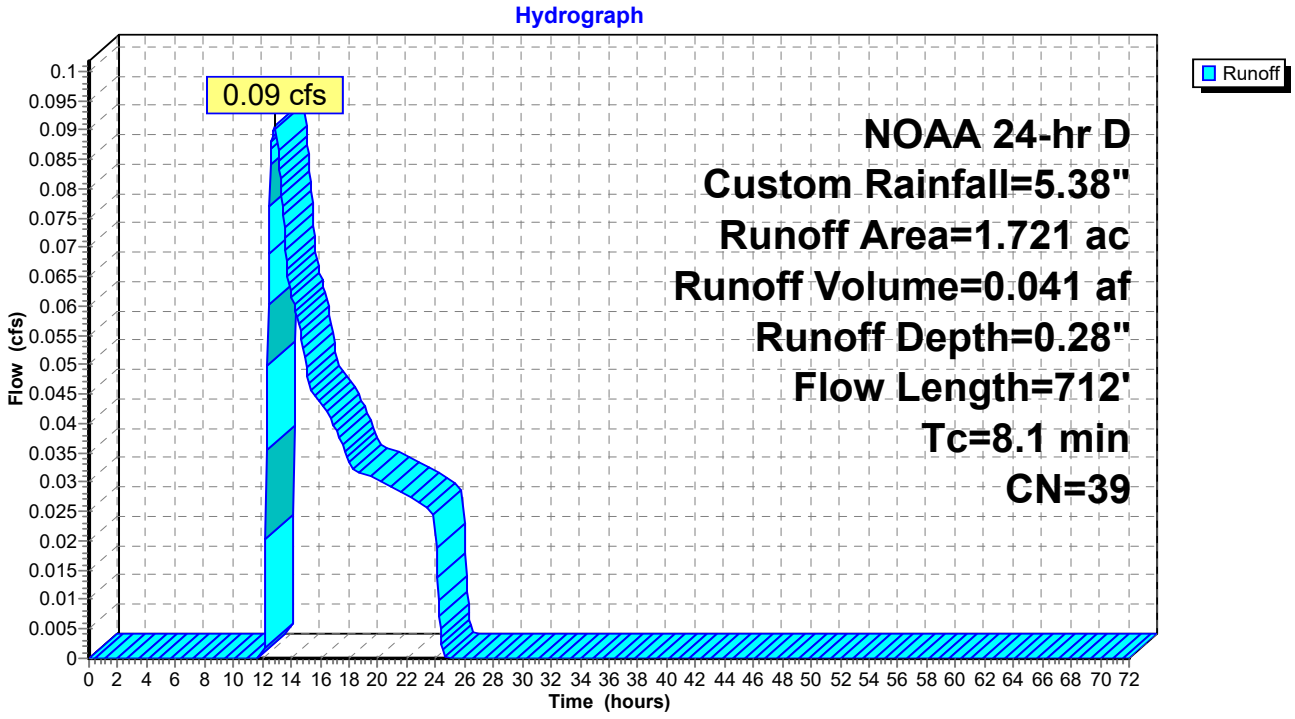
Runoff = 0.09 cfs @ 12.86 hrs, Volume= 0.041 af, Depth= 0.28"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 1.22" for Custom event
Inflow = 2.41 cfs @ 12.10 hrs, Volume= 0.263 af
Outflow = 2.29 cfs @ 12.13 hrs, Volume= 0.219 af, Atten= 5%, Lag= 1.4 min
Primary = 2.29 cfs @ 12.13 hrs, Volume= 0.219 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.98' @ 12.13 hrs Surf.Area= 1,987 sf Storage= 2,118 cf

Plug-Flow detention time= 154.1 min calculated for 0.219 af (84% of inflow)
Center-of-Mass det. time= 70.5 min (868.5 - 798.0)

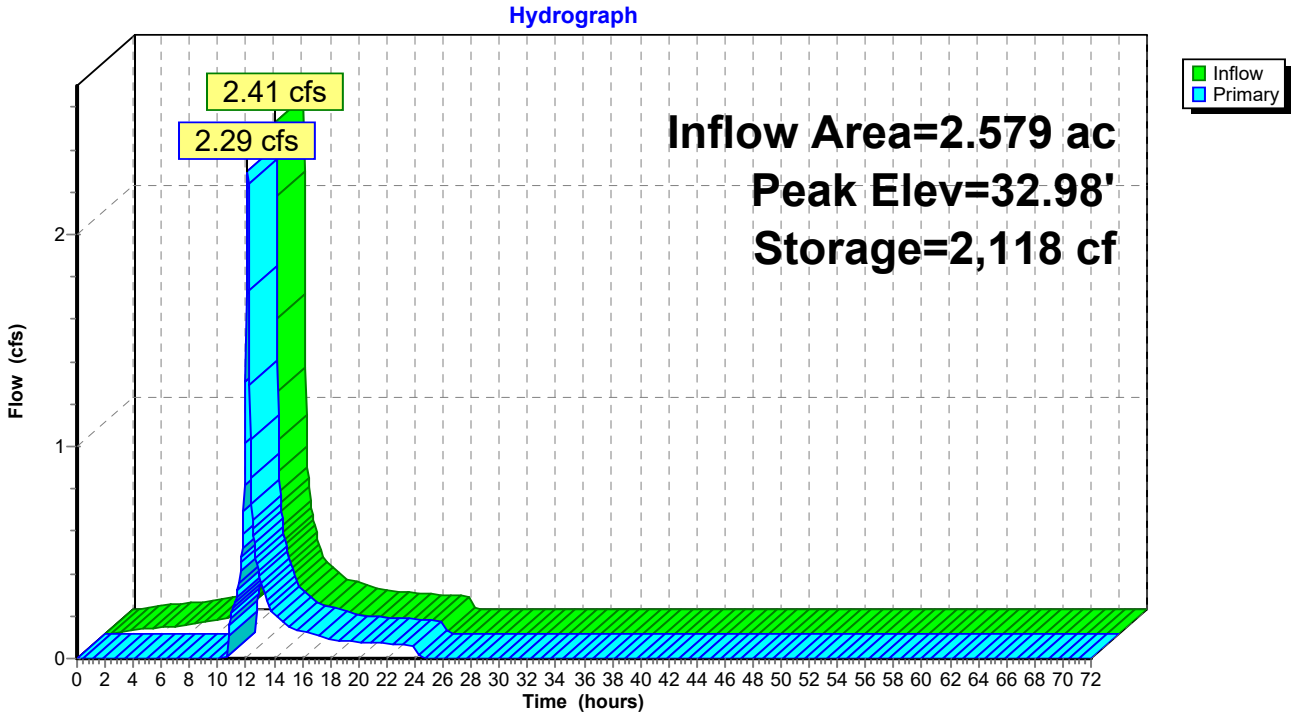
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.21 cfs @ 12.13 hrs HW=32.98' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.21 cfs @ 1.14 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 1.46" for Custom event
Inflow = 3.50 cfs @ 12.09 hrs, Volume= 0.365 af
Outflow = 0.20 cfs @ 14.95 hrs, Volume= 0.310 af, Atten= 94%, Lag= 171.8 min
Primary = 0.20 cfs @ 14.95 hrs, Volume= 0.310 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.10' @ 14.95 hrs Surf.Area= 9,992 sf Storage= 9,952 cf

Plug-Flow detention time= 692.1 min calculated for 0.310 af (85% of inflow)
Center-of-Mass det. time= 616.0 min (1,402.0 - 786.1)

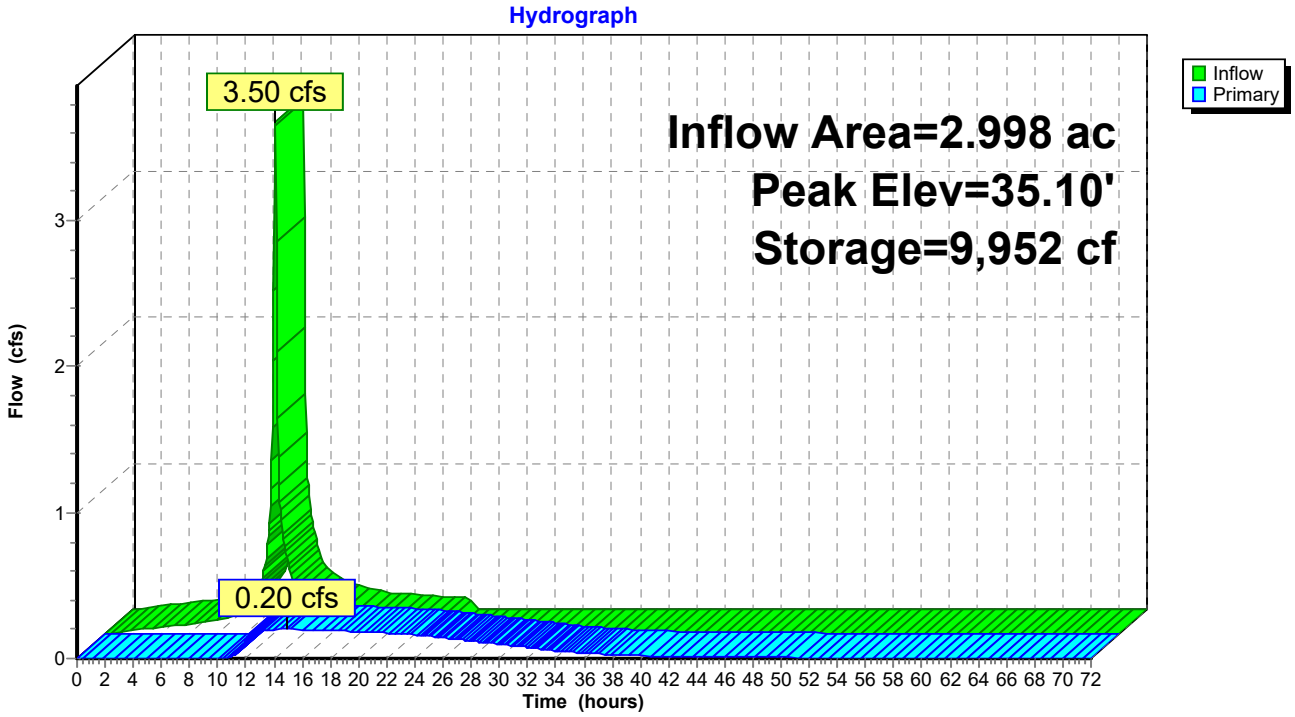
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 14.95 hrs HW=35.10' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.20 cfs @ 4.05 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

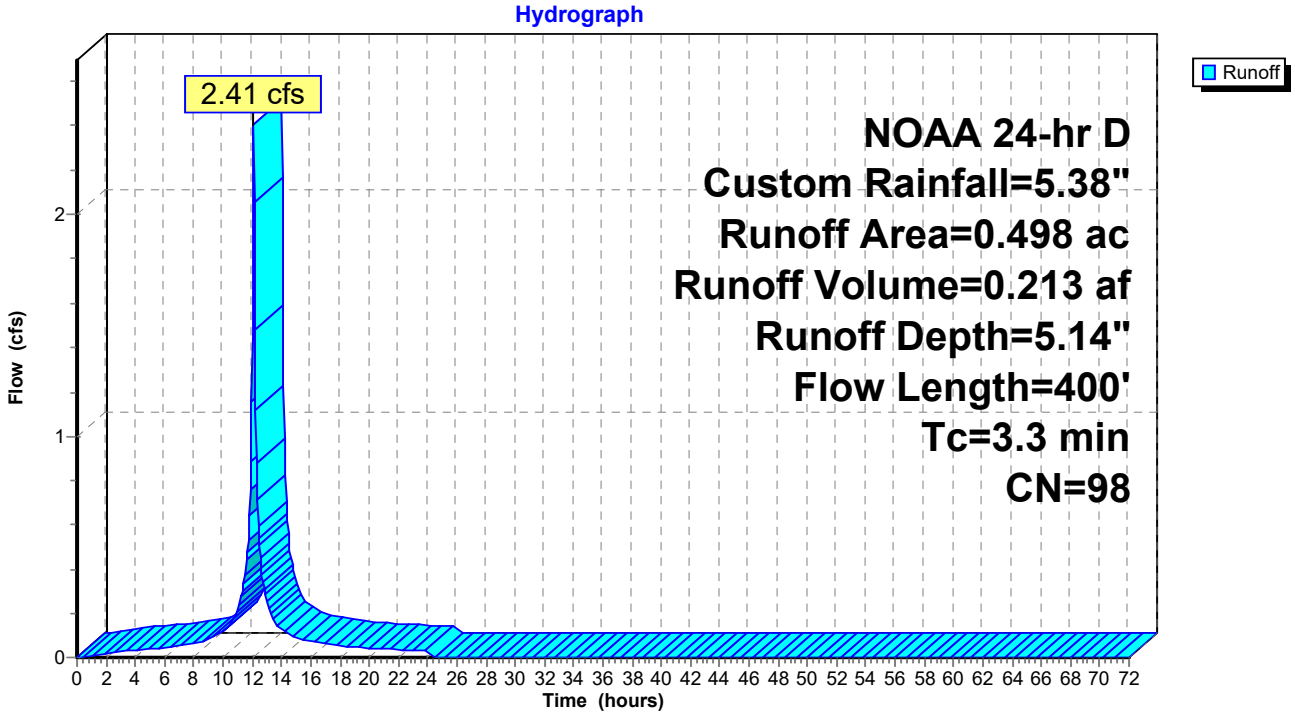
Runoff = 2.41 cfs @ 12.10 hrs, Volume= 0.213 af, Depth= 5.14"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 0.94" for Custom event
Inflow = 16.97 cfs @ 12.16 hrs, Volume= 1.593 af
Outflow = 13.26 cfs @ 12.26 hrs, Volume= 1.571 af, Atten= 22%, Lag= 6.6 min
Primary = 13.26 cfs @ 12.26 hrs, Volume= 1.571 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.39' @ 12.26 hrs Surf.Area= 9,663 sf Storage= 21,670 cf

Plug-Flow detention time= 325.0 min calculated for 1.570 af (99% of inflow)
Center-of-Mass det. time= 318.1 min (1,161.9 - 843.8)

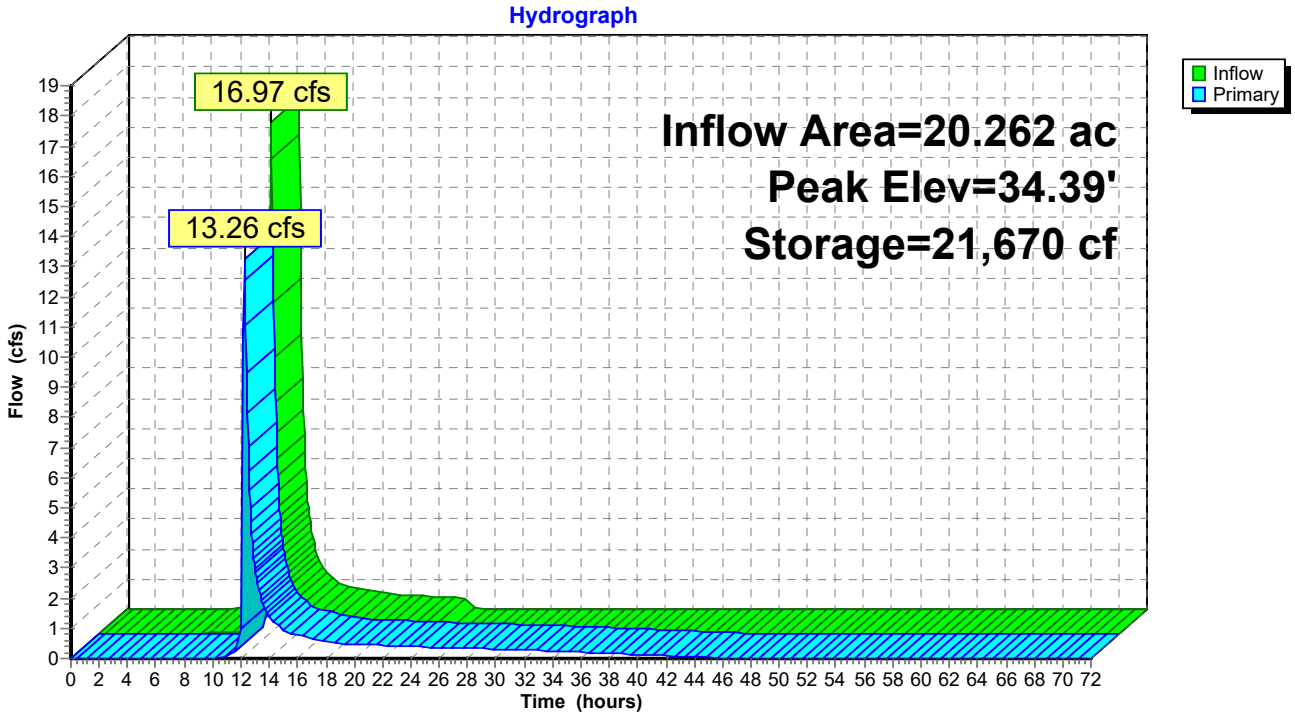
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.96 cfs @ 12.26 hrs HW=34.39' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.41 cfs @ 8.36 fps)
└—**2=Orifice/Grate** (Weir Controls 12.55 cfs @ 2.03 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

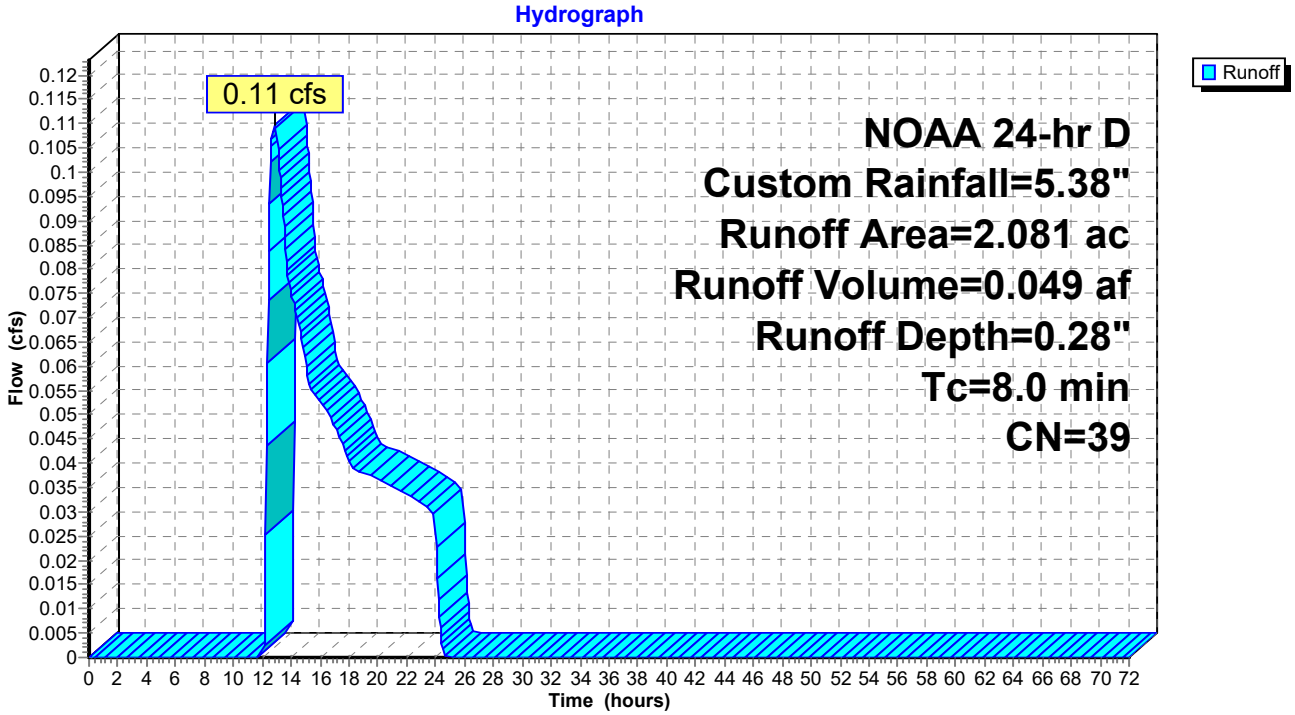
Runoff = 0.11 cfs @ 12.86 hrs, Volume= 0.049 af, Depth= 0.28"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 1.24" for Custom event
Inflow = 31.10 cfs @ 12.20 hrs, Volume= 6.233 af
Outflow = 12.65 cfs @ 12.59 hrs, Volume= 5.550 af, Atten= 59%, Lag= 23.7 min
Primary = 12.65 cfs @ 12.59 hrs, Volume= 5.550 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 27.34' @ 12.59 hrs Surf.Area= 25,221 sf Storage= 64,024 cf

Plug-Flow detention time= 525.2 min calculated for 5.550 af (89% of inflow)
Center-of-Mass det. time= 385.4 min (1,517.7 - 1,132.3)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) x 2

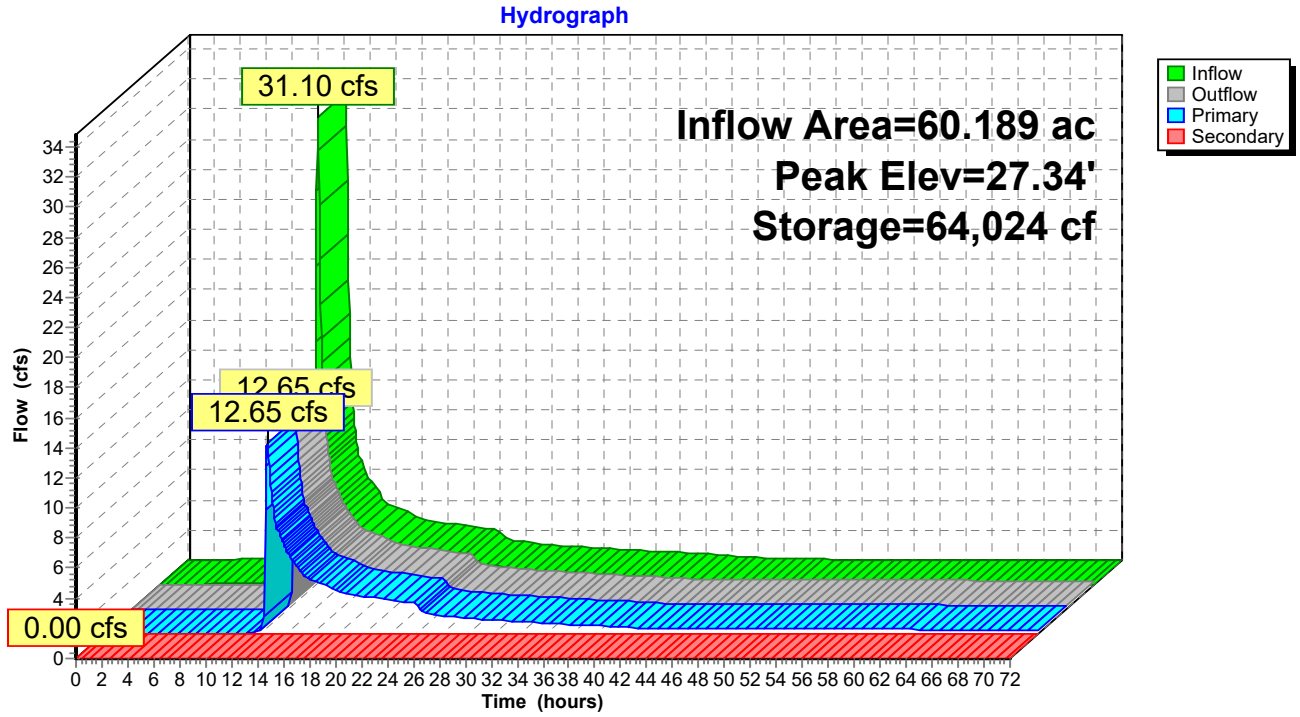
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=12.60 cfs @ 12.59 hrs HW=27.34' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.38 cfs @ 7.78 fps)
2=Orifice/Grate (Weir Controls 12.22 cfs @ 1.60 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.22' (Free Discharge)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 1.65" for Custom event
Inflow = 2.64 cfs @ 12.09 hrs, Volume= 0.247 af
Outflow = 0.18 cfs @ 13.90 hrs, Volume= 0.202 af, Atten= 93%, Lag= 108.4 min
Primary = 0.18 cfs @ 13.90 hrs, Volume= 0.202 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.09' @ 13.90 hrs Surf.Area= 6,911 sf Storage= 6,425 cf

Plug-Flow detention time= 520.2 min calculated for 0.202 af (82% of inflow)
Center-of-Mass det. time= 432.1 min (1,211.5 - 779.4)

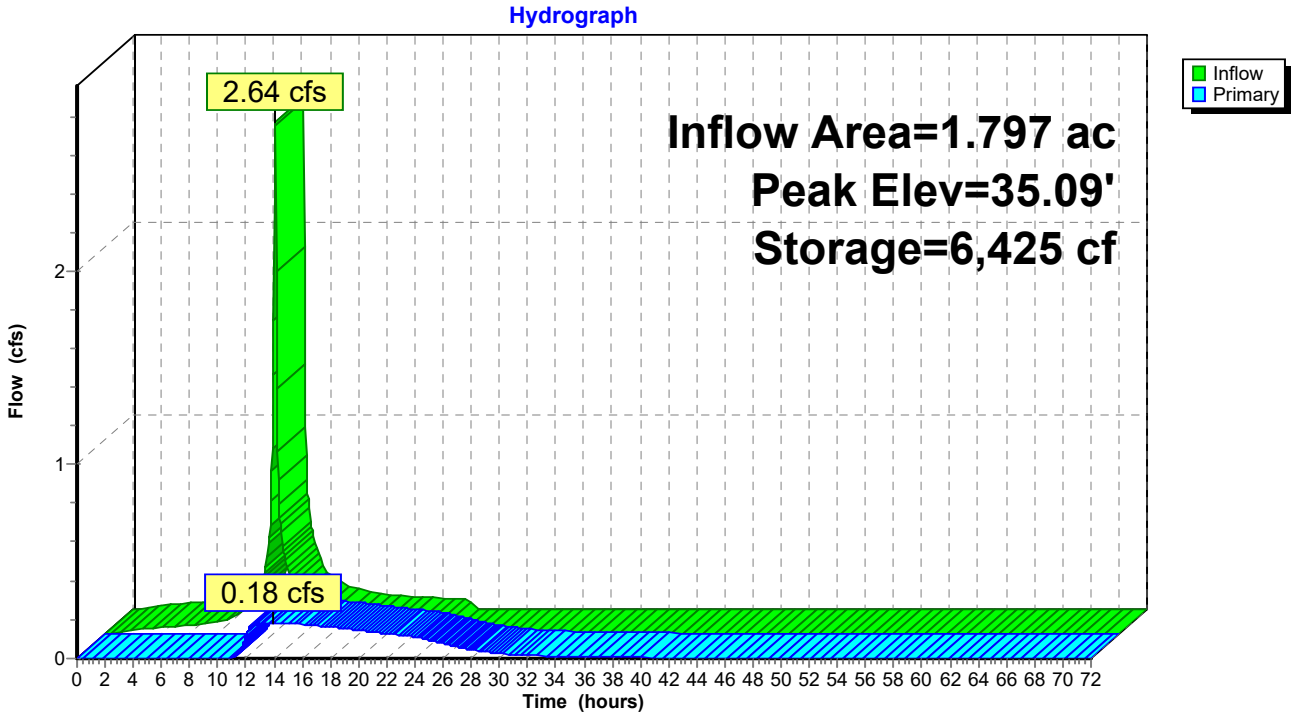
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.18 cfs @ 13.90 hrs HW=35.09' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.18 cfs @ 3.75 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

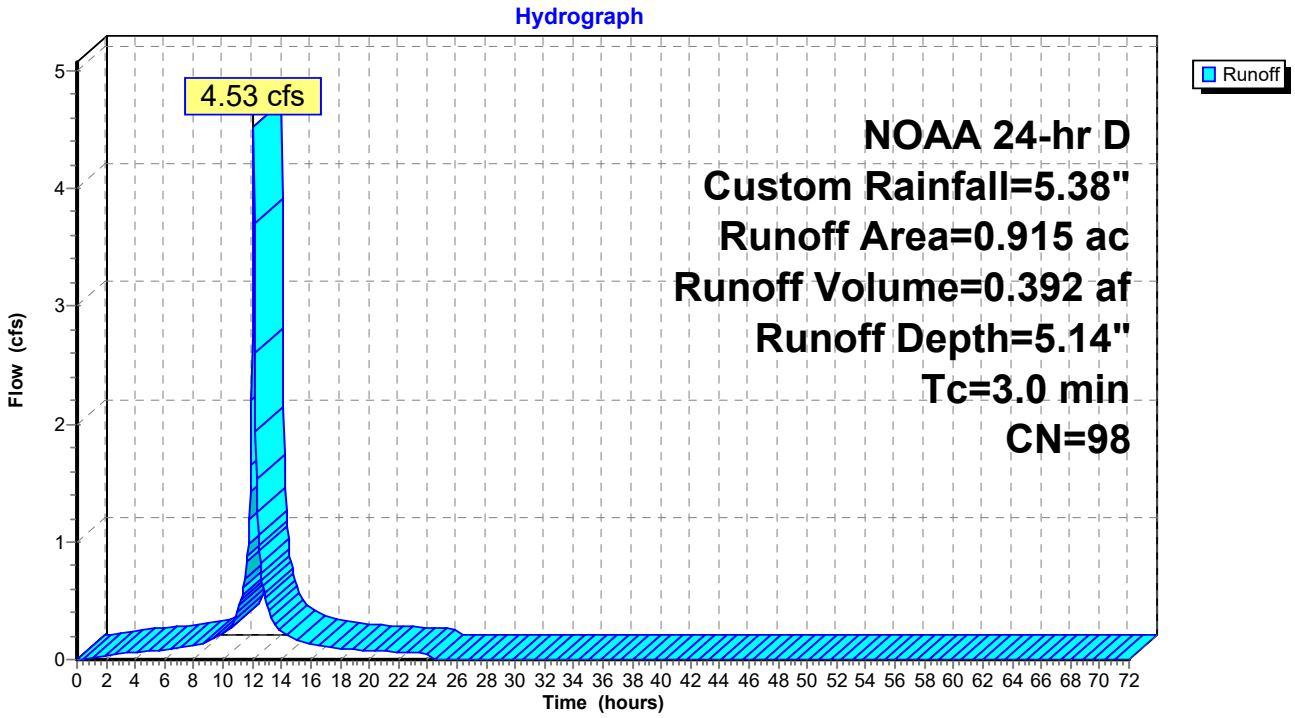
Runoff = 4.53 cfs @ 12.10 hrs, Volume= 0.392 af, Depth= 5.14"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

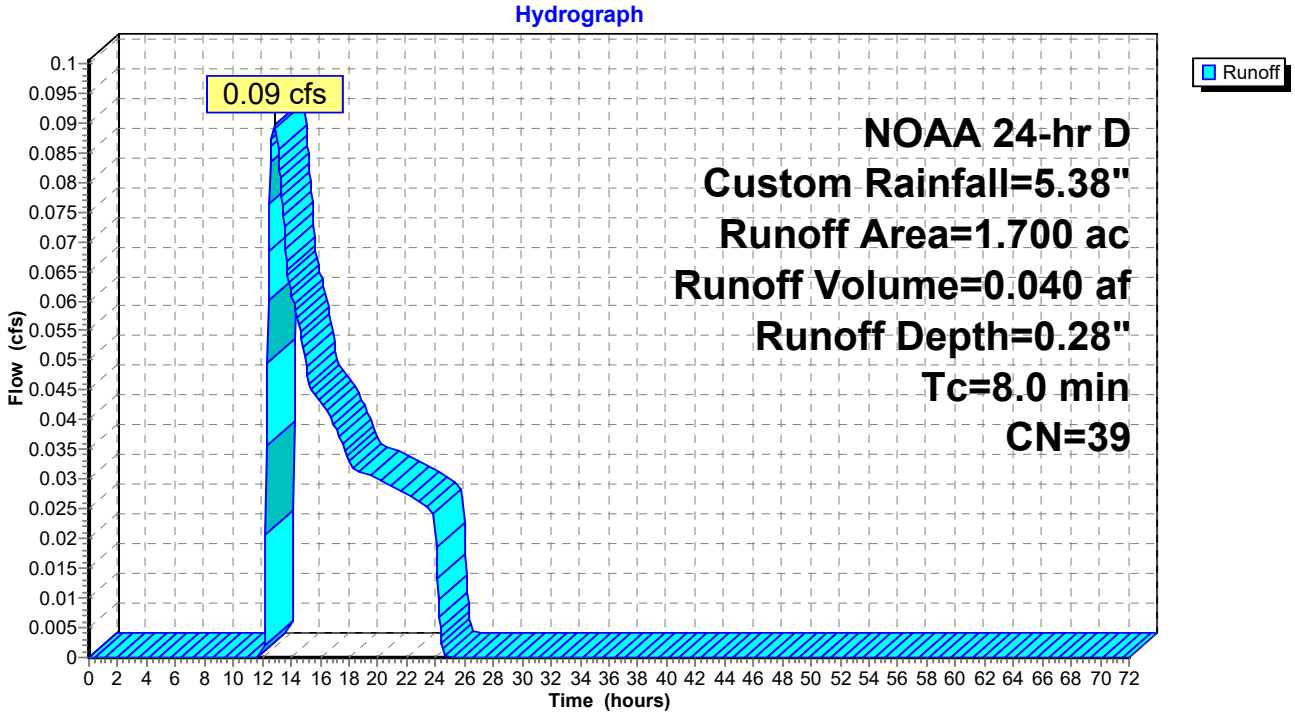
Runoff = 0.09 cfs @ 12.86 hrs, Volume= 0.040 af, Depth= 0.28"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 1.98" for Custom event
Inflow = 4.40 cfs @ 12.10 hrs, Volume= 0.420 af
Outflow = 3.87 cfs @ 12.14 hrs, Volume= 0.343 af, Atten= 12%, Lag= 2.6 min
Primary = 3.87 cfs @ 12.14 hrs, Volume= 0.343 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.90' @ 12.14 hrs Surf.Area= 5,702 sf Storage= 4,347 cf

Plug-Flow detention time= 166.4 min calculated for 0.342 af (82% of inflow)
Center-of-Mass det. time= 79.3 min (851.4 - 772.1)

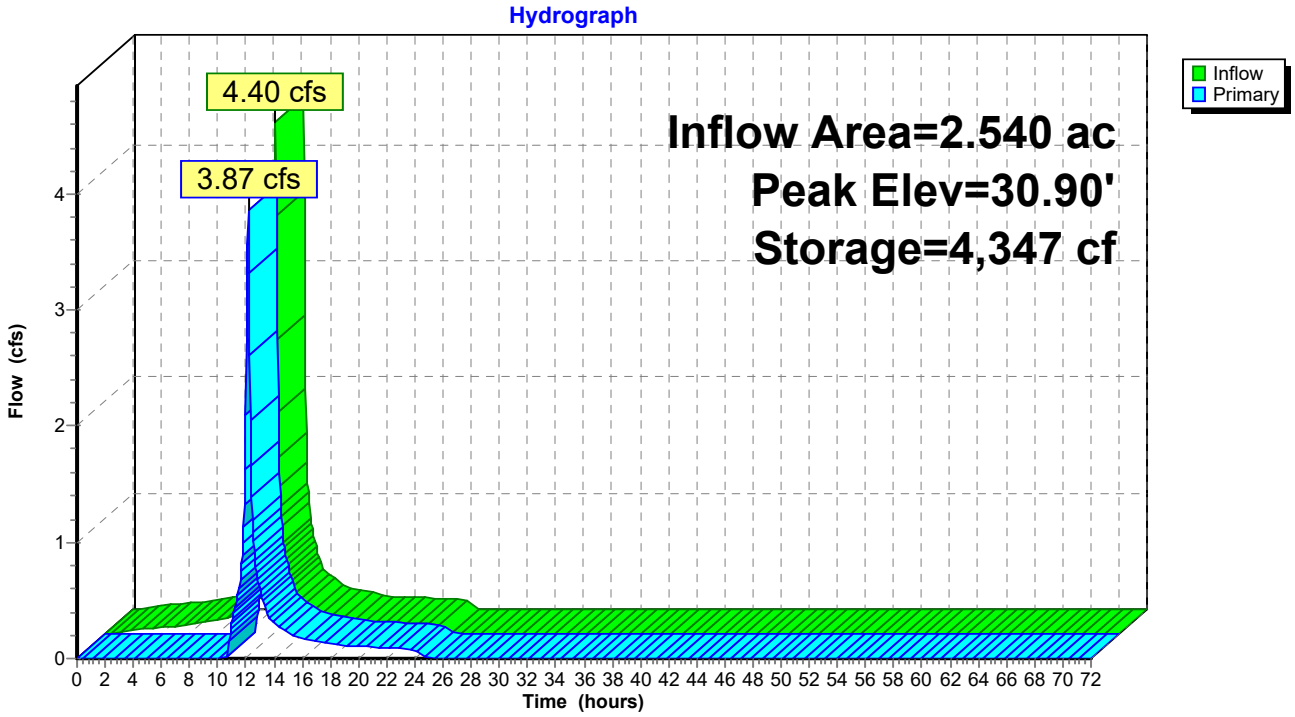
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.81 cfs @ 12.14 hrs HW=30.89' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.81 cfs @ 1.37 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 1.69" for Custom event
Inflow = 3.73 cfs @ 12.10 hrs, Volume= 0.367 af
Outflow = 3.13 cfs @ 12.15 hrs, Volume= 0.301 af, Atten= 16%, Lag= 3.1 min
Primary = 3.13 cfs @ 12.15 hrs, Volume= 0.301 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.61' @ 12.15 hrs Surf.Area= 7,110 sf Storage= 3,926 cf

Plug-Flow detention time= 168.7 min calculated for 0.301 af (82% of inflow)
Center-of-Mass det. time= 81.4 min (860.5 - 779.1)

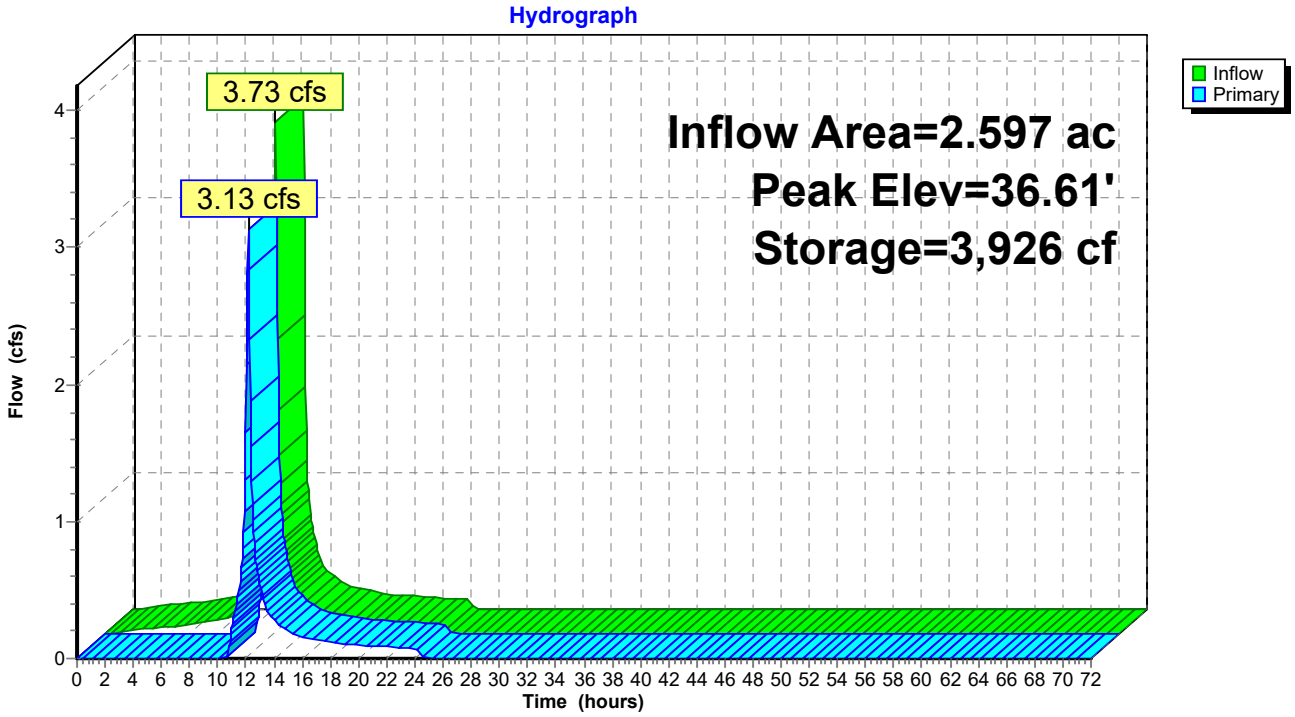
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.12 cfs @ 12.15 hrs HW=36.61' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 3.12 cfs @ 1.28 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

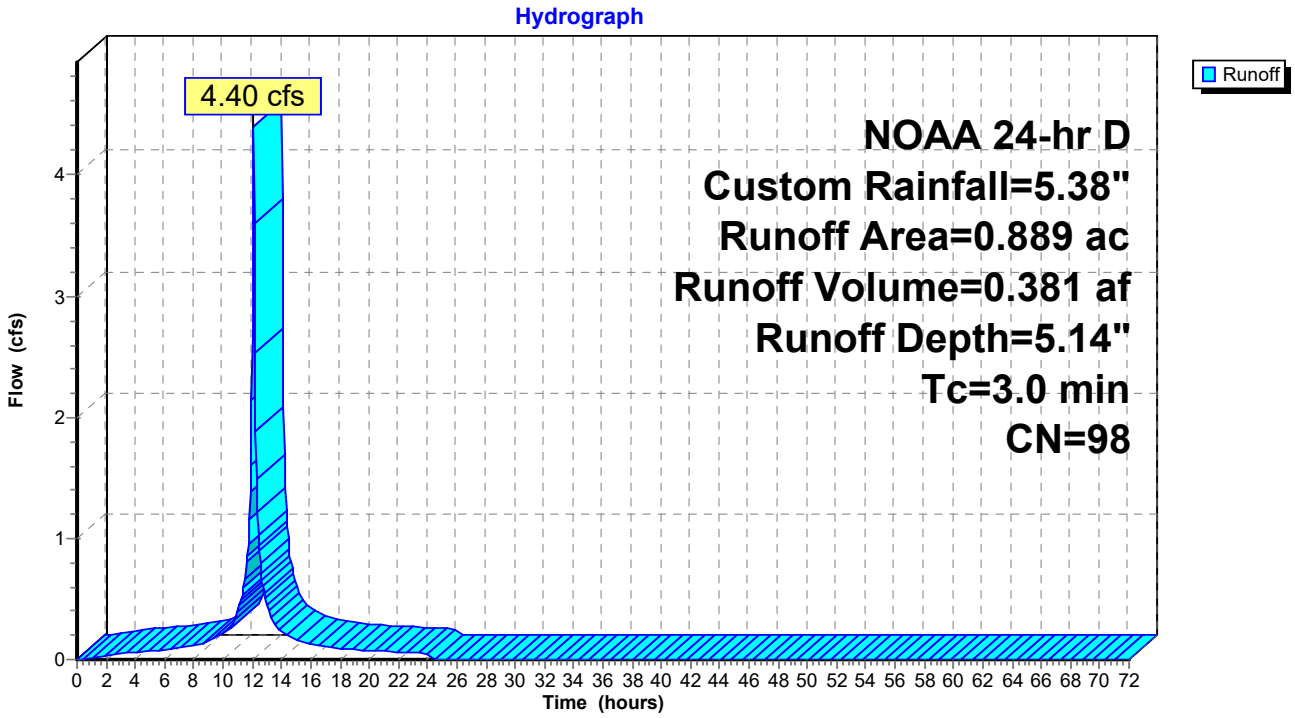
Runoff = 4.40 cfs @ 12.10 hrs, Volume= 0.381 af, Depth= 5.14"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 0.58" for Custom event
Inflow = 7.30 cfs @ 12.11 hrs, Volume= 0.723 af
Outflow = 6.41 cfs @ 12.16 hrs, Volume= 0.586 af, Atten= 12%, Lag= 3.0 min
Primary = 6.41 cfs @ 12.16 hrs, Volume= 0.586 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.13' @ 12.16 hrs Surf.Area= 8,166 sf Storage= 7,918 cf

Plug-Flow detention time= 178.4 min calculated for 0.586 af (81% of inflow)
Center-of-Mass det. time= 84.4 min (859.3 - 774.8)

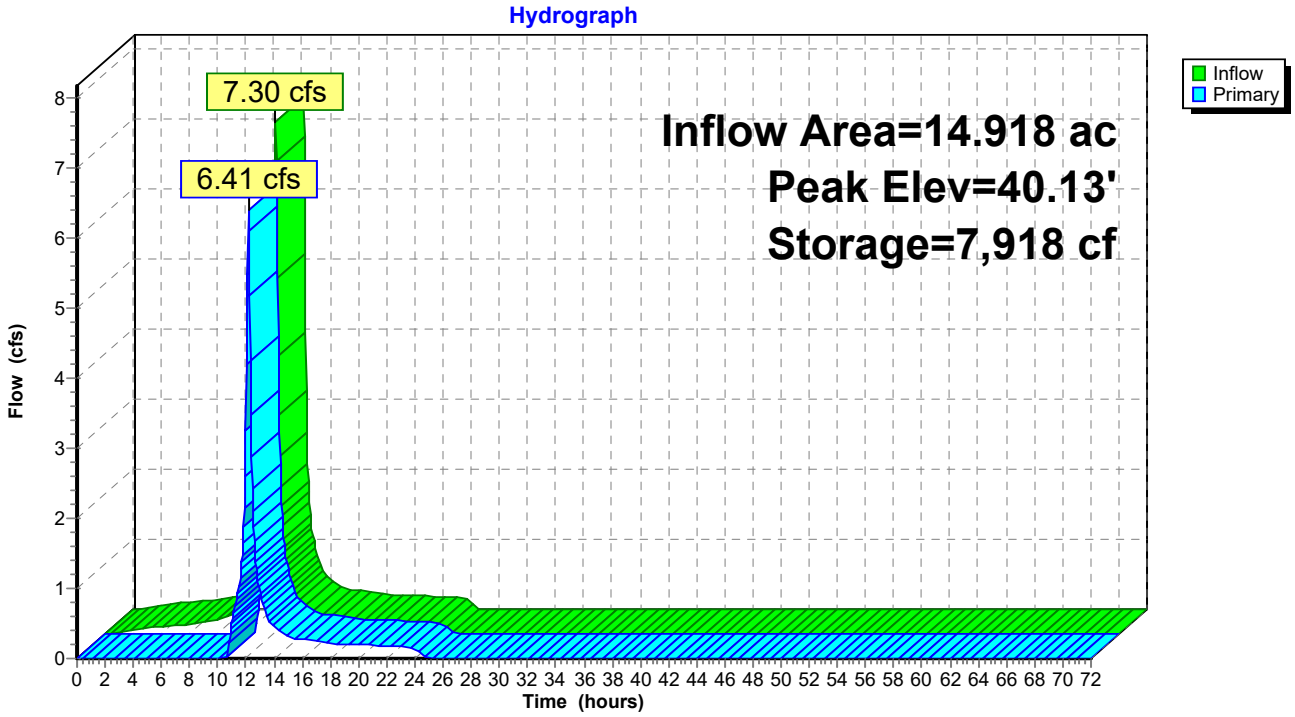
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.30 cfs @ 12.16 hrs HW=40.12' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 6.30 cfs @ 1.61 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

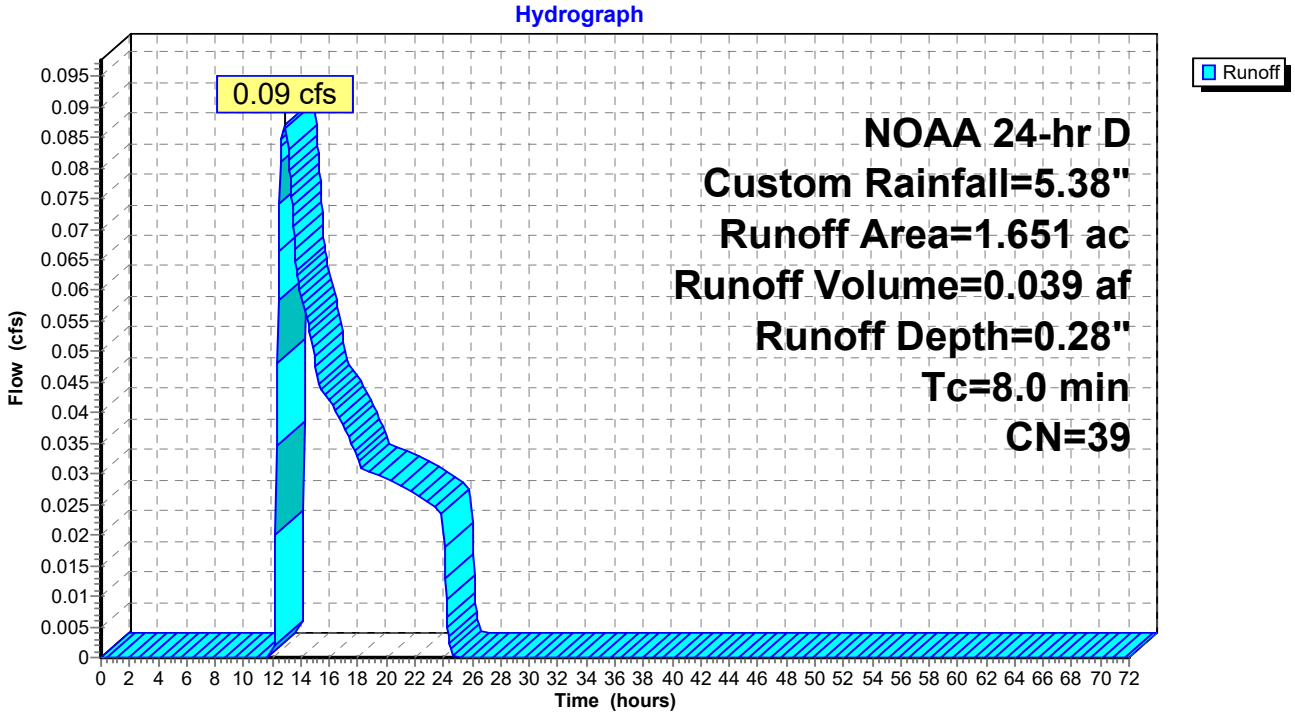
Runoff = 0.09 cfs @ 12.86 hrs, Volume= 0.039 af, Depth= 0.28"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 1.50" for Custom event
Inflow = 3.68 cfs @ 12.06 hrs, Volume= 0.376 af
Outflow = 3.42 cfs @ 12.10 hrs, Volume= 0.343 af, Atten= 7%, Lag= 2.1 min
Primary = 3.42 cfs @ 12.10 hrs, Volume= 0.343 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.06' @ 12.10 hrs Surf.Area= 4,018 sf Storage= 2,071 cf

Plug-Flow detention time= 100.1 min calculated for 0.343 af (91% of inflow)
Center-of-Mass det. time= 49.7 min (833.2 - 783.5)

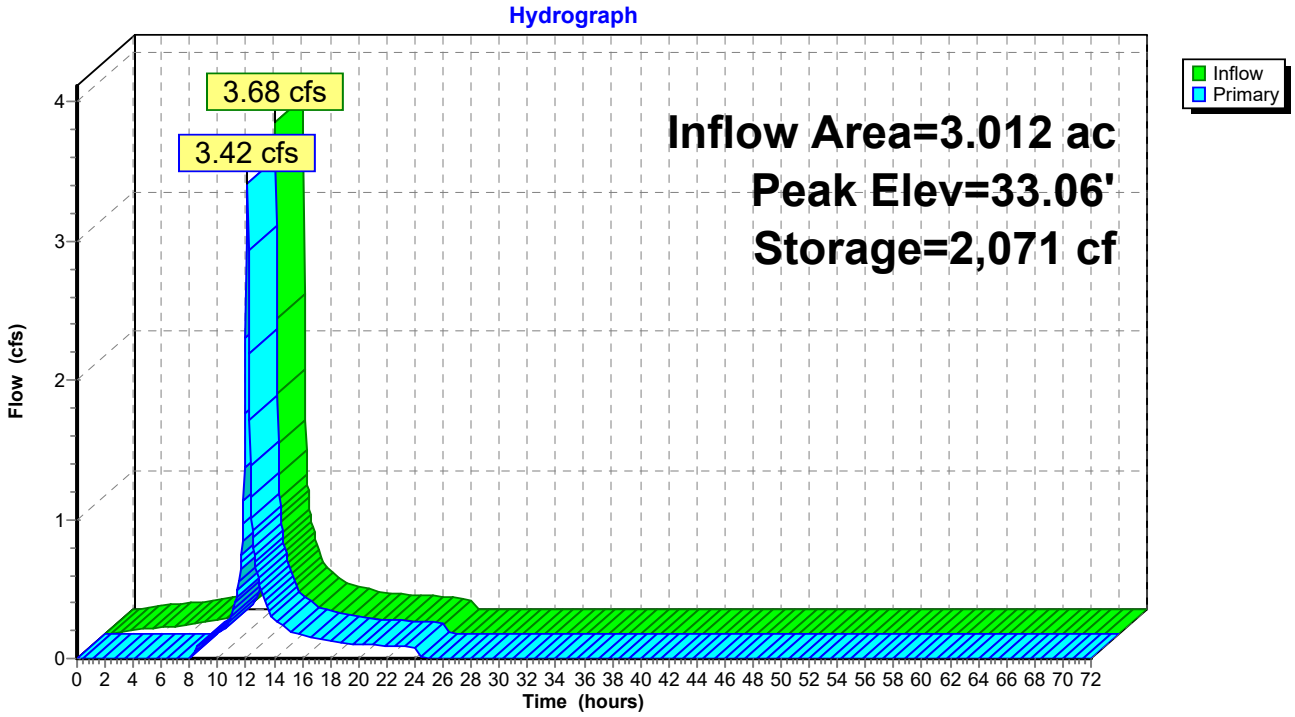
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.39 cfs @ 12.10 hrs HW=33.06' (Free Discharge)
1=Orifice/Grate (Weir Controls 3.39 cfs @ 1.31 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 5.14" for Custom event
Inflow = 7.05 cfs @ 12.11 hrs, Volume= 0.727 af
Outflow = 6.47 cfs @ 12.16 hrs, Volume= 0.581 af, Atten= 8%, Lag= 2.8 min
Primary = 6.47 cfs @ 12.16 hrs, Volume= 0.581 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.52' @ 12.16 hrs Surf.Area= 6,481 sf Storage= 7,929 cf

Plug-Flow detention time= 166.1 min calculated for 0.581 af (80% of inflow)
Center-of-Mass det. time= 81.2 min (831.8 - 750.6)

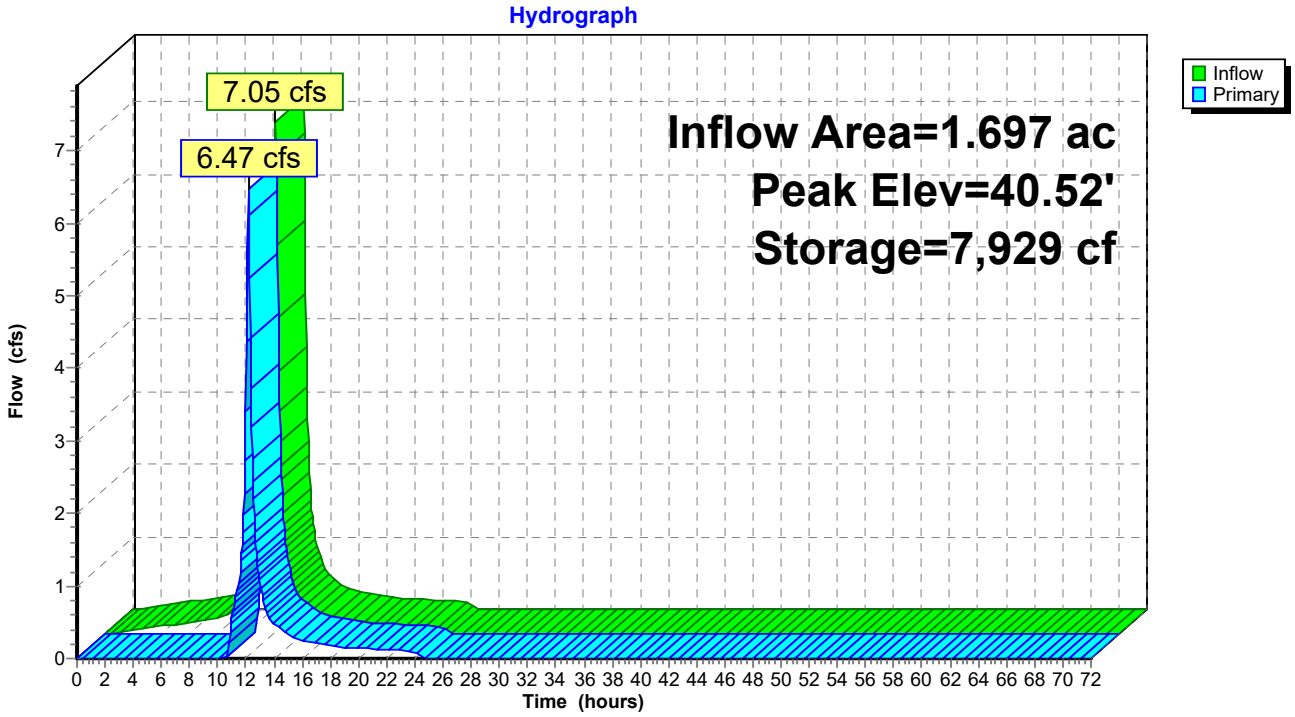
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.37 cfs @ 12.16 hrs HW=40.52' (Free Discharge)
1=Orifice/Grate (Weir Controls 6.37 cfs @ 1.62 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

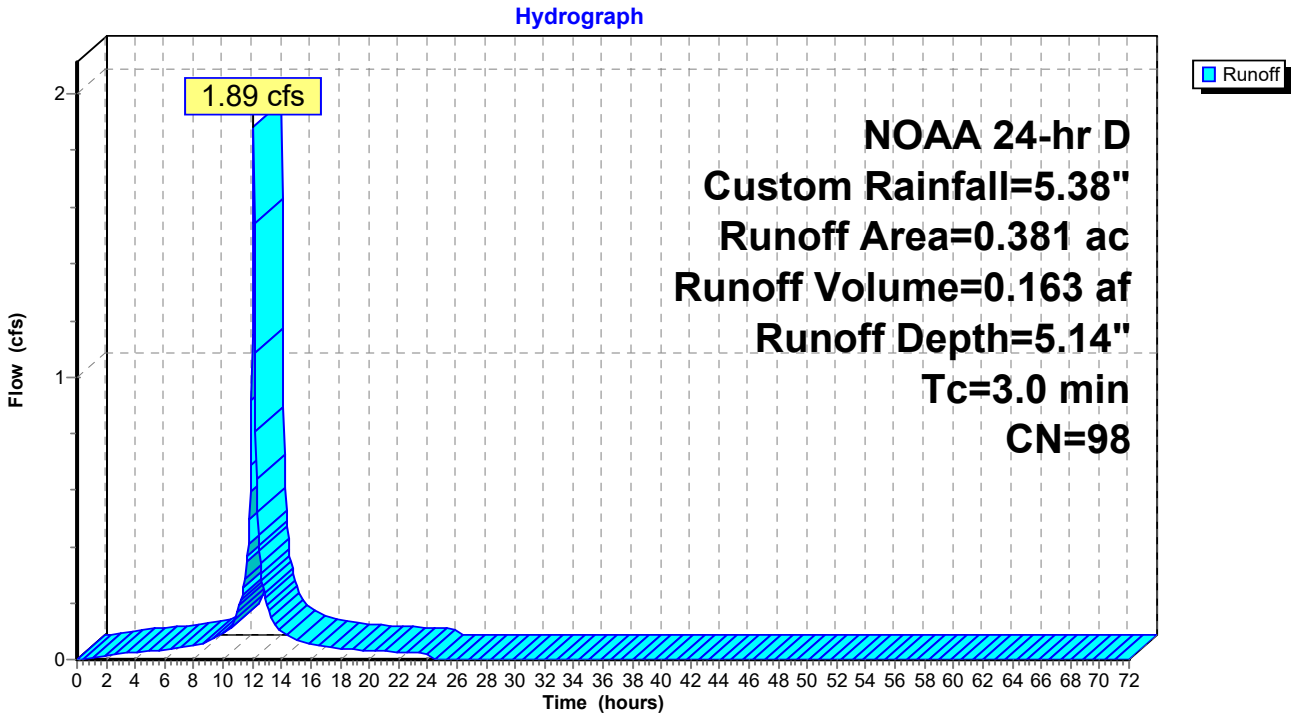
Runoff = 1.89 cfs @ 12.10 hrs, Volume= 0.163 af, Depth= 5.14"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

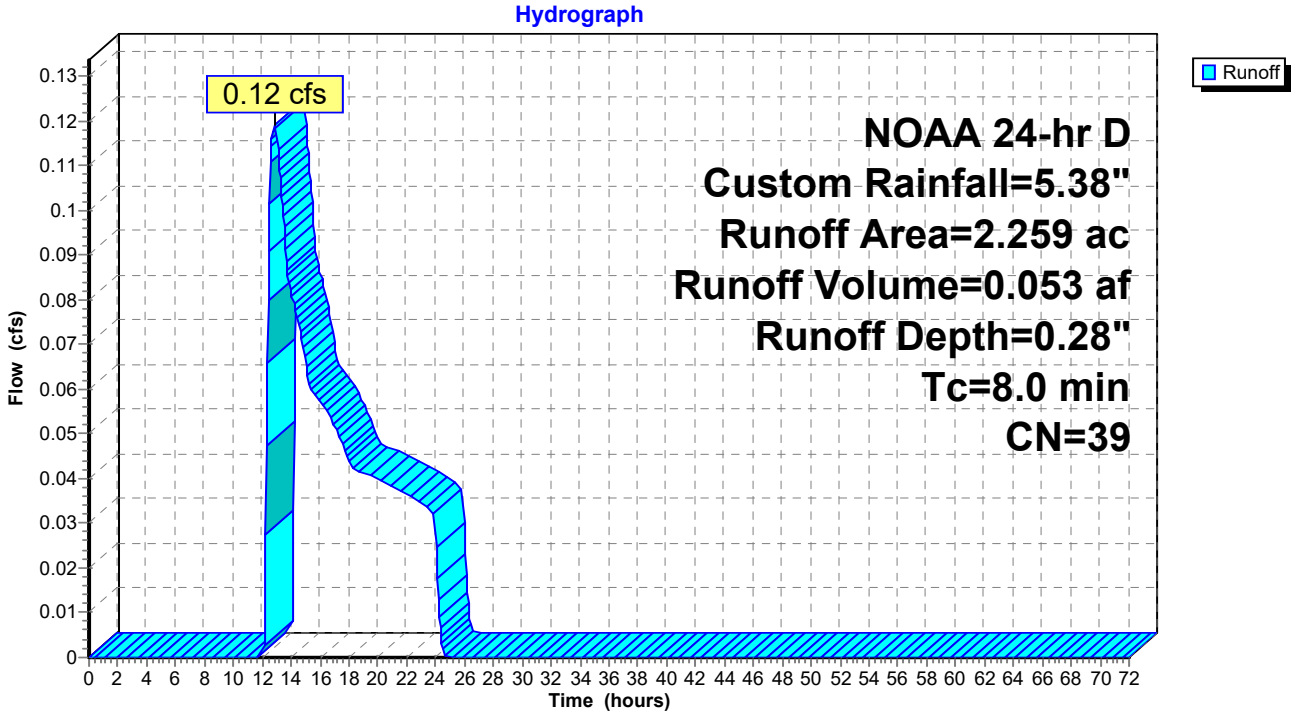
Runoff = 0.12 cfs @ 12.86 hrs, Volume= 0.053 af, Depth= 0.28"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

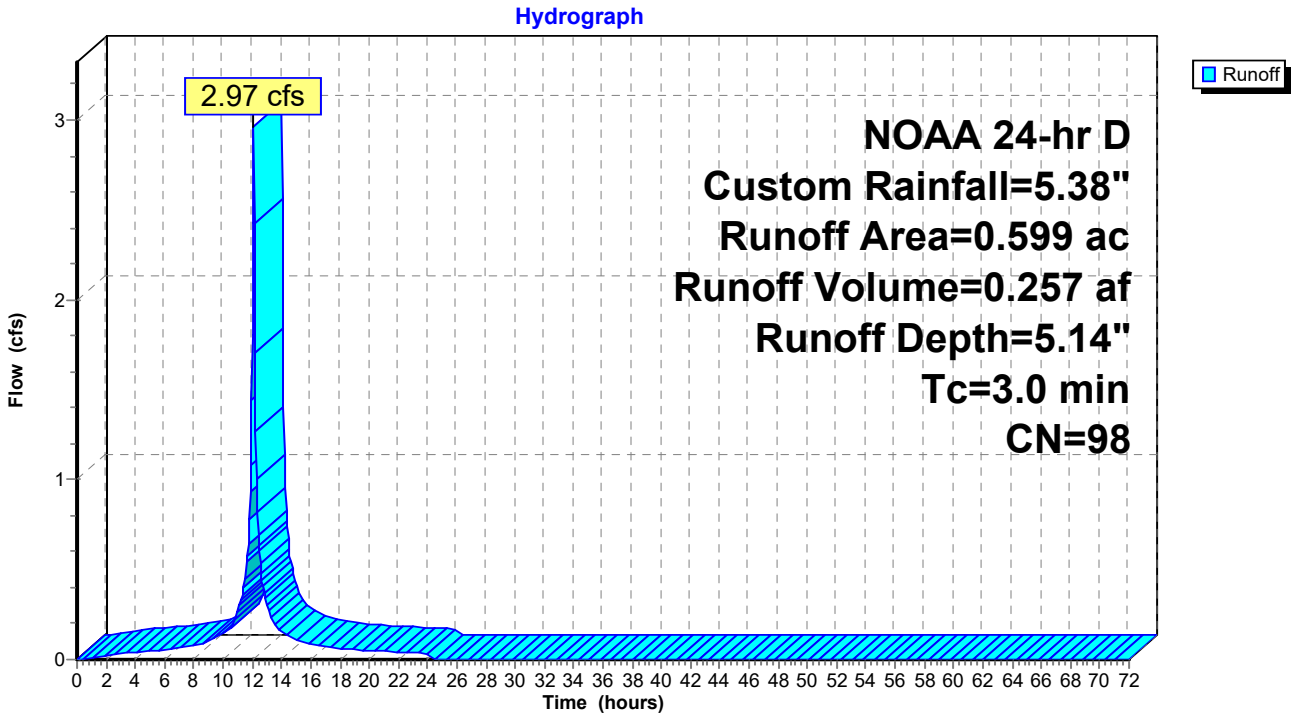
Runoff = 2.97 cfs @ 12.10 hrs, Volume= 0.257 af, Depth= 5.14"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 1.99" for Custom event
Inflow = 2.98 cfs @ 12.10 hrs, Volume= 0.289 af
Outflow = 2.76 cfs @ 12.13 hrs, Volume= 0.236 af, Atten= 7%, Lag= 1.9 min
Primary = 2.76 cfs @ 12.13 hrs, Volume= 0.236 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.54' @ 12.13 hrs Surf.Area= 3,249 sf Storage= 2,731 cf

Plug-Flow detention time= 162.3 min calculated for 0.236 af (82% of inflow)
Center-of-Mass det. time= 75.7 min (847.9 - 772.2)

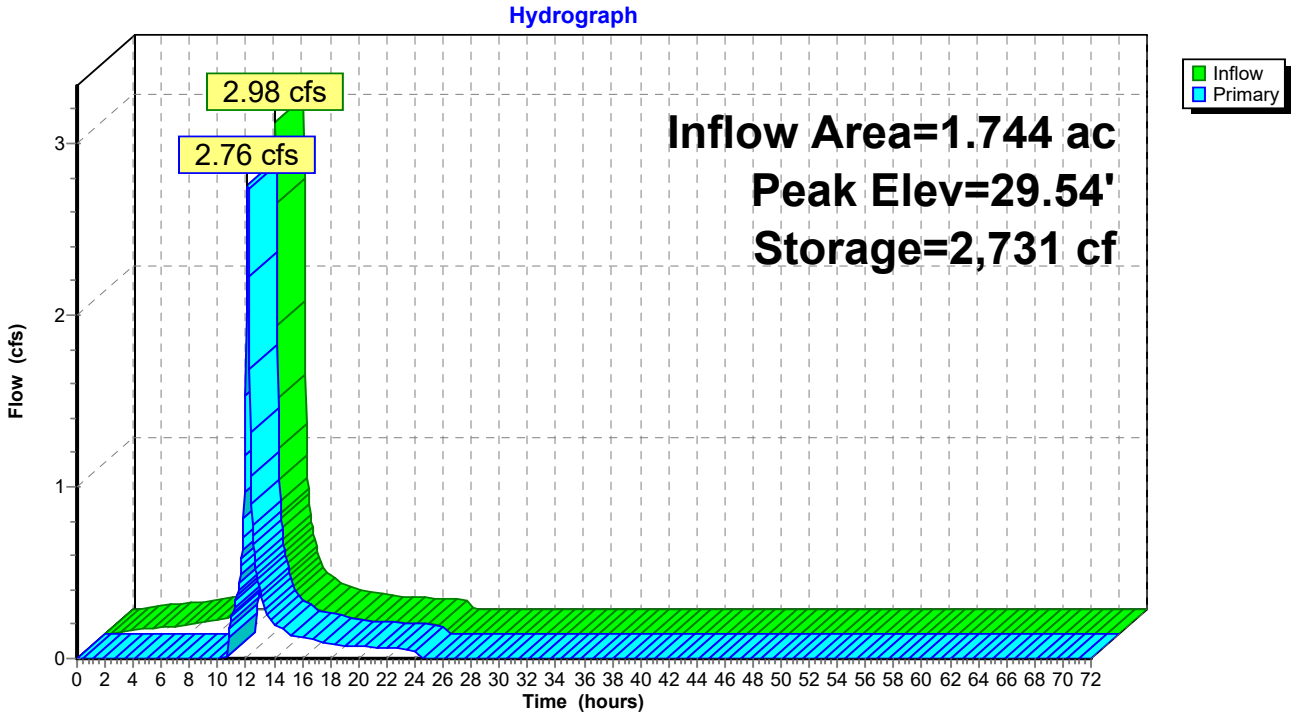
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.69 cfs @ 12.13 hrs HW=29.54' (Free Discharge)
1=Orifice/Grate (Weir Controls 2.69 cfs @ 1.22 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

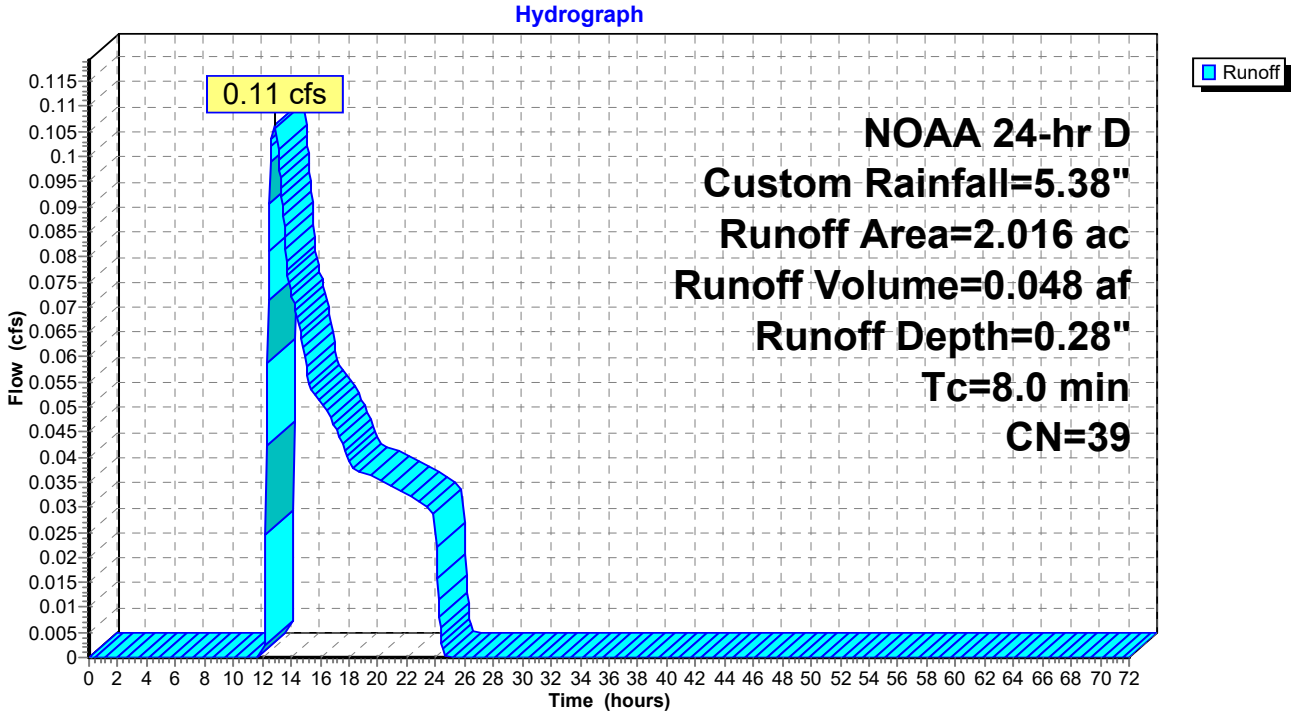
Runoff = 0.11 cfs @ 12.86 hrs, Volume= 0.048 af, Depth= 0.28"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

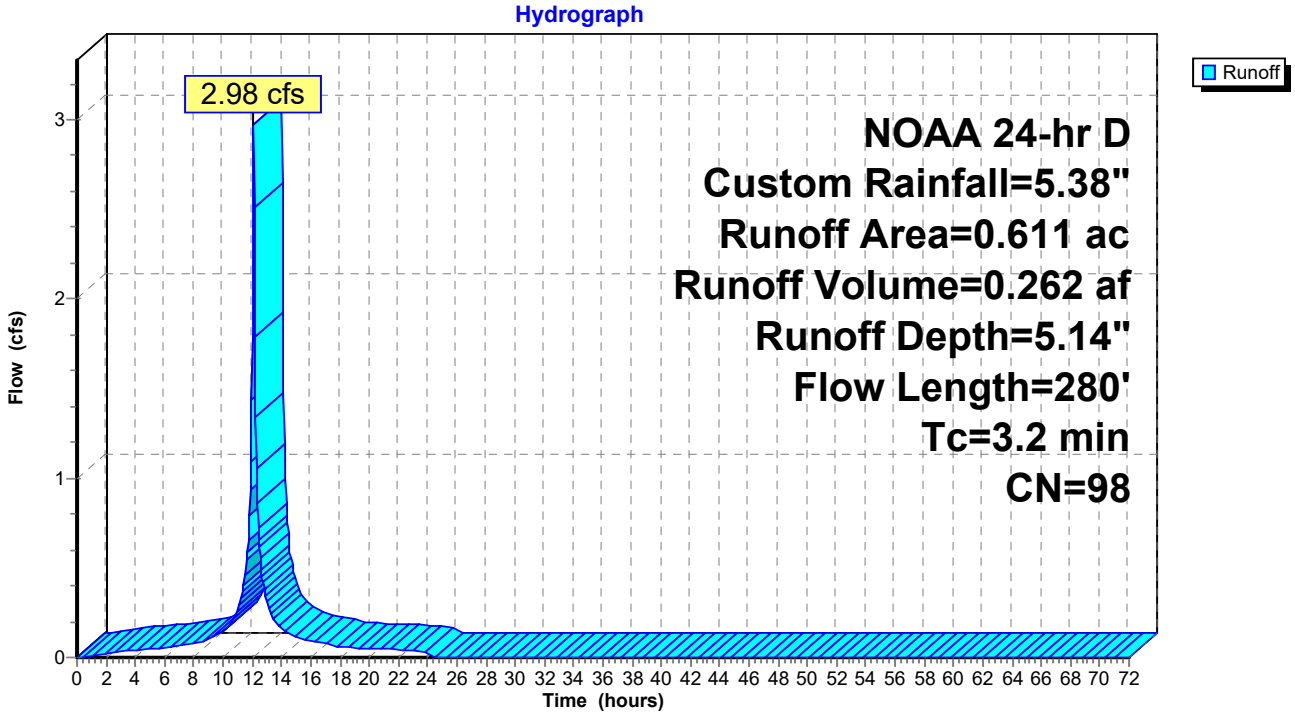
Runoff = 2.98 cfs @ 12.10 hrs, Volume= 0.262 af, Depth= 5.14"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 2.37" for Custom event
Inflow = 5.53 cfs @ 12.10 hrs, Volume= 0.513 af
Outflow = 4.97 cfs @ 12.14 hrs, Volume= 0.356 af, Atten= 10%, Lag= 2.3 min
Primary = 4.97 cfs @ 12.14 hrs, Volume= 0.356 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.19' @ 12.14 hrs Surf.Area= 5,107 sf Storage= 7,900 cf

Plug-Flow detention time= 220.9 min calculated for 0.356 af (69% of inflow)
Center-of-Mass det. time= 105.6 min (871.0 - 765.5)

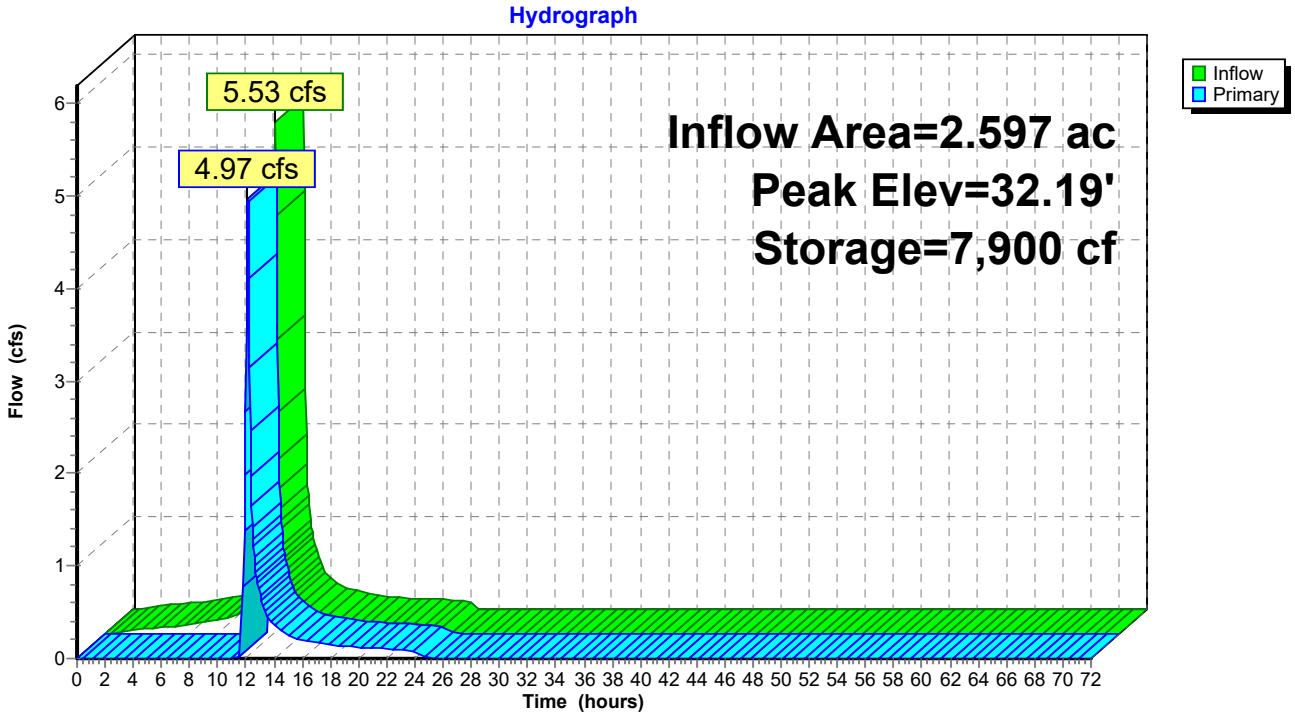
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.85 cfs @ 12.14 hrs HW=32.18' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 4.85 cfs @ 1.48 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

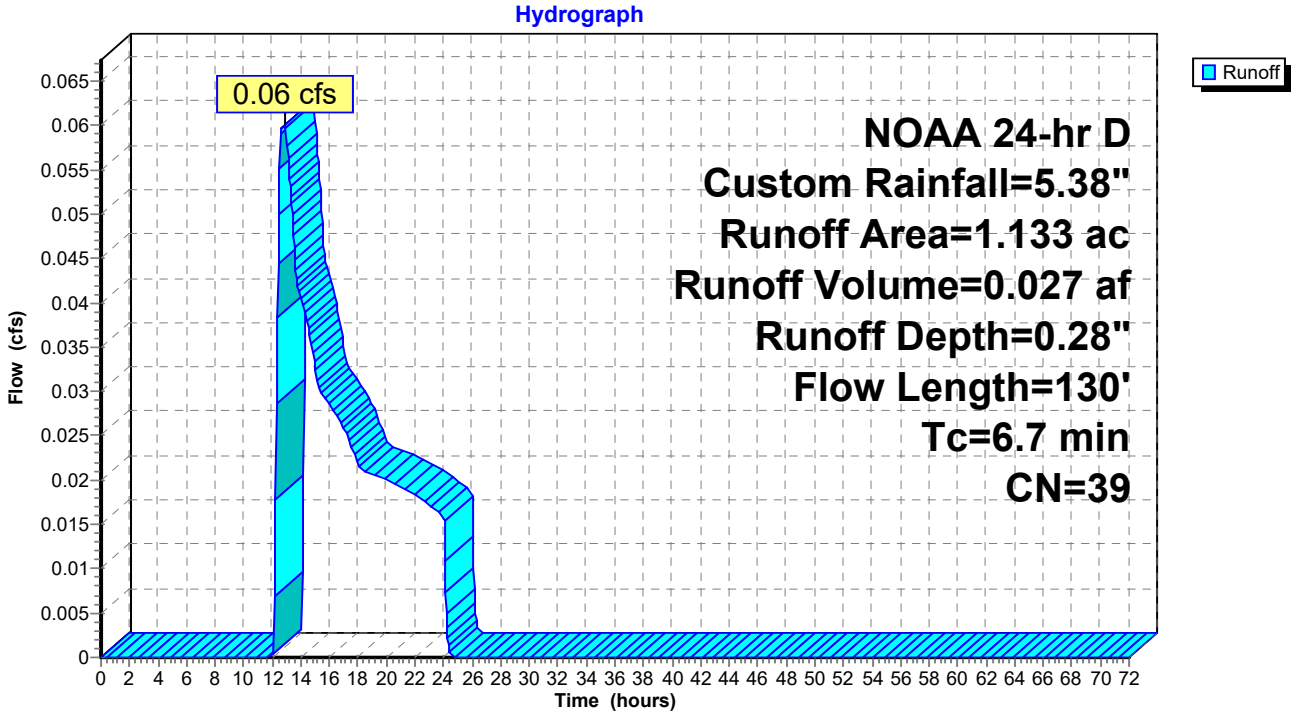
Runoff = 0.06 cfs @ 12.83 hrs, Volume= 0.027 af, Depth= 0.28"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 1.74" for Custom event
Inflow = 3.70 cfs @ 12.10 hrs, Volume= 0.361 af
Outflow = 2.24 cfs @ 12.21 hrs, Volume= 0.296 af, Atten= 40%, Lag= 6.6 min
Primary = 2.24 cfs @ 12.21 hrs, Volume= 0.296 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.81' @ 12.21 hrs Surf.Area= 6,043 sf Storage= 6,927 cf

Plug-Flow detention time= 353.5 min calculated for 0.296 af (82% of inflow)
Center-of-Mass det. time= 268.2 min (1,045.9 - 777.7)

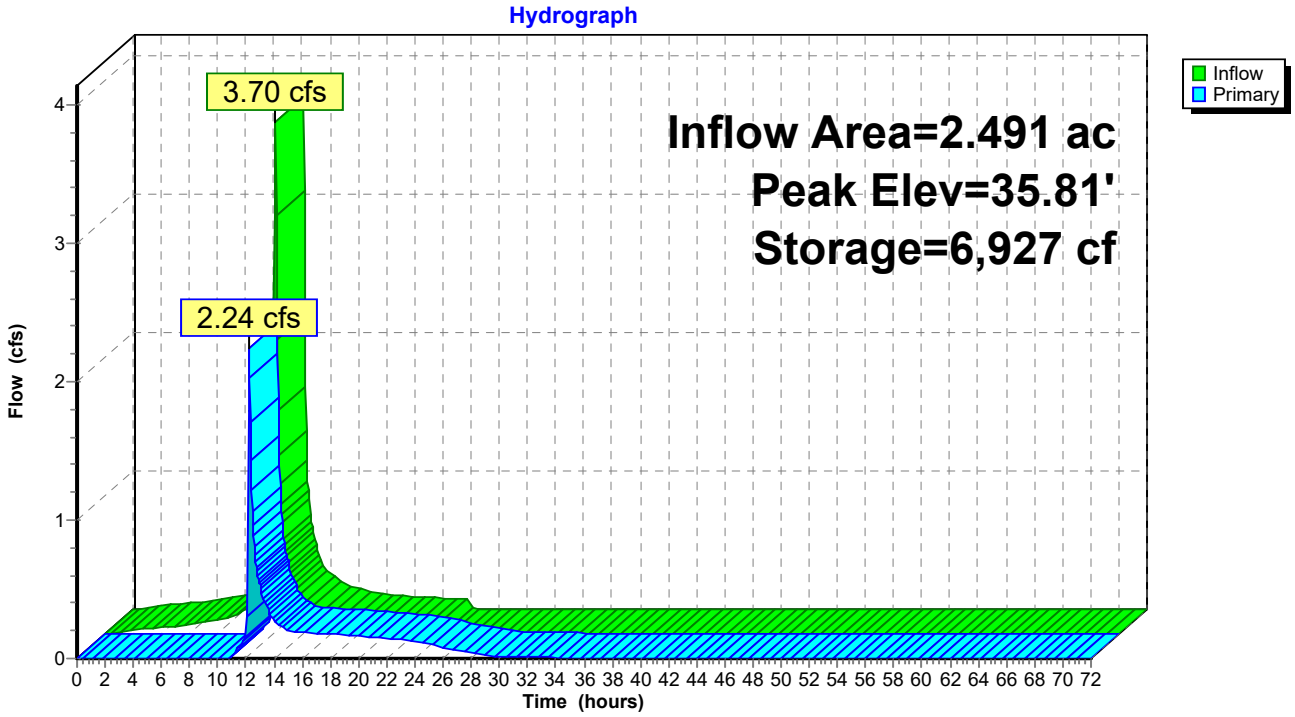
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.18 cfs @ 12.21 hrs HW=35.81' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 4.14 fps)
└**2=Orifice/Grate** (Weir Controls 1.98 cfs @ 1.10 fps)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

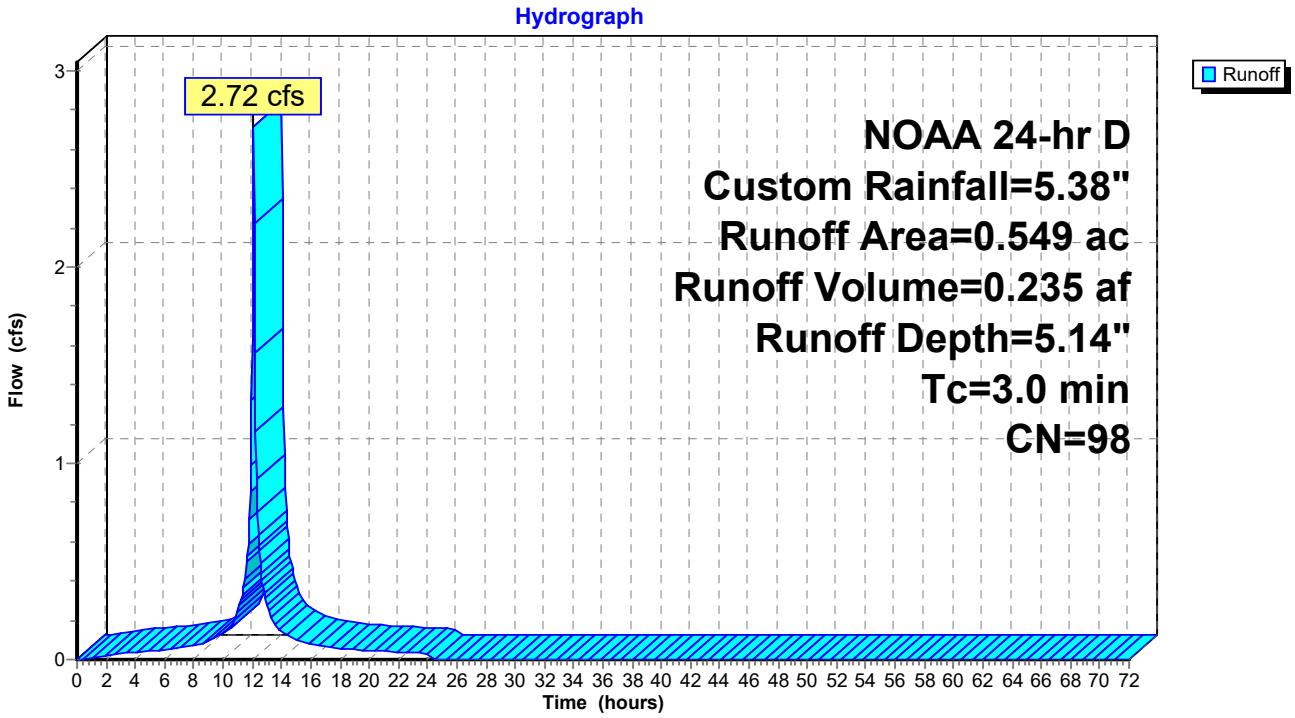
Runoff = 2.72 cfs @ 12.10 hrs, Volume= 0.235 af, Depth= 5.14"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

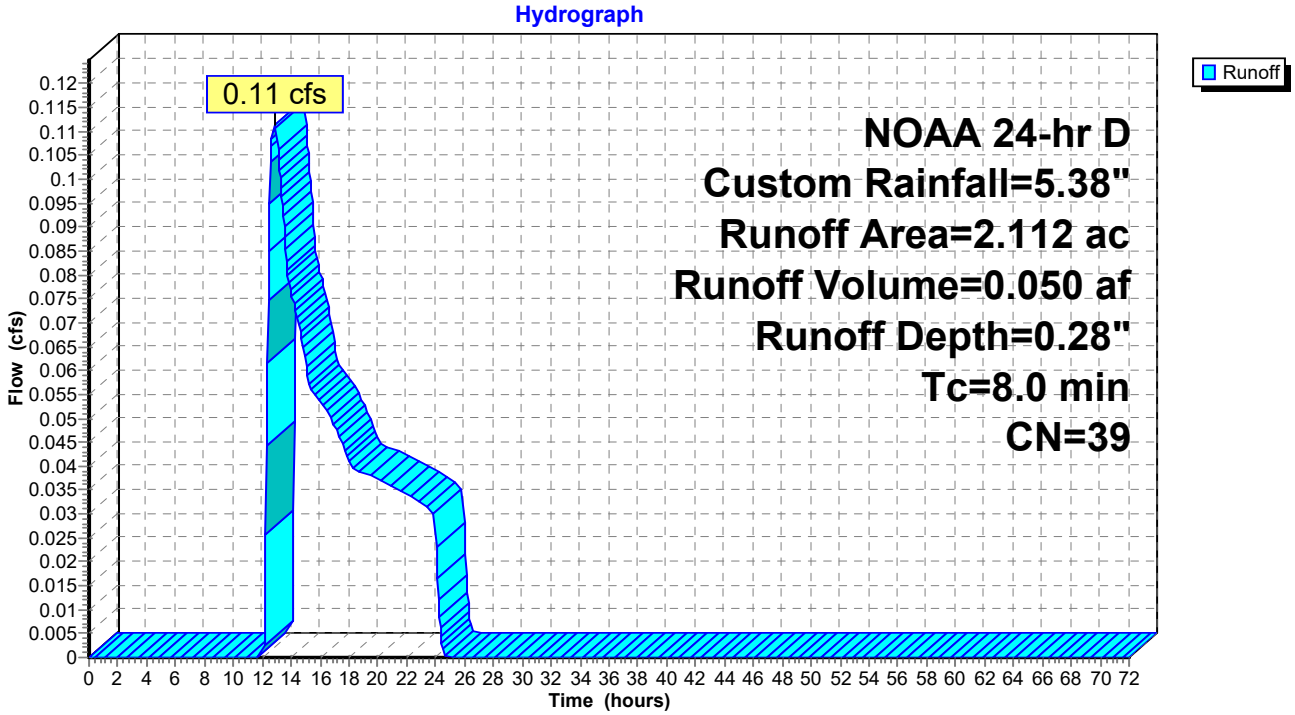
Runoff = 0.11 cfs @ 12.86 hrs, Volume= 0.050 af, Depth= 0.28"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

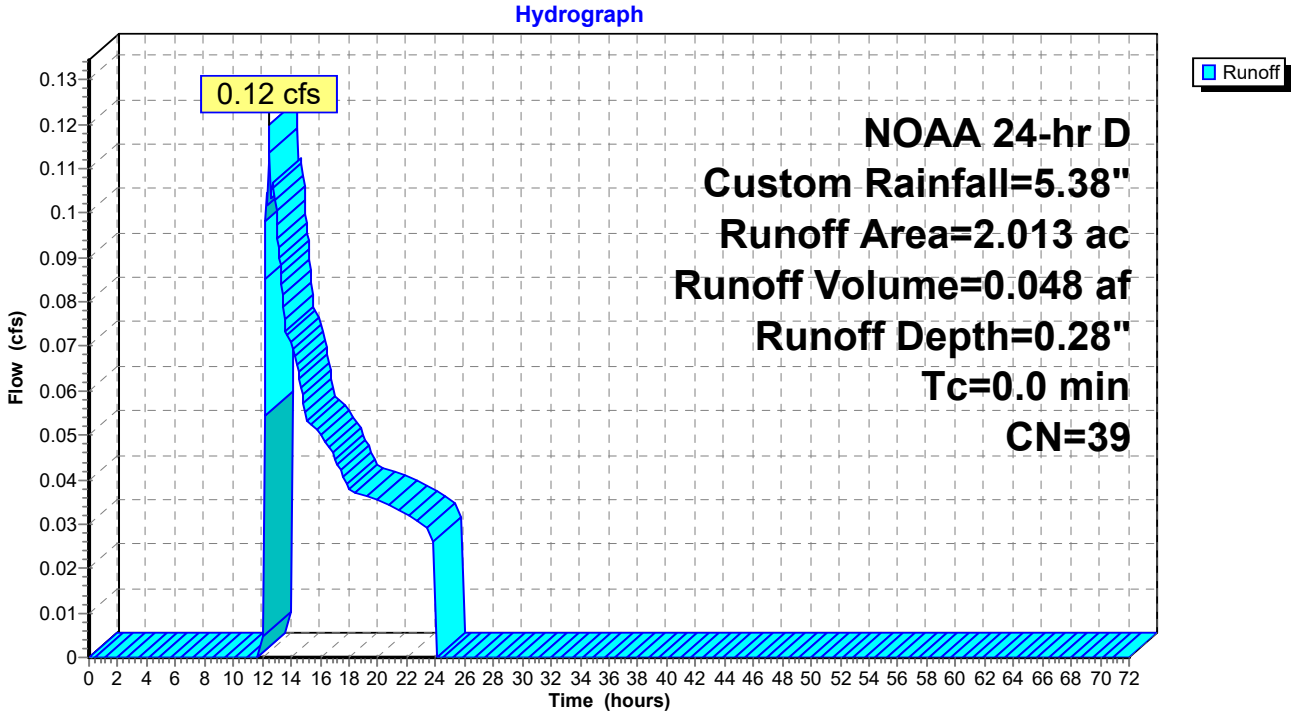
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.12 cfs @ 12.45 hrs, Volume= 0.048 af, Depth= 0.28"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

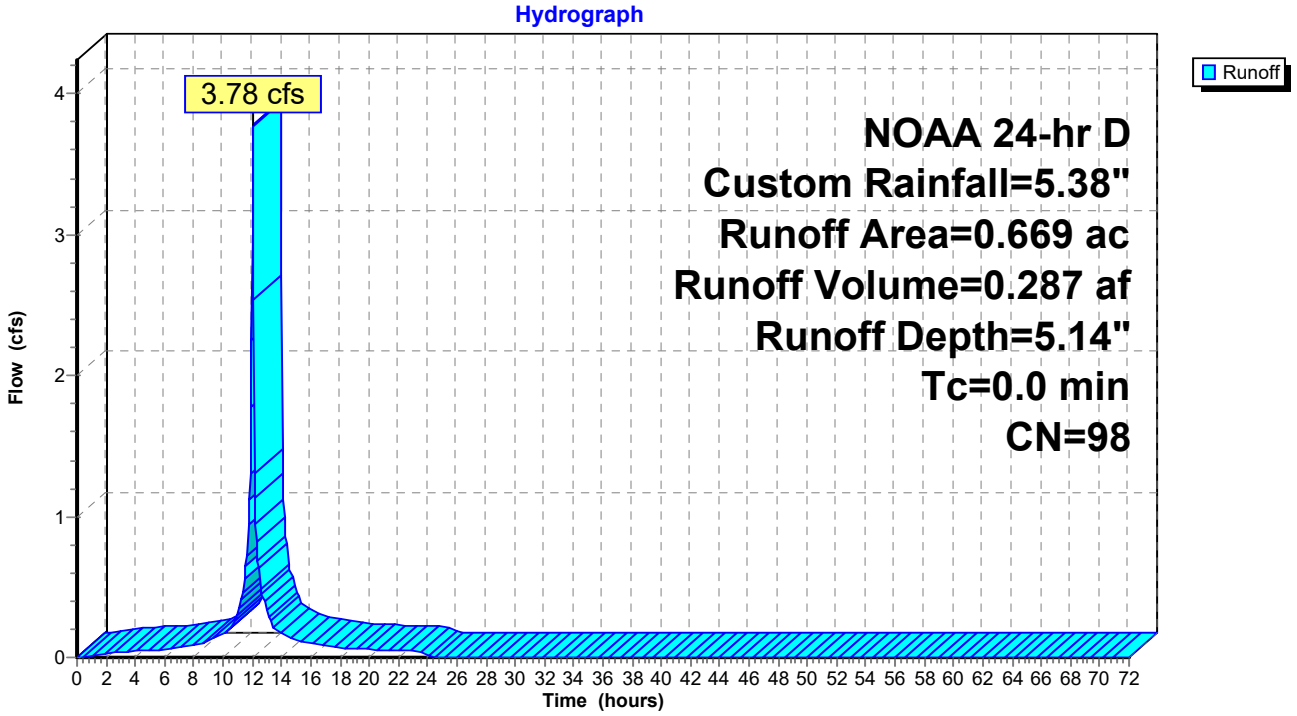
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 3.78 cfs @ 12.04 hrs, Volume= 0.287 af, Depth= 5.14"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

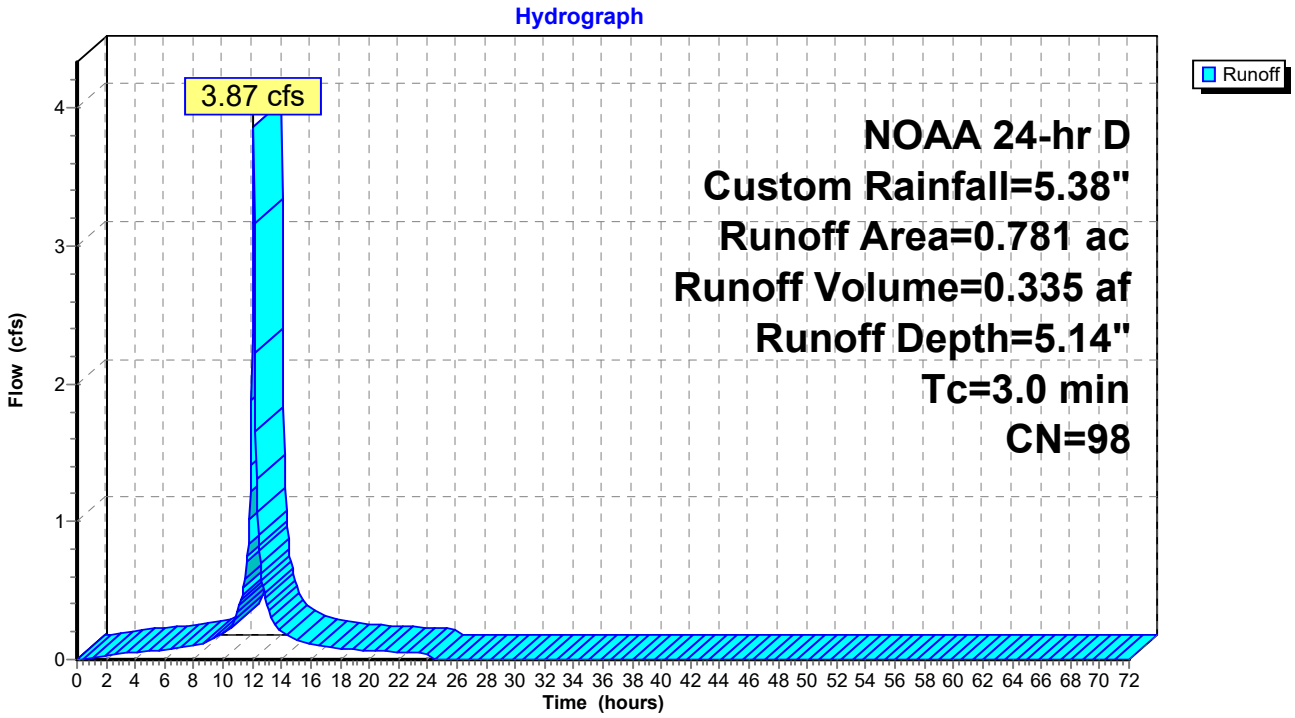
Runoff = 3.87 cfs @ 12.10 hrs, Volume= 0.335 af, Depth= 5.14"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

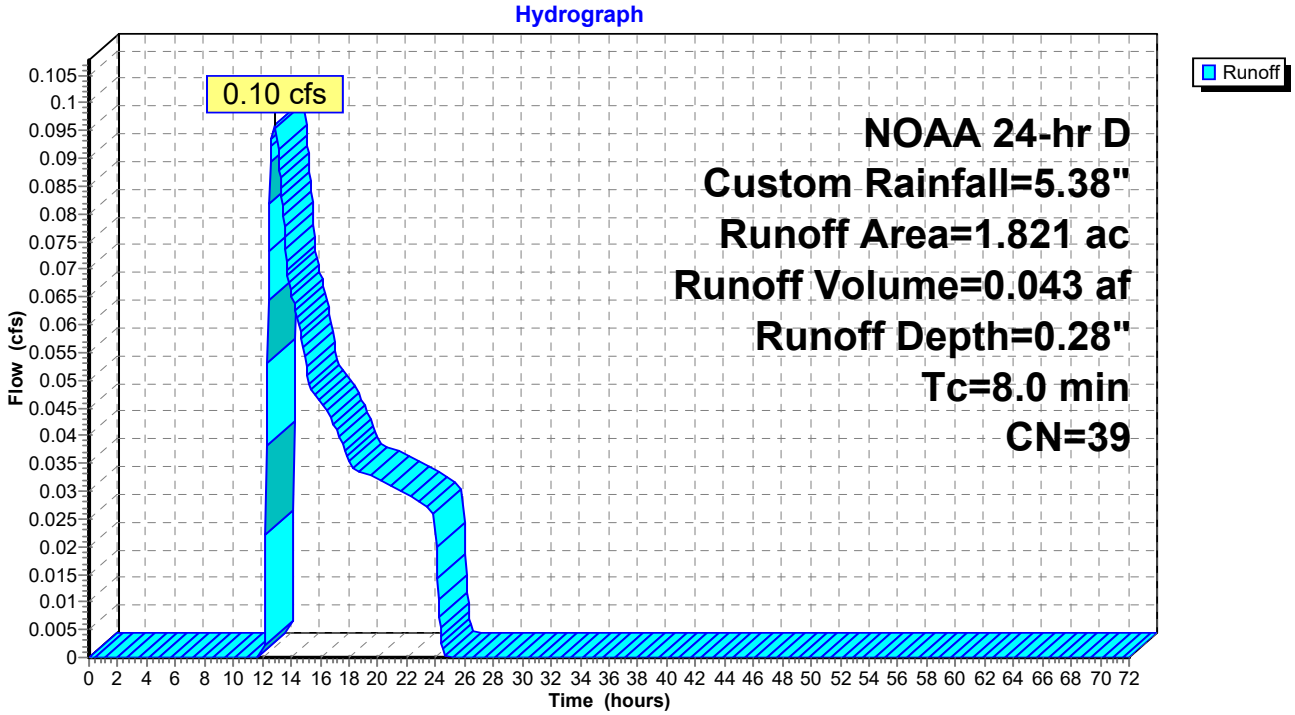
Runoff = 0.10 cfs @ 12.86 hrs, Volume= 0.043 af, Depth= 0.28"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

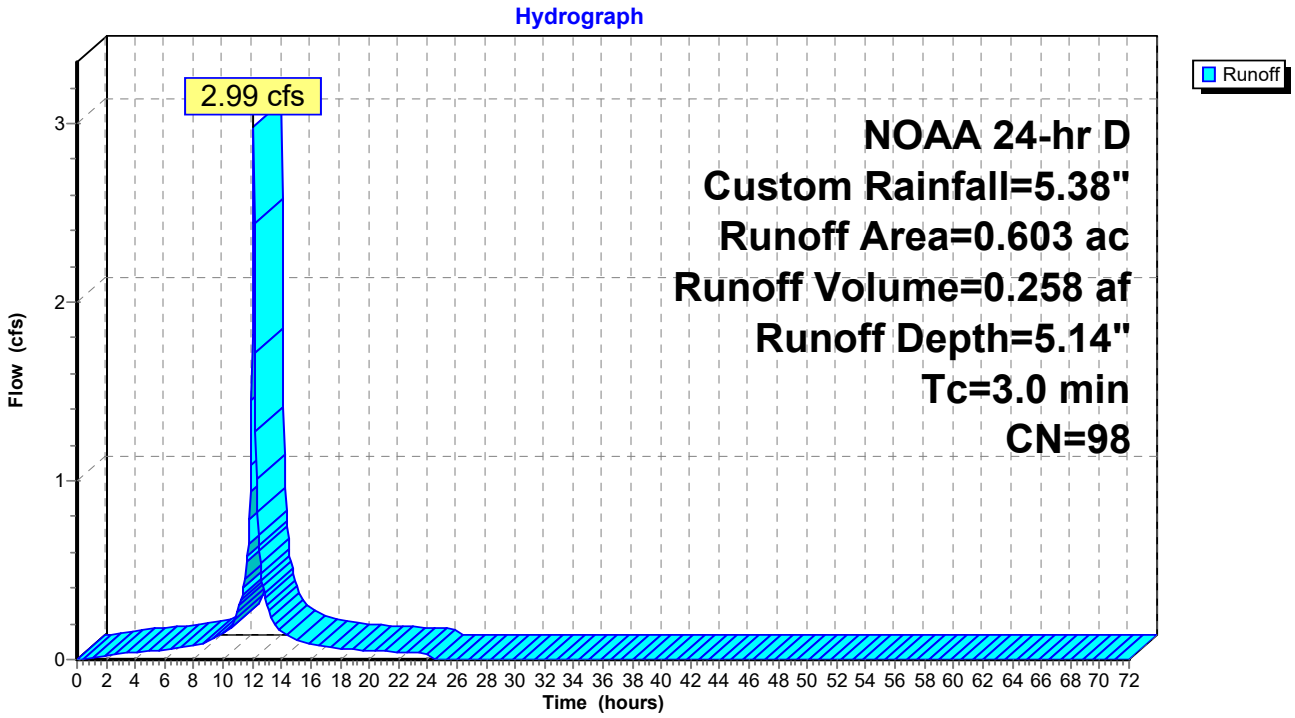
Runoff = 2.99 cfs @ 12.10 hrs, Volume= 0.258 af, Depth= 5.14"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

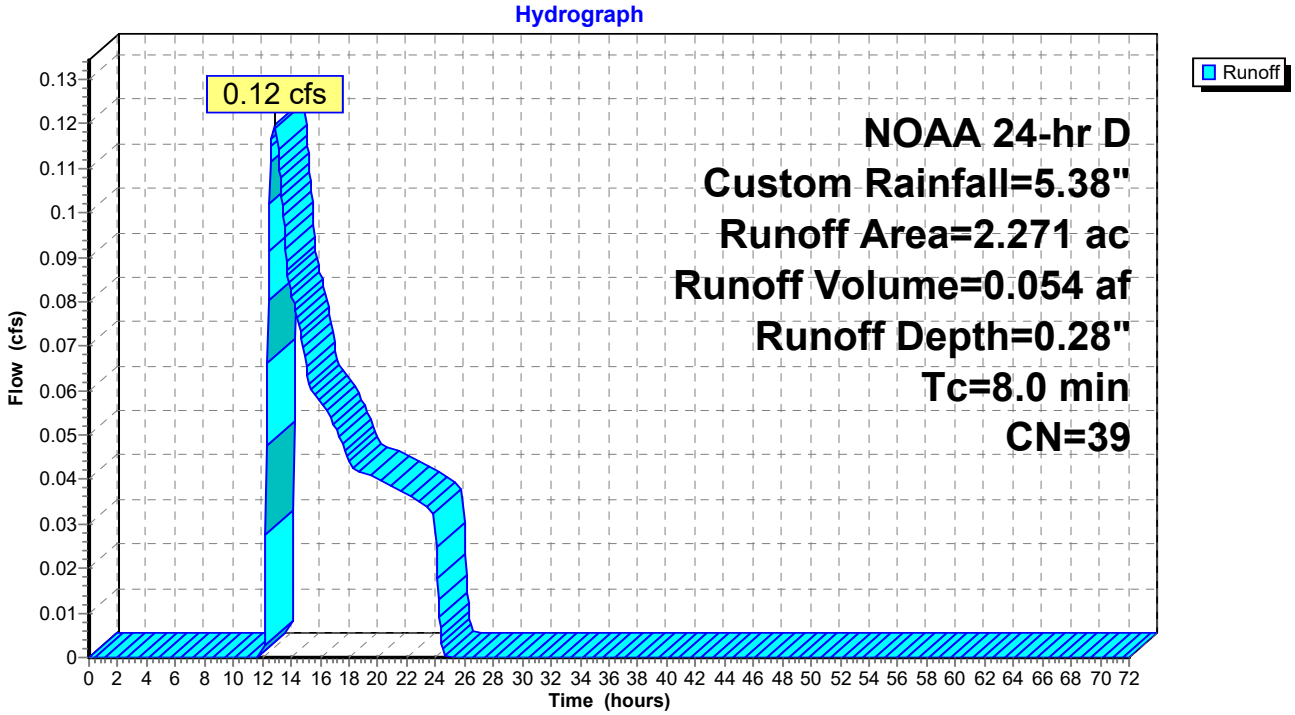
Runoff = 0.12 cfs @ 12.86 hrs, Volume= 0.054 af, Depth= 0.28"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

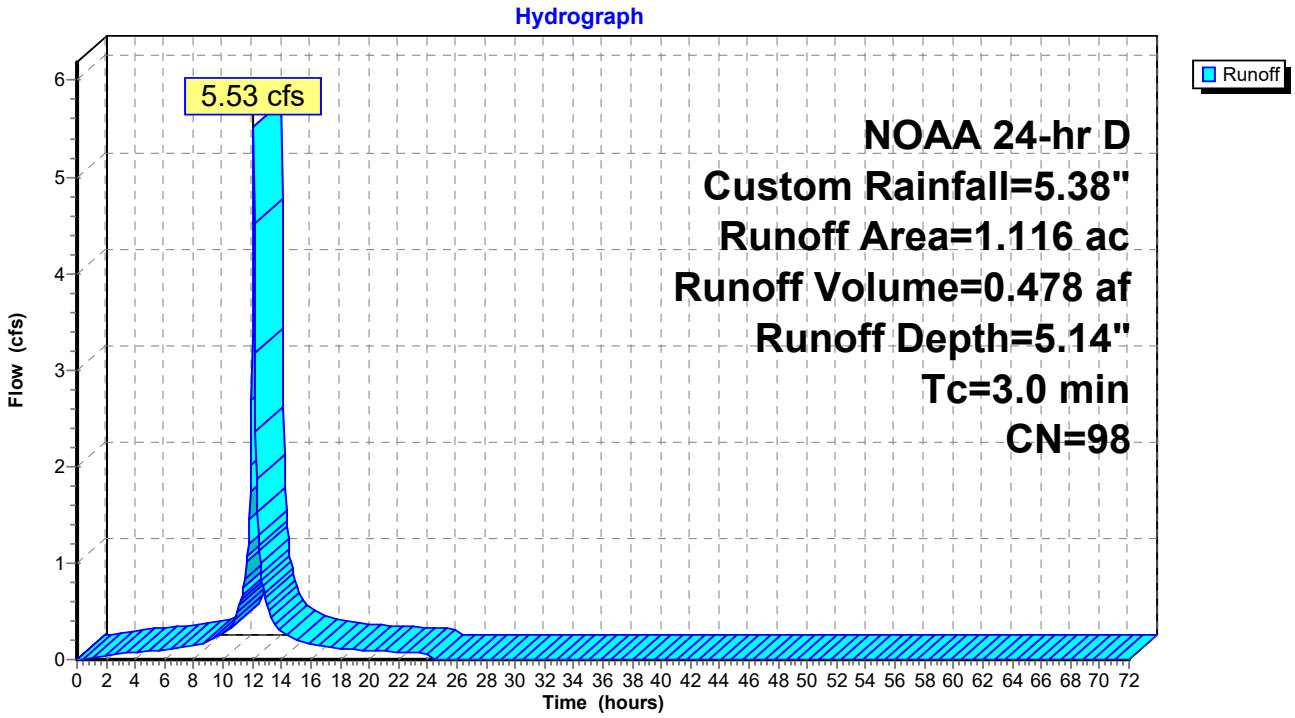
Runoff = 5.53 cfs @ 12.10 hrs, Volume= 0.478 af, Depth= 5.14"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

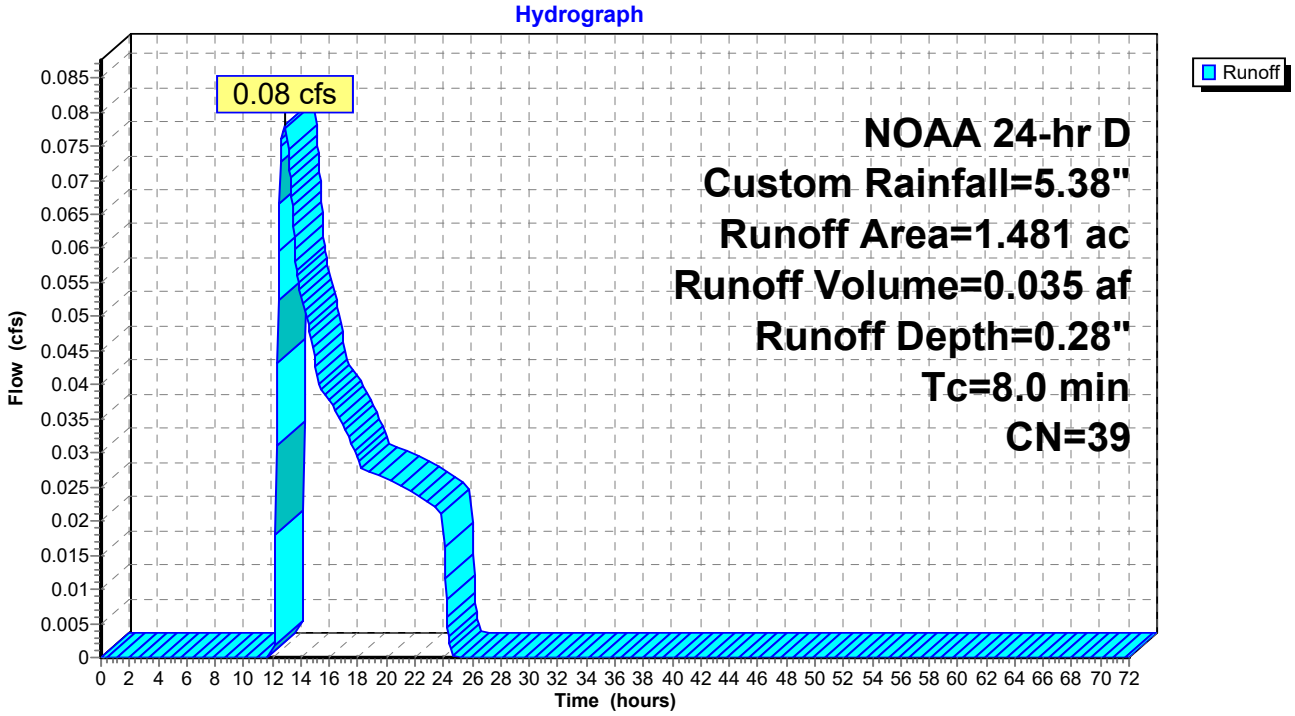
Runoff = 0.08 cfs @ 12.86 hrs, Volume= 0.035 af, Depth= 0.28"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

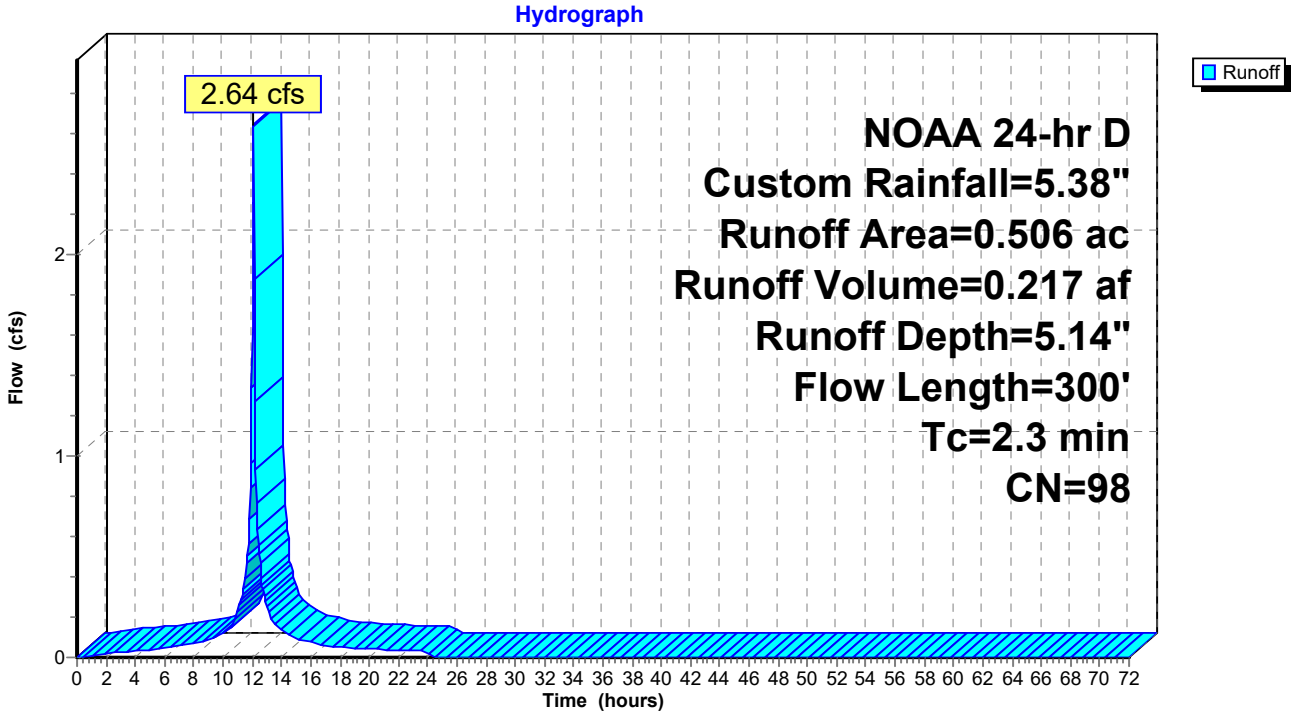
Runoff = 2.64 cfs @ 12.09 hrs, Volume= 0.217 af, Depth= 5.14"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

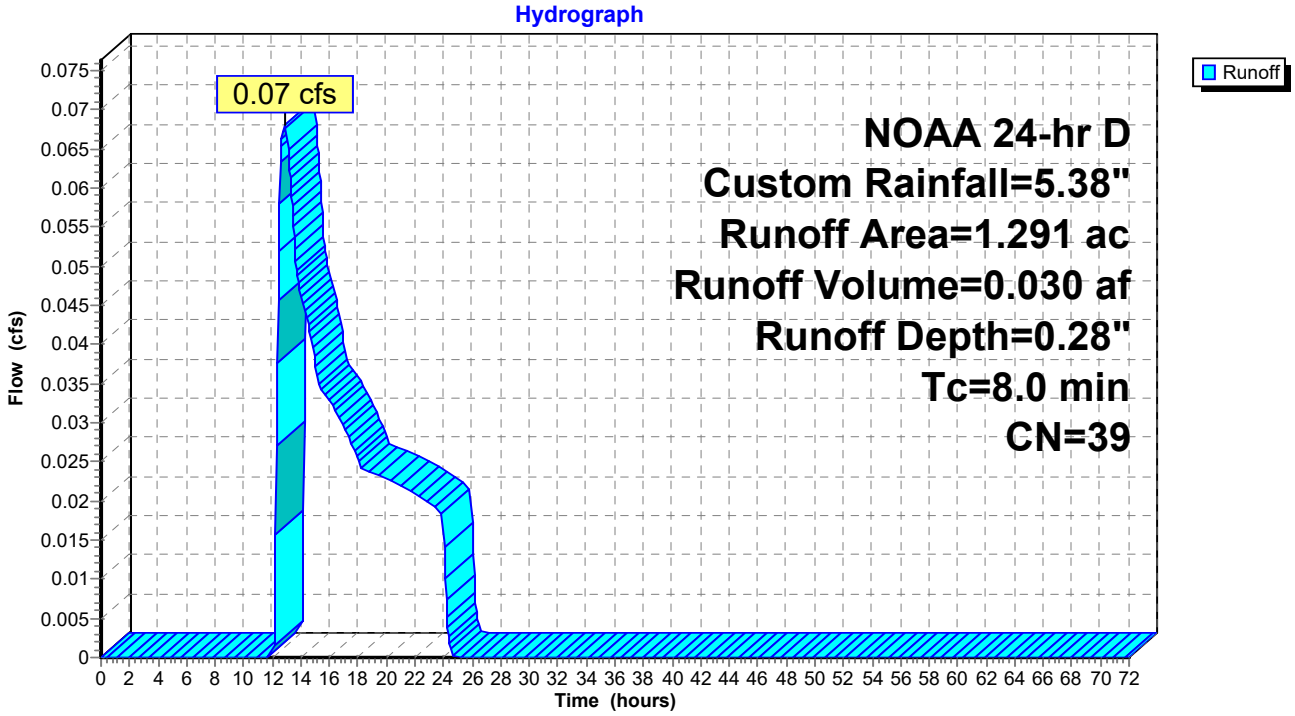
Runoff = 0.07 cfs @ 12.86 hrs, Volume= 0.030 af, Depth= 0.28"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

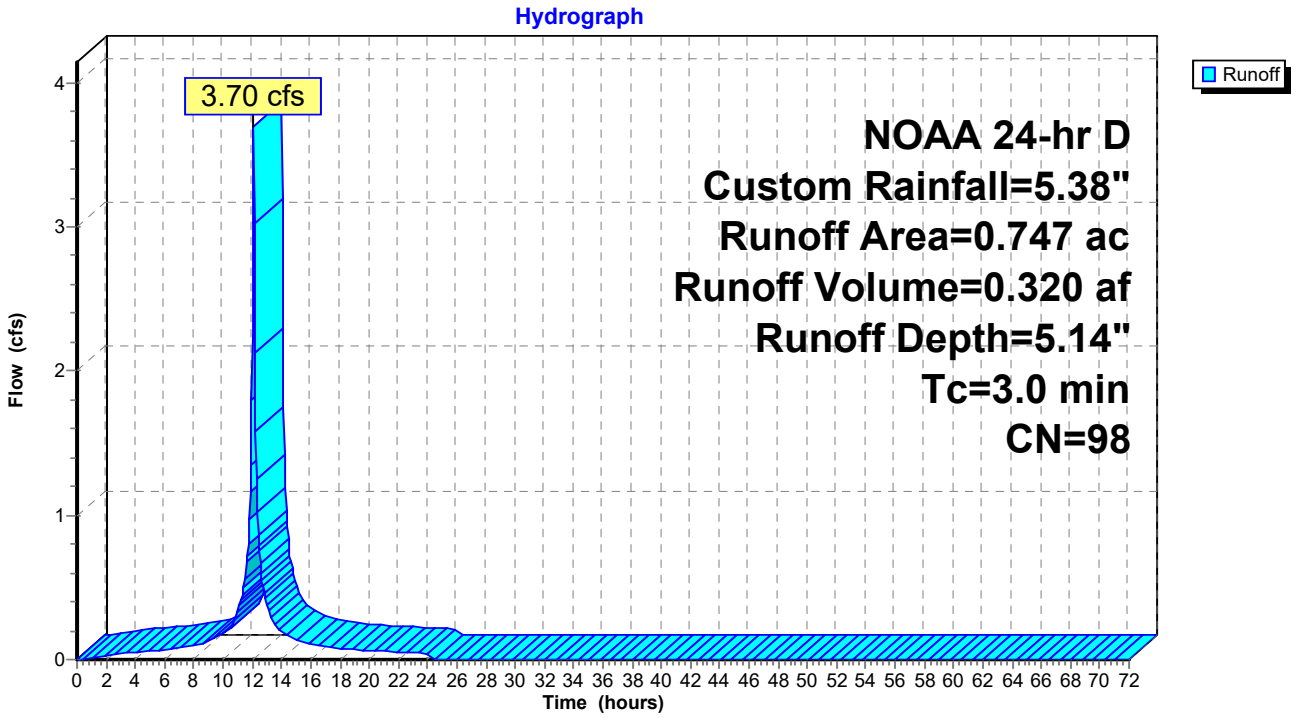
Runoff = 3.70 cfs @ 12.10 hrs, Volume= 0.320 af, Depth= 5.14"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

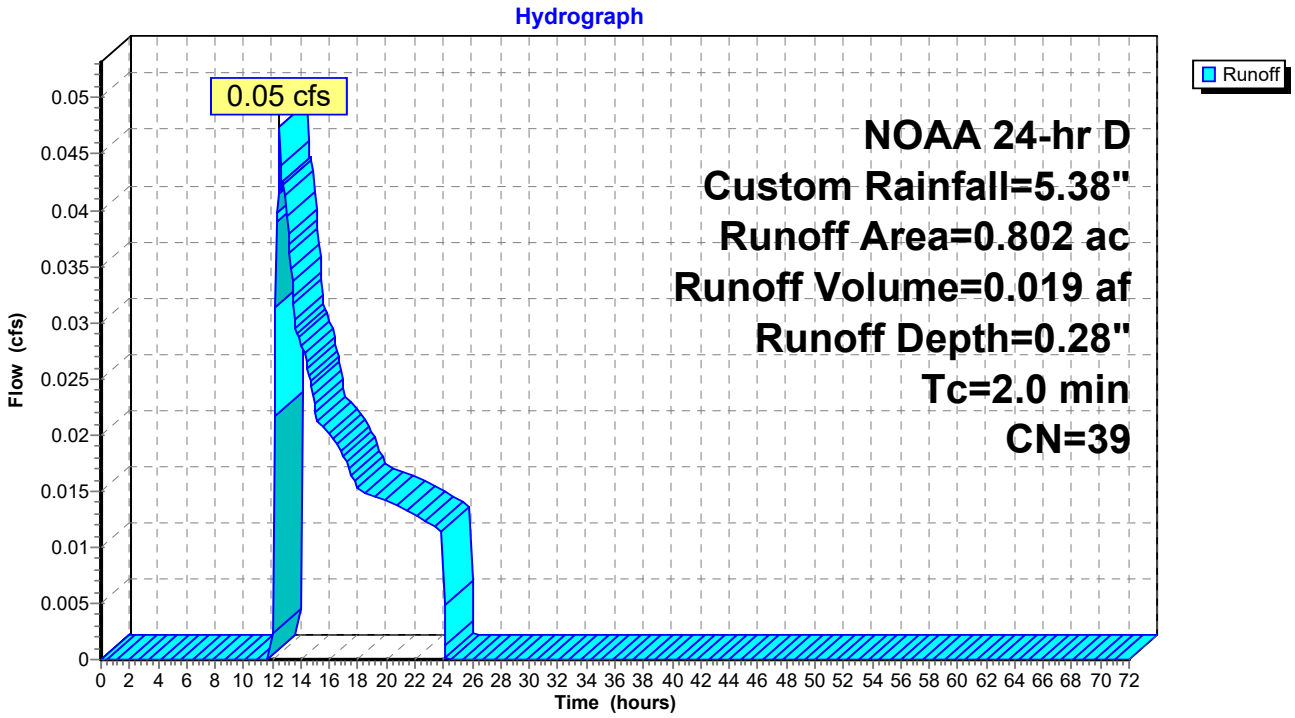
Runoff = 0.05 cfs @ 12.50 hrs, Volume= 0.019 af, Depth= 0.28"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

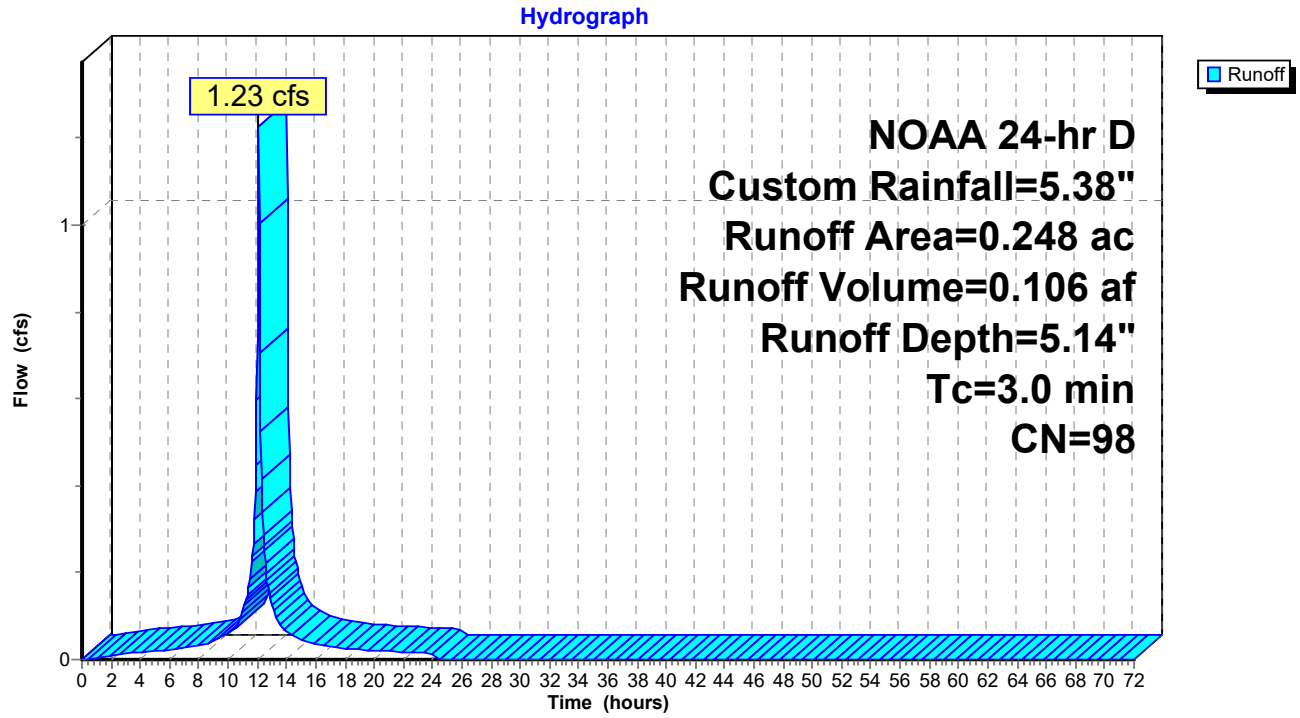
Runoff = 1.23 cfs @ 12.10 hrs, Volume= 0.106 af, Depth= 5.14"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

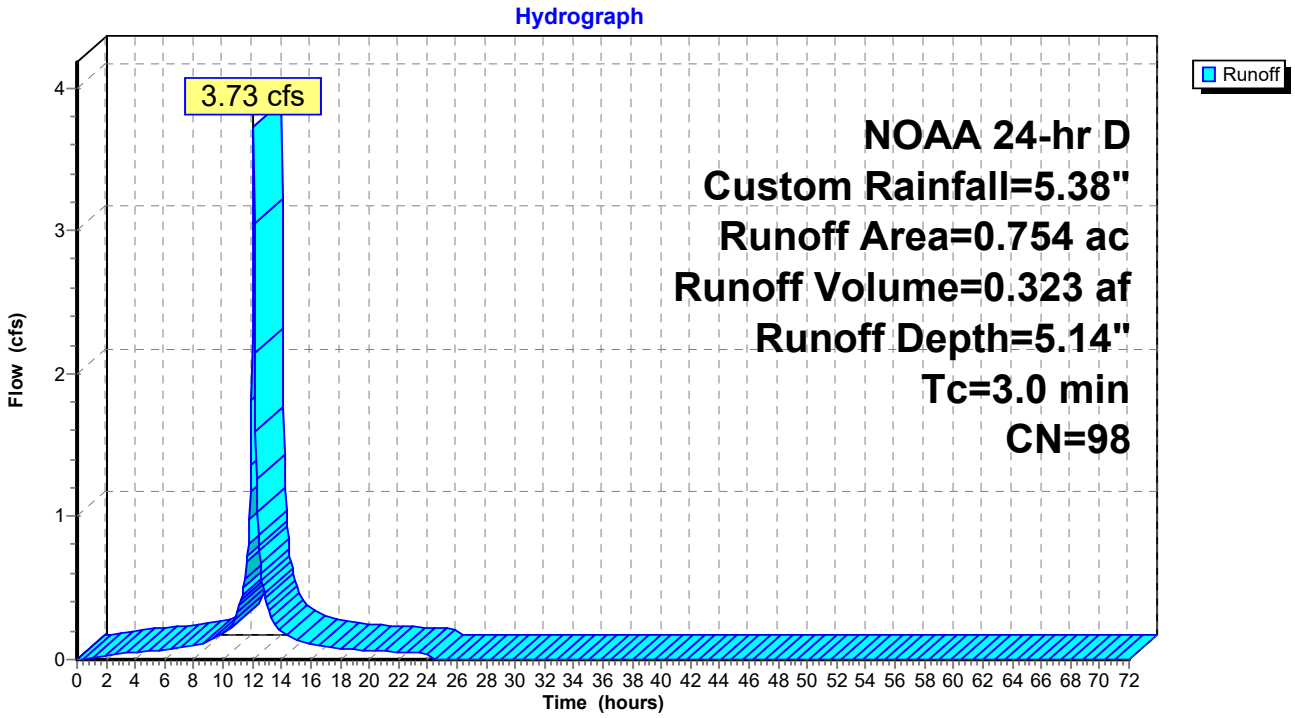
Runoff = 3.73 cfs @ 12.10 hrs, Volume= 0.323 af, Depth= 5.14"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

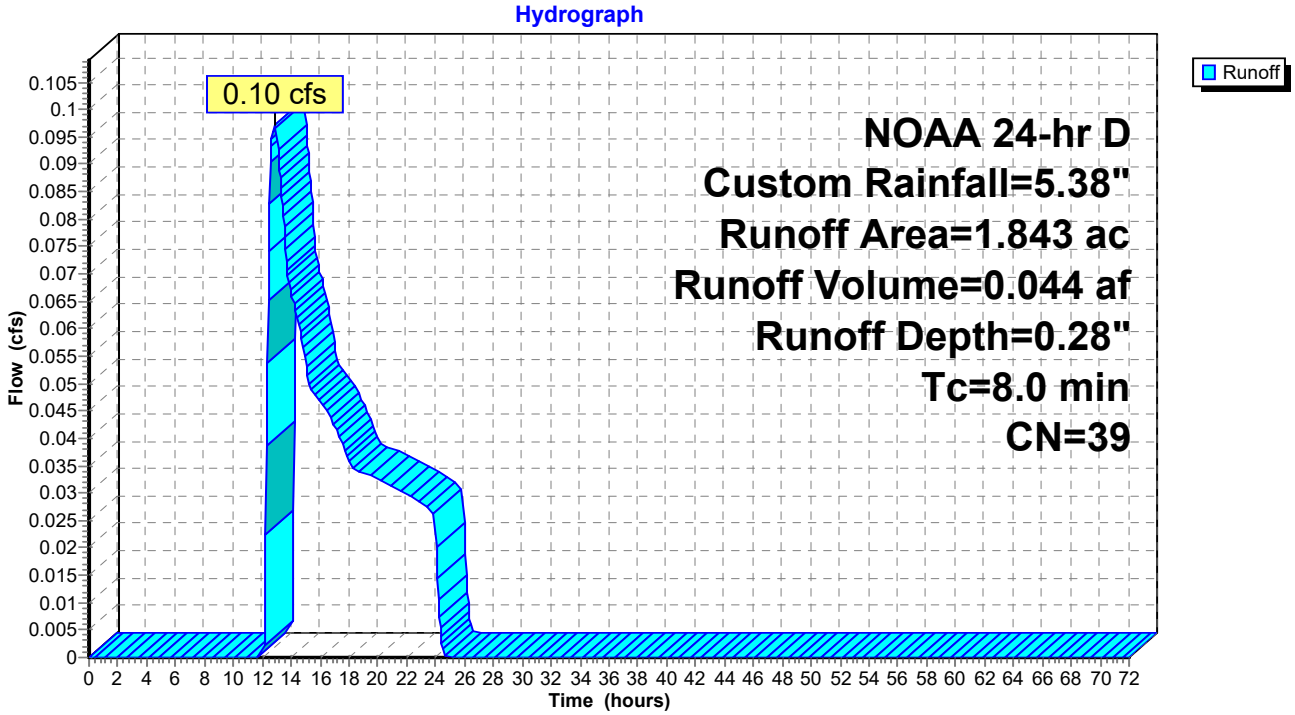
Runoff = 0.10 cfs @ 12.86 hrs, Volume= 0.044 af, Depth= 0.28"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

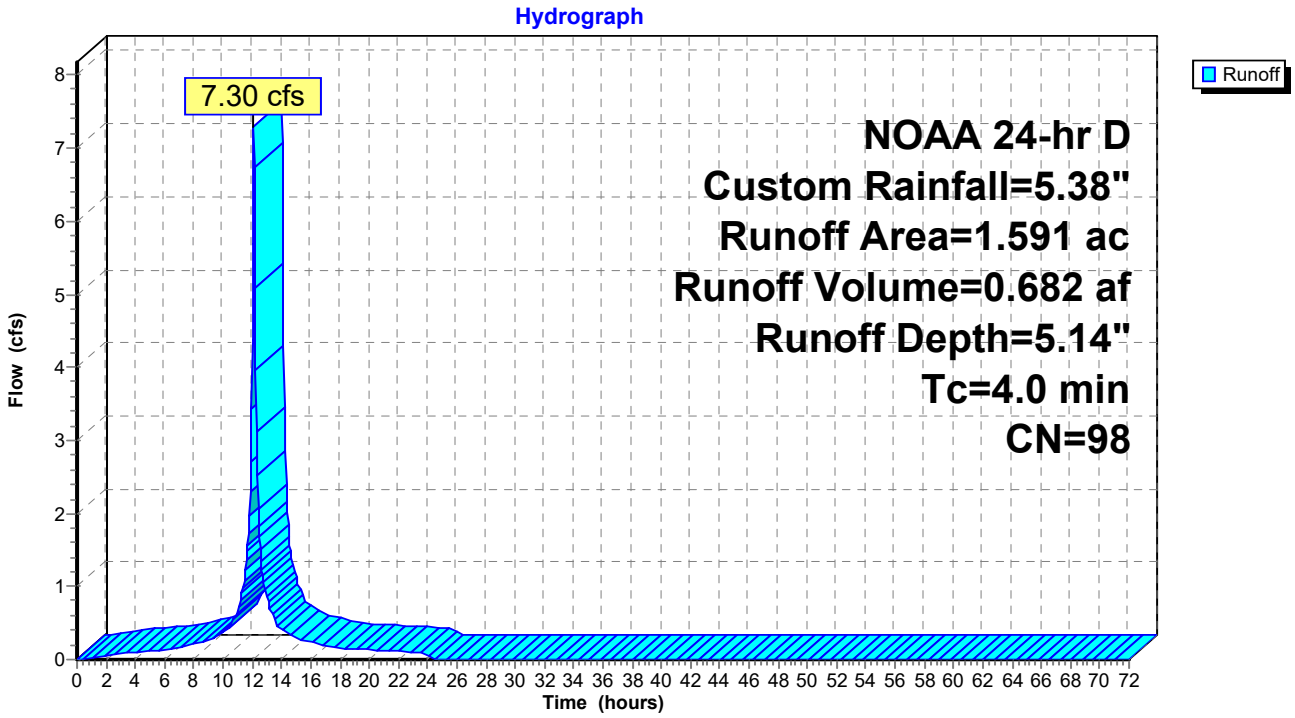
Runoff = 7.30 cfs @ 12.11 hrs, Volume= 0.682 af, Depth= 5.14"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

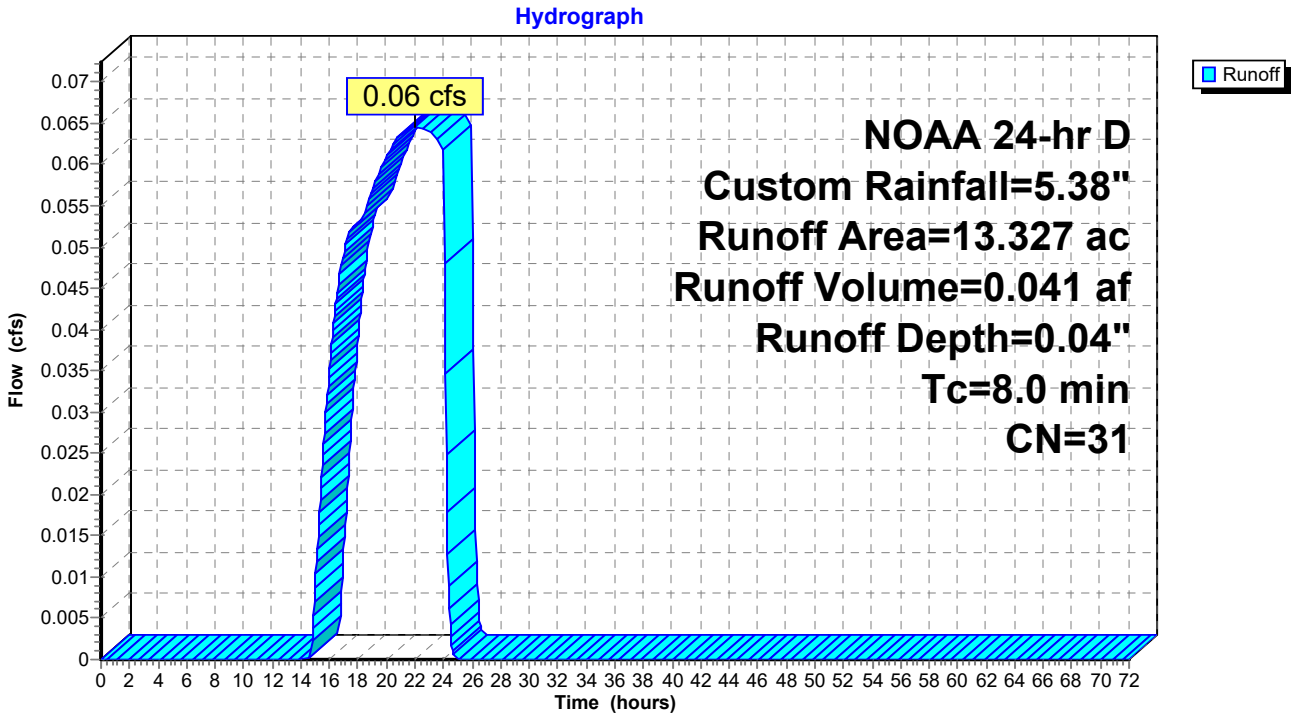
Runoff = 0.06 cfs @ 22.04 hrs, Volume= 0.041 af, Depth= 0.04"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

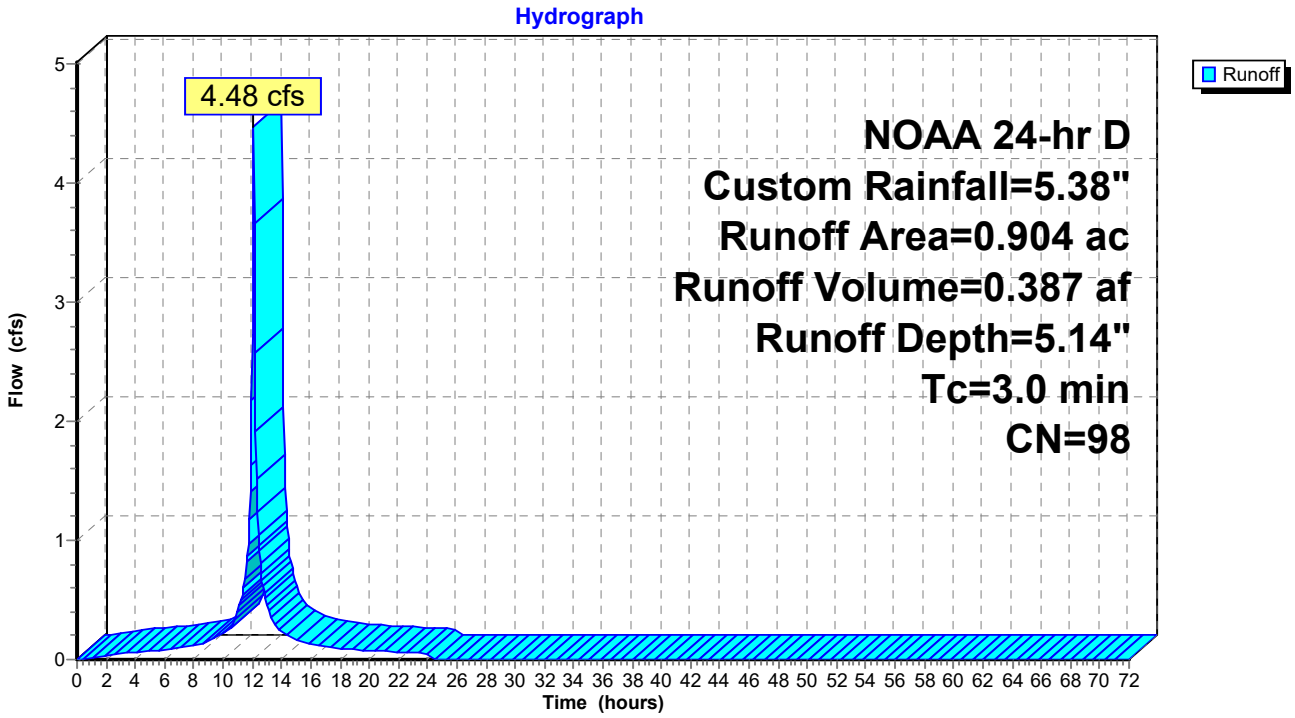
Runoff = 4.48 cfs @ 12.10 hrs, Volume= 0.387 af, Depth= 5.14"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

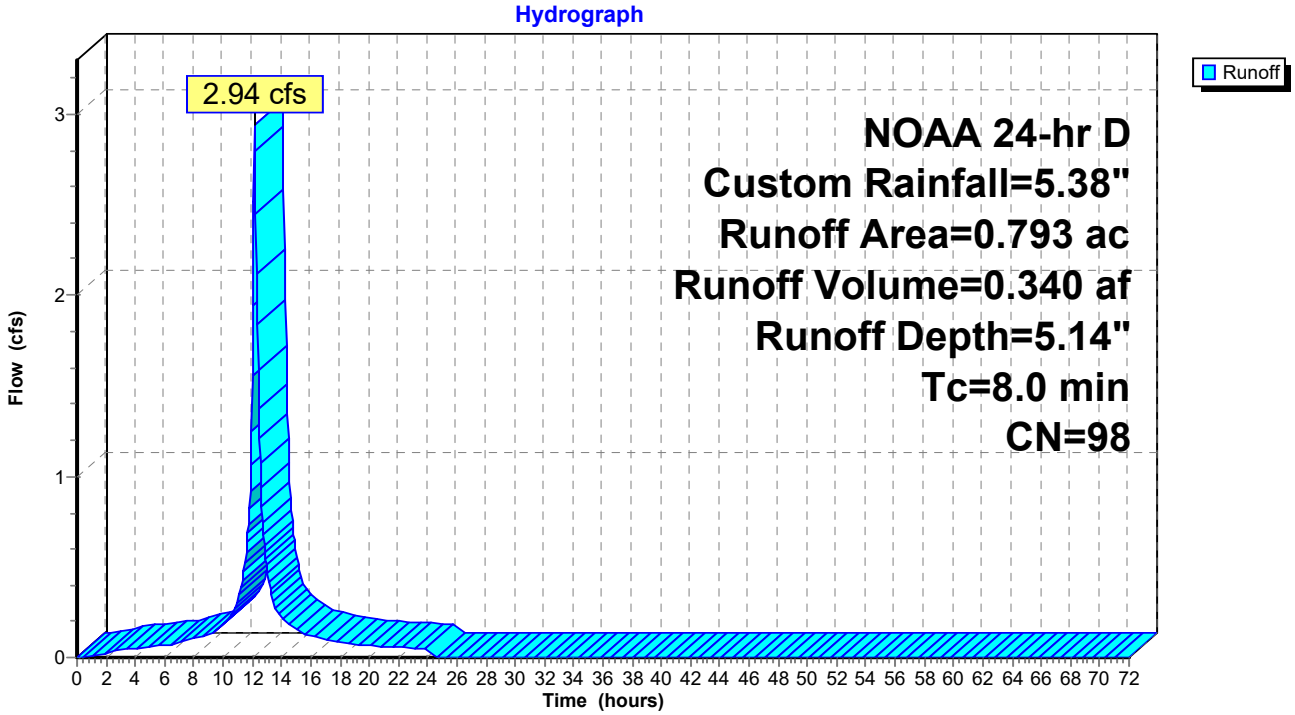
Runoff = 2.94 cfs @ 12.16 hrs, Volume= 0.340 af, Depth= 5.14"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

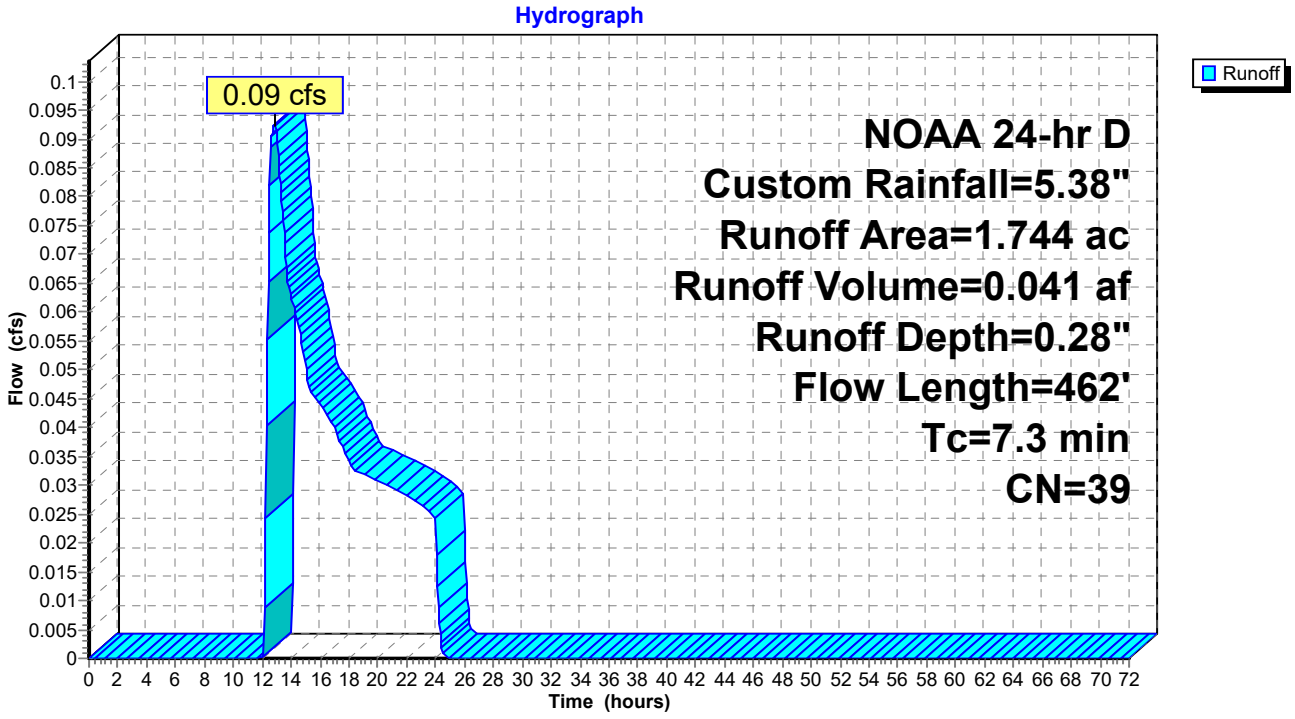
Runoff = 0.09 cfs @ 12.84 hrs, Volume= 0.041 af, Depth= 0.28"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[79] Warning: Submerged Pond 69P Primary device # 1 by 0.43'
[81] Warning: Exceeded Pond 88P by 1.07' @ 27.95 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth > 1.55" for Custom event
Inflow = 5.54 cfs @ 12.15 hrs, Volume= 1.173 af
Outflow = 1.26 cfs @ 13.61 hrs, Volume= 0.991 af, Atten= 77%, Lag= 87.4 min
Primary = 1.26 cfs @ 13.61 hrs, Volume= 0.991 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.27' @ 13.61 hrs Surf.Area= 8,652 sf Storage= 18,774 cf

Plug-Flow detention time= 566.5 min calculated for 0.991 af (84% of inflow)
Center-of-Mass det. time= 437.6 min (1,453.3 - 1,015.7)

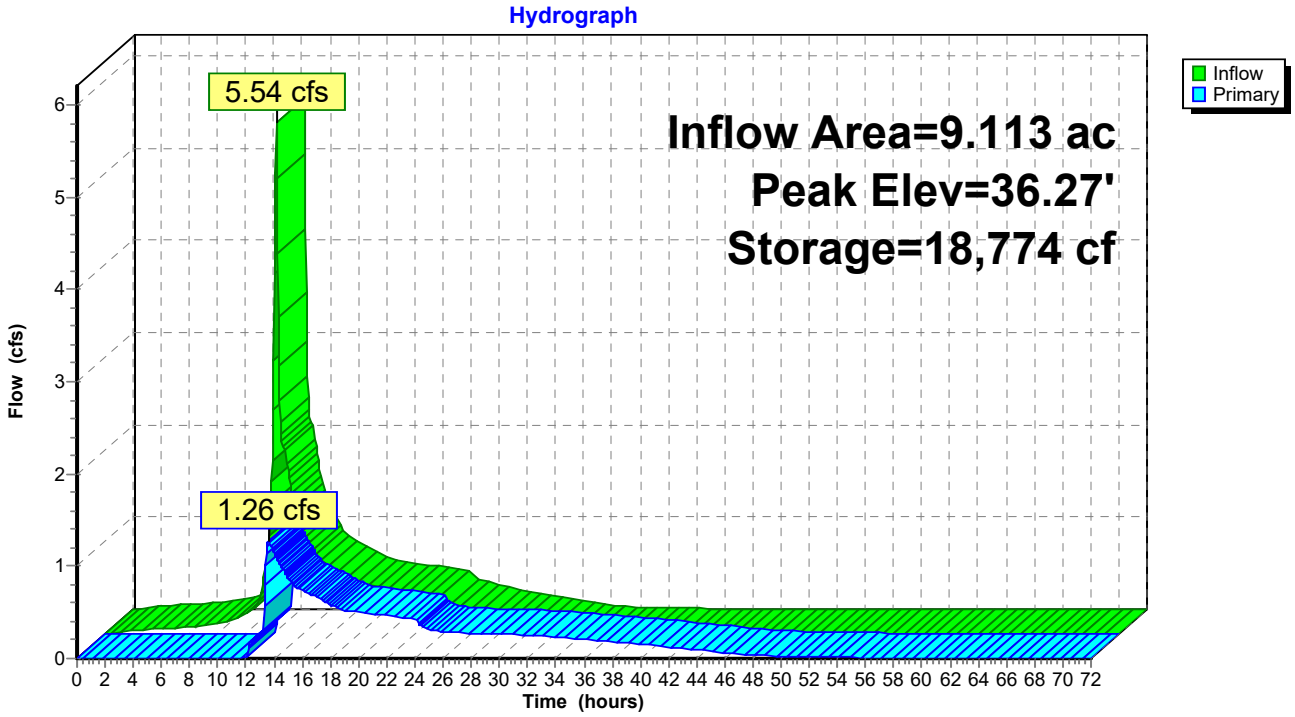
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.23 cfs @ 13.61 hrs HW=36.27' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.81 fps)
2=Orifice/Grate (Weir Controls 0.94 cfs @ 0.86 fps)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

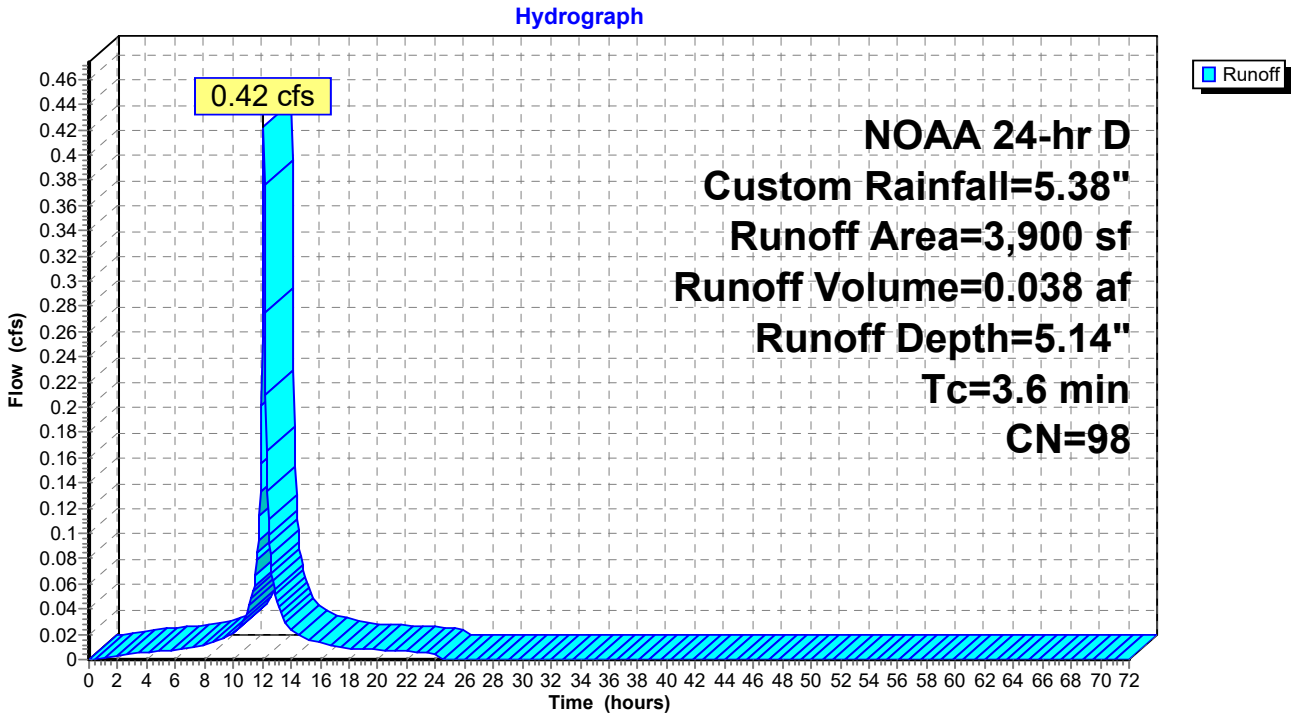
Runoff = 0.42 cfs @ 12.11 hrs, Volume= 0.038 af, Depth= 5.14"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

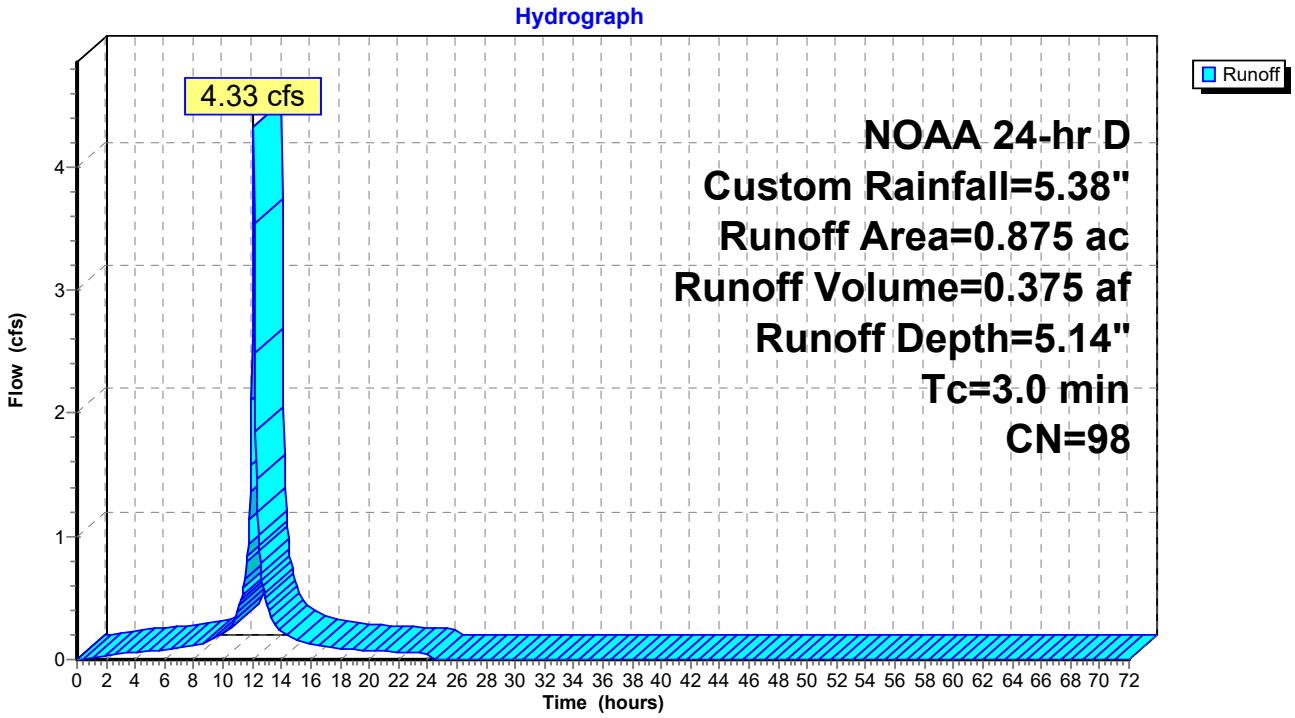
Runoff = 4.33 cfs @ 12.10 hrs, Volume= 0.375 af, Depth= 5.14"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

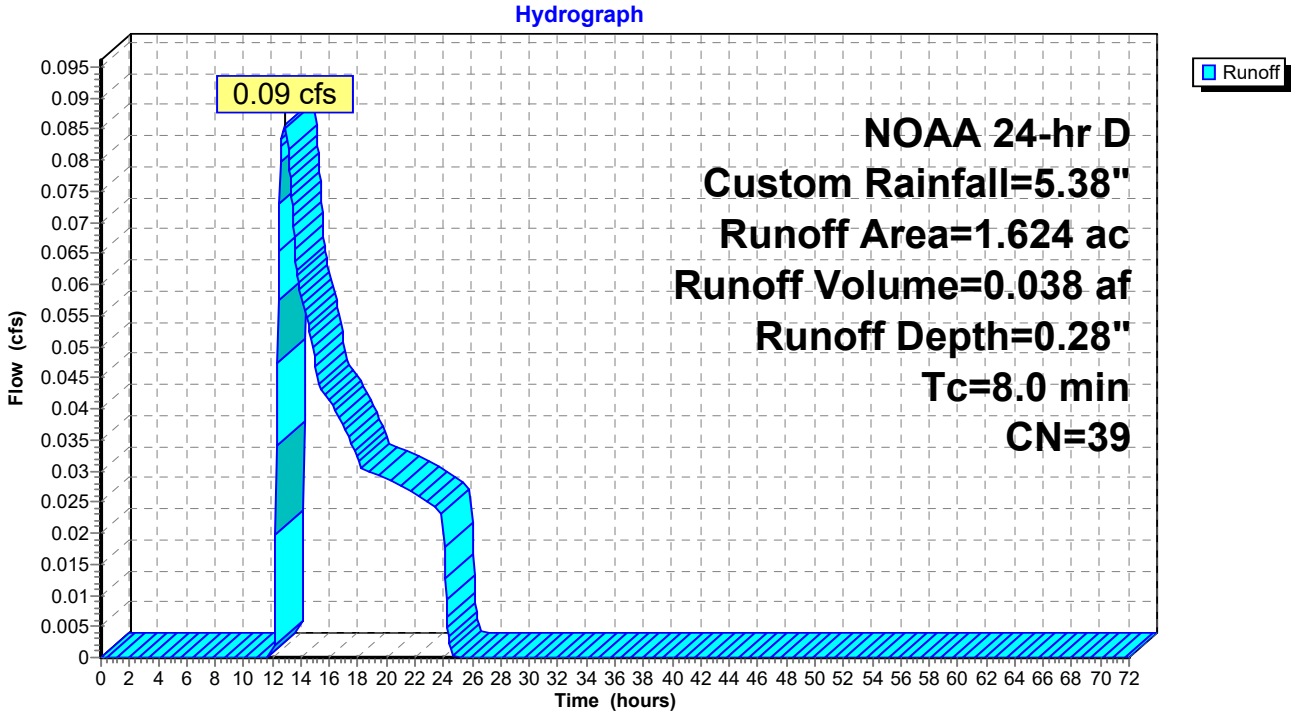
Runoff = 0.09 cfs @ 12.86 hrs, Volume= 0.038 af, Depth= 0.28"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

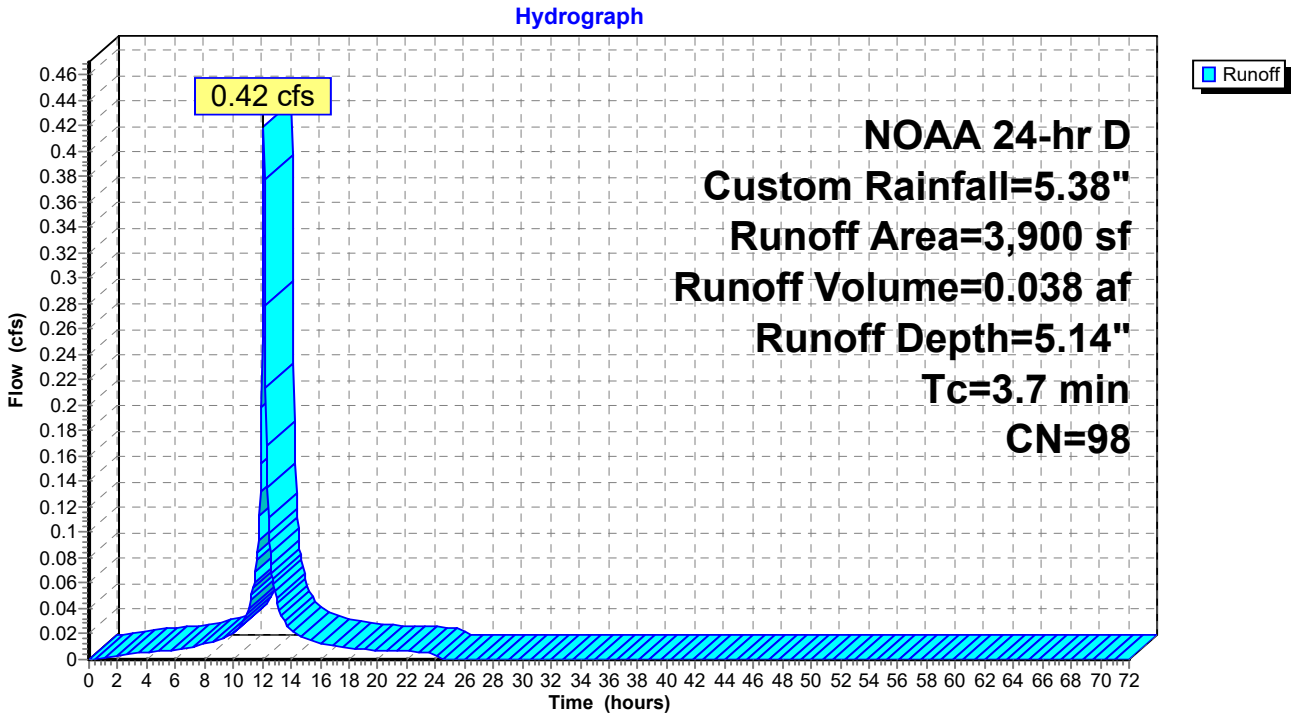
Runoff = 0.42 cfs @ 12.11 hrs, Volume= 0.038 af, Depth= 5.14"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

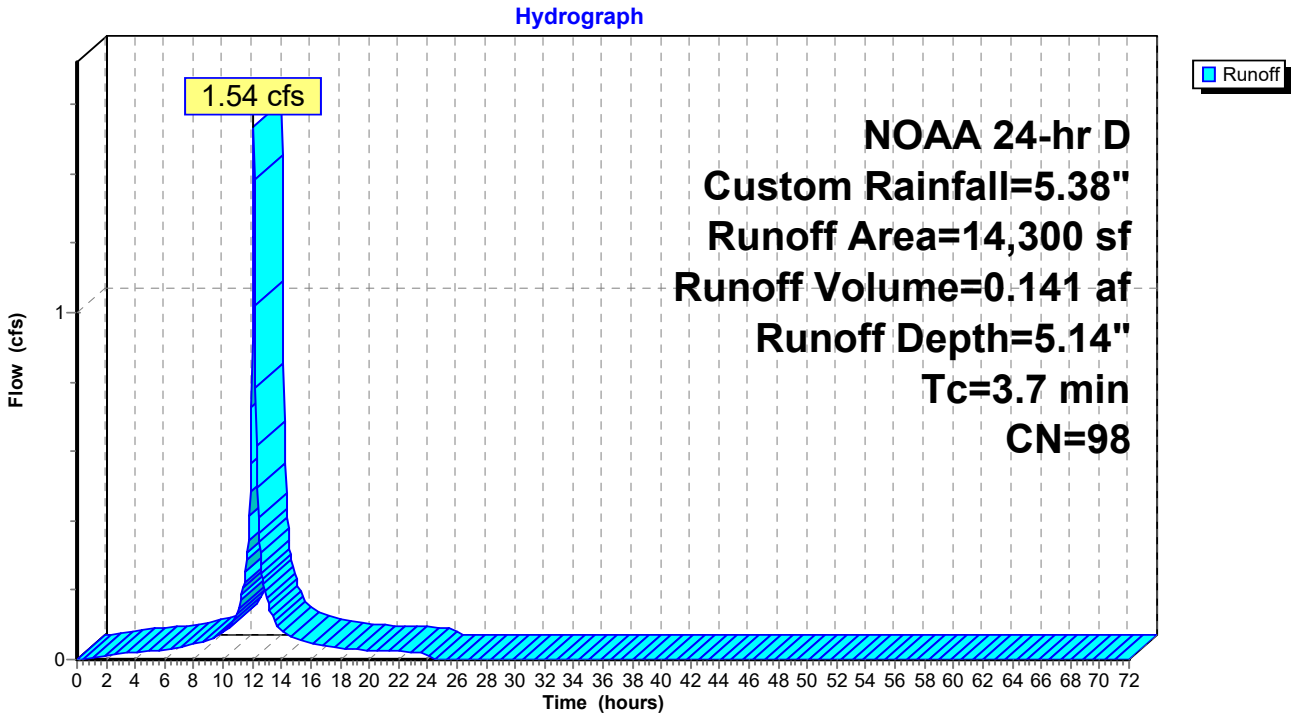
Runoff = 1.54 cfs @ 12.11 hrs, Volume= 0.141 af, Depth= 5.14"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 134% of capacity of segment #1

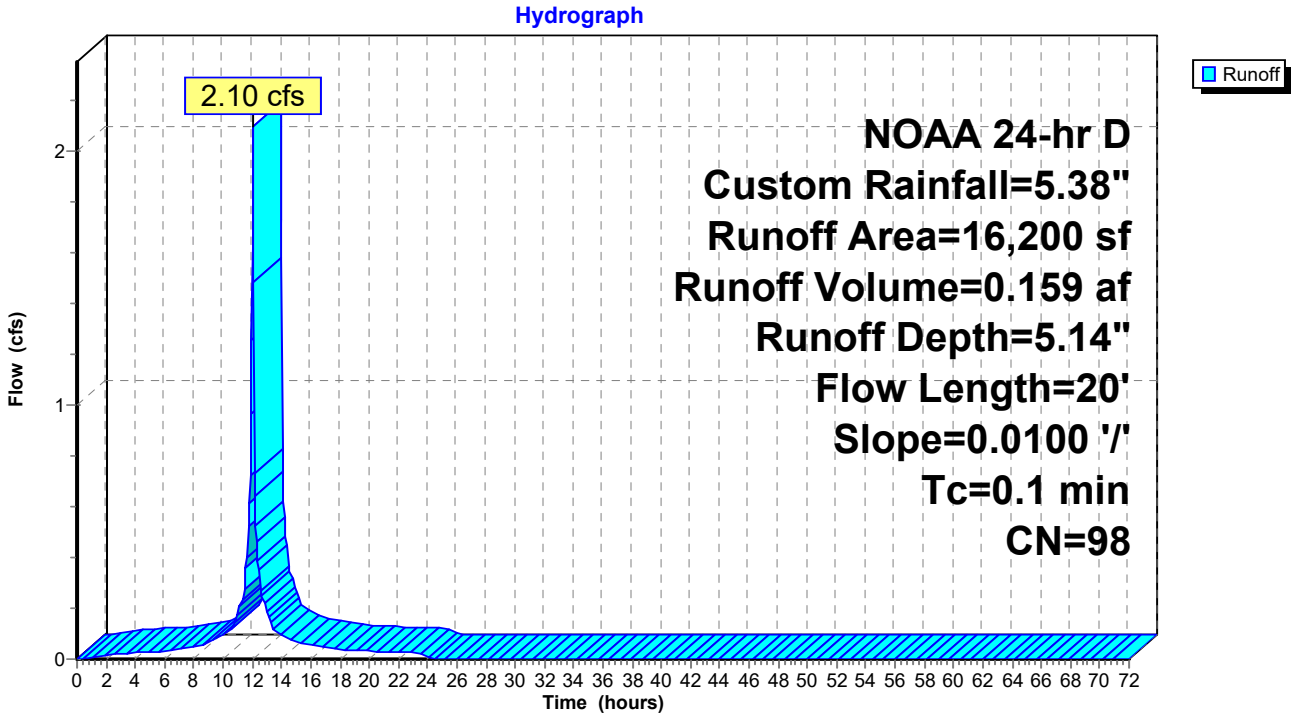
Runoff = 2.10 cfs @ 12.05 hrs, Volume= 0.159 af, Depth= 5.14"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 134% of capacity of segment #1

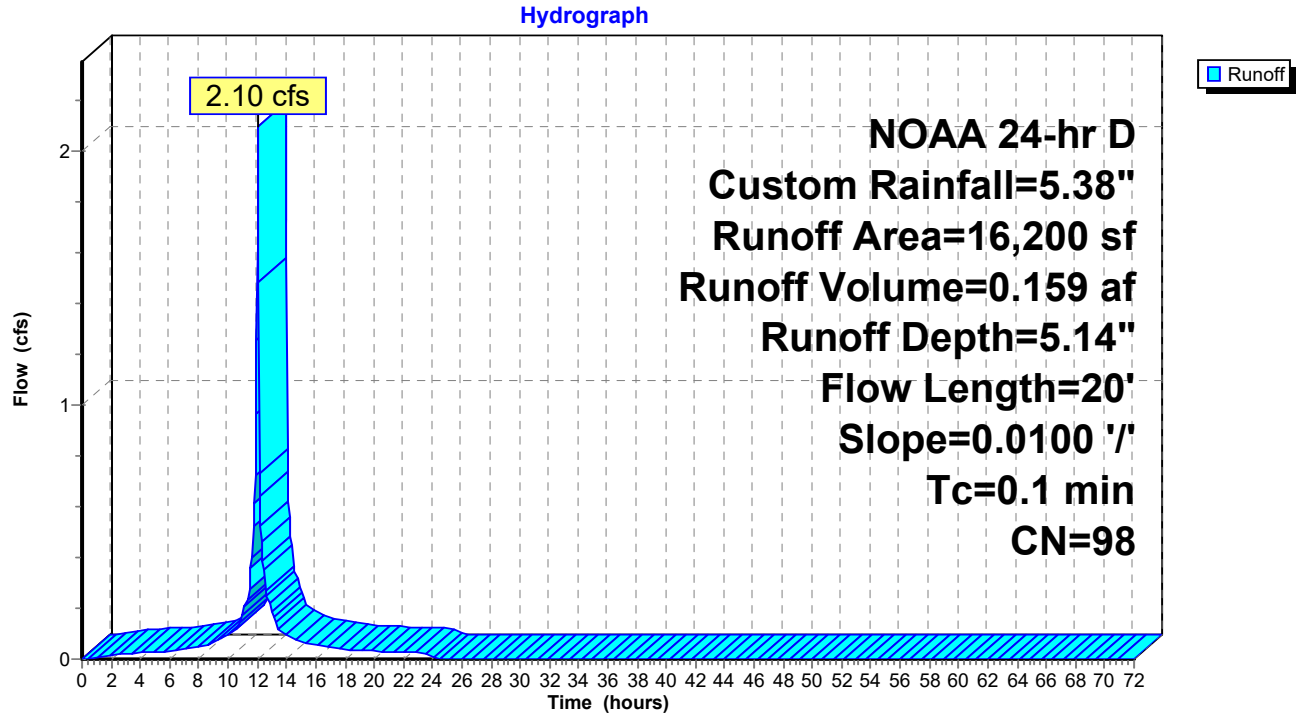
Runoff = 2.10 cfs @ 12.05 hrs, Volume= 0.159 af, Depth= 5.14"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

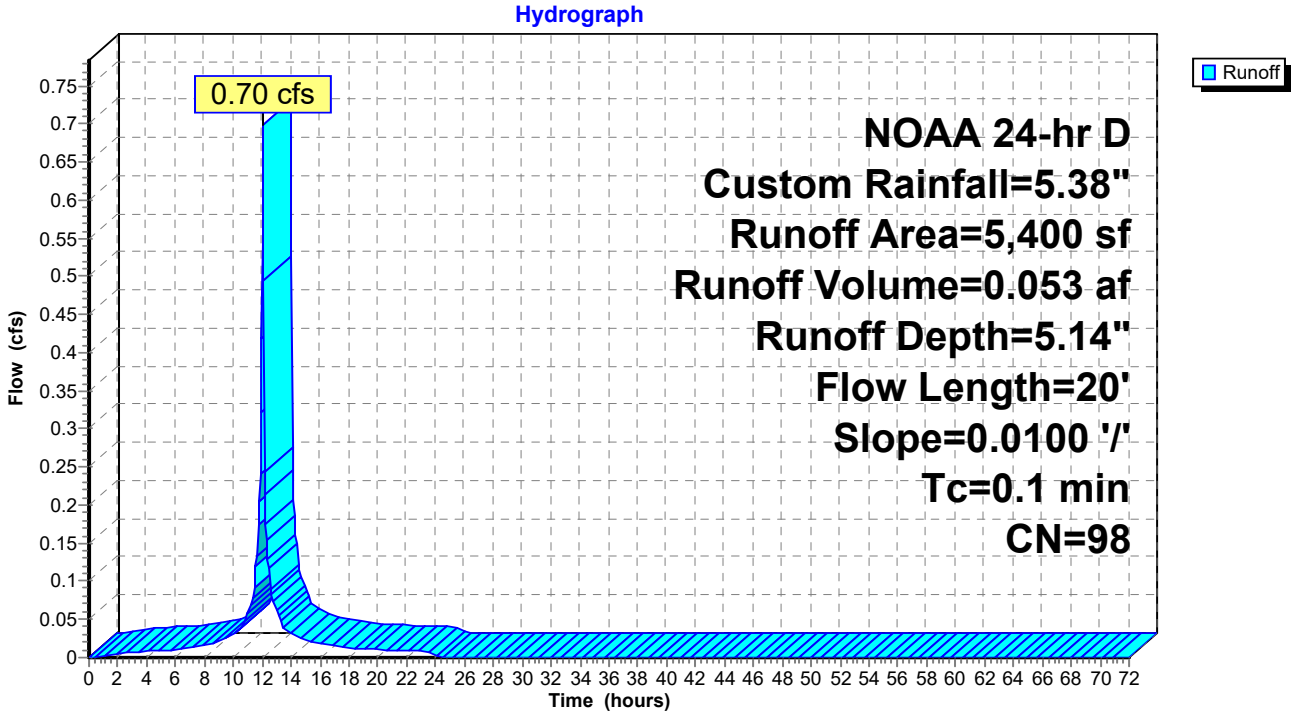
Runoff = 0.70 cfs @ 12.05 hrs, Volume= 0.053 af, Depth= 5.14"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

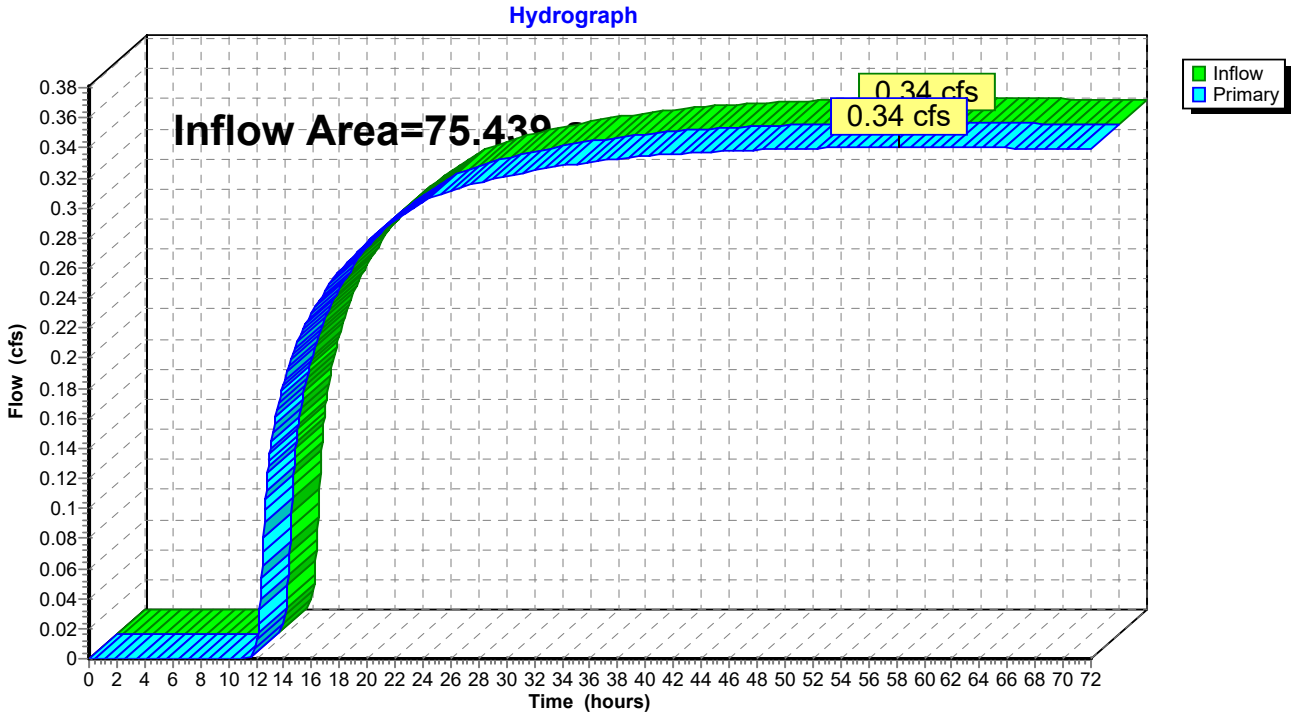


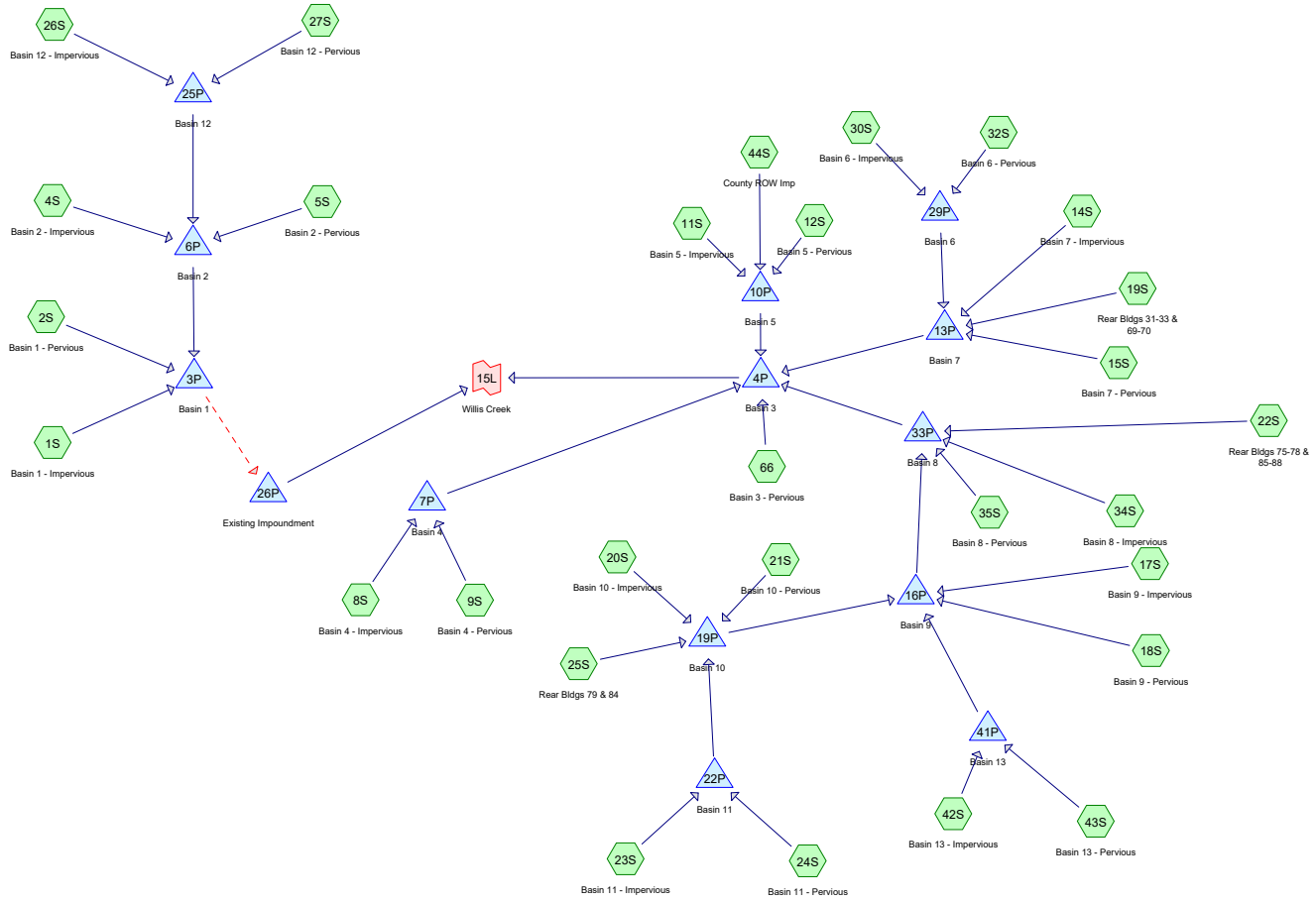
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.25" for Custom event
Inflow = 0.34 cfs @ 58.19 hrs, Volume= 1.560 af
Primary = 0.34 cfs @ 58.19 hrs, Volume= 1.560 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	5.38	2

Summary for Subcatchment 1S: Basin 1 - Impervious

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

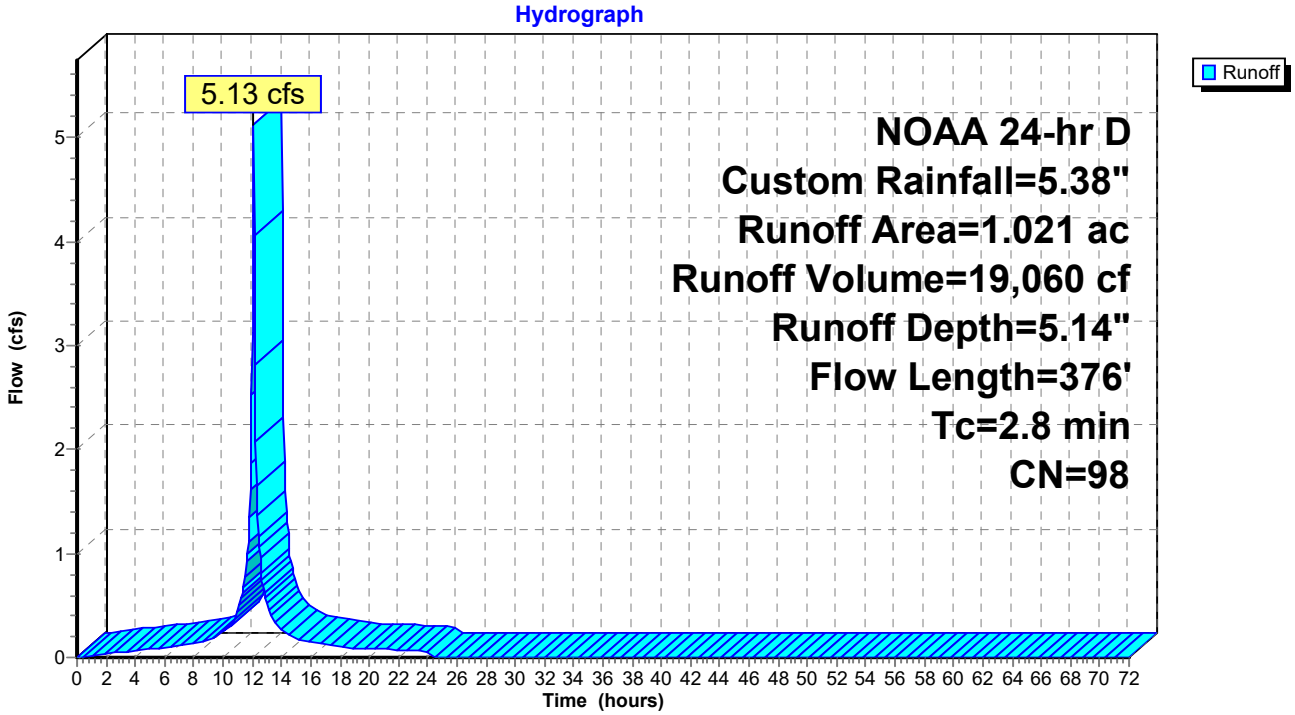
Runoff = 5.13 cfs @ 12.10 hrs, Volume= 19,060 cf, Depth= 5.14"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

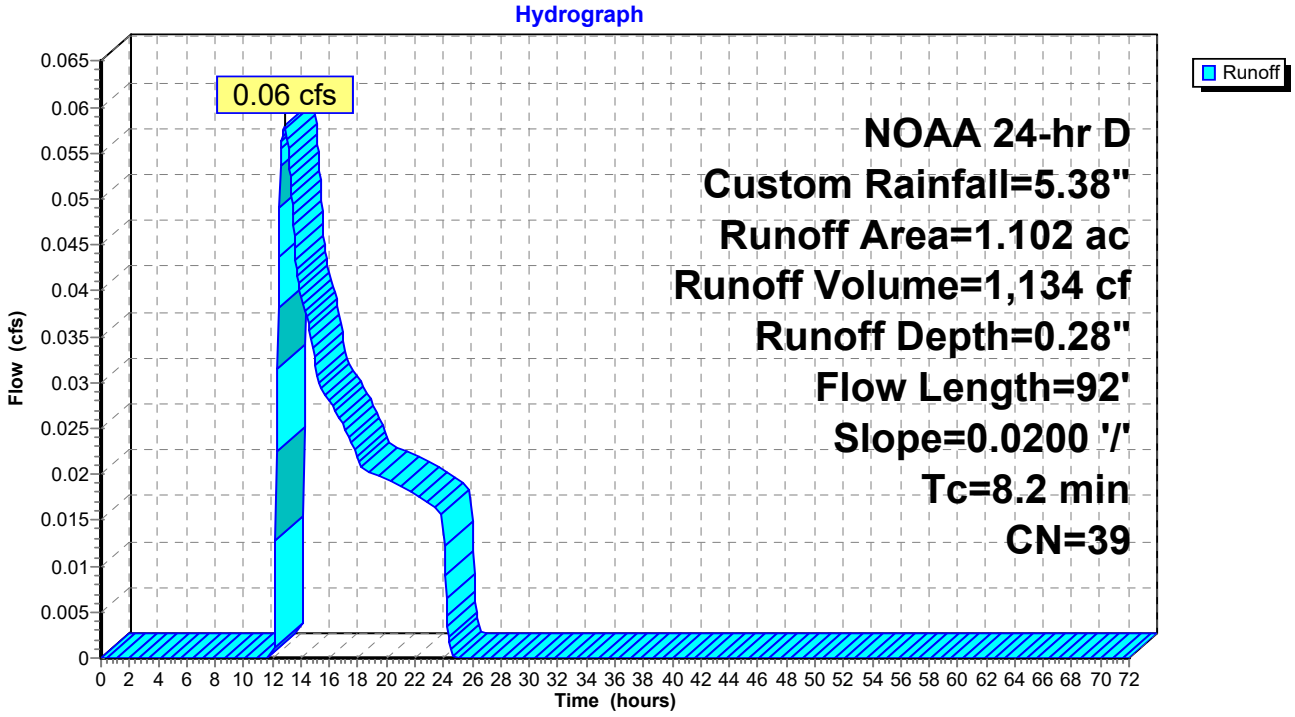
Runoff = 0.06 cfs @ 12.86 hrs, Volume= 1,134 cf, Depth= 0.28"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 1.83" for Custom event
Inflow = 5.32 cfs @ 12.10 hrs, Volume= 43,109 cf
Outflow = 3.89 cfs @ 12.17 hrs, Volume= 39,070 cf, Atten= 27%, Lag= 4.4 min
Primary = 0.21 cfs @ 12.17 hrs, Volume= 21,872 cf
Secondary = 3.68 cfs @ 12.17 hrs, Volume= 17,198 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.71' @ 12.17 hrs Surf.Area= 6,713 sf Storage= 9,206 cf

Plug-Flow detention time= 382.4 min calculated for 39,043 cf (91% of inflow)
Center-of-Mass det. time= 258.8 min (1,408.8 - 1,149.9)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

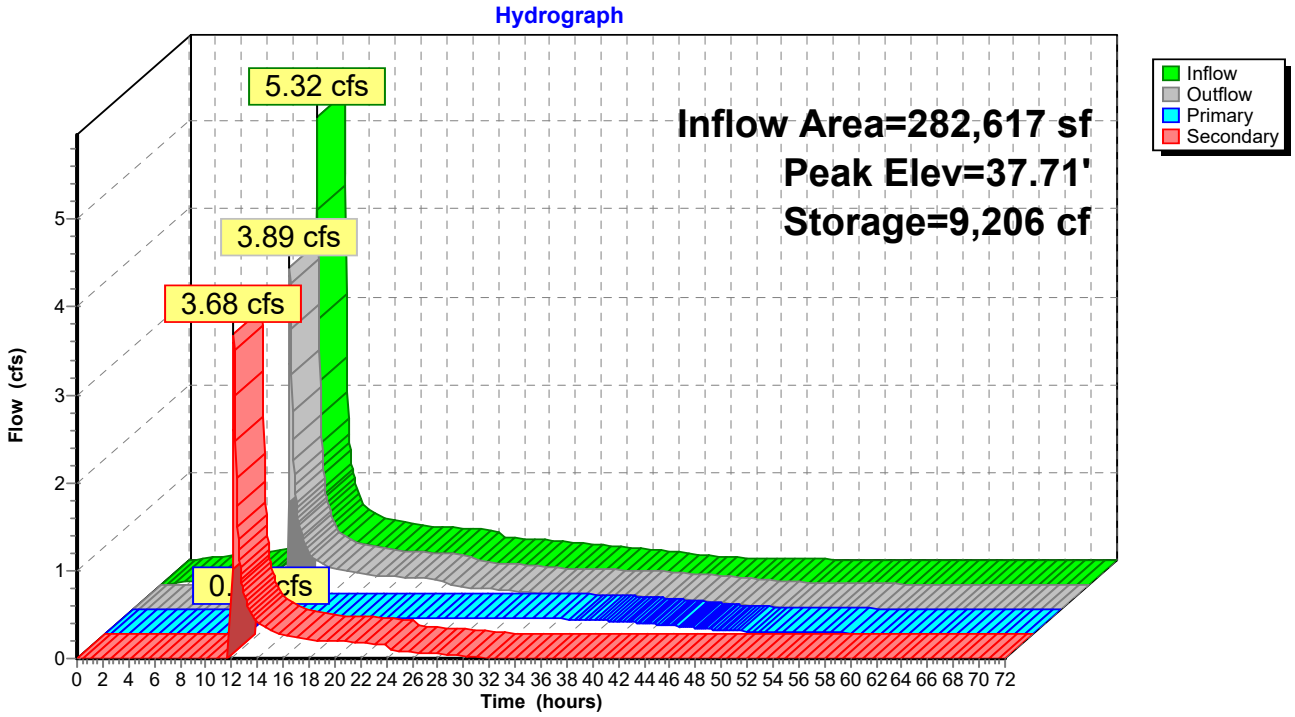
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 12.17 hrs HW=37.71' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.23 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=3.55 cfs @ 12.17 hrs HW=37.71' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 3.55 cfs @ 1.14 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 2.47" for Custom event
Inflow = 41.37 cfs @ 12.19 hrs, Volume= 194,605 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.22' @ 72.00 hrs Surf.Area= 48,615 sf Storage= 194,605 cf

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

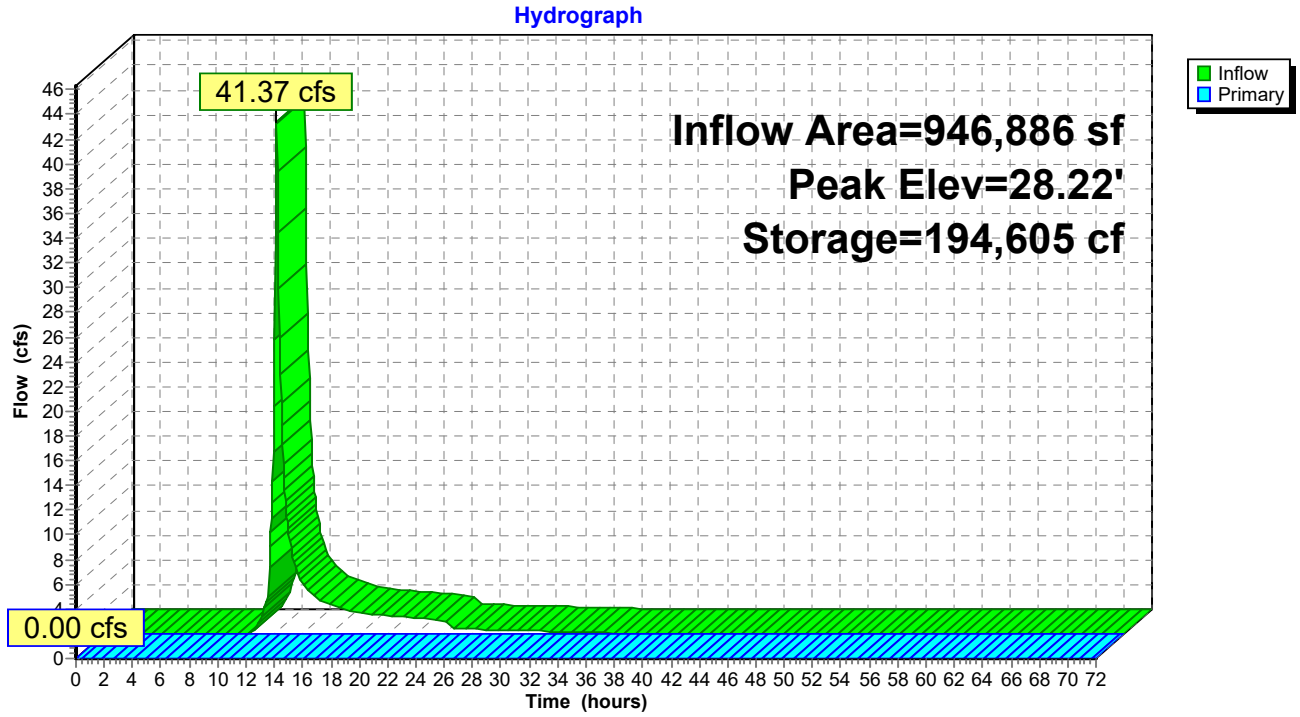
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

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

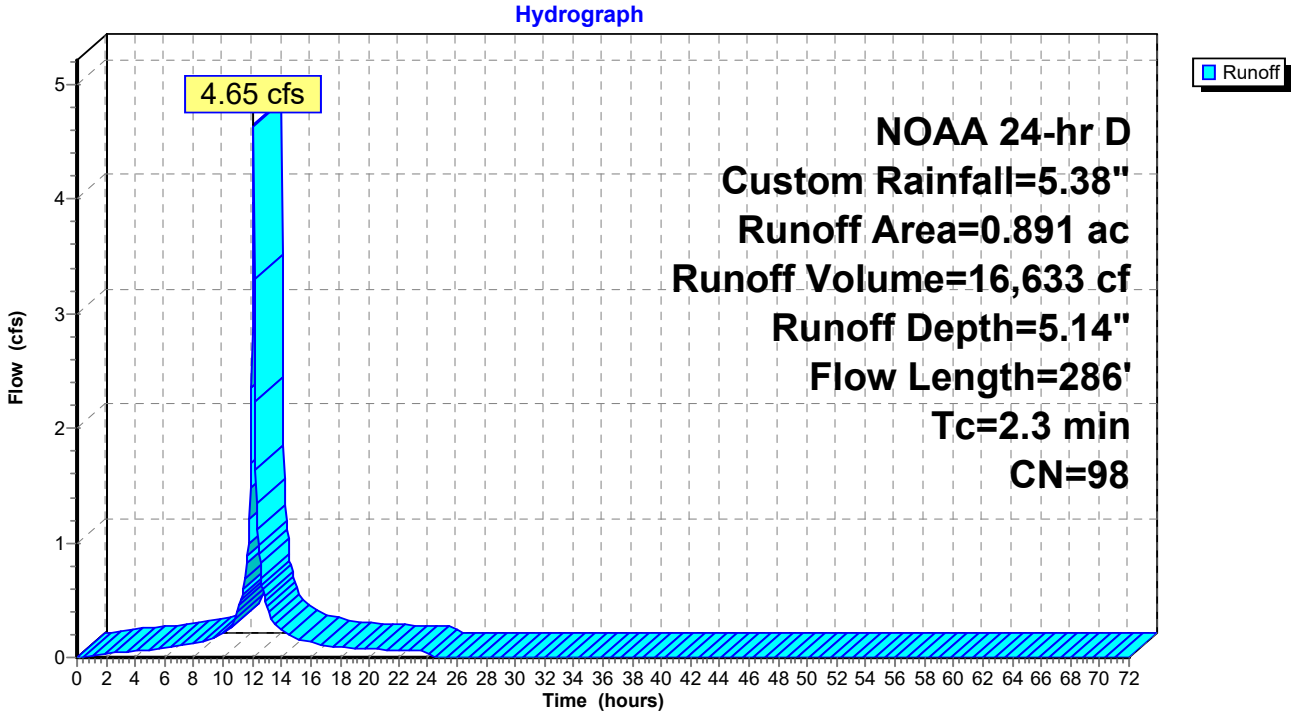
Runoff = 4.65 cfs @ 12.09 hrs, Volume= 16,633 cf, Depth= 5.14"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

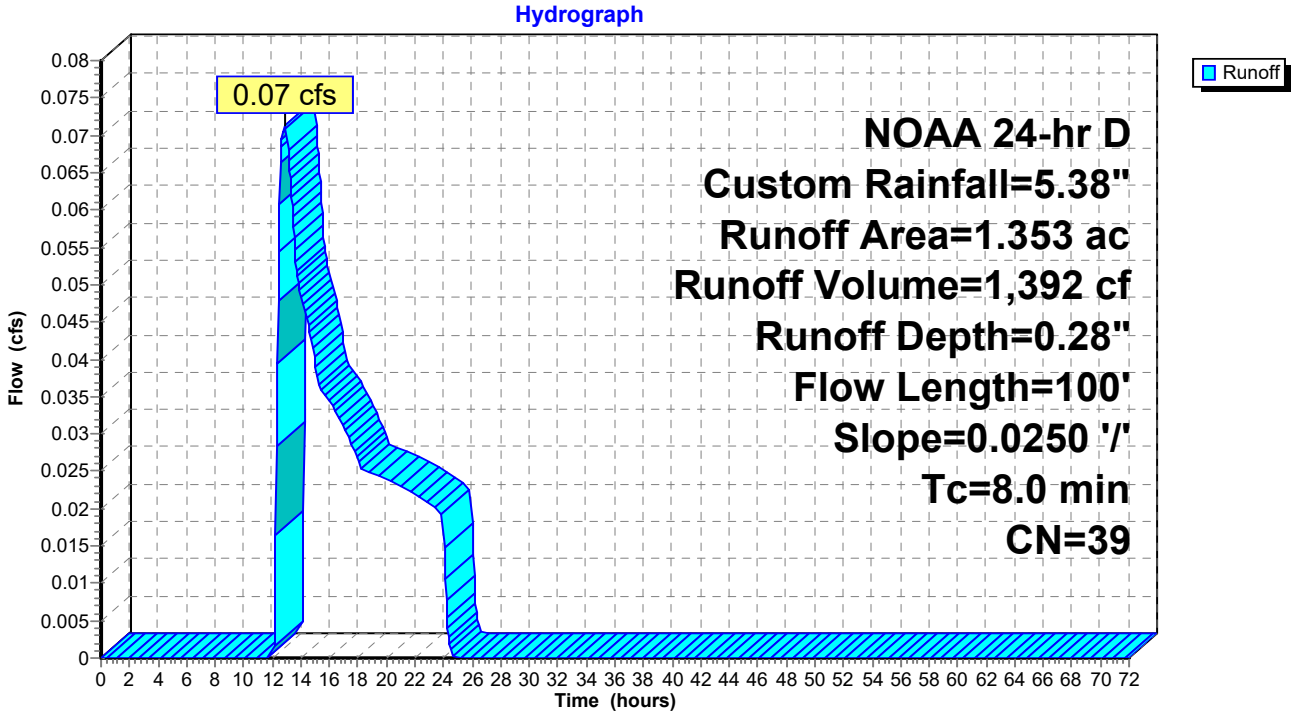
Runoff = 0.07 cfs @ 12.86 hrs, Volume= 1,392 cf, Depth= 0.28"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[81] Warning: Exceeded Pond 25P by 0.46' @ 22.55 hrs

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 1.66" for Custom event
Inflow = 4.76 cfs @ 12.09 hrs, Volume= 26,377 cf
Outflow = 0.28 cfs @ 17.56 hrs, Volume= 22,916 cf, Atten= 94%, Lag= 328.3 min
Primary = 0.28 cfs @ 17.56 hrs, Volume= 22,916 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.17' @ 17.56 hrs Surf.Area= 8,399 sf Storage= 13,523 cf

Plug-Flow detention time= 681.1 min calculated for 22,900 cf (87% of inflow)
Center-of-Mass det. time= 569.8 min (1,491.8 - 922.0)

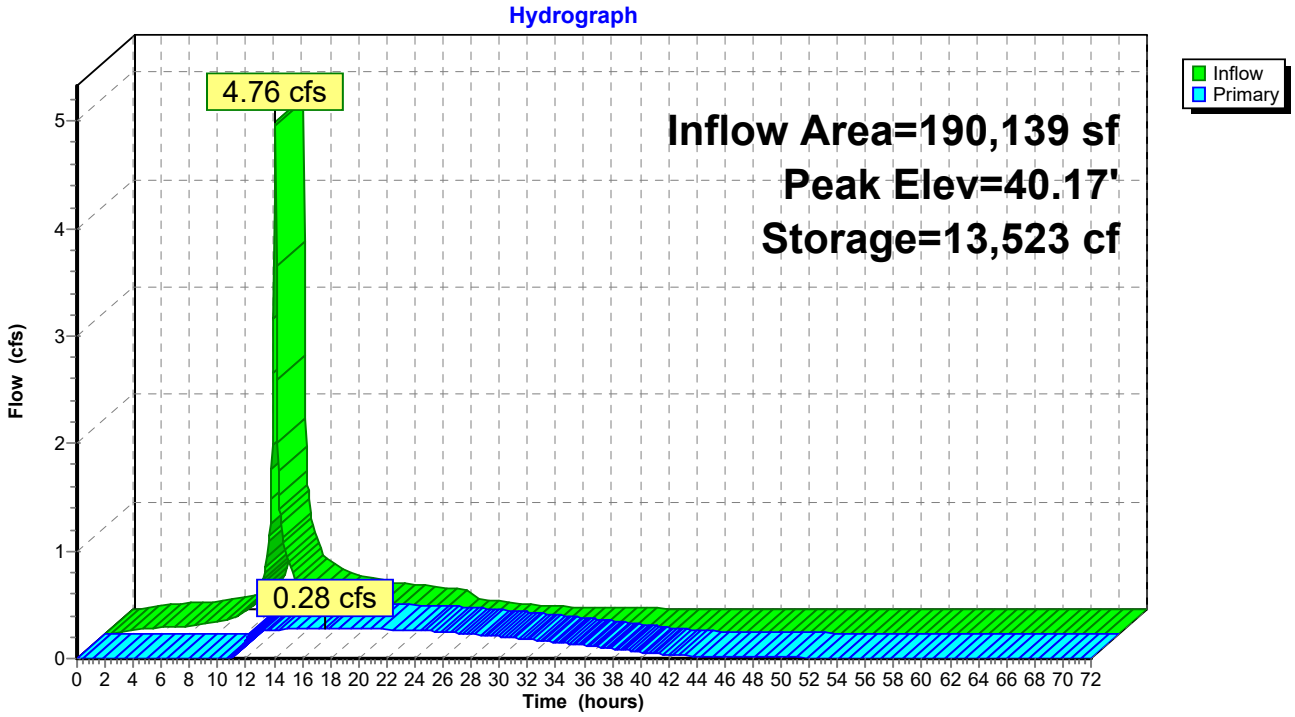
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 17.56 hrs HW=40.17' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.61 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 2.54" for Custom event
Inflow = 5.62 cfs @ 12.11 hrs, Volume= 23,254 cf
Outflow = 3.79 cfs @ 12.20 hrs, Volume= 18,801 cf, Atten= 32%, Lag= 6.0 min
Primary = 3.79 cfs @ 12.20 hrs, Volume= 18,801 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.17' @ 12.20 hrs Surf.Area= 6,699 sf Storage= 10,674 cf

Plug-Flow detention time= 396.0 min calculated for 18,788 cf (81% of inflow)
Center-of-Mass det. time= 310.5 min (1,074.4 - 763.8)

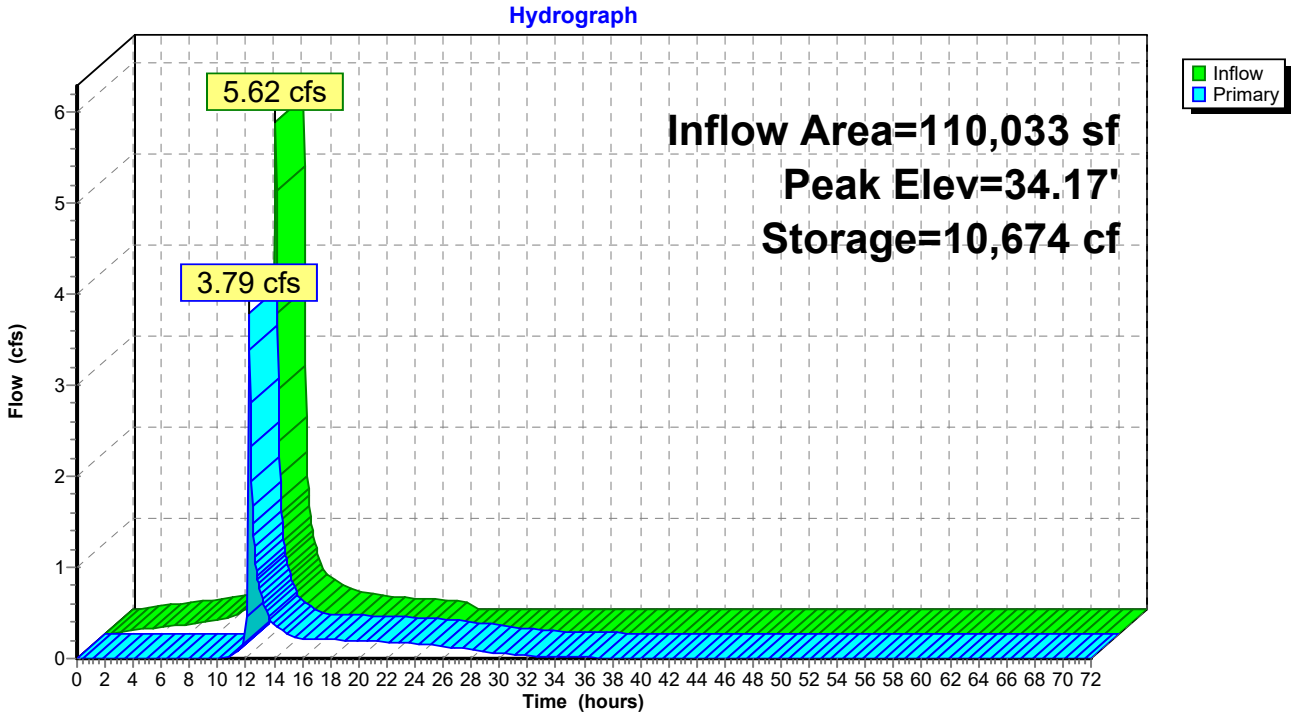
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.74 cfs @ 12.20 hrs HW=34.17' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.23 cfs @ 4.77 fps)
2=Orifice/Grate (Weir Controls 3.51 cfs @ 1.33 fps)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

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

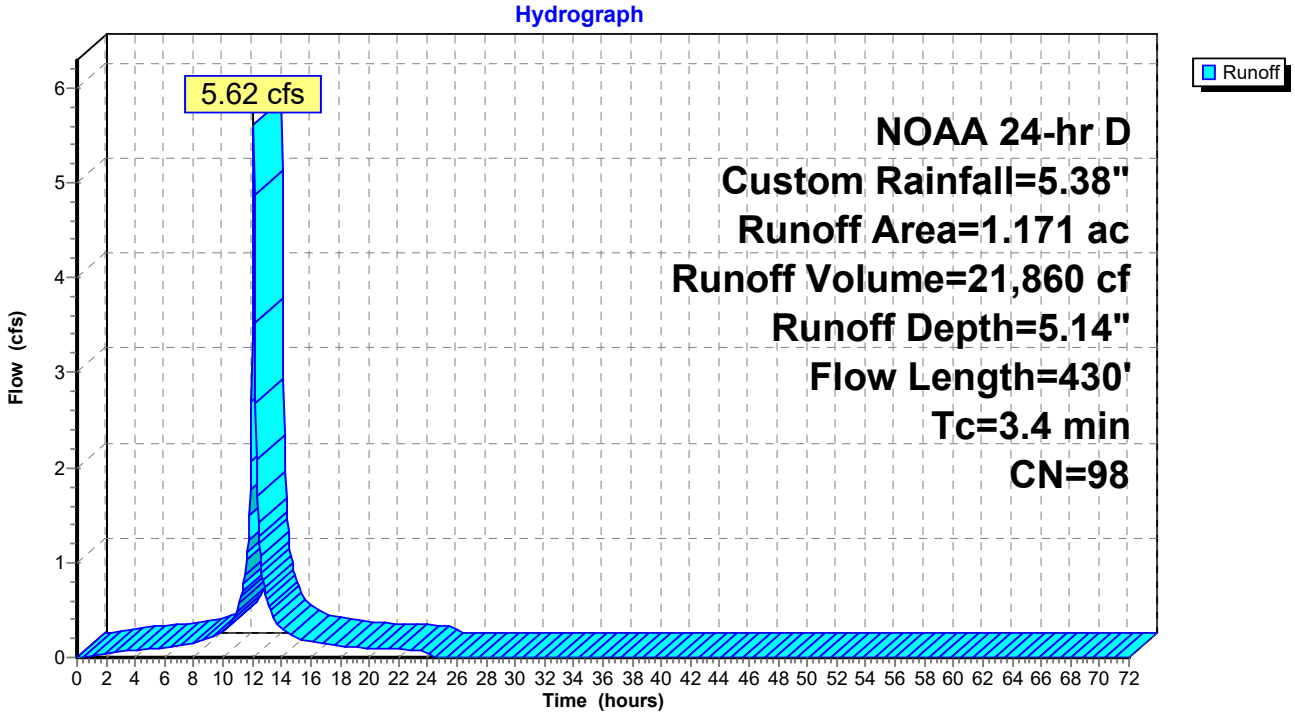
Runoff = 5.62 cfs @ 12.10 hrs, Volume= 21,860 cf, Depth= 5.14"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

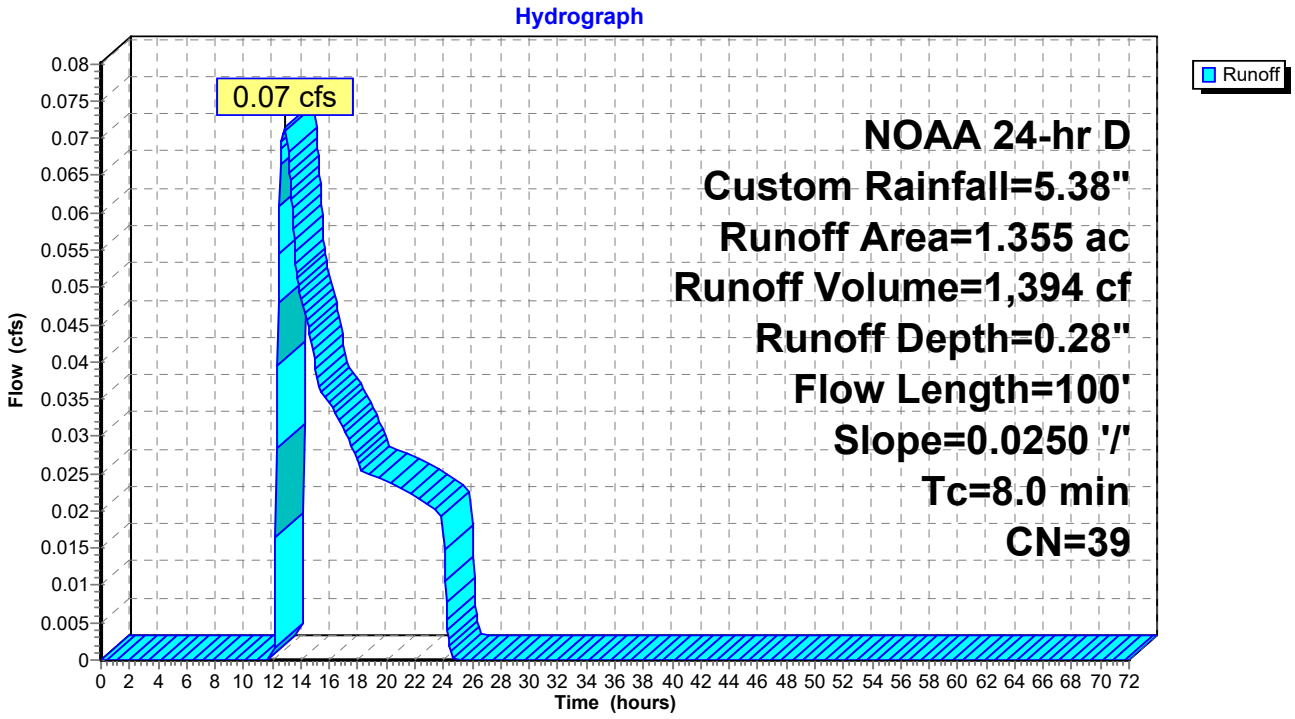
Runoff = 0.07 cfs @ 12.86 hrs, Volume= 1,394 cf, Depth= 0.28"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 3.27" for Custom event
Inflow = 6.42 cfs @ 12.10 hrs, Volume= 23,725 cf
Outflow = 5.86 cfs @ 12.12 hrs, Volume= 18,722 cf, Atten= 9%, Lag= 1.6 min
Primary = 5.86 cfs @ 12.12 hrs, Volume= 18,722 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.79' @ 12.12 hrs Surf.Area= 3,930 sf Storage= 5,881 cf

Plug-Flow detention time= 170.9 min calculated for 18,709 cf (79% of inflow)
Center-of-Mass det. time= 79.7 min (847.3 - 767.5)

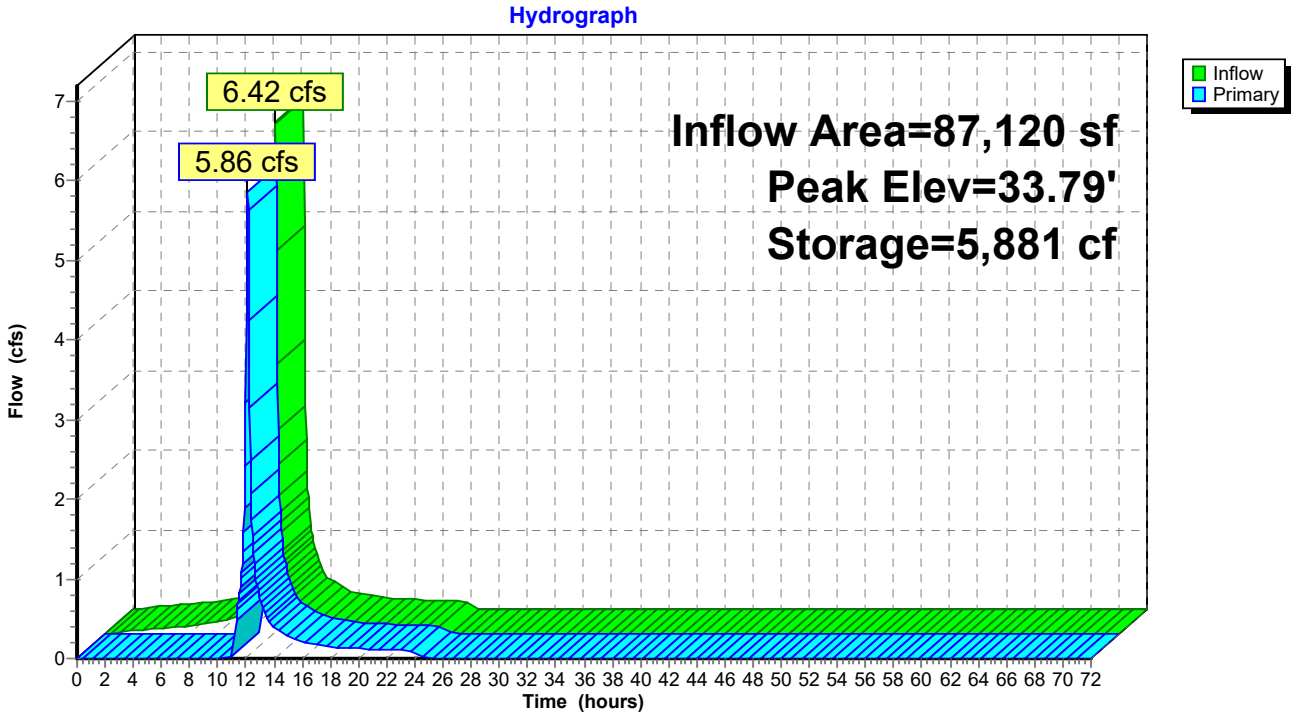
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.67 cfs @ 12.12 hrs HW=33.79' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 5.67 cfs @ 1.56 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

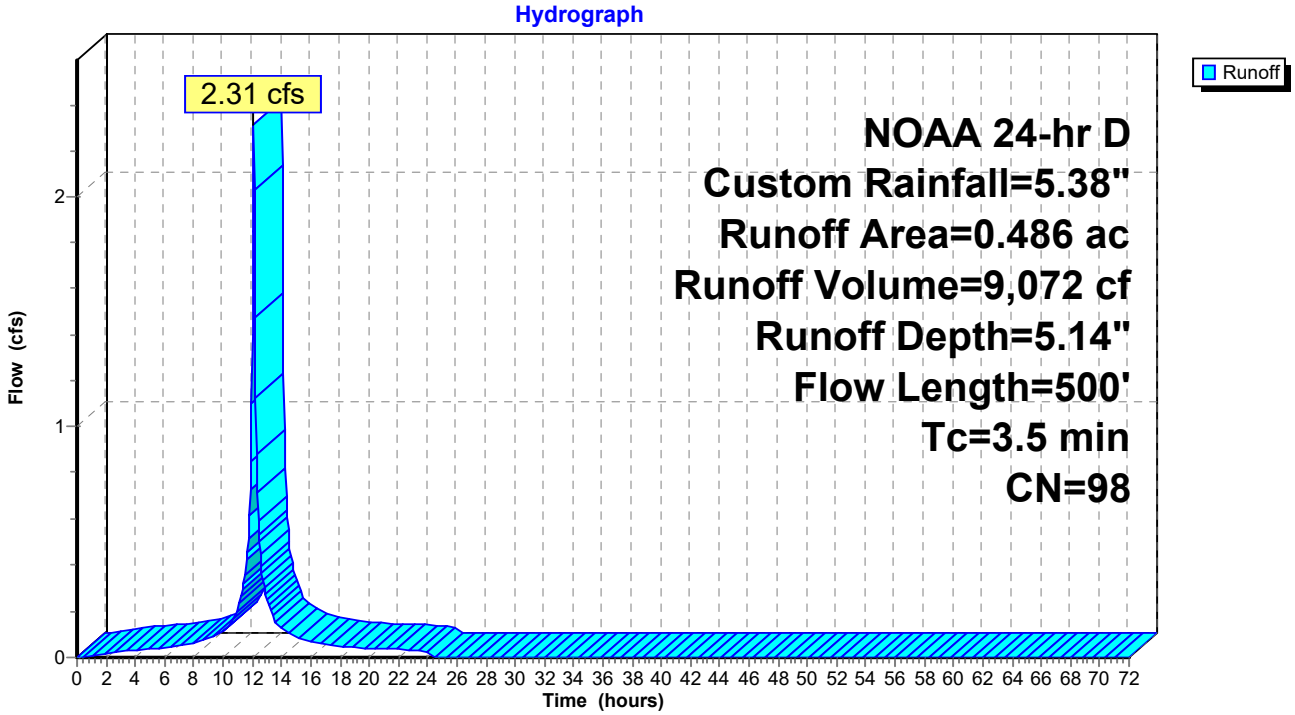
Runoff = 2.31 cfs @ 12.11 hrs, Volume= 9,072 cf, Depth= 5.14"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

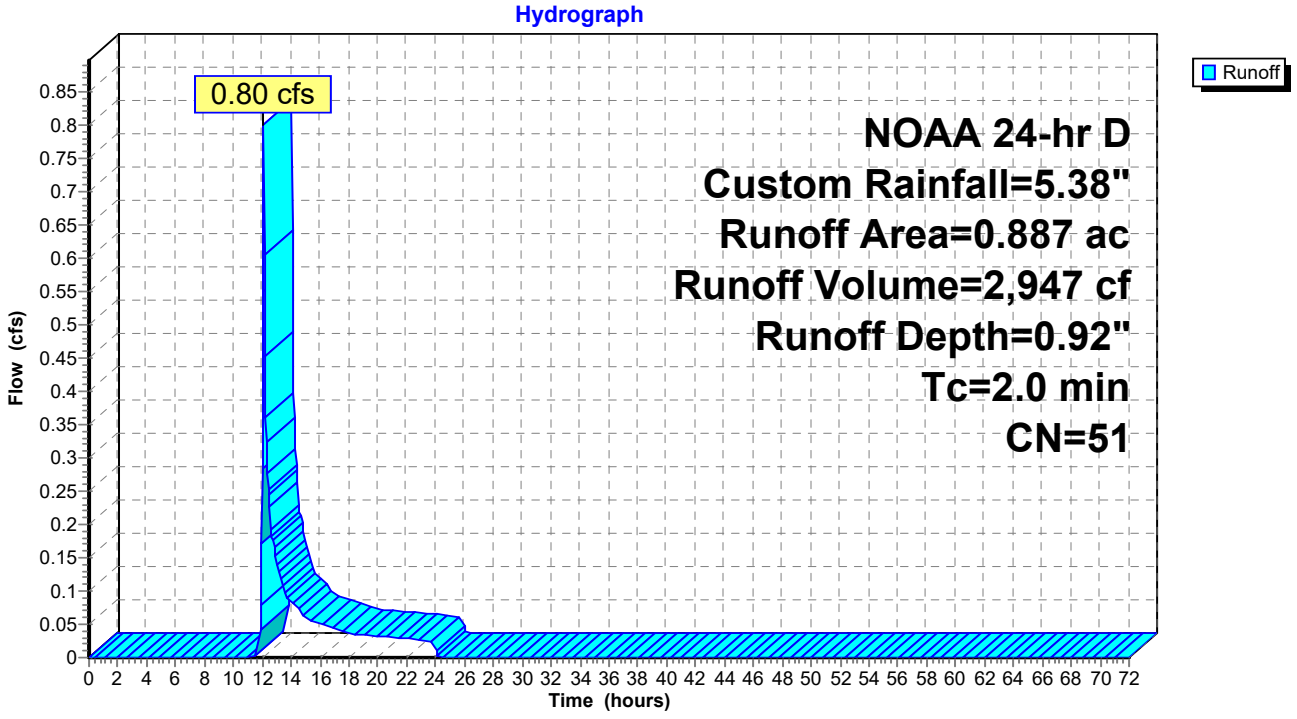
Runoff = 0.80 cfs @ 12.10 hrs, Volume= 2,947 cf, Depth= 0.92"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 3.66" for Custom event
Inflow = 11.58 cfs @ 12.17 hrs, Volume= 54,579 cf
Outflow = 11.21 cfs @ 12.21 hrs, Volume= 49,536 cf, Atten= 3%, Lag= 2.3 min
Primary = 11.21 cfs @ 12.21 hrs, Volume= 49,536 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.42' @ 12.21 hrs Surf.Area= 5,194 sf Storage= 6,780 cf

Plug-Flow detention time= 89.2 min calculated for 49,536 cf (91% of inflow)
Center-of-Mass det. time= 39.9 min (844.3 - 804.5)

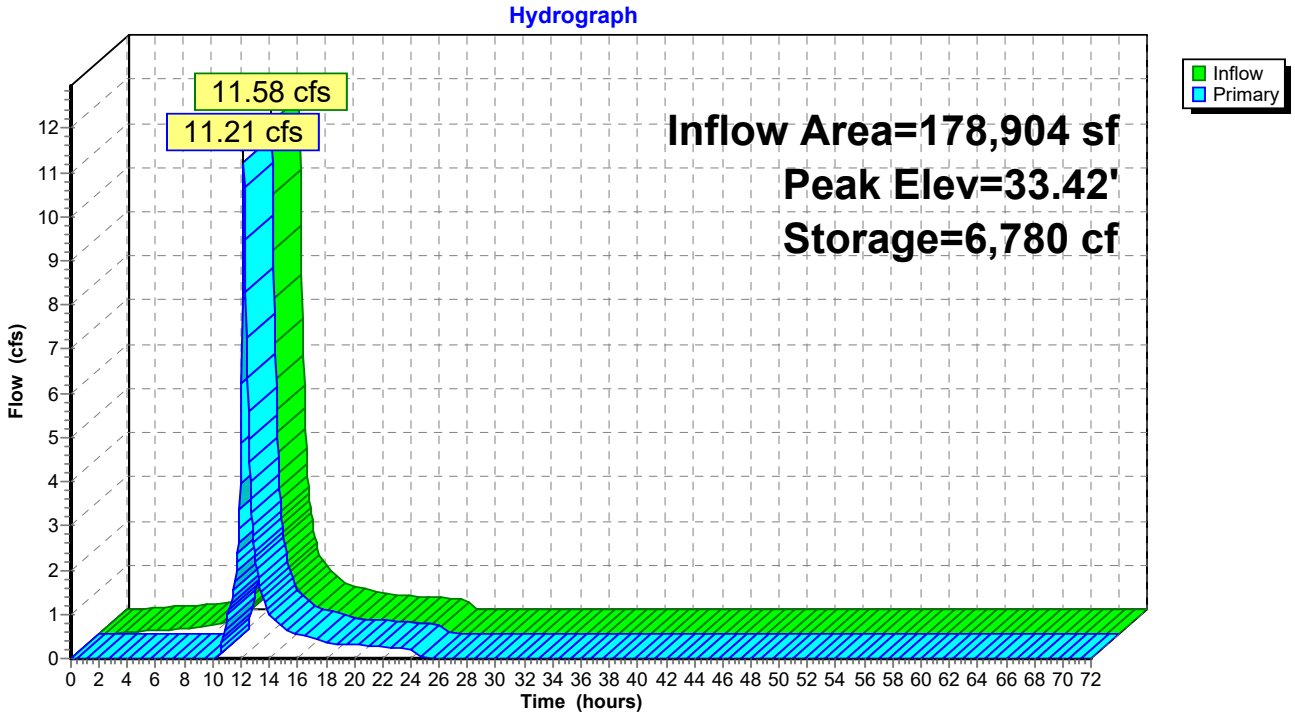
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=11.11 cfs @ 12.21 hrs HW=33.42' (Free Discharge)
1=Orifice/Grate (Weir Controls 11.11 cfs @ 1.95 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

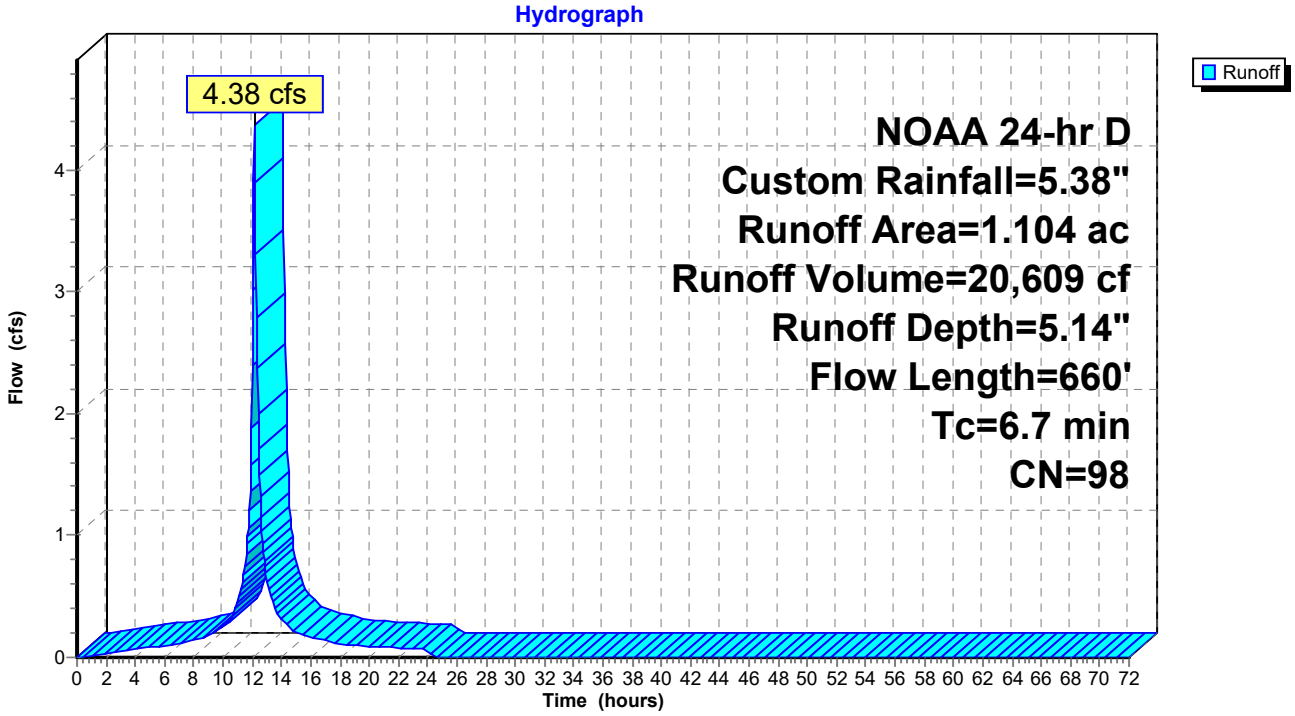
Runoff = 4.38 cfs @ 12.15 hrs, Volume= 20,609 cf, Depth= 5.14"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

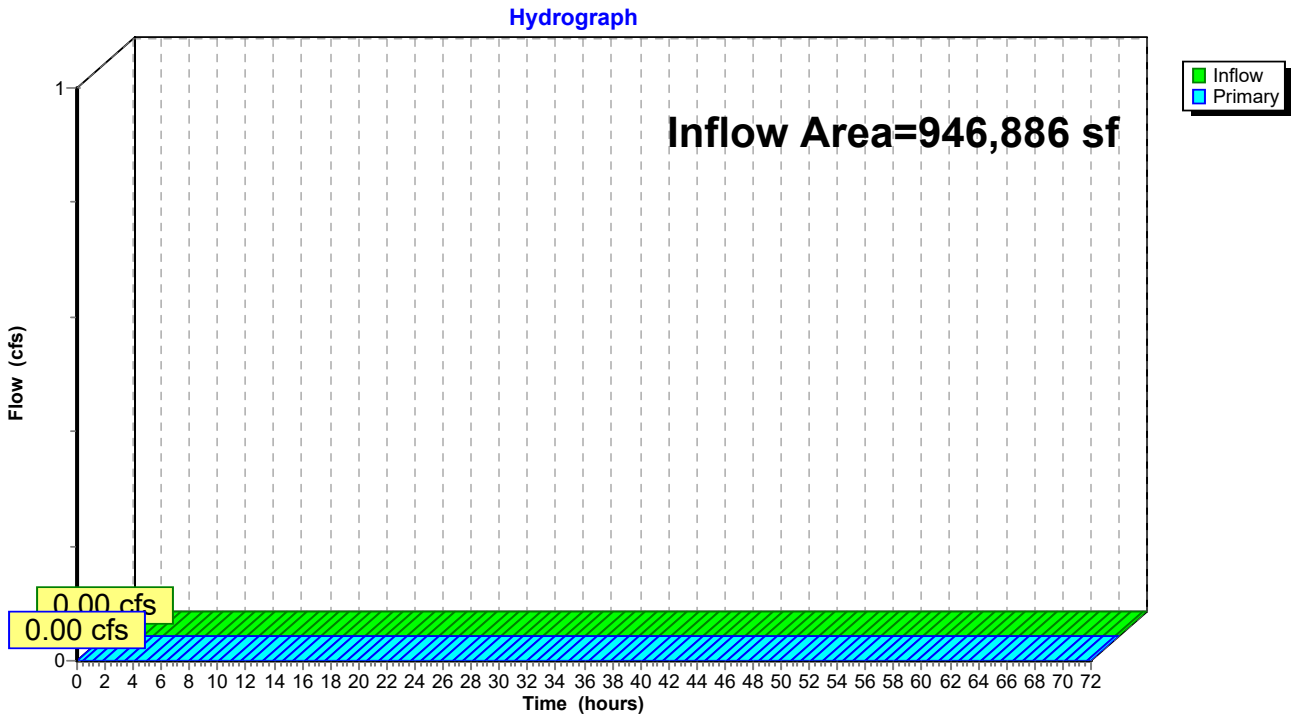


Summary for Link 15L: Willis Creek

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

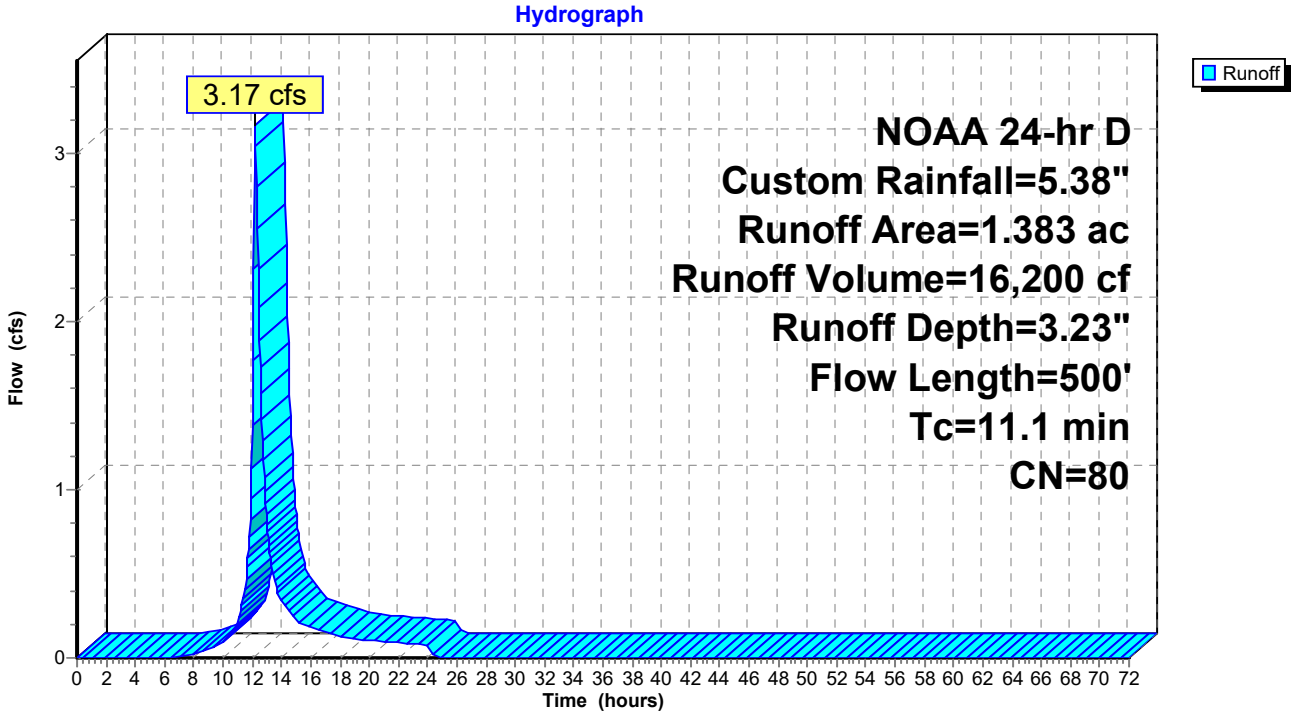
Runoff = 3.17 cfs @ 12.21 hrs, Volume= 16,200 cf, Depth= 3.23"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.45' @ 10.85 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 2.23" for Custom event
Inflow = 15.07 cfs @ 12.13 hrs, Volume= 74,288 cf
Outflow = 14.63 cfs @ 12.17 hrs, Volume= 70,055 cf, Atten= 3%, Lag= 2.0 min
Primary = 14.63 cfs @ 12.17 hrs, Volume= 70,055 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.36' @ 12.17 hrs Surf.Area= 5,729 sf Storage= 6,571 cf

Plug-Flow detention time= 78.8 min calculated for 70,055 cf (94% of inflow)
Center-of-Mass det. time= 31.3 min (920.7 - 889.3)

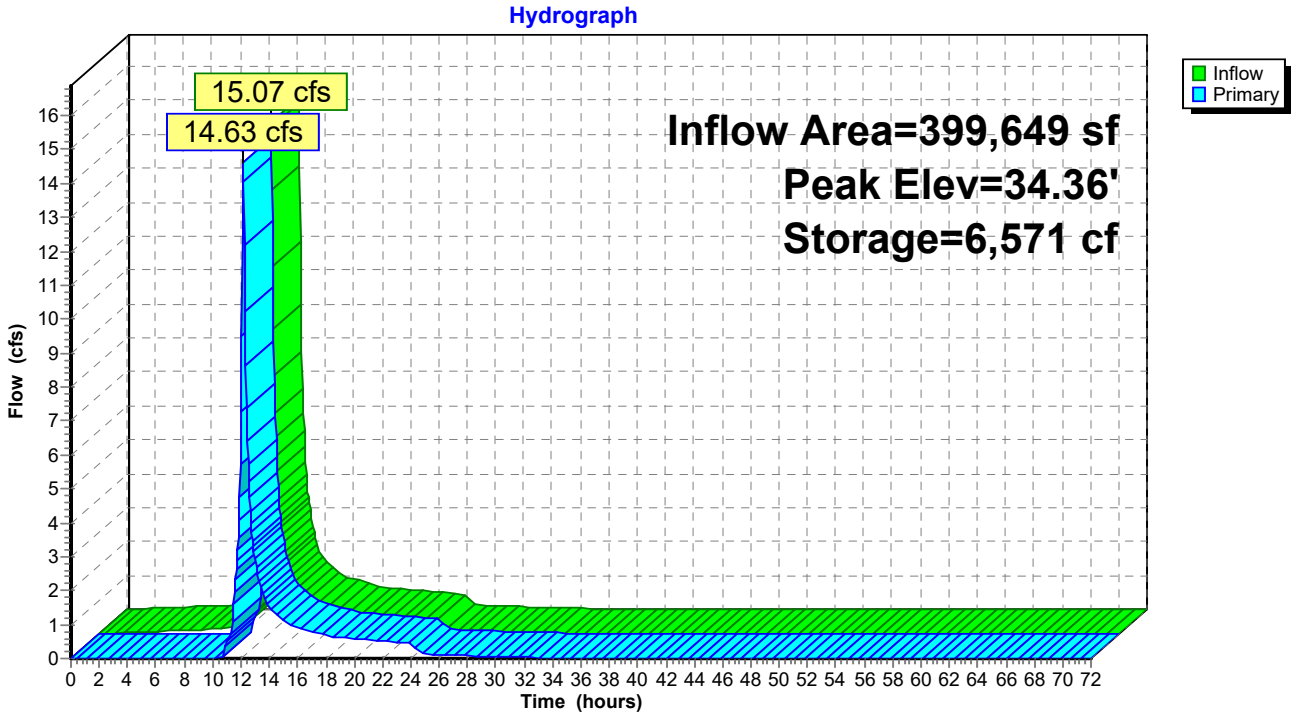
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.35 cfs @ 12.17 hrs HW=34.35' (Free Discharge)
1=Orifice/Grate (Weir Controls 14.35 cfs @ 2.12 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

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

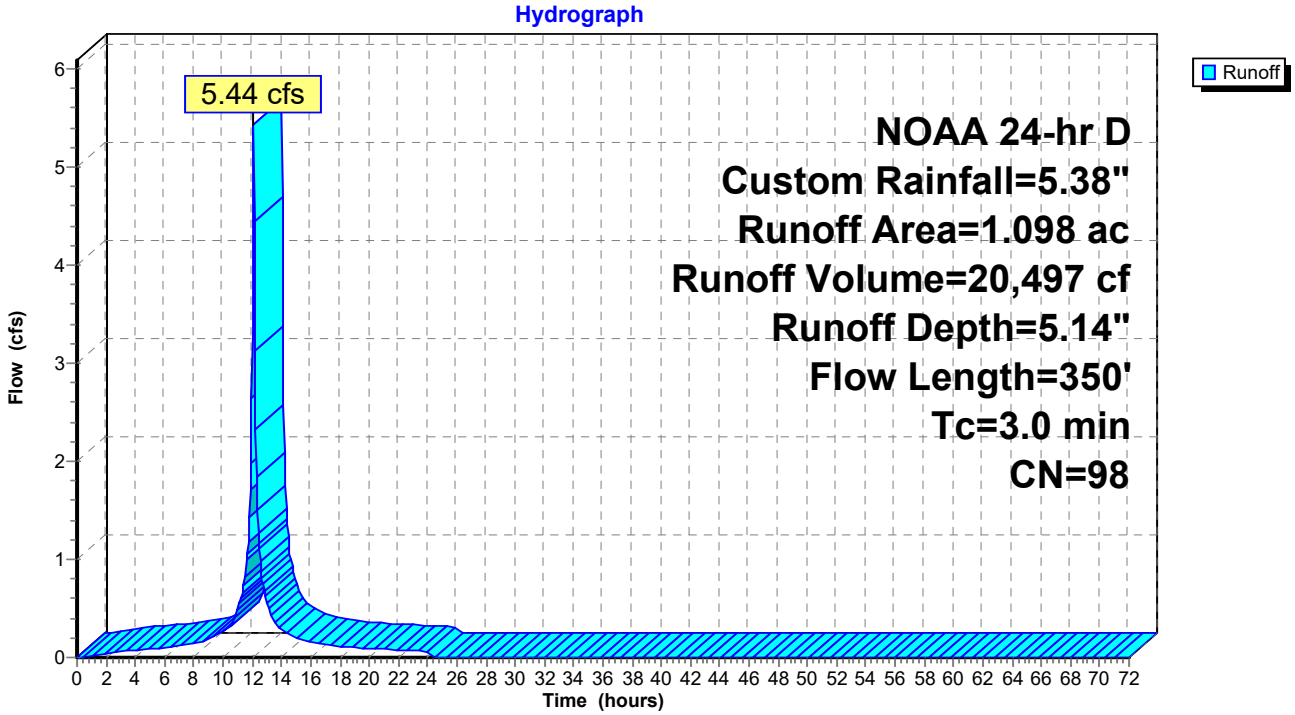
Runoff = 5.44 cfs @ 12.10 hrs, Volume= 20,497 cf, Depth= 5.14"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

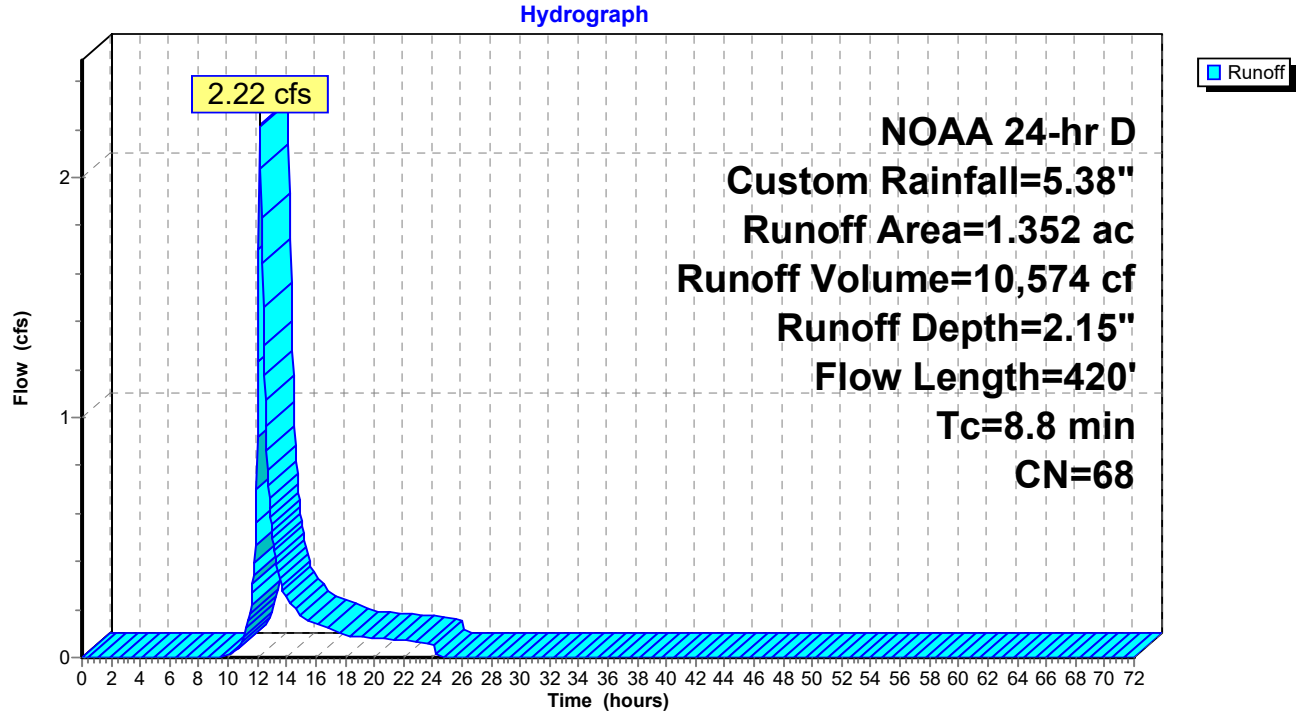
Runoff = 2.22 cfs @ 12.19 hrs, Volume= 10,574 cf, Depth= 2.15"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 2.19" for Custom event
Inflow = 8.60 cfs @ 12.12 hrs, Volume= 37,279 cf
Outflow = 8.19 cfs @ 12.15 hrs, Volume= 32,061 cf, Atten= 5%, Lag= 2.2 min
Primary = 8.19 cfs @ 12.15 hrs, Volume= 32,061 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.26' @ 12.15 hrs Surf.Area= 4,973 sf Storage= 6,570 cf

Plug-Flow detention time= 120.8 min calculated for 32,039 cf (86% of inflow)
Center-of-Mass det. time= 51.5 min (862.7 - 811.2)

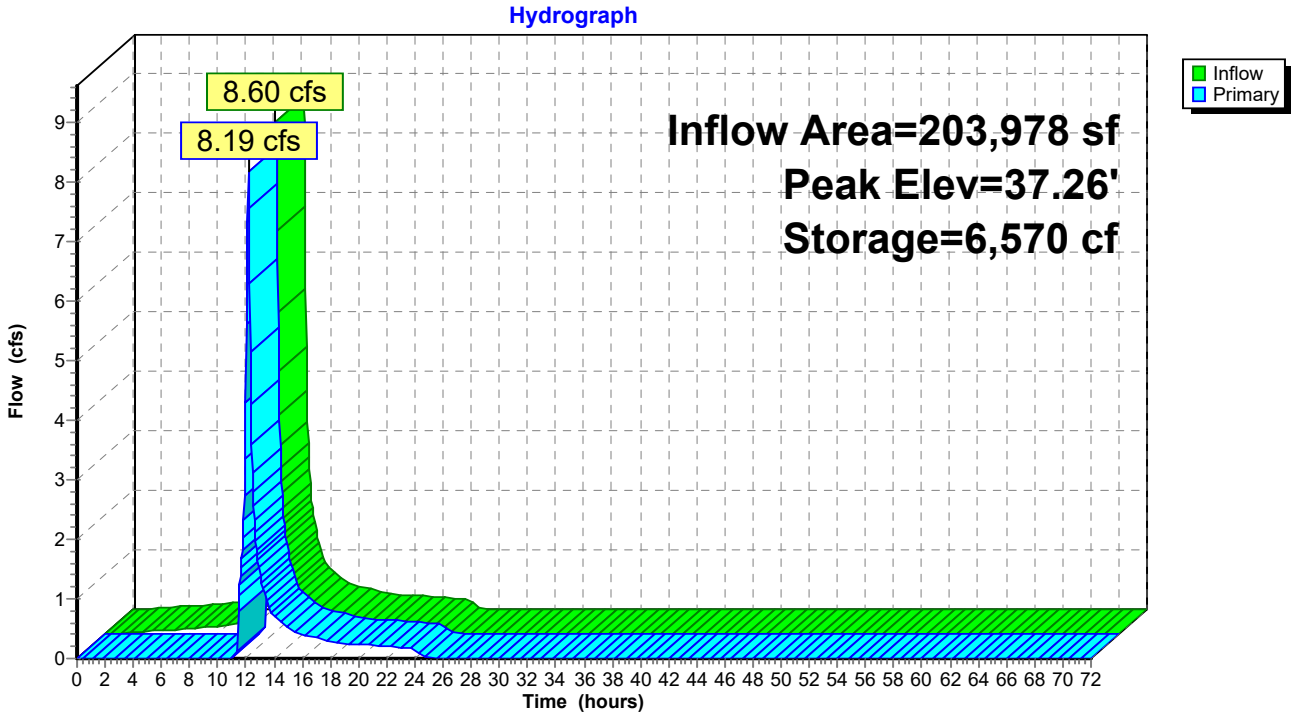
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.13 cfs @ 12.15 hrs HW=37.26' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 8.13 cfs @ 1.76 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

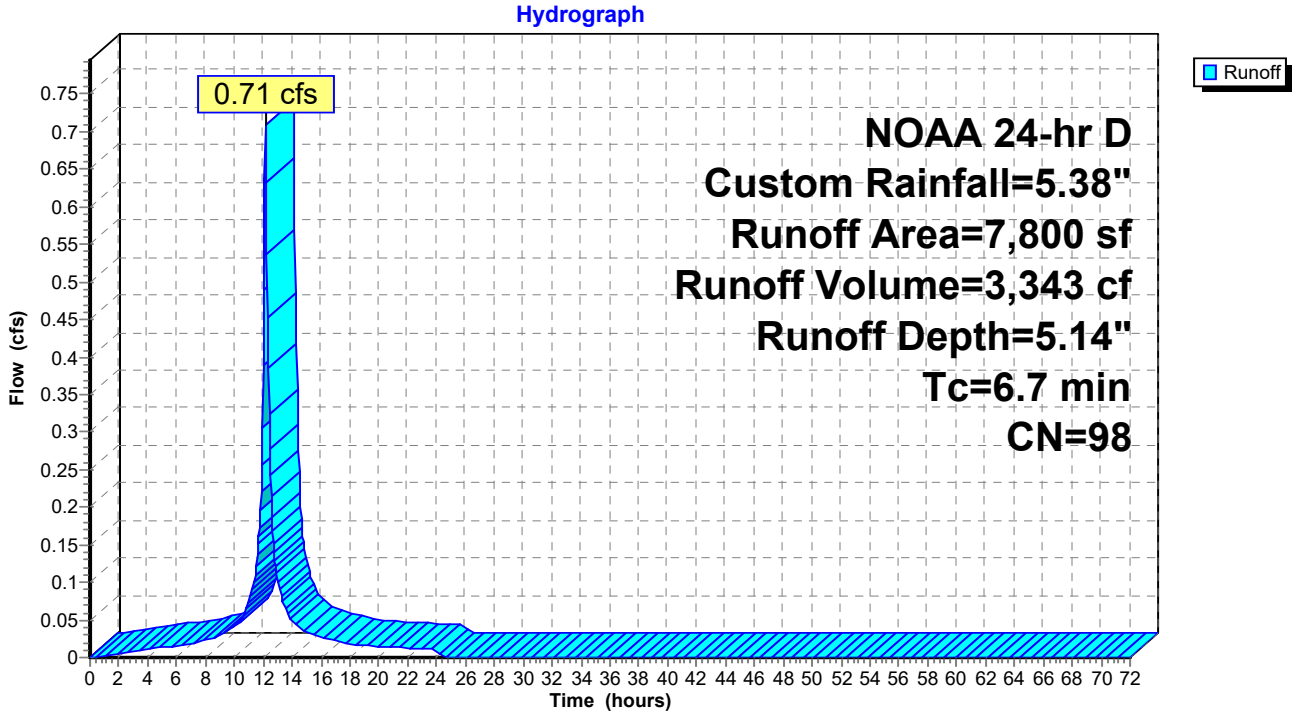
Runoff = 0.71 cfs @ 12.15 hrs, Volume= 3,343 cf, Depth= 5.14"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

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

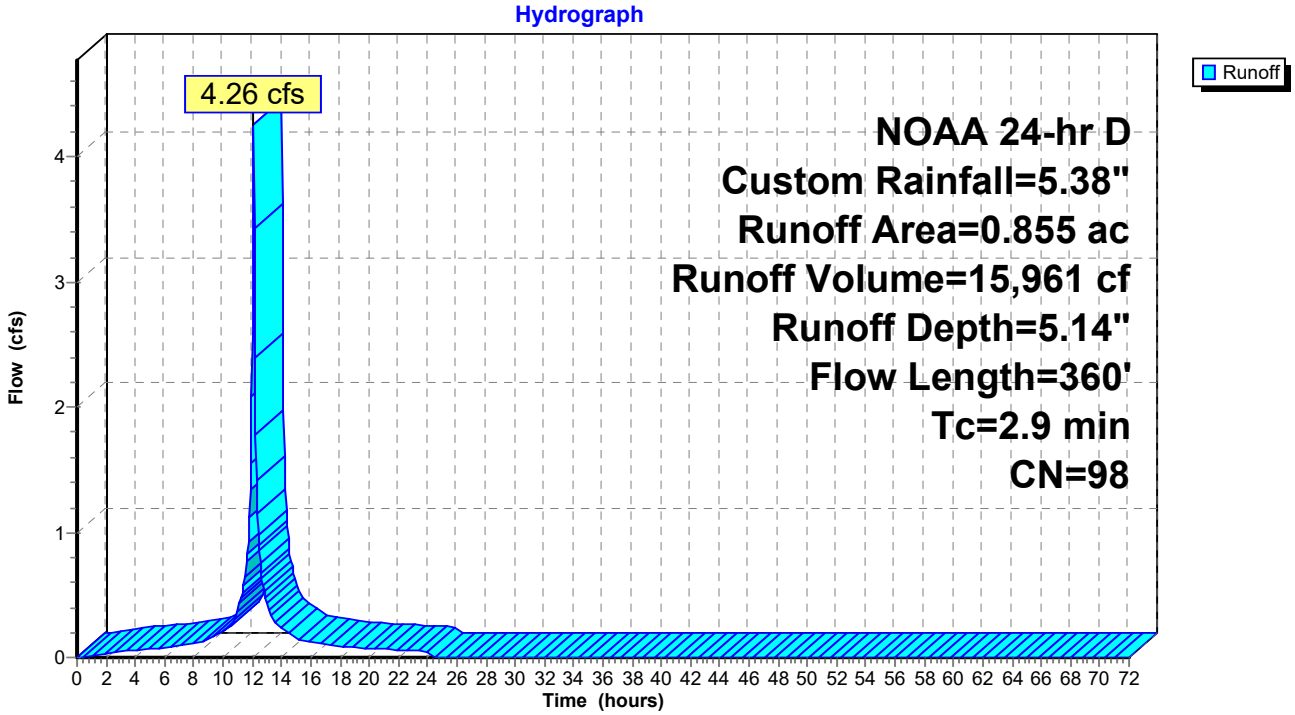
Runoff = 4.26 cfs @ 12.10 hrs, Volume= 15,961 cf, Depth= 5.14"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

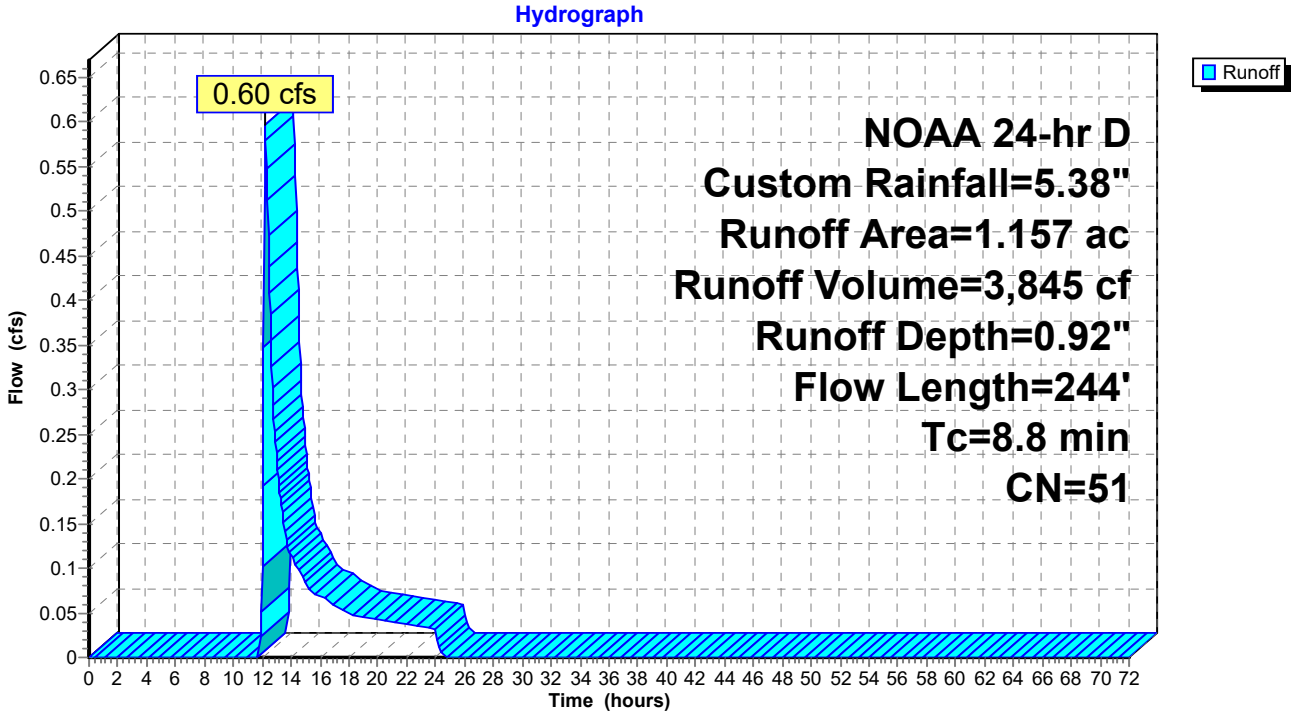
Runoff = 0.60 cfs @ 12.22 hrs, Volume= 3,845 cf, Depth= 0.92"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 2.10" for Custom event
Inflow = 4.42 cfs @ 12.11 hrs, Volume= 19,917 cf
Outflow = 4.08 cfs @ 12.15 hrs, Volume= 16,360 cf, Atten= 8%, Lag= 2.4 min
Primary = 4.08 cfs @ 12.15 hrs, Volume= 16,360 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.17' @ 12.15 hrs Surf.Area= 4,748 sf Storage= 4,380 cf

Plug-Flow detention time= 161.0 min calculated for 16,348 cf (82% of inflow)
Center-of-Mass det. time= 75.9 min (851.6 - 775.7)

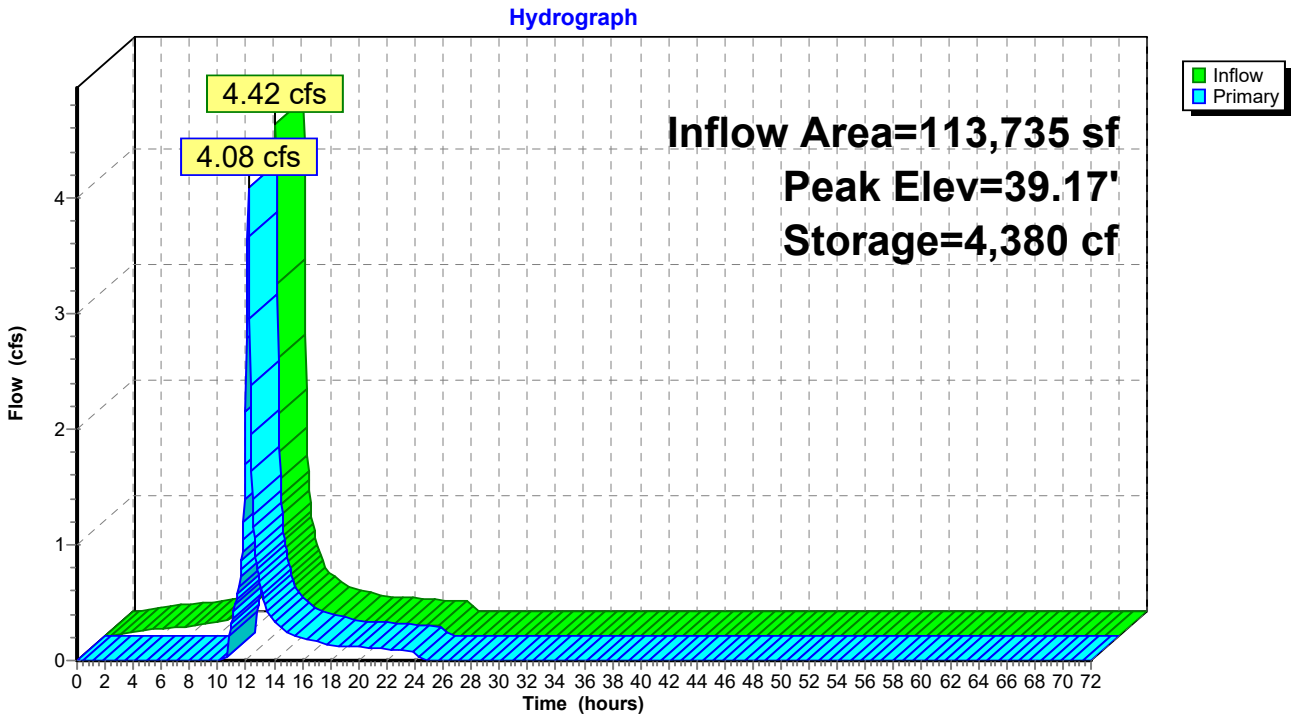
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.07 cfs @ 12.15 hrs HW=39.17' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 4.07 cfs @ 1.40 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

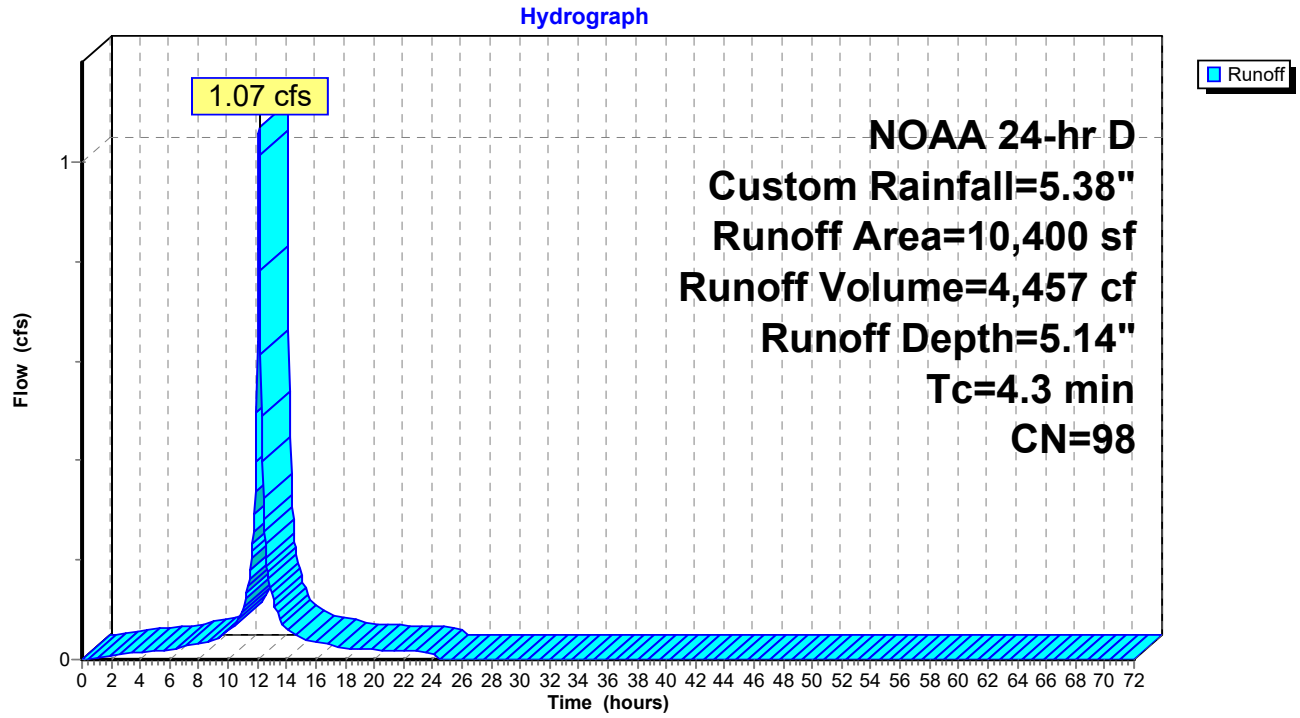
Runoff = 1.07 cfs @ 12.12 hrs, Volume= 4,457 cf, Depth= 5.14"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

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

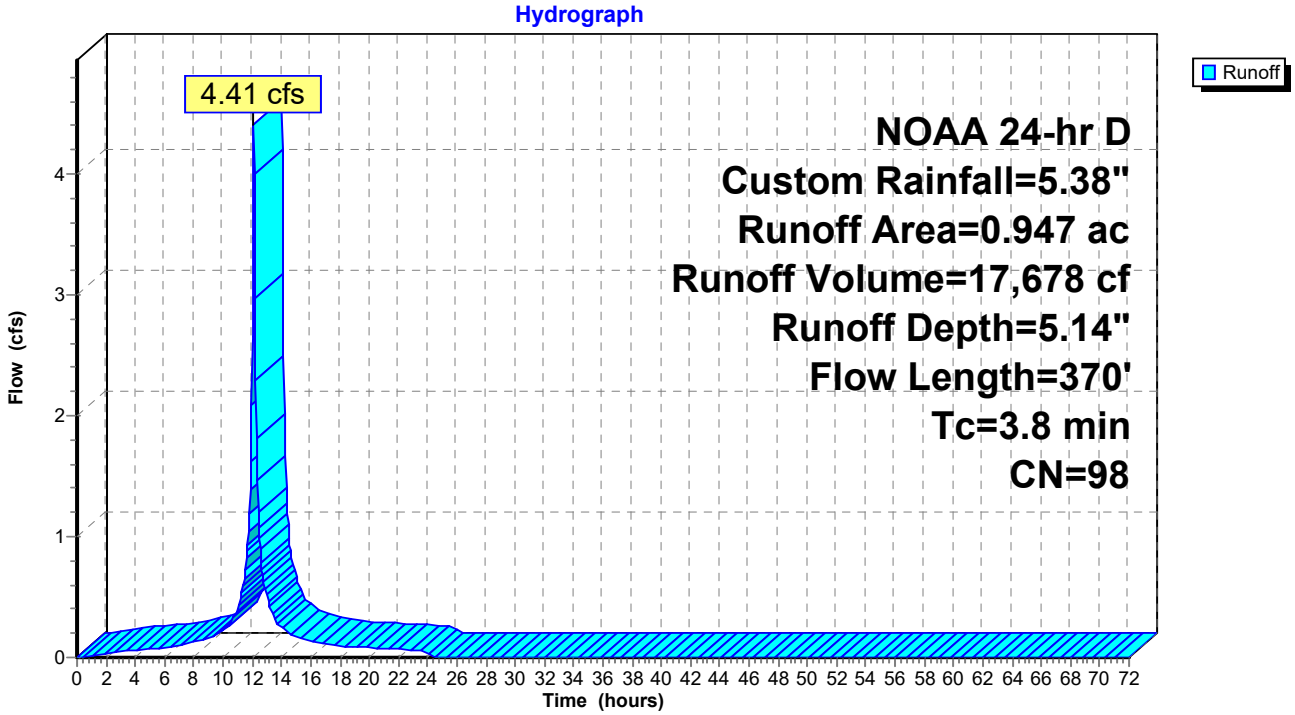
Runoff = 4.41 cfs @ 12.11 hrs, Volume= 17,678 cf, Depth= 5.14"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

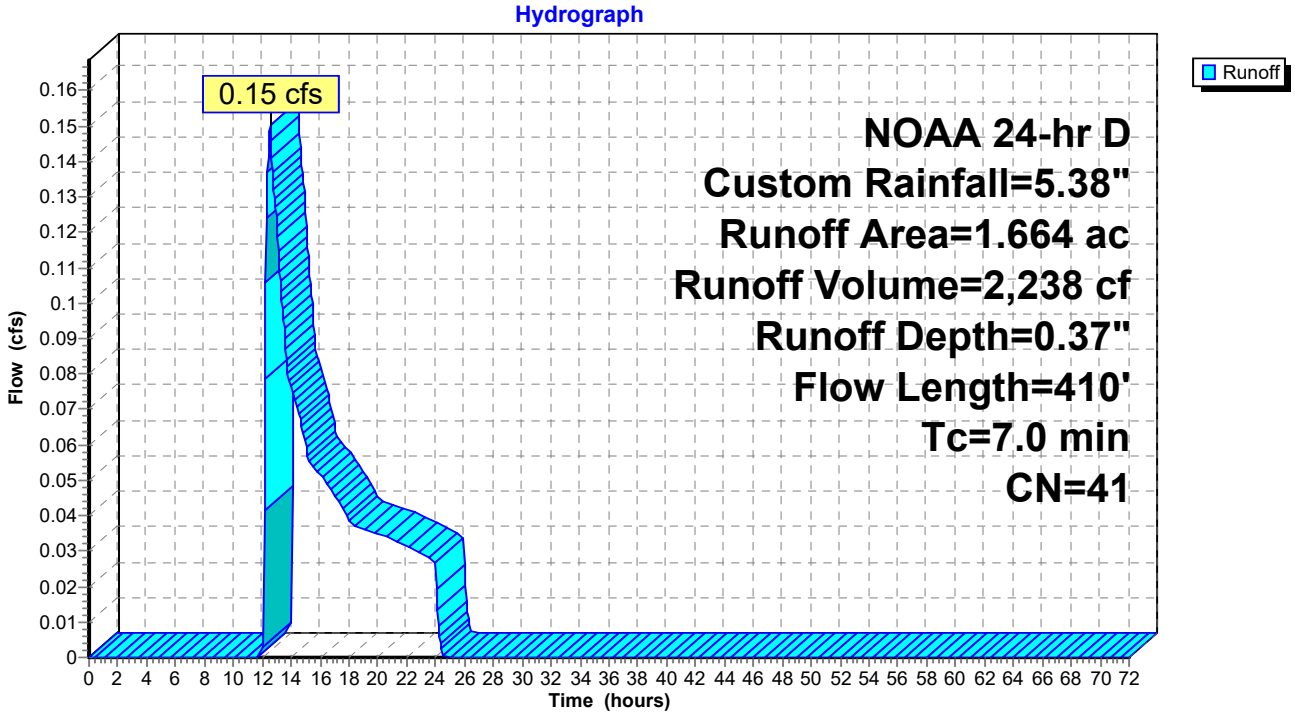
Runoff = 0.15 cfs @ 12.54 hrs, Volume= 2,238 cf, Depth= 0.37"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 1.31" for Custom event
Inflow = 2.24 cfs @ 12.10 hrs, Volume= 10,119 cf
Outflow = 0.16 cfs @ 14.33 hrs, Volume= 8,352 cf, Atten= 93%, Lag= 133.8 min
Primary = 0.16 cfs @ 14.33 hrs, Volume= 8,352 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.86' @ 14.33 hrs Surf.Area= 7,495 sf Storage= 5,913 cf

Plug-Flow detention time= 549.1 min calculated for 8,346 cf (82% of inflow)
Center-of-Mass det. time= 463.6 min (1,256.6 - 793.1)

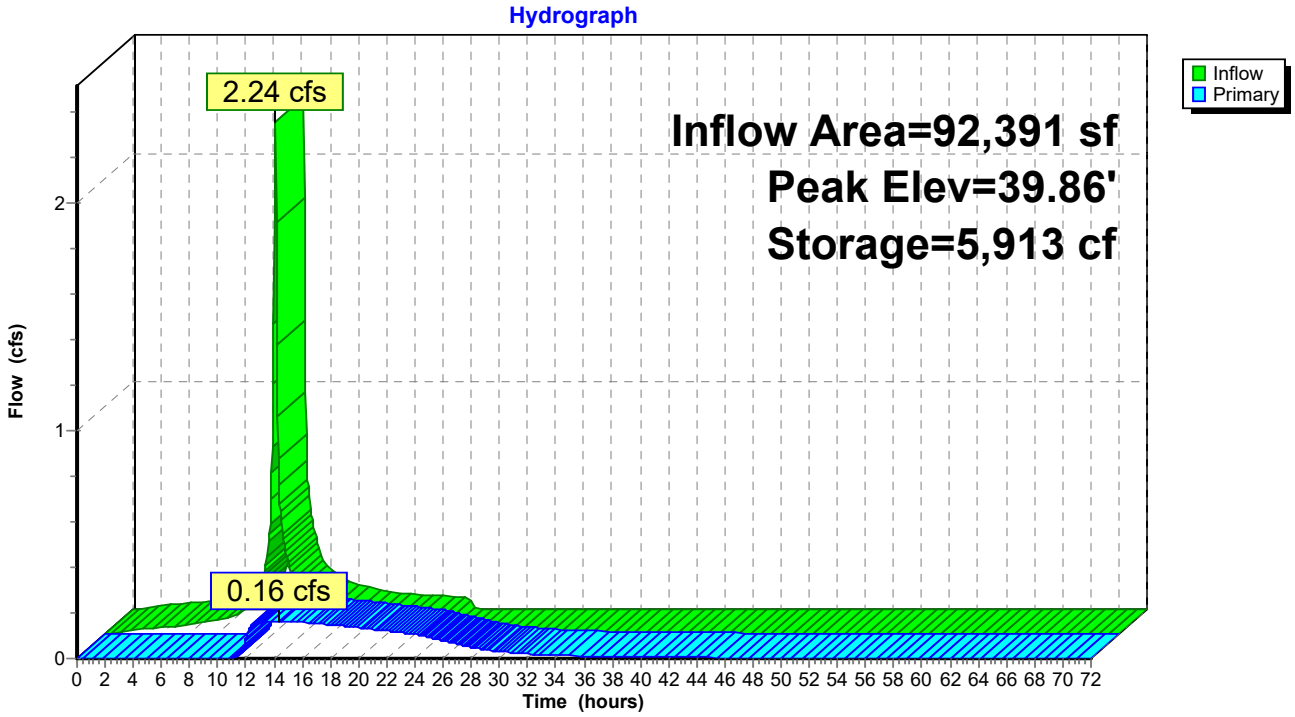
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 14.33 hrs HW=39.86' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.16 cfs @ 3.33 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

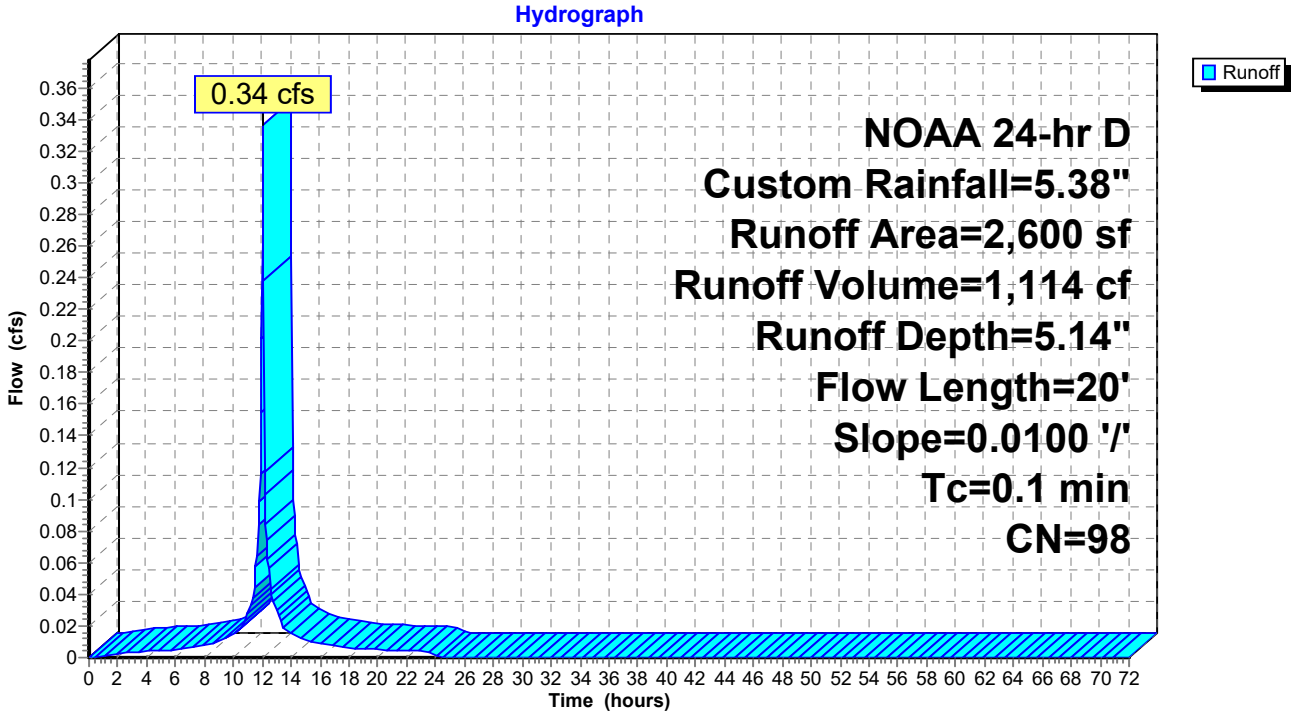
Runoff = 0.34 cfs @ 12.05 hrs, Volume= 1,114 cf, Depth= 5.14"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

[81] Warning: Exceeded Pond 3P by 1.02' @ 71.95 hrs

Inflow = 3.68 cfs @ 12.17 hrs, Volume= 17,198 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.87' @ 32.40 hrs Surf.Area= 22,695 sf Storage= 17,196 cf

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

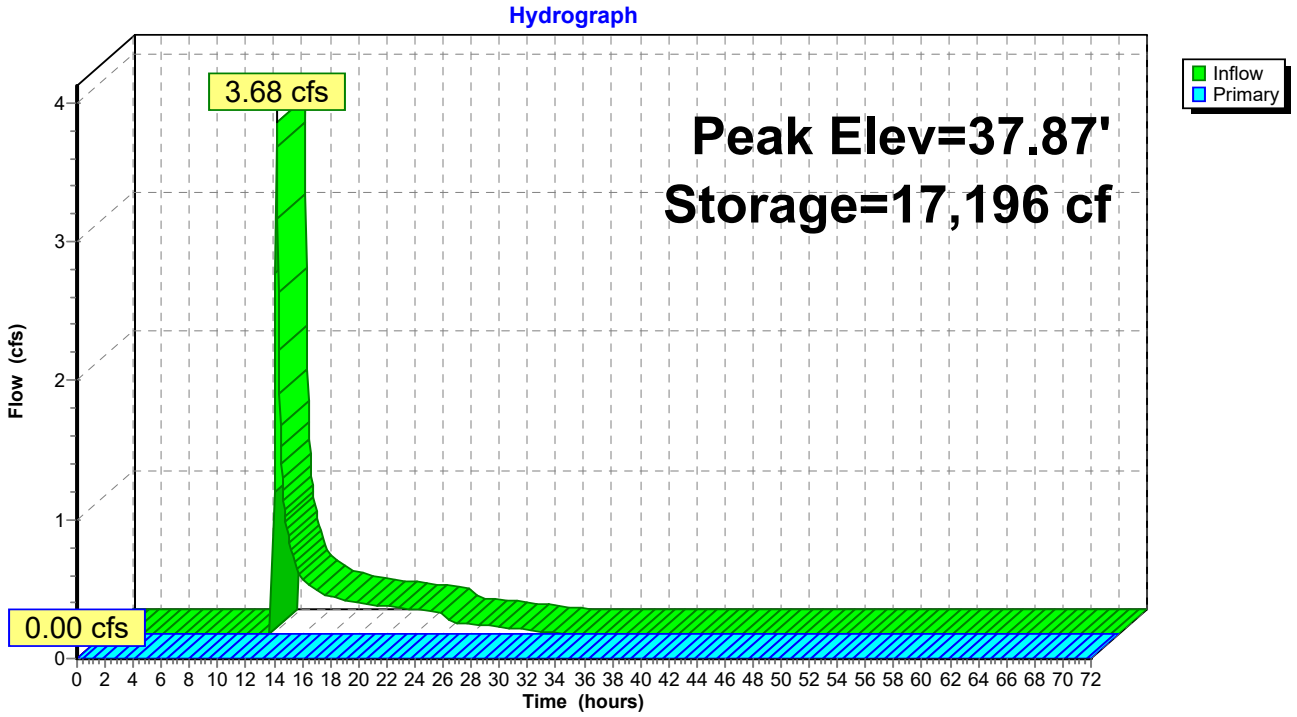
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

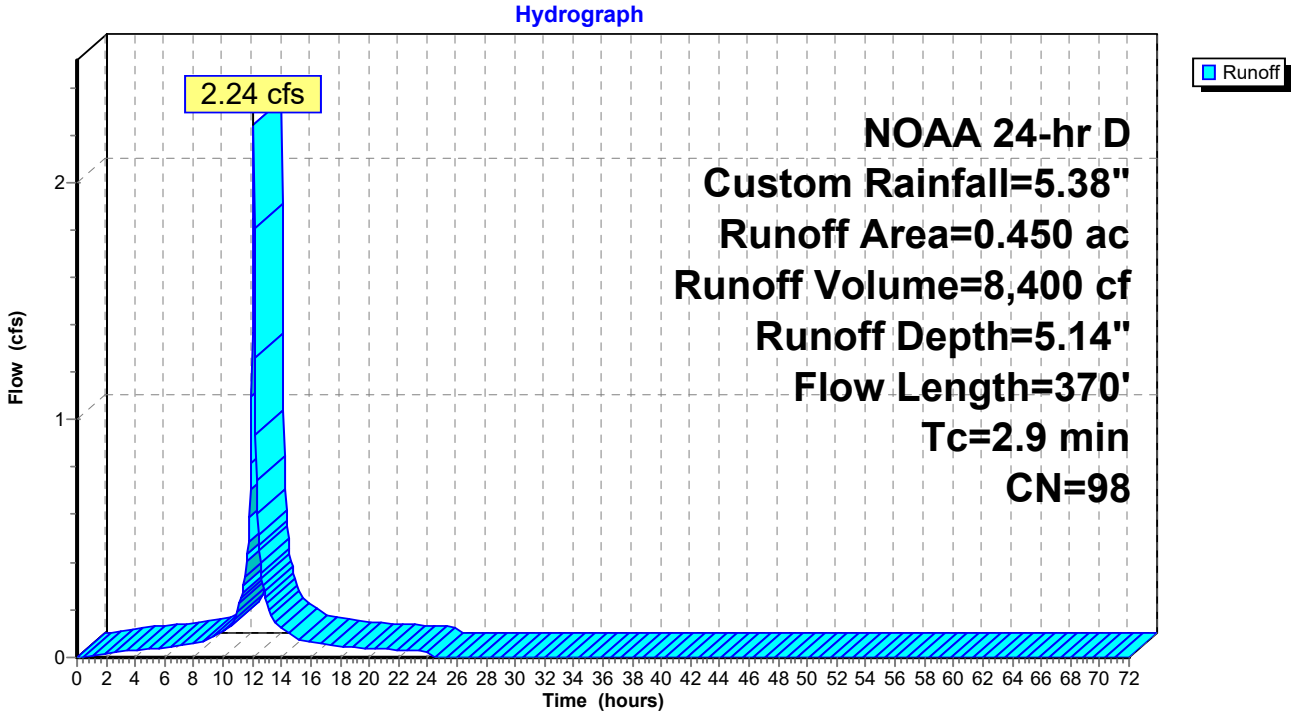
Runoff = 2.24 cfs @ 12.10 hrs, Volume= 8,400 cf, Depth= 5.14"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

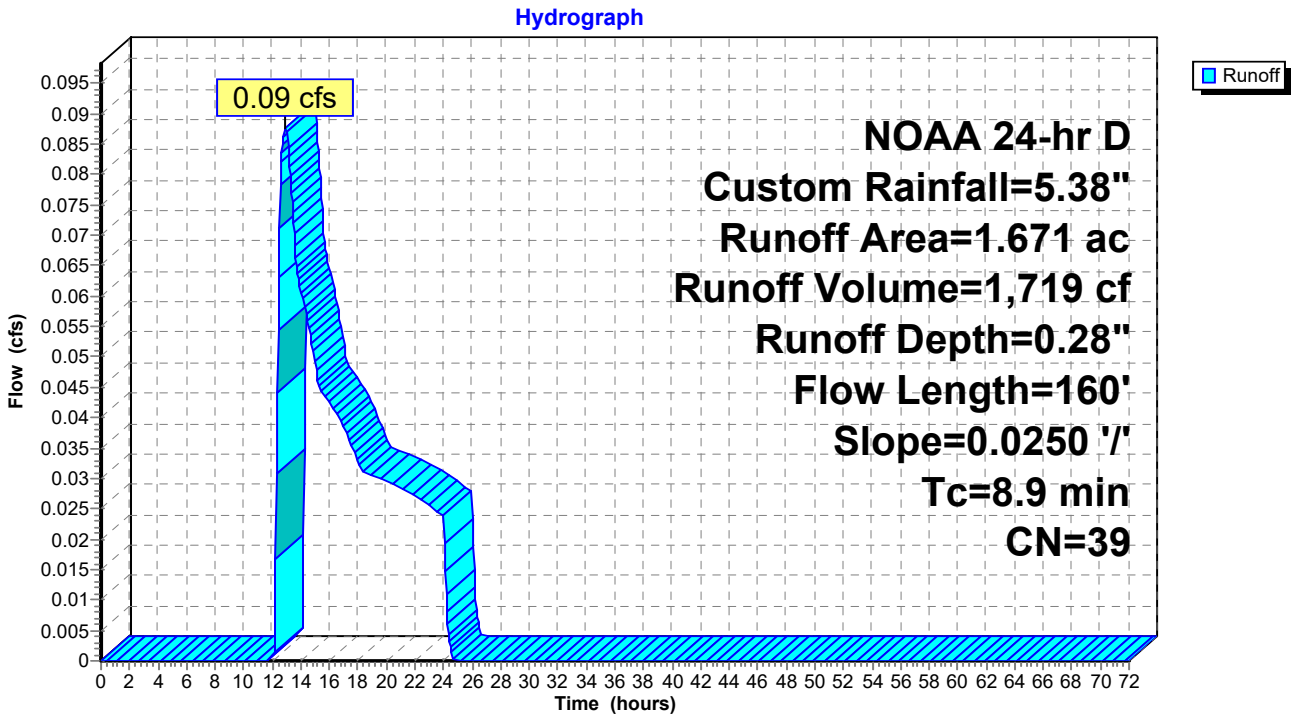
Runoff = 0.09 cfs @ 12.89 hrs, Volume= 1,719 cf, Depth= 0.28"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 3.12" for Custom event
Inflow = 3.69 cfs @ 12.15 hrs, Volume= 16,324 cf
Outflow = 3.53 cfs @ 12.18 hrs, Volume= 14,427 cf, Atten= 4%, Lag= 1.7 min
Primary = 3.53 cfs @ 12.18 hrs, Volume= 14,427 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.03' @ 12.18 hrs Surf.Area= 2,947 sf Storage= 2,371 cf

Plug-Flow detention time= 108.8 min calculated for 14,427 cf (88% of inflow)
Center-of-Mass det. time= 48.8 min (851.7 - 802.9)

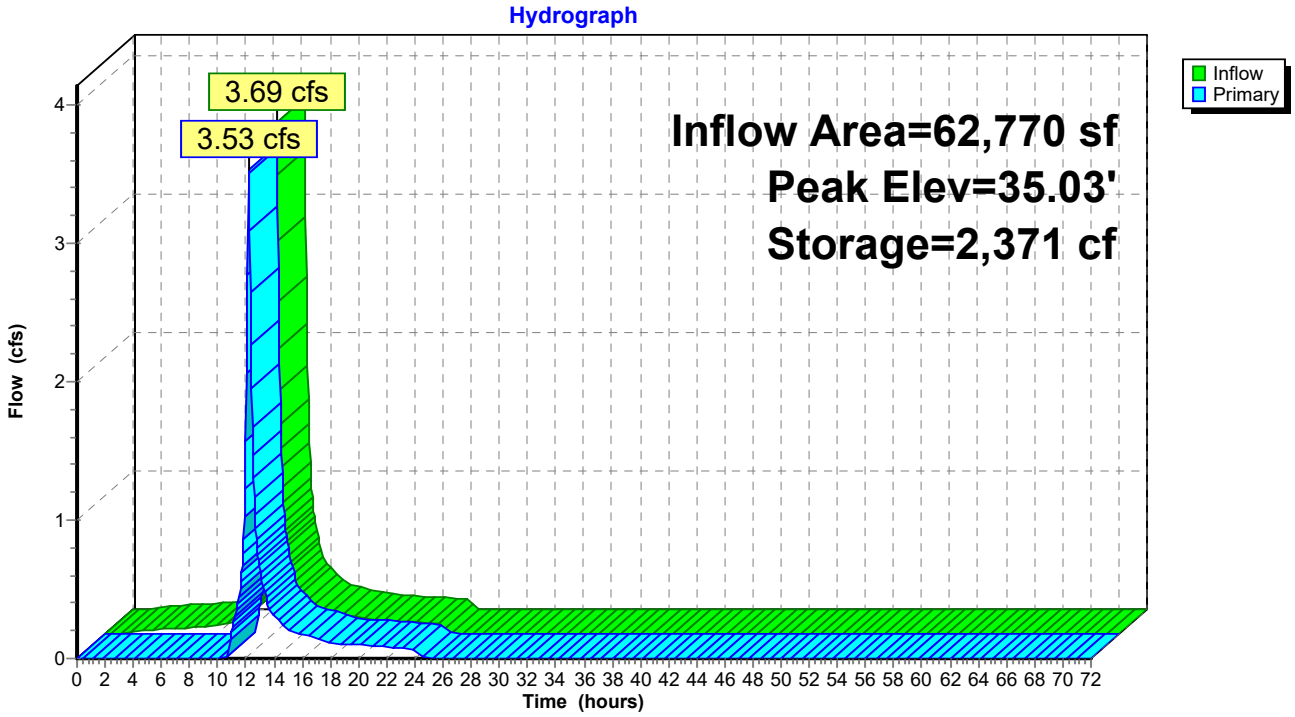
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.48 cfs @ 12.18 hrs HW=35.02' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 3.48 cfs @ 1.32 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

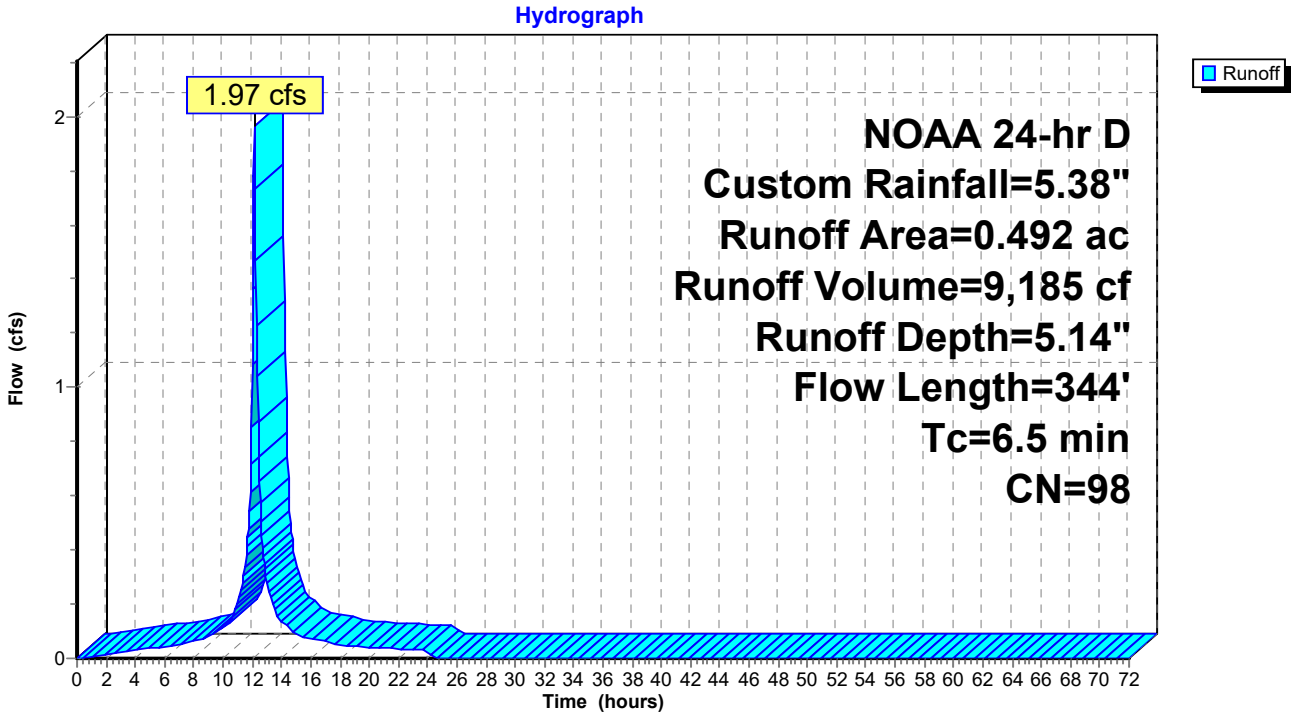
Runoff = 1.97 cfs @ 12.15 hrs, Volume= 9,185 cf, Depth= 5.14"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

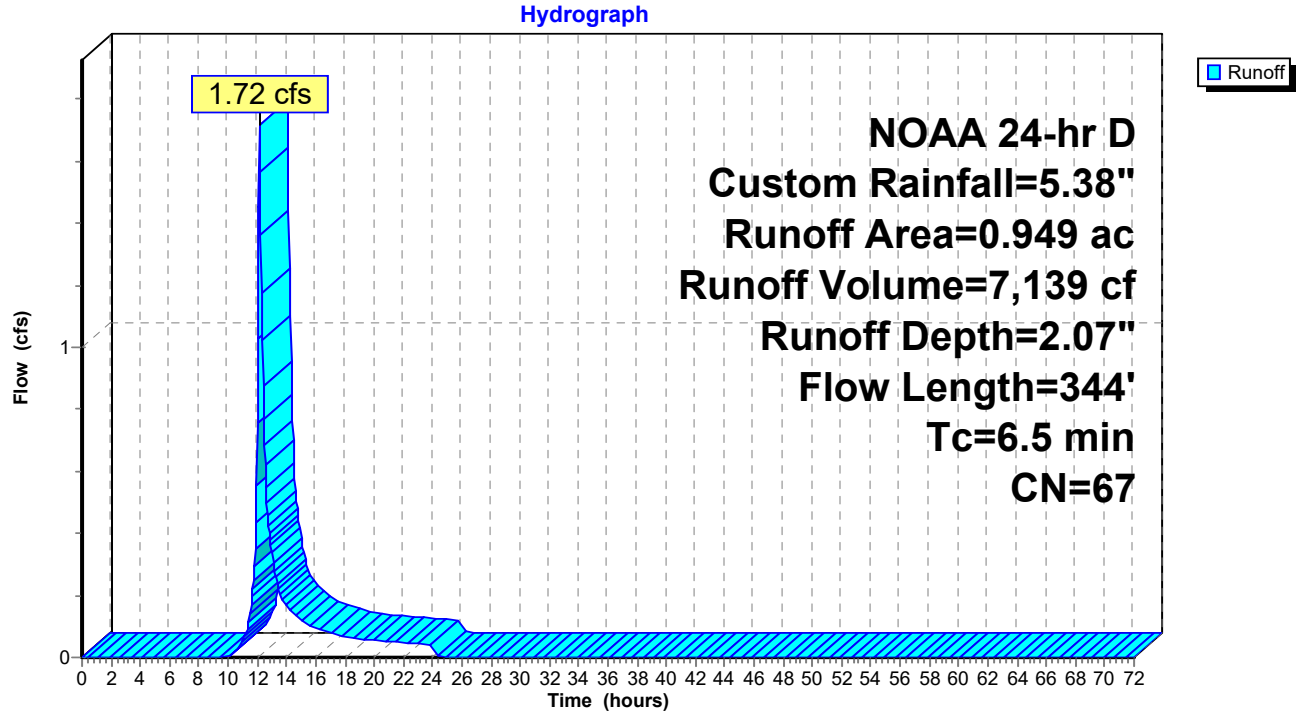
Runoff = 1.72 cfs @ 12.16 hrs, Volume= 7,139 cf, Depth= 2.07"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.32' @ 12.25 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 2.52" for Custom event
Inflow = 22.57 cfs @ 12.16 hrs, Volume= 110,401 cf
Outflow = 21.97 cfs @ 12.19 hrs, Volume= 106,468 cf, Atten= 3%, Lag= 1.9 min
Primary = 21.97 cfs @ 12.19 hrs, Volume= 106,468 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.66' @ 12.19 hrs Surf.Area= 5,614 sf Storage= 12,013 cf

Plug-Flow detention time= 107.1 min calculated for 106,468 cf (96% of inflow)
Center-of-Mass det. time= 76.5 min (953.0 - 876.5)

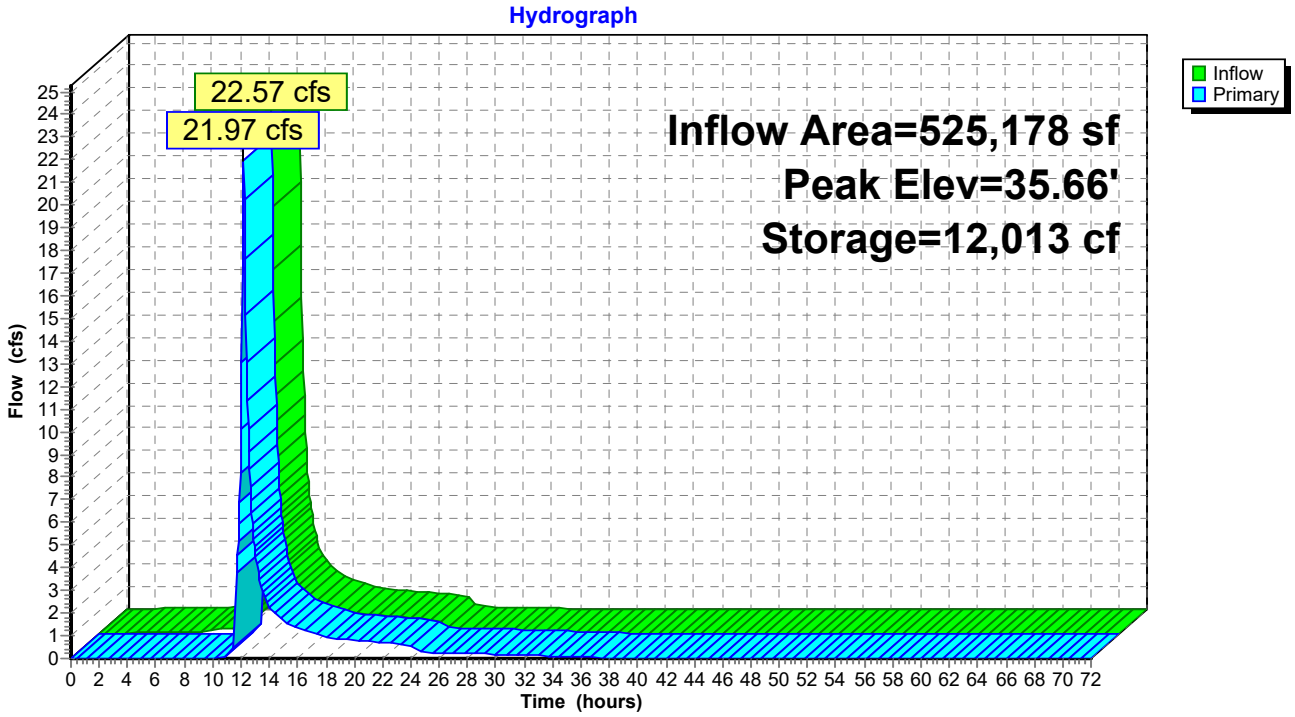
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=21.81 cfs @ 12.19 hrs HW=35.65' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.46 fps)
2=Orifice/Grate (Weir Controls 21.49 cfs @ 2.43 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

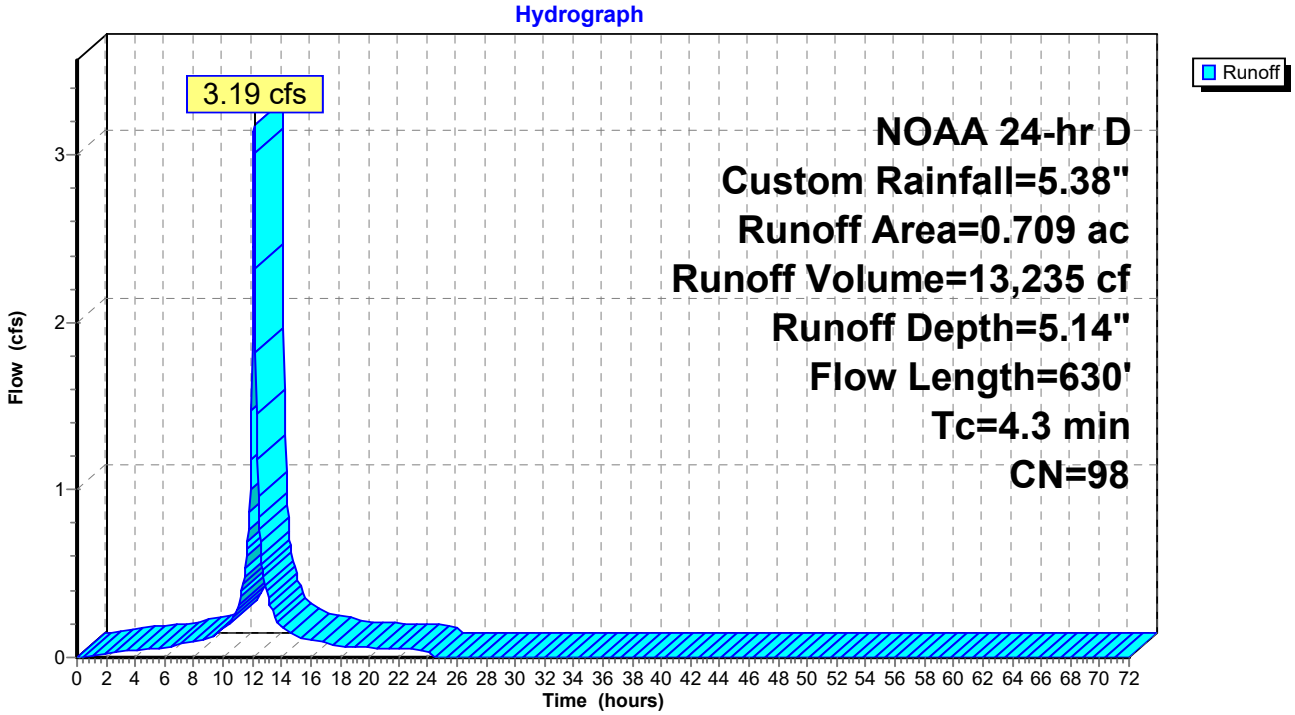
Runoff = 3.19 cfs @ 12.12 hrs, Volume= 13,235 cf, Depth= 5.14"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

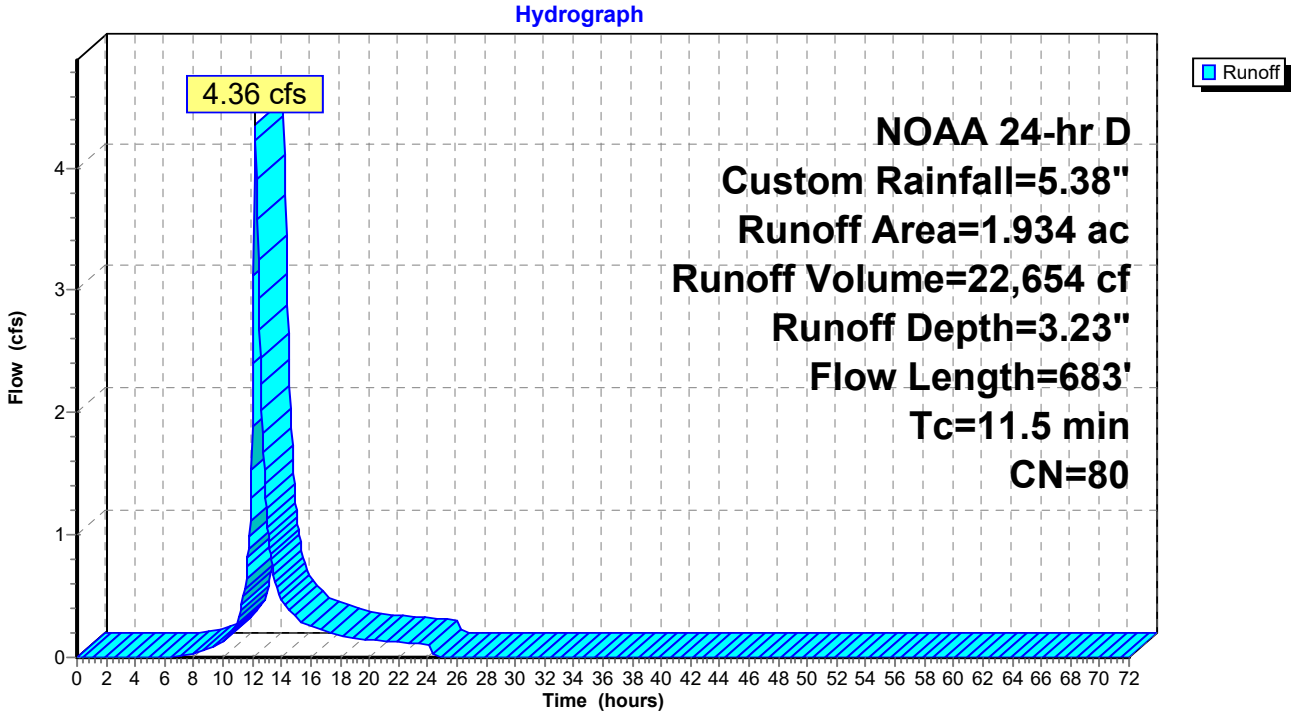
Runoff = 4.36 cfs @ 12.21 hrs, Volume= 22,654 cf, Depth= 3.23"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 1.85" for Custom event
Inflow = 2.86 cfs @ 12.13 hrs, Volume= 13,725 cf
Outflow = 0.21 cfs @ 14.22 hrs, Volume= 11,156 cf, Atten= 93%, Lag= 125.8 min
Primary = 0.21 cfs @ 14.22 hrs, Volume= 11,156 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.43' @ 14.22 hrs Surf.Area= 7,443 sf Storage= 8,489 cf

Plug-Flow detention time= 558.4 min calculated for 11,156 cf (81% of inflow)
Center-of-Mass det. time= 469.6 min (1,247.0 - 777.4)

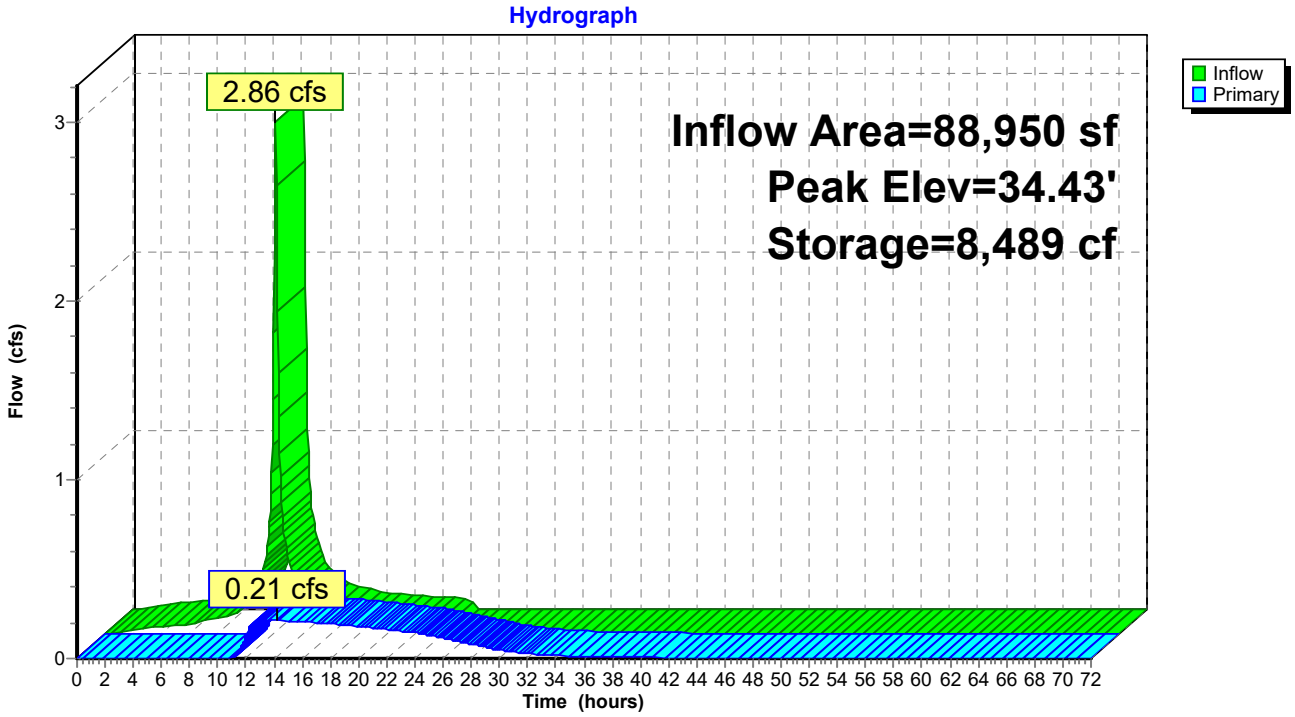
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 14.22 hrs HW=34.43' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.32 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

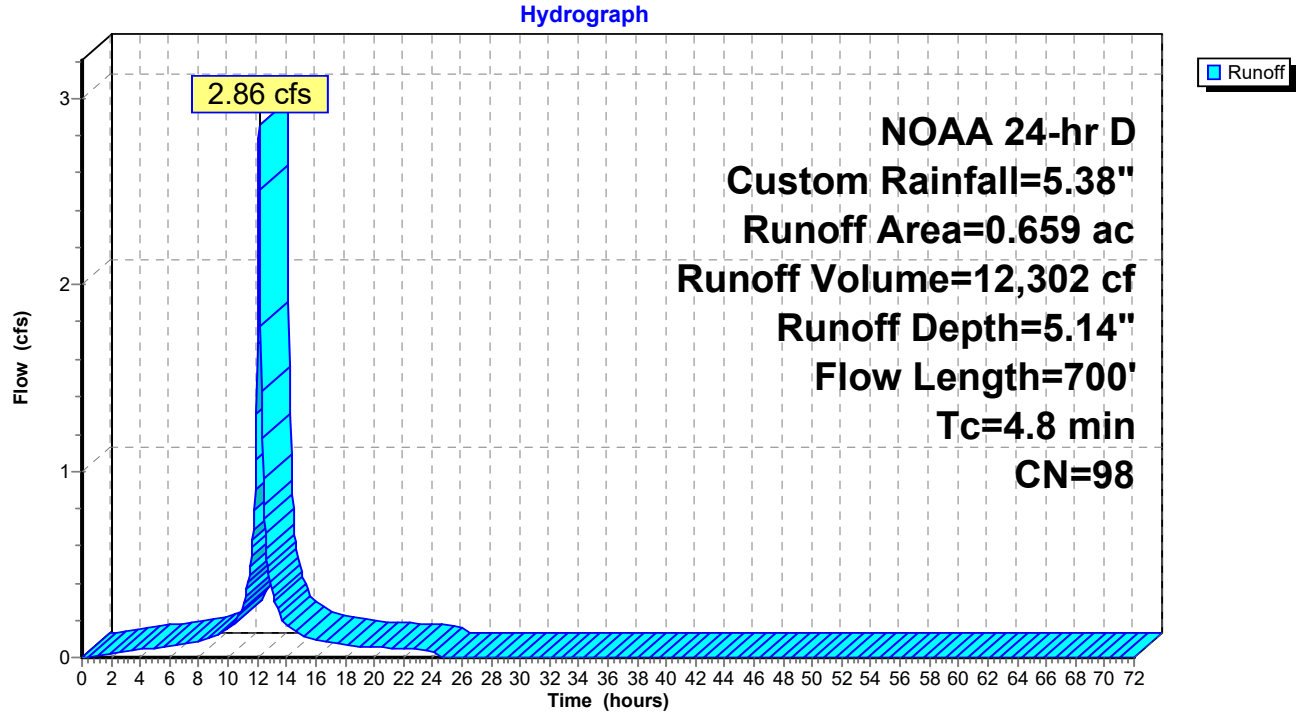
Runoff = 2.86 cfs @ 12.13 hrs, Volume= 12,302 cf, Depth= 5.14"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

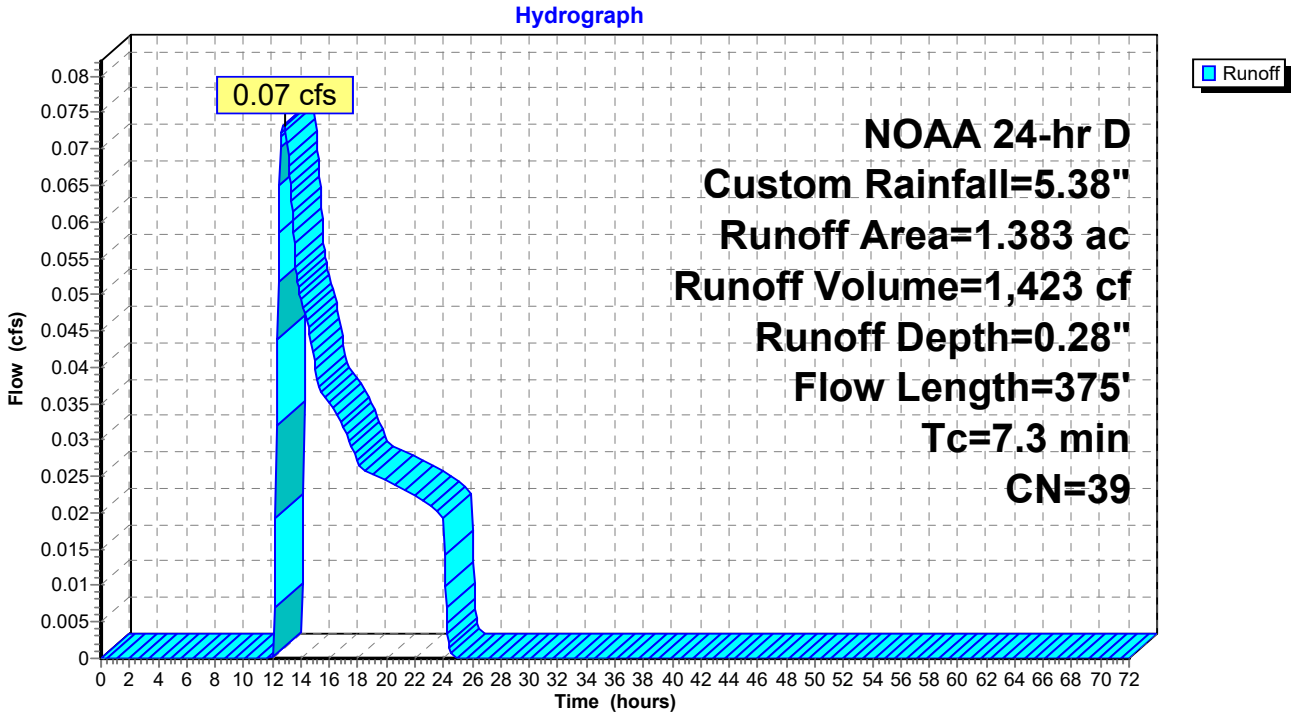
Runoff = 0.07 cfs @ 12.84 hrs, Volume= 1,423 cf, Depth= 0.28"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

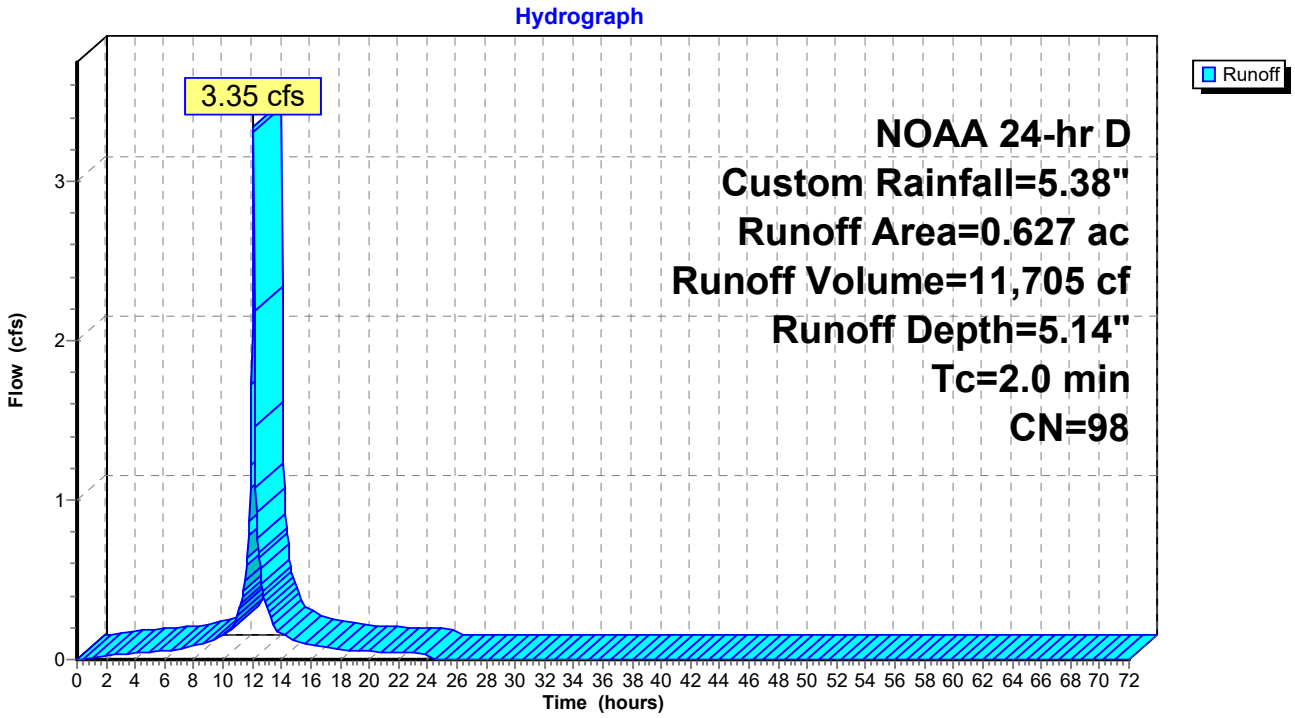
Runoff = 3.35 cfs @ 12.09 hrs, Volume= 11,705 cf, Depth= 5.14"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

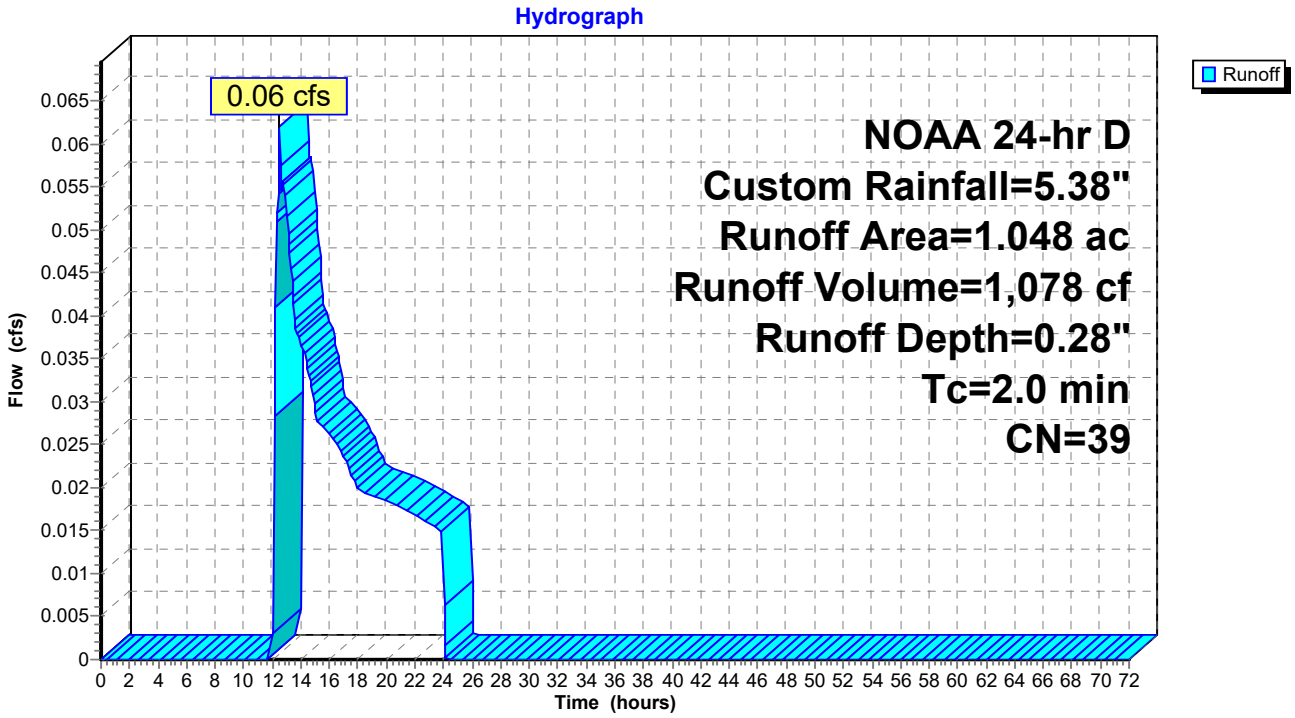
Runoff = 0.06 cfs @ 12.50 hrs, Volume= 1,078 cf, Depth= 0.28"
Routed to Pond 4P : Basin 3

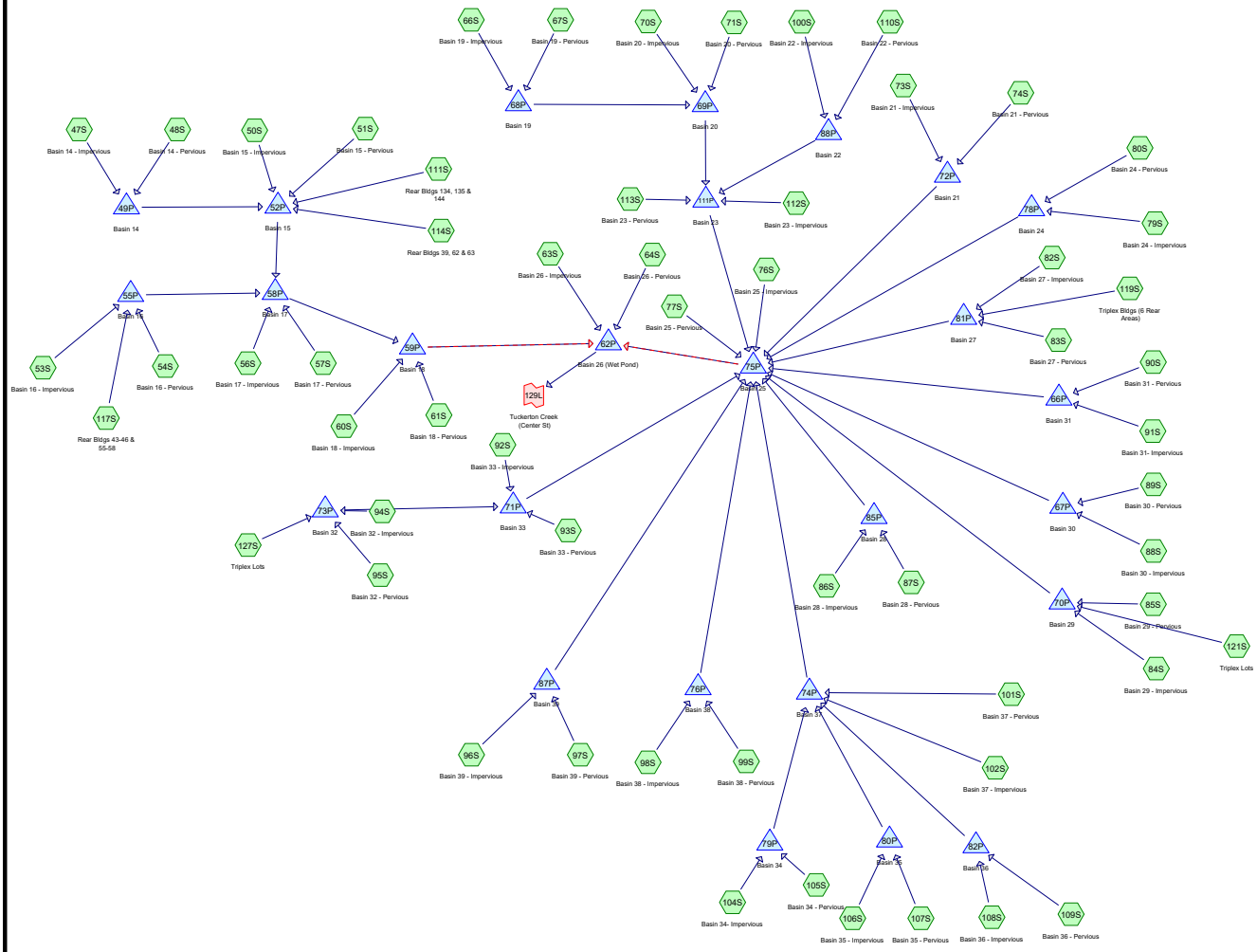
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=5.38"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	6.34	2

Summary for Subcatchment 47S: Basin 14 - Impervious

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

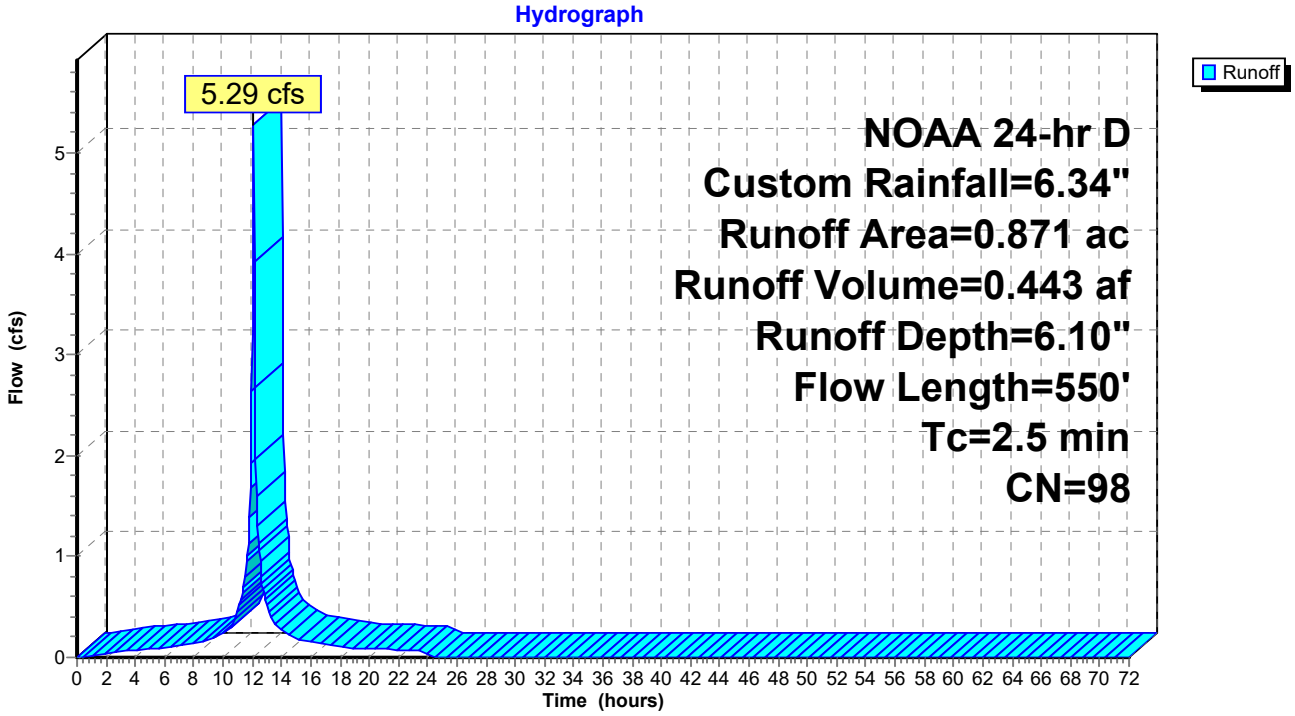
Runoff = 5.29 cfs @ 12.09 hrs, Volume= 0.443 af, Depth= 6.10"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

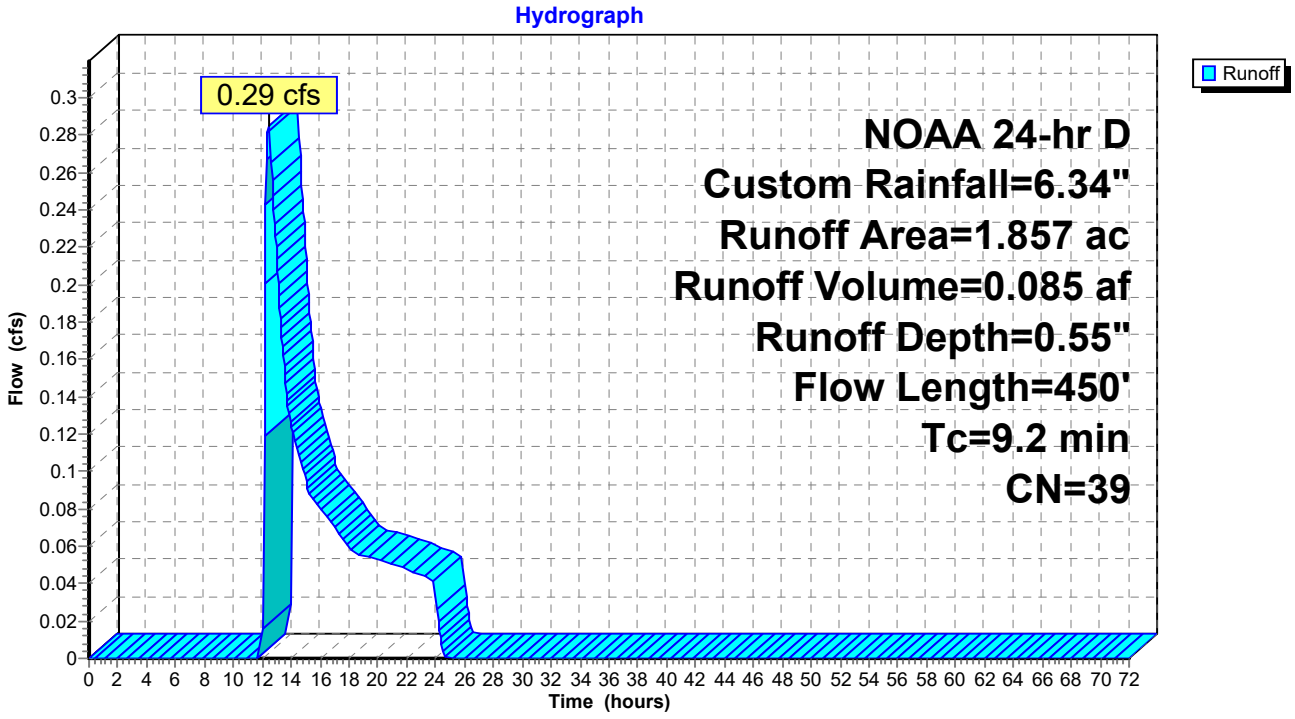
Runoff = 0.29 cfs @ 12.41 hrs, Volume= 0.085 af, Depth= 0.55"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 2.32" for Custom event
Inflow = 5.32 cfs @ 12.10 hrs, Volume= 0.528 af
Outflow = 0.25 cfs @ 15.50 hrs, Volume= 0.449 af, Atten= 95%, Lag= 204.3 min
Primary = 0.25 cfs @ 15.50 hrs, Volume= 0.449 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.37' @ 15.50 hrs Surf.Area= 11,022 sf Storage= 15,021 cf

Plug-Flow detention time= 779.3 min calculated for 0.449 af (85% of inflow)
Center-of-Mass det. time= 705.0 min (1,486.1 - 781.1)

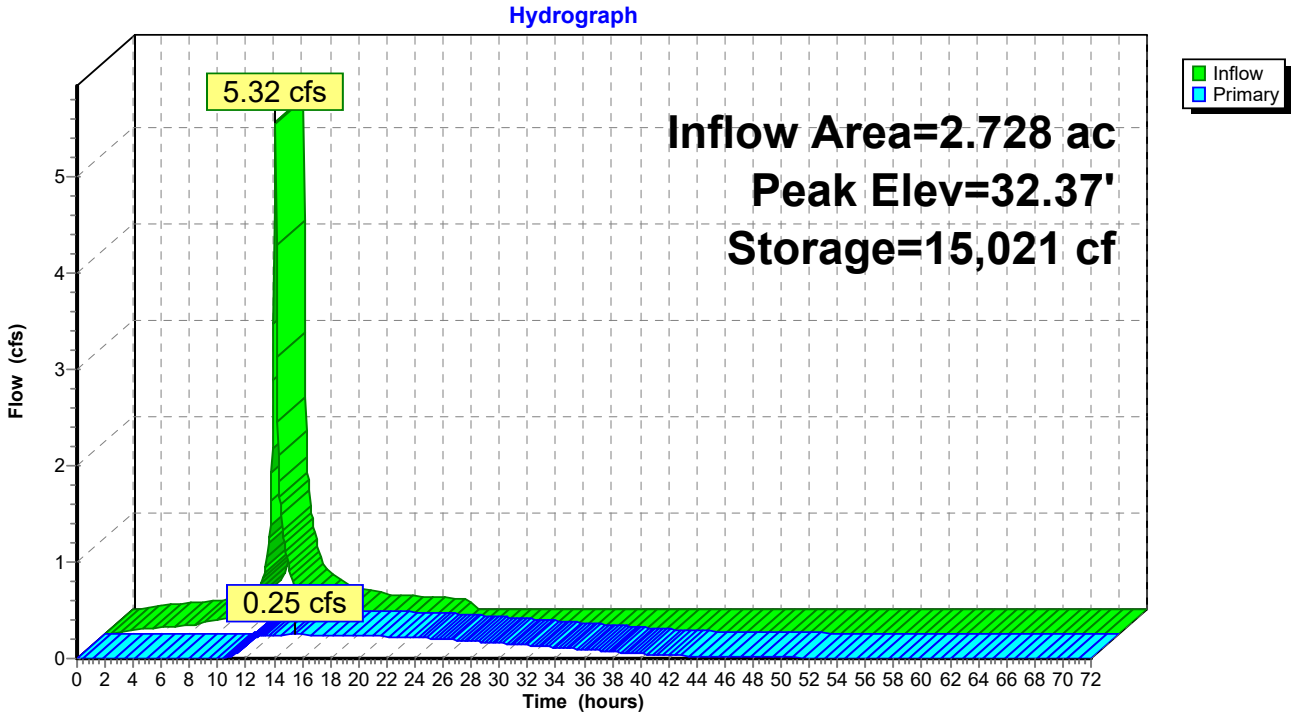
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.25 cfs @ 15.50 hrs HW=32.37' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.02 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

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

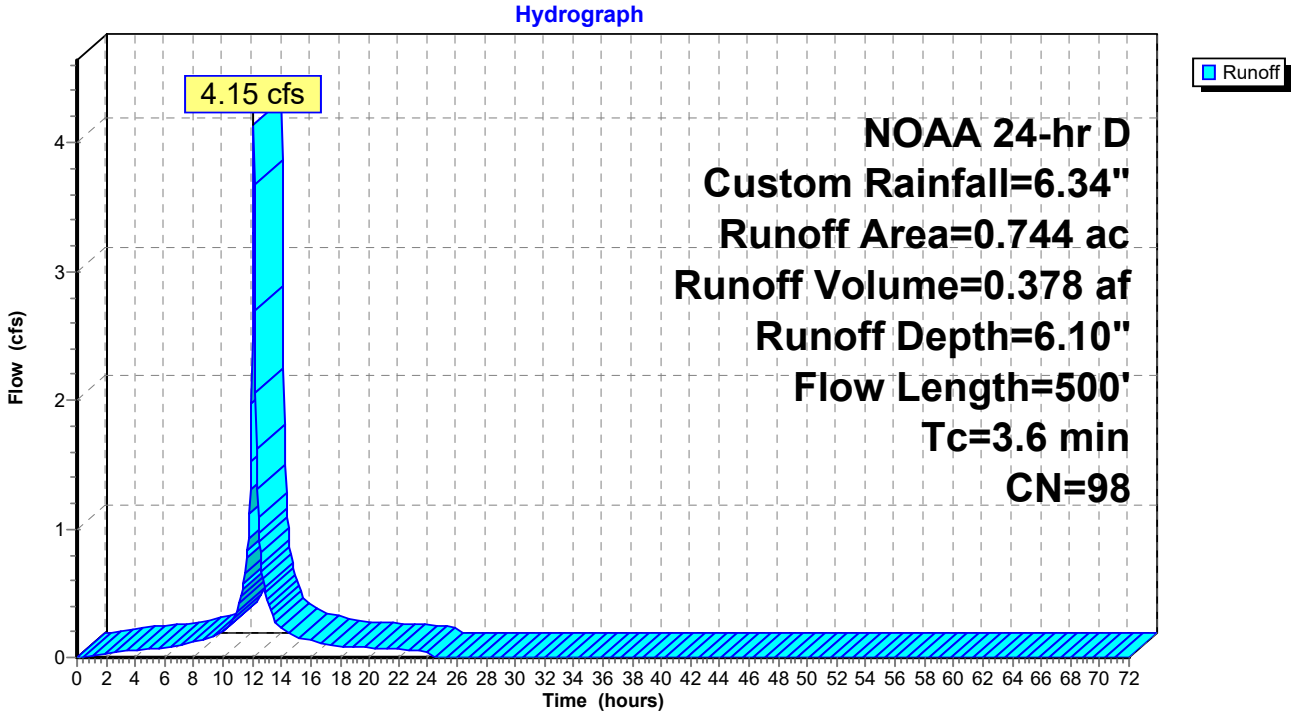
Runoff = 4.15 cfs @ 12.11 hrs, Volume= 0.378 af, Depth= 6.10"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

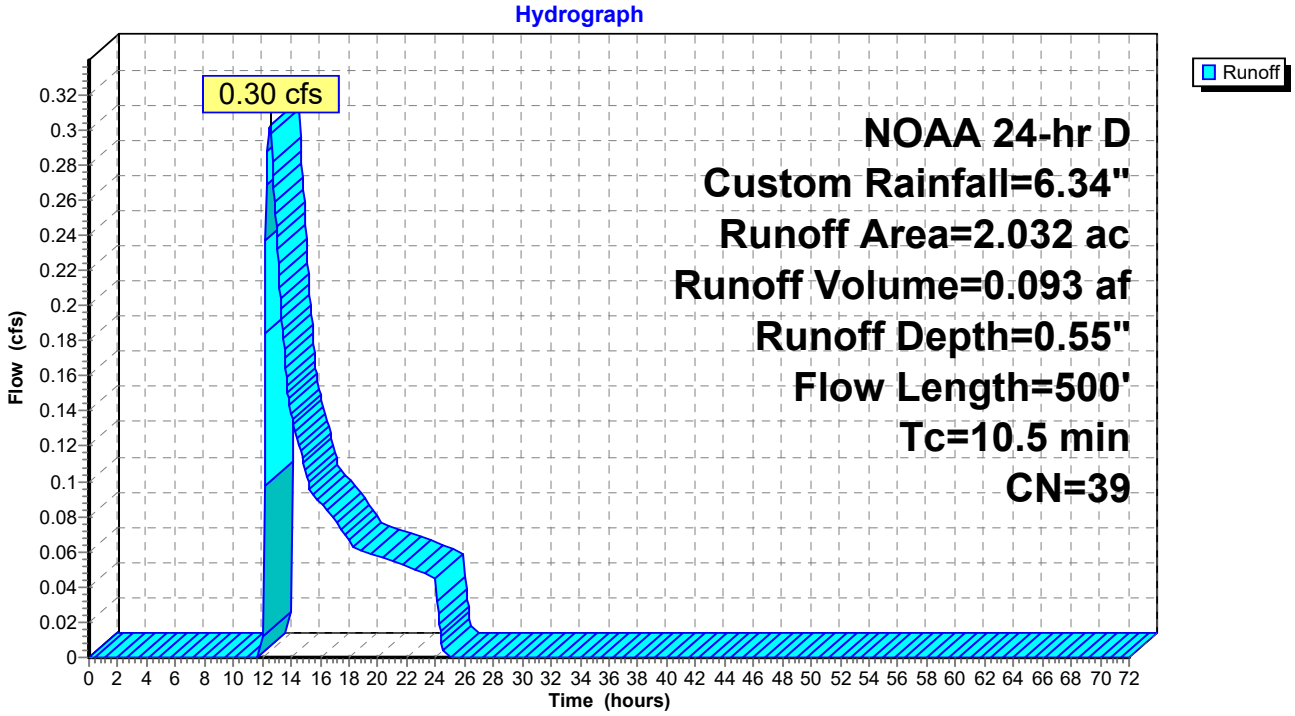
Runoff = 0.30 cfs @ 12.54 hrs, Volume= 0.093 af, Depth= 0.55"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 1.37' @ 24.70 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 2.13" for Custom event
Inflow = 5.35 cfs @ 12.11 hrs, Volume= 1.011 af
Outflow = 0.38 cfs @ 20.53 hrs, Volume= 0.944 af, Atten= 93%, Lag= 505.4 min
Primary = 0.38 cfs @ 20.53 hrs, Volume= 0.944 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.54' @ 20.53 hrs Surf.Area= 8,011 sf Storage= 18,448 cf

Plug-Flow detention time= 685.1 min calculated for 0.943 af (93% of inflow)
Center-of-Mass det. time= 585.4 min (1,681.2 - 1,095.8)

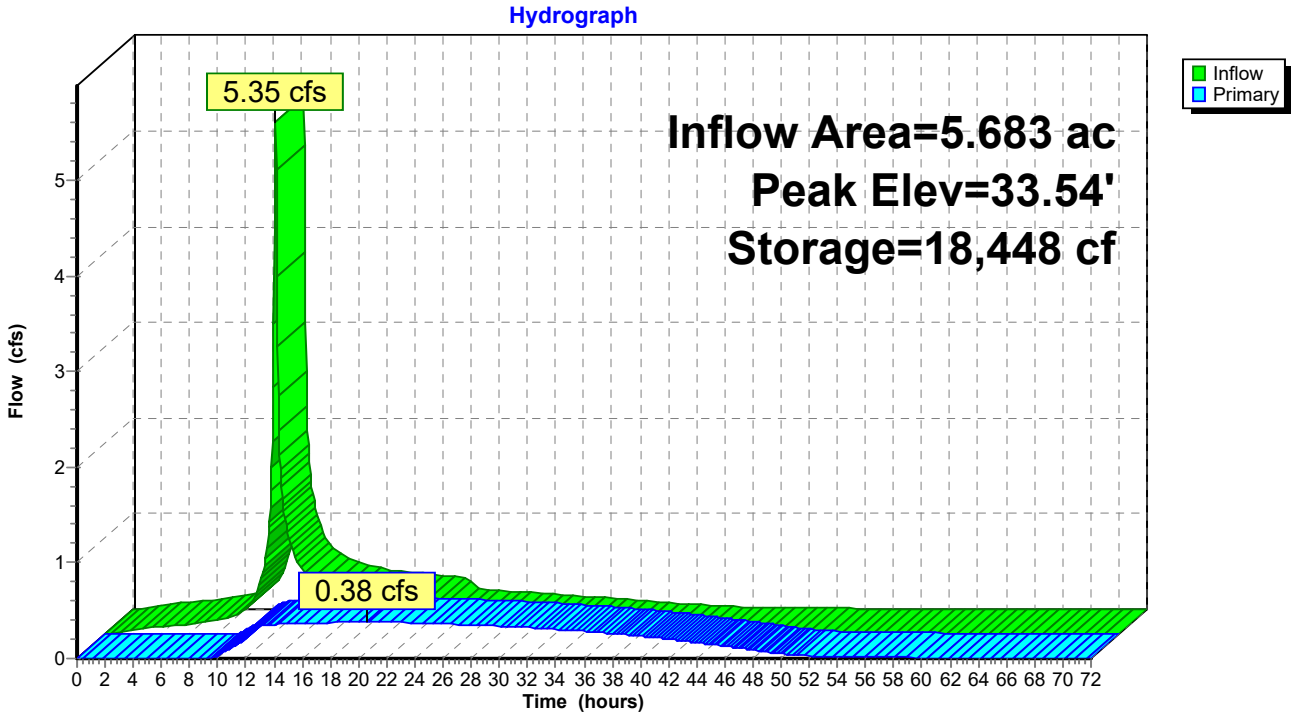
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.38 cfs @ 20.53 hrs HW=33.54' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.69 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

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

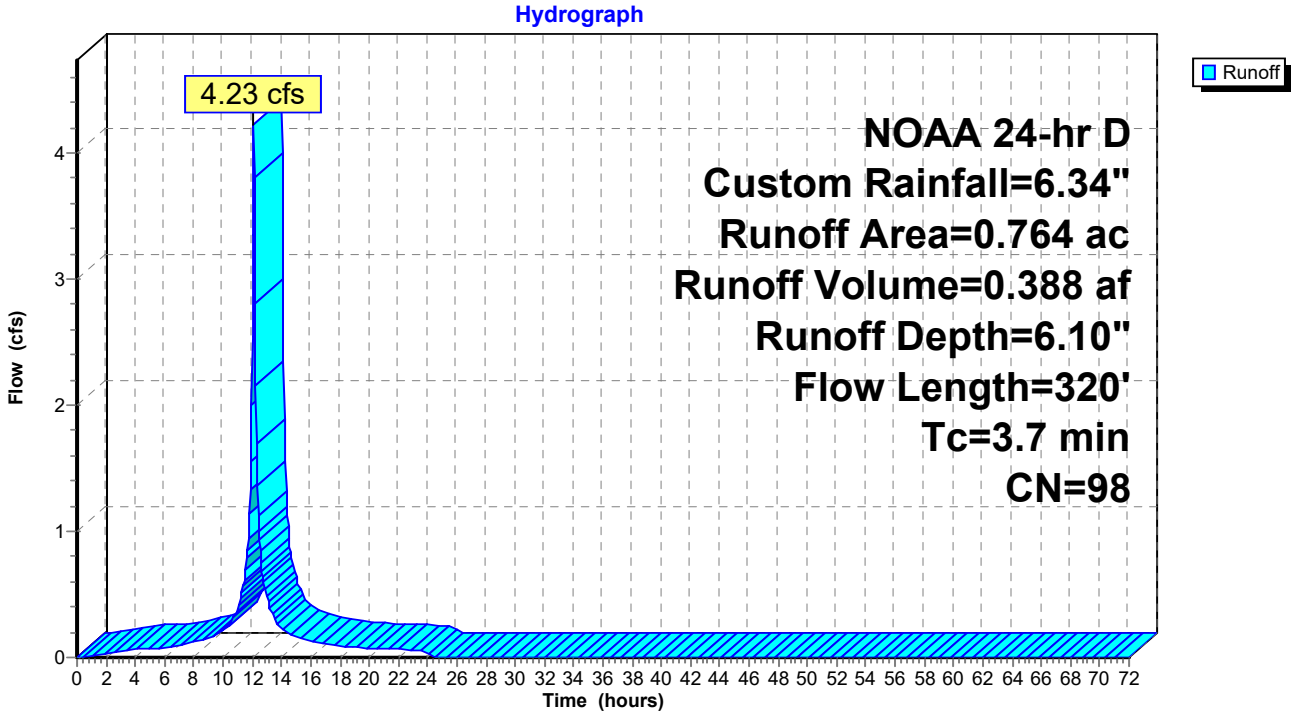
Runoff = 4.23 cfs @ 12.11 hrs, Volume= 0.388 af, Depth= 6.10"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

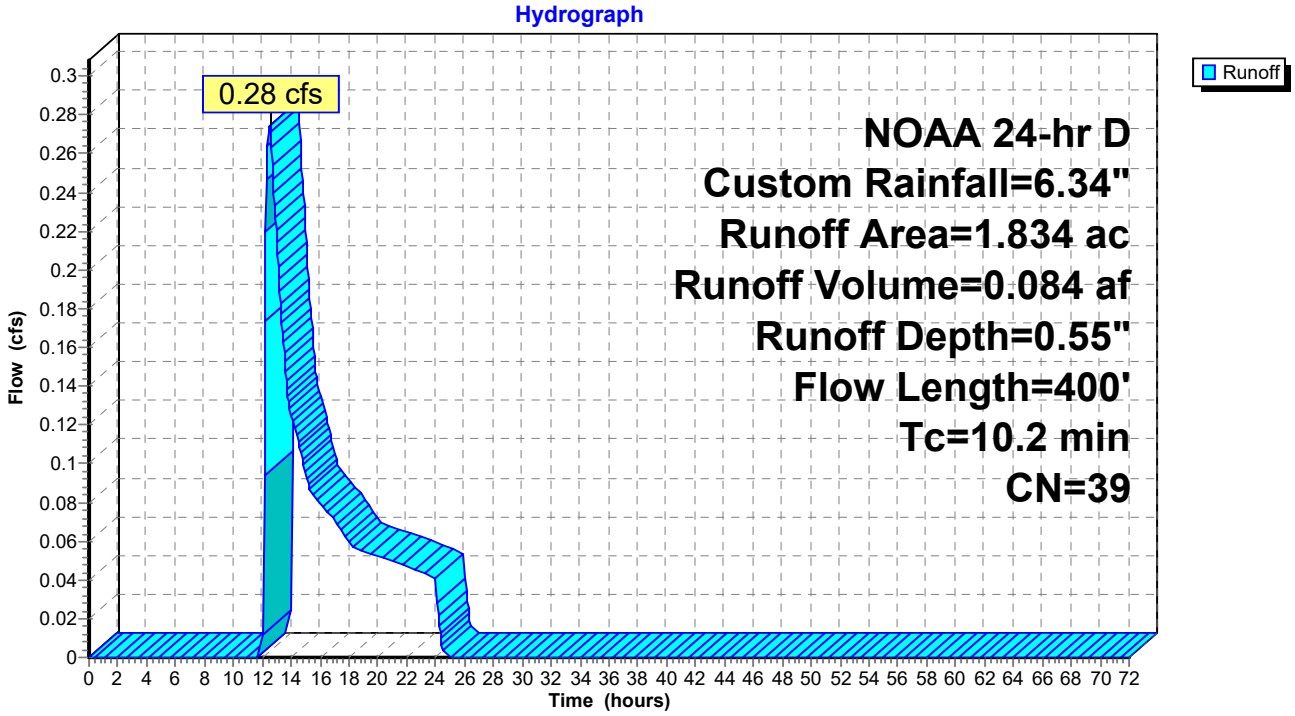
Runoff = 0.28 cfs @ 12.53 hrs, Volume= 0.084 af, Depth= 0.55"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 2.62" for Custom event
Inflow = 6.08 cfs @ 12.11 hrs, Volume= 0.639 af
Outflow = 5.80 cfs @ 12.14 hrs, Volume= 0.573 af, Atten= 5%, Lag= 1.8 min
Primary = 5.80 cfs @ 12.14 hrs, Volume= 0.573 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.42' @ 12.14 hrs Surf.Area= 3,405 sf Storage= 3,621 cf

Plug-Flow detention time= 110.5 min calculated for 0.573 af (90% of inflow)
Center-of-Mass det. time= 53.5 min (829.5 - 776.0)

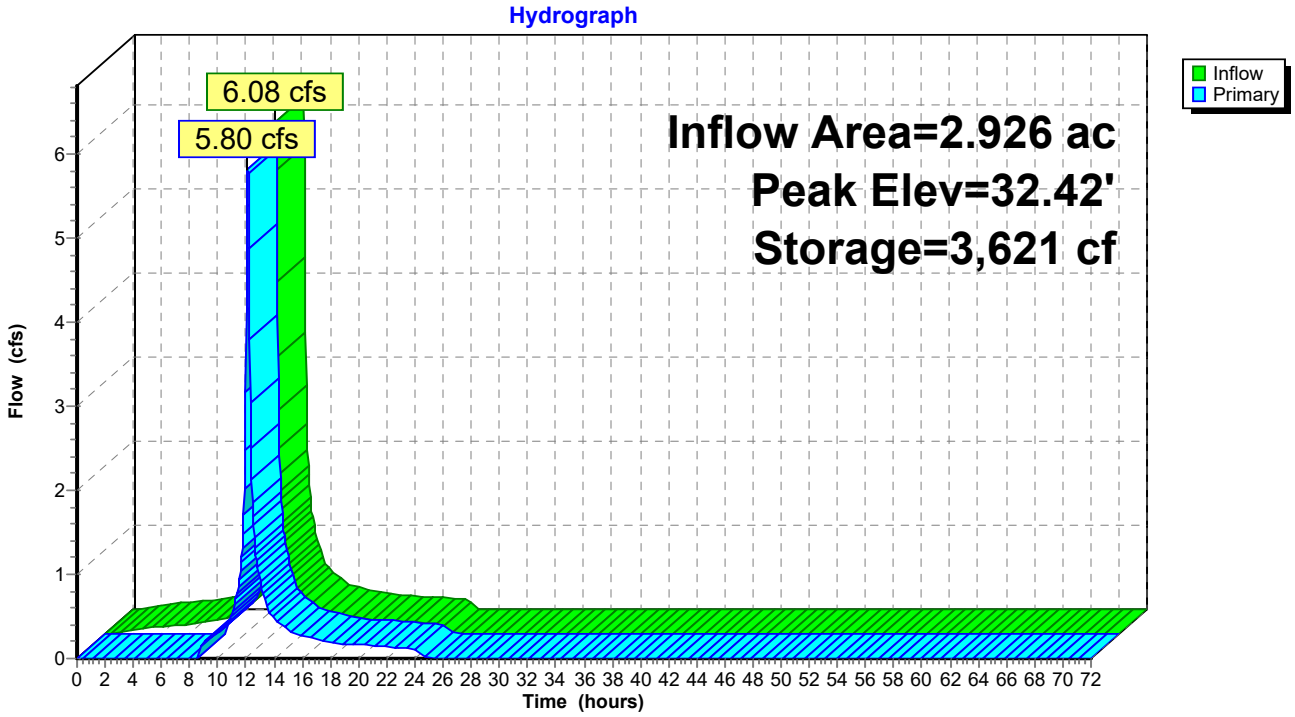
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.69 cfs @ 12.14 hrs HW=32.42' (Free Discharge)
1=Orifice/Grate (Weir Controls 5.69 cfs @ 1.56 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

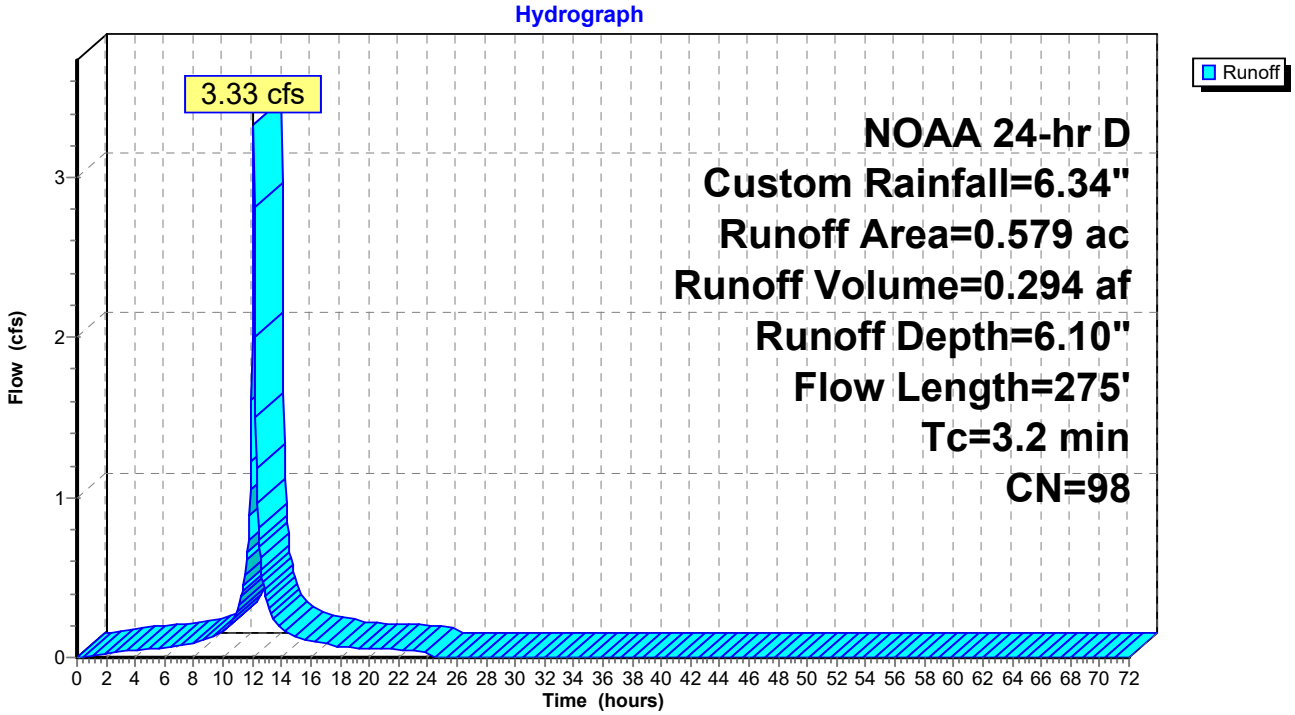
Runoff = 3.33 cfs @ 12.10 hrs, Volume= 0.294 af, Depth= 6.10"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

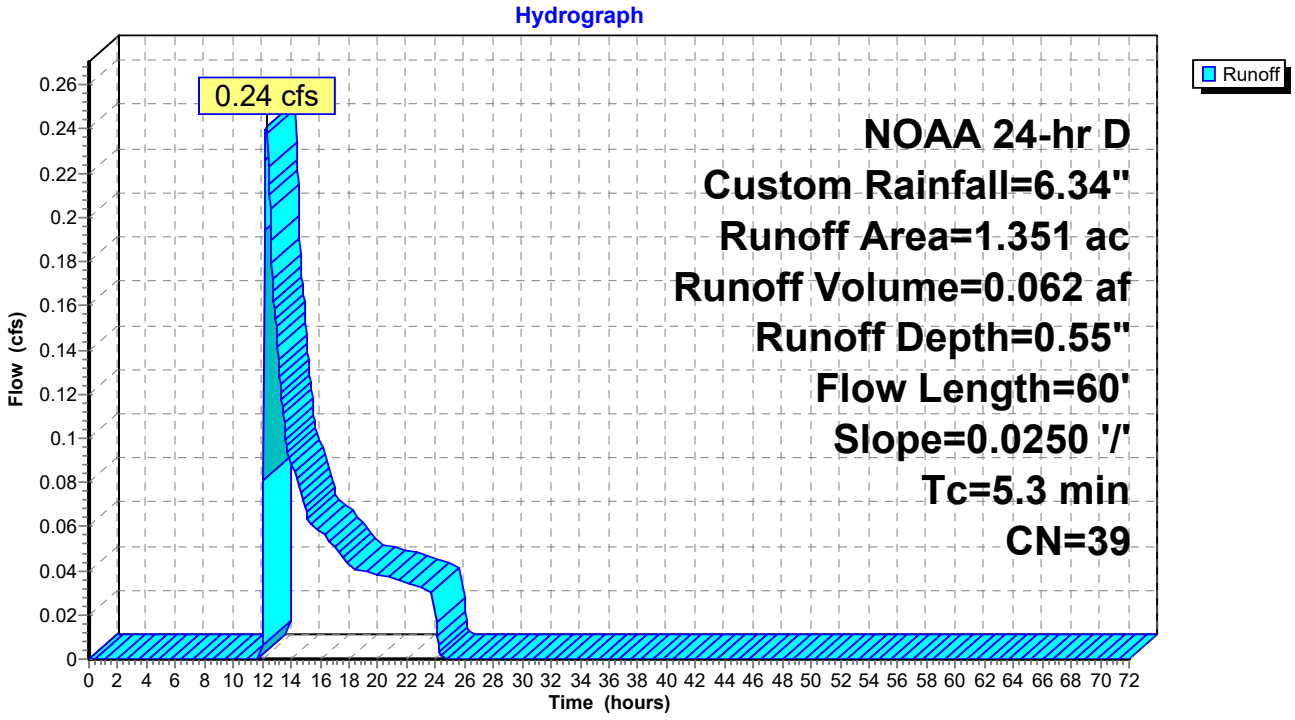
Runoff = 0.24 cfs @ 12.27 hrs, Volume= 0.062 af, Depth= 0.55"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 2.13" for Custom event
Inflow = 9.26 cfs @ 12.13 hrs, Volume= 1.873 af
Outflow = 9.05 cfs @ 12.15 hrs, Volume= 1.823 af, Atten= 2%, Lag= 1.6 min
Primary = 9.05 cfs @ 12.15 hrs, Volume= 1.823 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.70' @ 12.15 hrs Surf.Area= 3,870 sf Storage= 3,326 cf

Plug-Flow detention time= 77.3 min calculated for 1.821 af (97% of inflow)
Center-of-Mass det. time= 27.8 min (1,277.7 - 1,250.0)

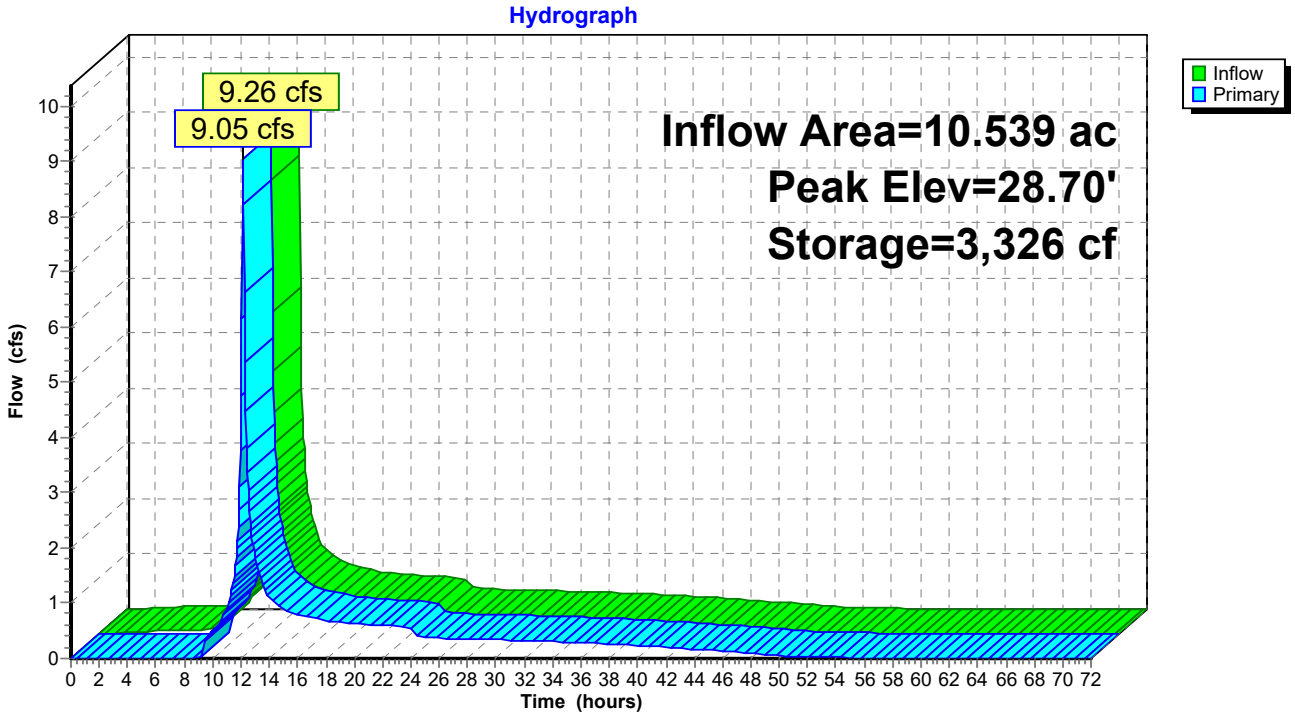
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.99 cfs @ 12.15 hrs HW=28.70' (Free Discharge)
1=Orifice/Grate (Weir Controls 8.99 cfs @ 1.82 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

[79] Warning: Submerged Pond 58P Primary device # 1 by 0.17'

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 2.09" for Custom event
Inflow = 13.18 cfs @ 12.12 hrs, Volume= 2.321 af
Outflow = 12.42 cfs @ 12.16 hrs, Volume= 2.243 af, Atten= 6%, Lag= 2.7 min
Primary = 11.53 cfs @ 12.16 hrs, Volume= 2.234 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.89 cfs @ 12.16 hrs, Volume= 0.009 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.56' @ 12.16 hrs Surf.Area= 8,605 sf Storage= 15,673 cf

Plug-Flow detention time= 324.0 min calculated for 2.241 af (97% of inflow)
Center-of-Mass det. time= 263.1 min (1,435.2 - 1,172.1)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

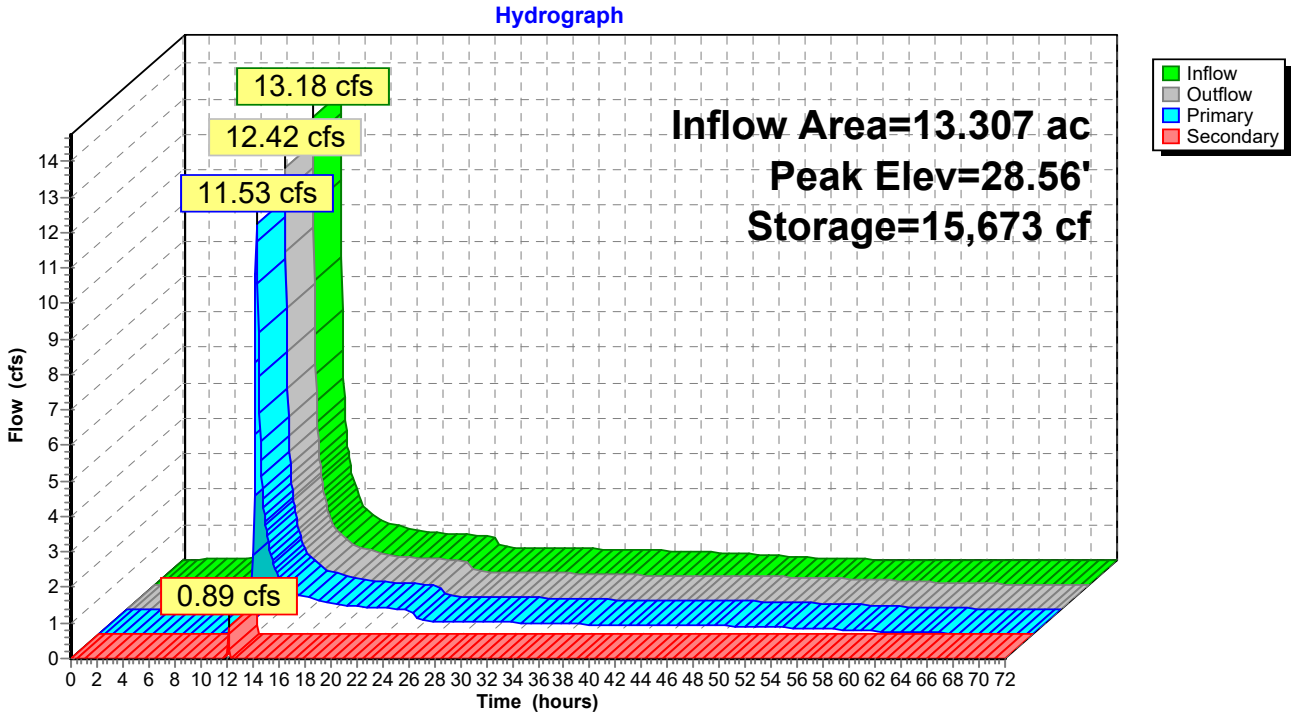
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=11.35 cfs @ 12.16 hrs HW=28.55' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.31 cfs @ 6.22 fps)
2=Orifice/Grate (Weir Controls 11.04 cfs @ 1.95 fps)

Secondary OutFlow Max=0.80 cfs @ 12.16 hrs HW=28.55' (Free Discharge)
3=Broad-Crested Rectangular Weir (Weir Controls 0.80 cfs @ 0.58 fps)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

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

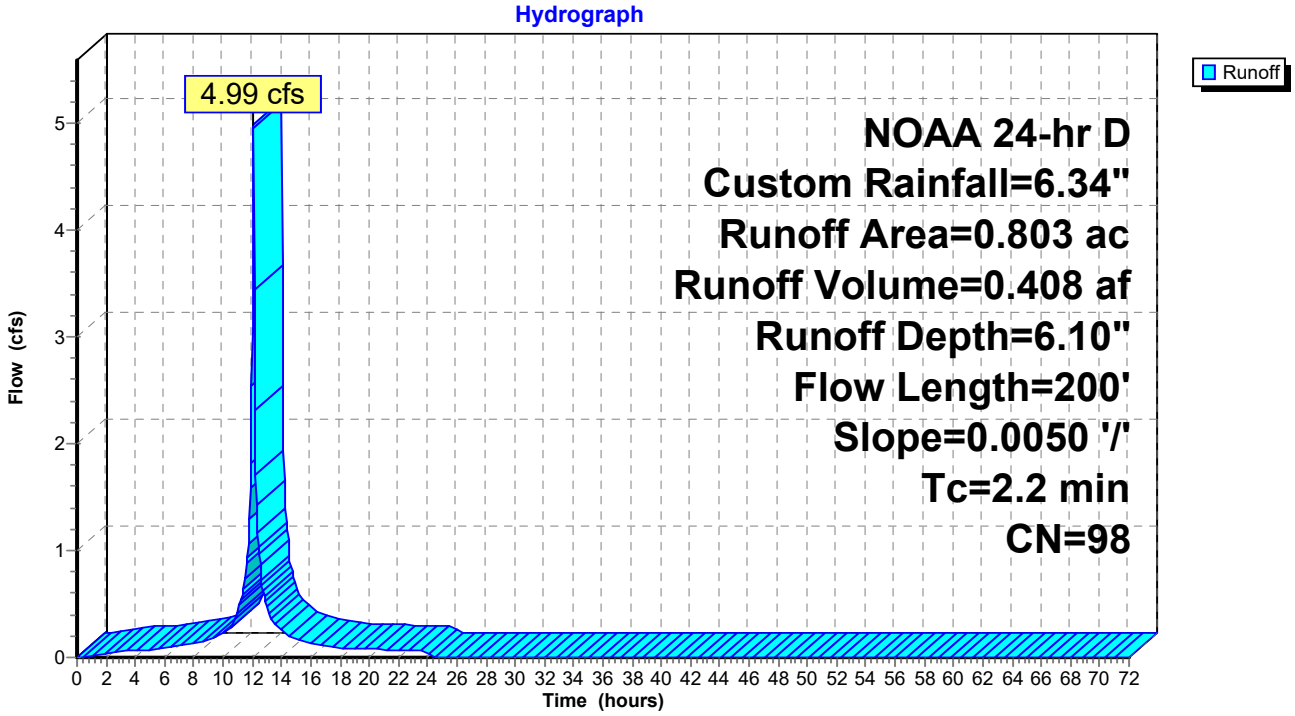
Runoff = 4.99 cfs @ 12.09 hrs, Volume= 0.408 af, Depth= 6.10"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

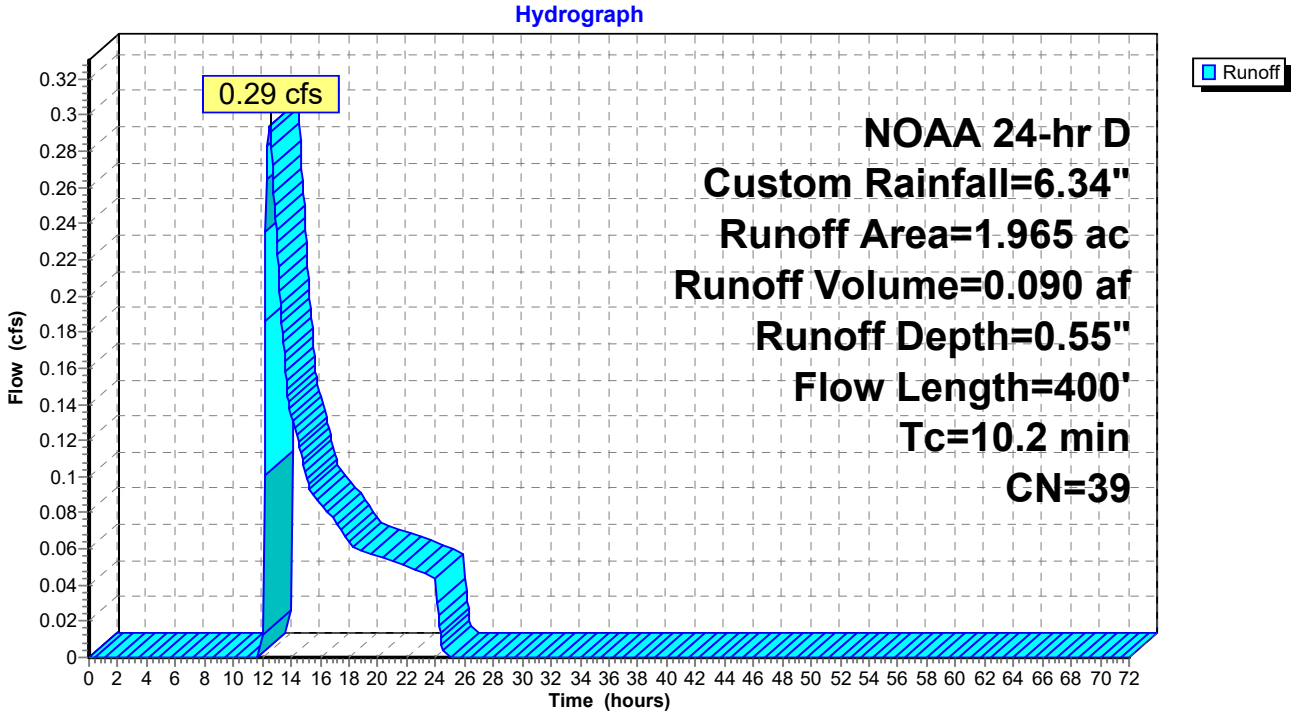
Runoff = 0.29 cfs @ 12.53 hrs, Volume= 0.090 af, Depth= 0.55"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

[79] Warning: Submerged Pond 75P Primary device # 1 by 0.86'

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 1.66" for Custom event
Inflow = 38.48 cfs @ 12.33 hrs, Volume= 10.407 af
Outflow = 0.39 cfs @ 59.72 hrs, Volume= 1.836 af, Atten= 99%, Lag= 2,843.4 min
Primary = 0.39 cfs @ 59.72 hrs, Volume= 1.836 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 25.46' @ 59.72 hrs Surf.Area= 152,444 sf Storage= 734,635 cf (376,821 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,247.9 min (2,610.7 - 1,362.8)

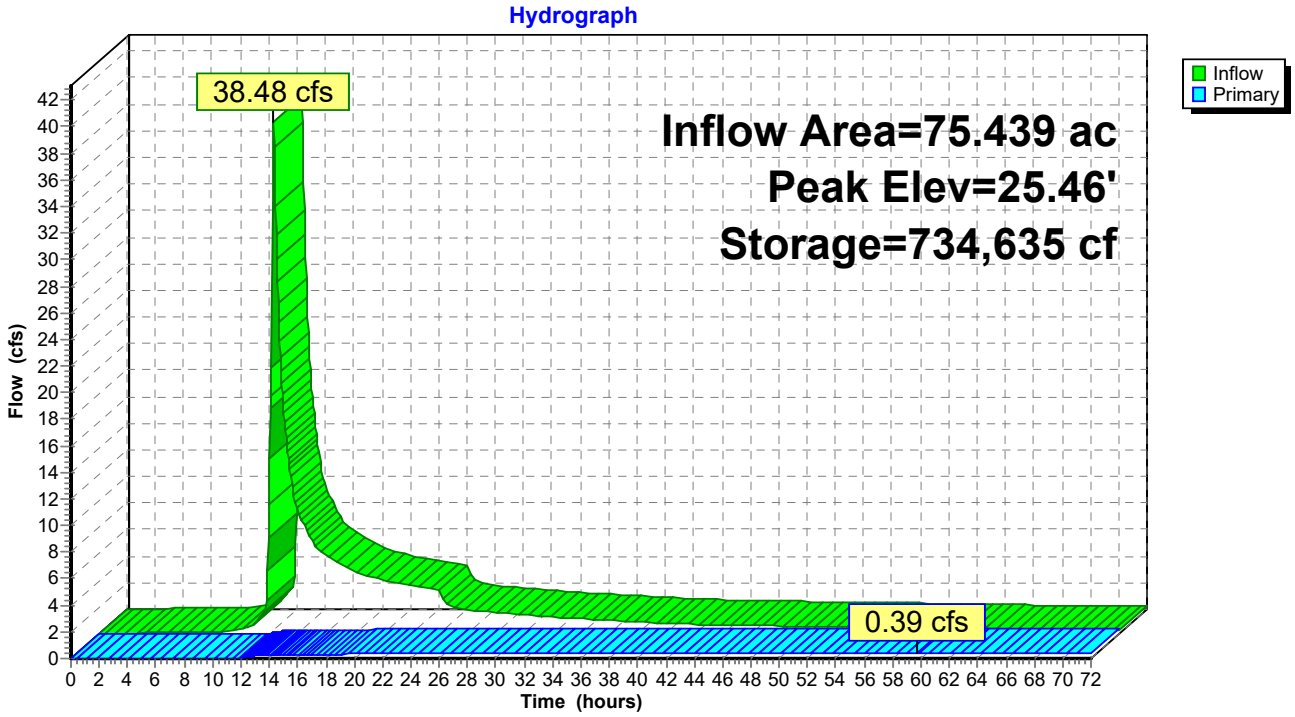
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.39 cfs @ 59.72 hrs HW=25.46' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.39 cfs @ 8.04 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

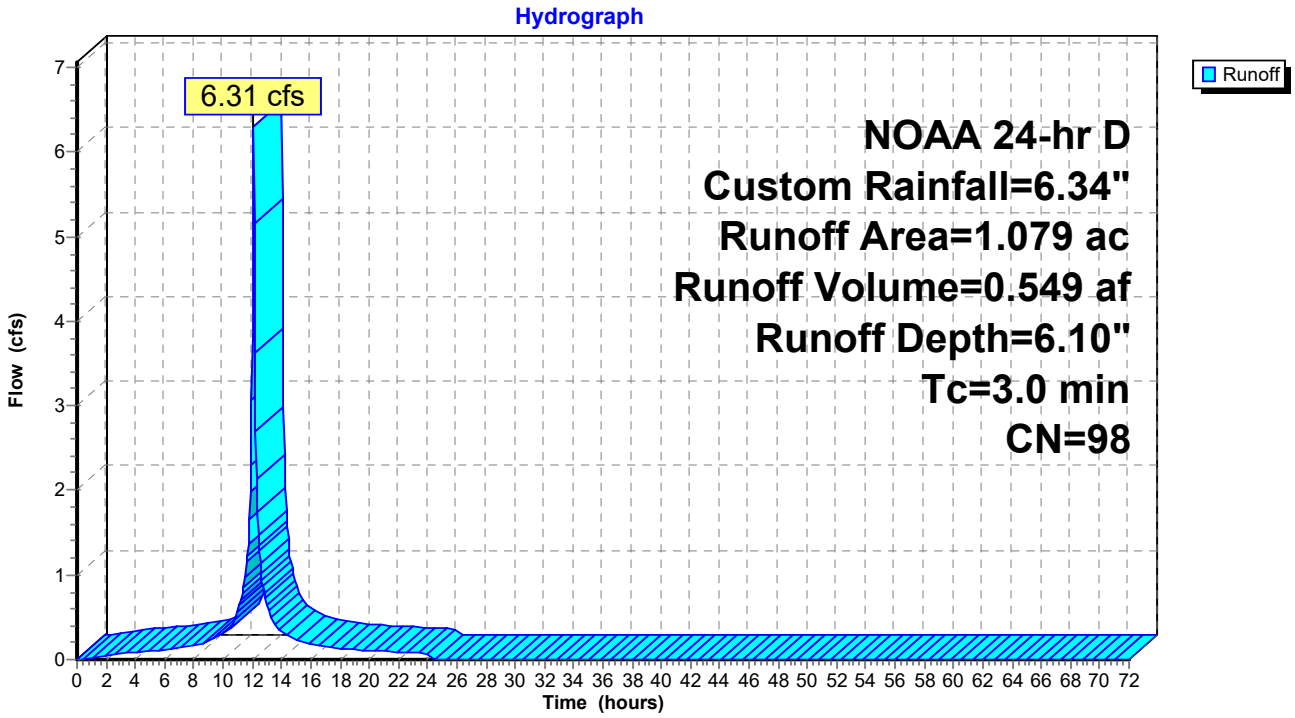
Runoff = 6.31 cfs @ 12.10 hrs, Volume= 0.549 af, Depth= 6.10"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

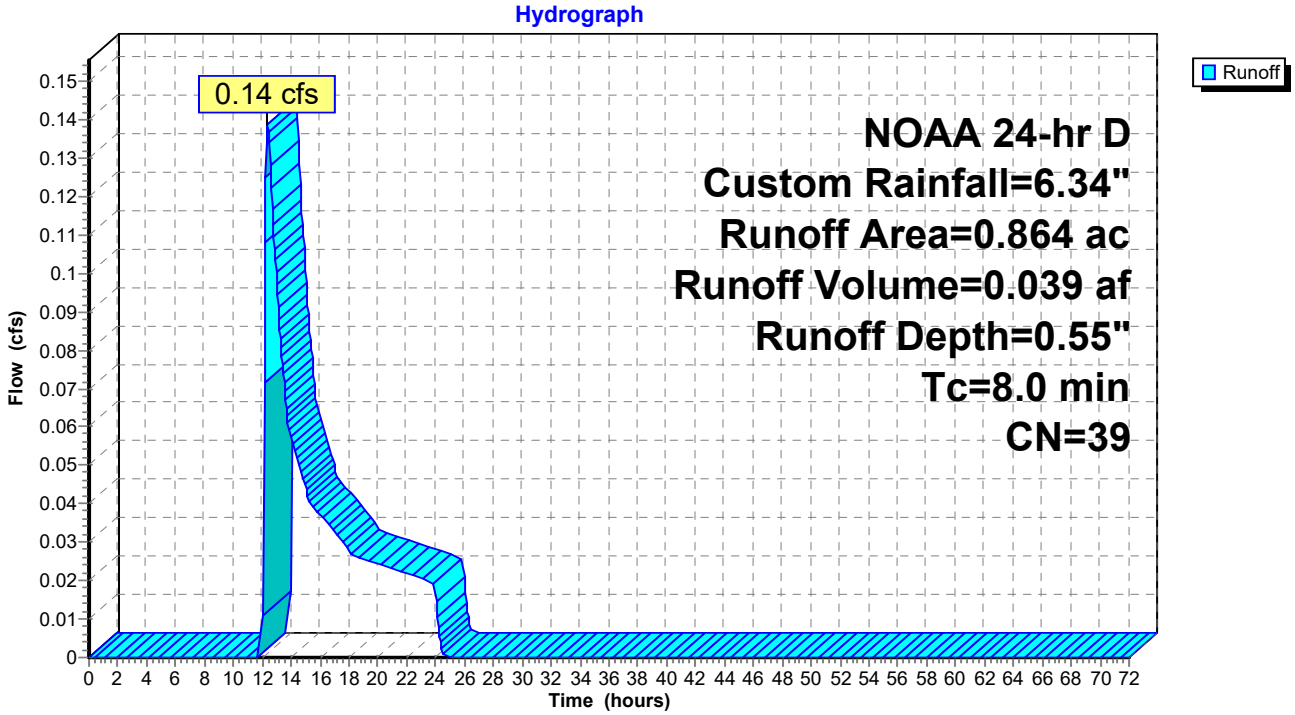
Runoff = 0.14 cfs @ 12.37 hrs, Volume= 0.039 af, Depth= 0.55"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 1.93" for Custom event
Inflow = 4.85 cfs @ 12.05 hrs, Volume= 0.432 af
Outflow = 1.02 cfs @ 12.48 hrs, Volume= 0.373 af, Atten= 79%, Lag= 25.5 min
Primary = 1.02 cfs @ 12.48 hrs, Volume= 0.373 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.86' @ 12.48 hrs Surf.Area= 6,634 sf Storage= 9,101 cf

Plug-Flow detention time= 437.7 min calculated for 0.373 af (86% of inflow)
Center-of-Mass det. time= 368.2 min (1,155.5 - 787.2)

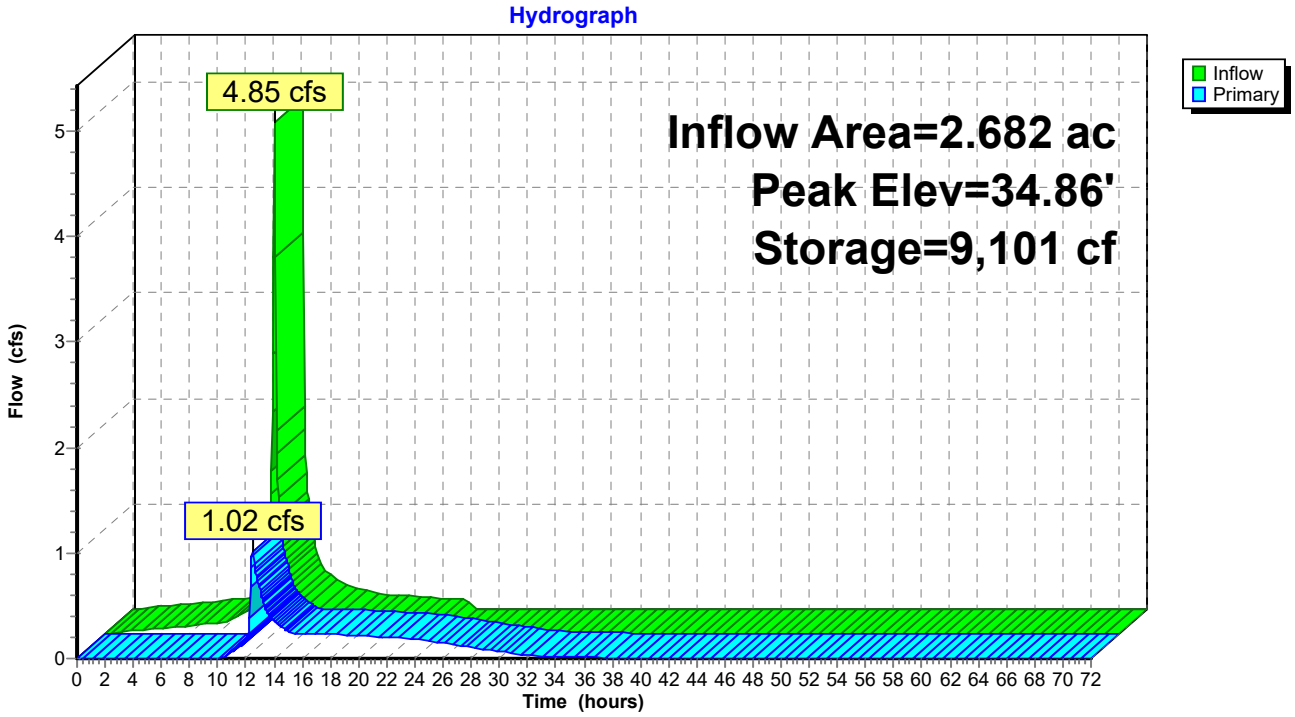
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.00 cfs @ 12.48 hrs HW=34.86' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.24 cfs @ 4.99 fps)
2=Orifice/Grate (Weir Controls 0.76 cfs @ 0.80 fps)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

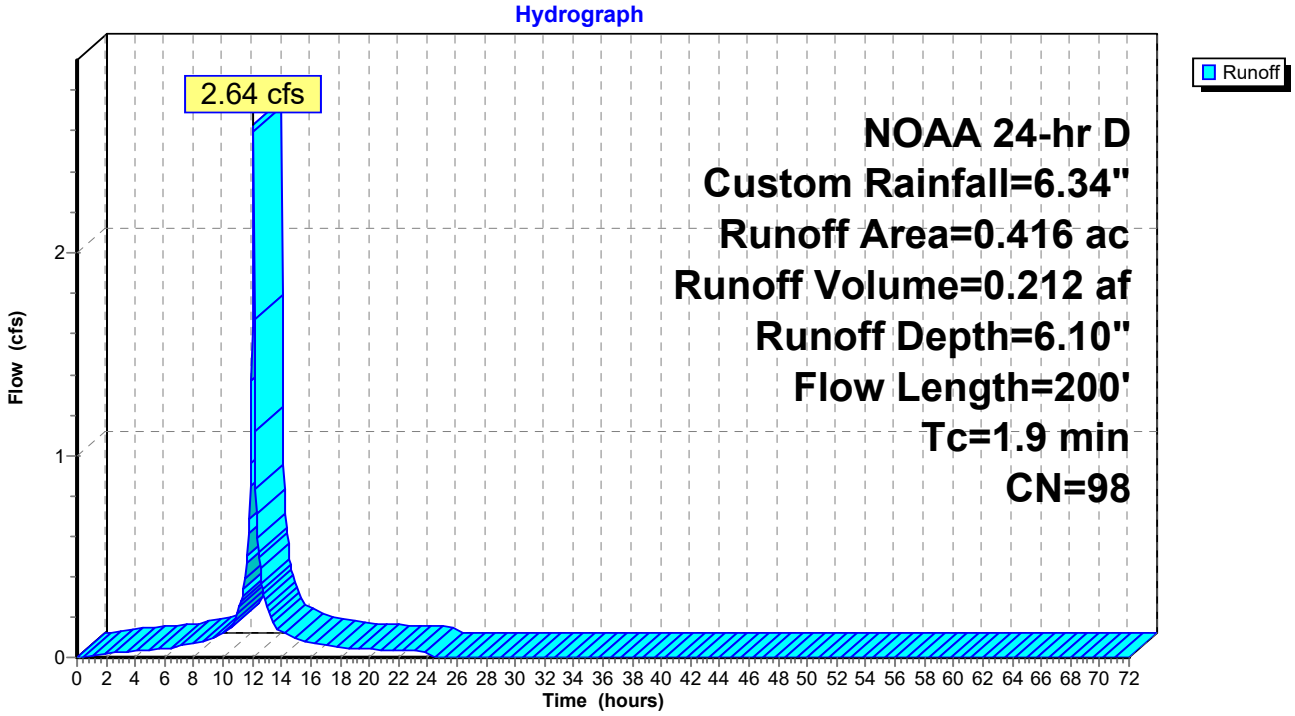
Runoff = 2.64 cfs @ 12.09 hrs, Volume= 0.212 af, Depth= 6.10"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 1.69" for Custom event
Inflow = 3.26 cfs @ 12.10 hrs, Volume= 0.375 af
Outflow = 0.26 cfs @ 14.64 hrs, Volume= 0.326 af, Atten= 92%, Lag= 152.4 min
Primary = 0.26 cfs @ 14.64 hrs, Volume= 0.326 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.81' @ 14.64 hrs Surf.Area= 6,569 sf Storage= 9,190 cf

Plug-Flow detention time= 505.2 min calculated for 0.326 af (87% of inflow)
Center-of-Mass det. time= 435.7 min (1,239.3 - 803.6)

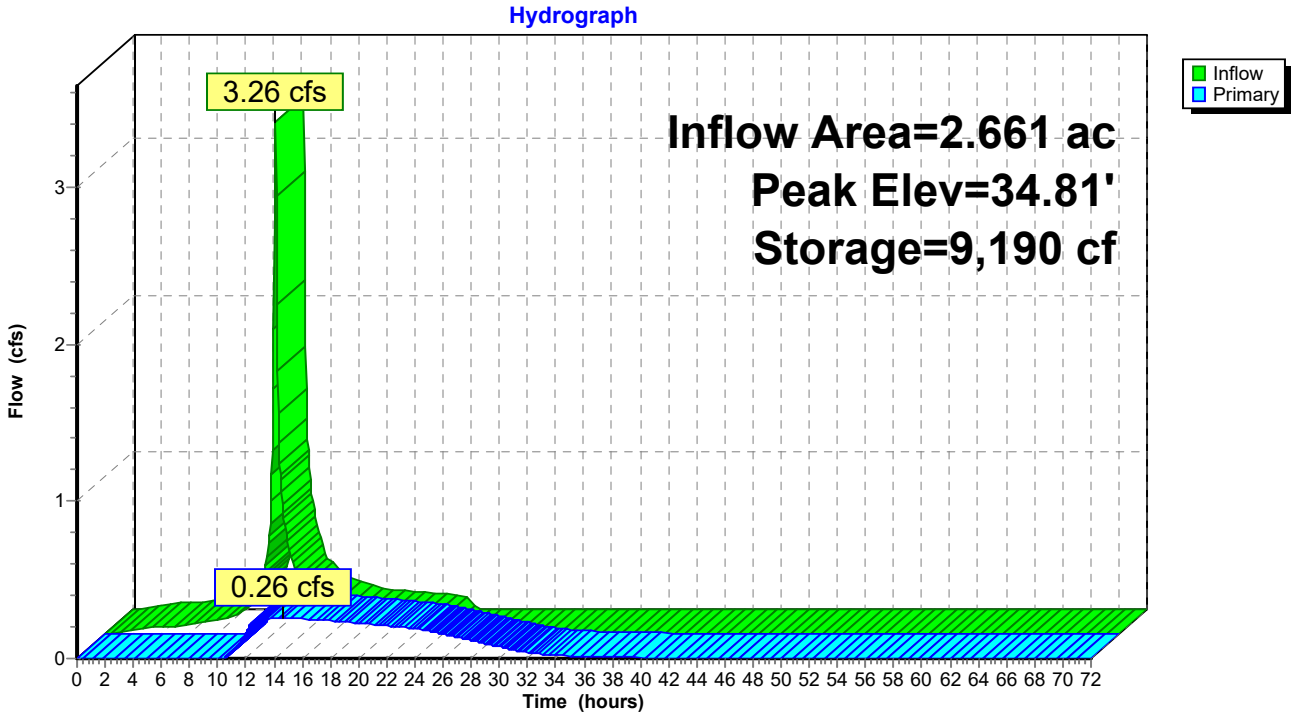
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.26 cfs @ 14.64 hrs HW=34.81' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.26 cfs @ 5.21 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

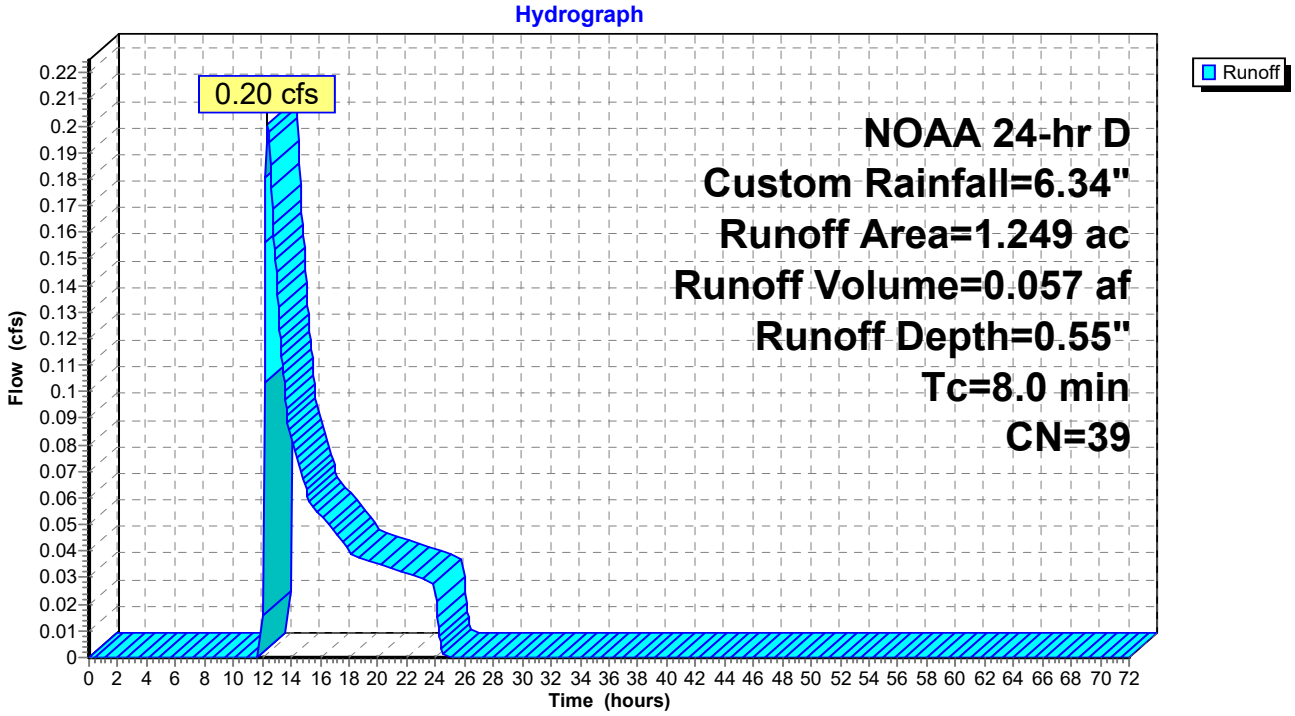
Runoff = 0.20 cfs @ 12.37 hrs, Volume= 0.057 af, Depth= 0.55"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 1.93" for Custom event
Inflow = 2.66 cfs @ 12.09 hrs, Volume= 0.268 af
Outflow = 0.32 cfs @ 13.24 hrs, Volume= 0.232 af, Atten= 88%, Lag= 69.0 min
Primary = 0.32 cfs @ 13.24 hrs, Volume= 0.232 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.64' @ 13.24 hrs Surf.Area= 2,486 sf Storage= 5,576 cf

Plug-Flow detention time= 284.8 min calculated for 0.232 af (87% of inflow)
Center-of-Mass det. time= 214.9 min (1,007.0 - 792.1)

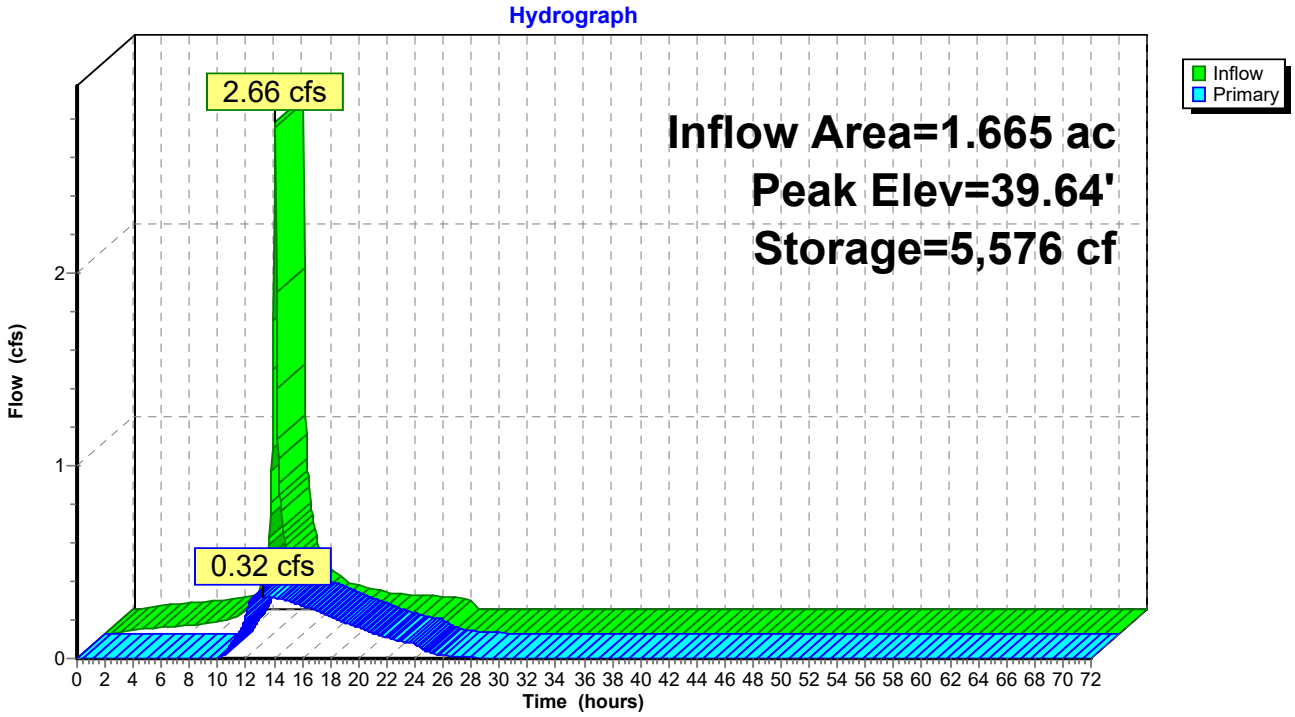
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.32 cfs @ 13.24 hrs HW=39.64' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.32 cfs @ 6.55 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 2.00" for Custom event
Inflow = 5.15 cfs @ 12.04 hrs, Volume= 0.686 af
Outflow = 1.53 cfs @ 12.34 hrs, Volume= 0.621 af, Atten= 70%, Lag= 17.8 min
Primary = 1.53 cfs @ 12.34 hrs, Volume= 0.621 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.08' @ 12.34 hrs Surf.Area= 7,585 sf Storage= 9,974 cf

Plug-Flow detention time= 361.6 min calculated for 0.621 af (91% of inflow)
Center-of-Mass det. time= 309.4 min (1,166.7 - 857.4)

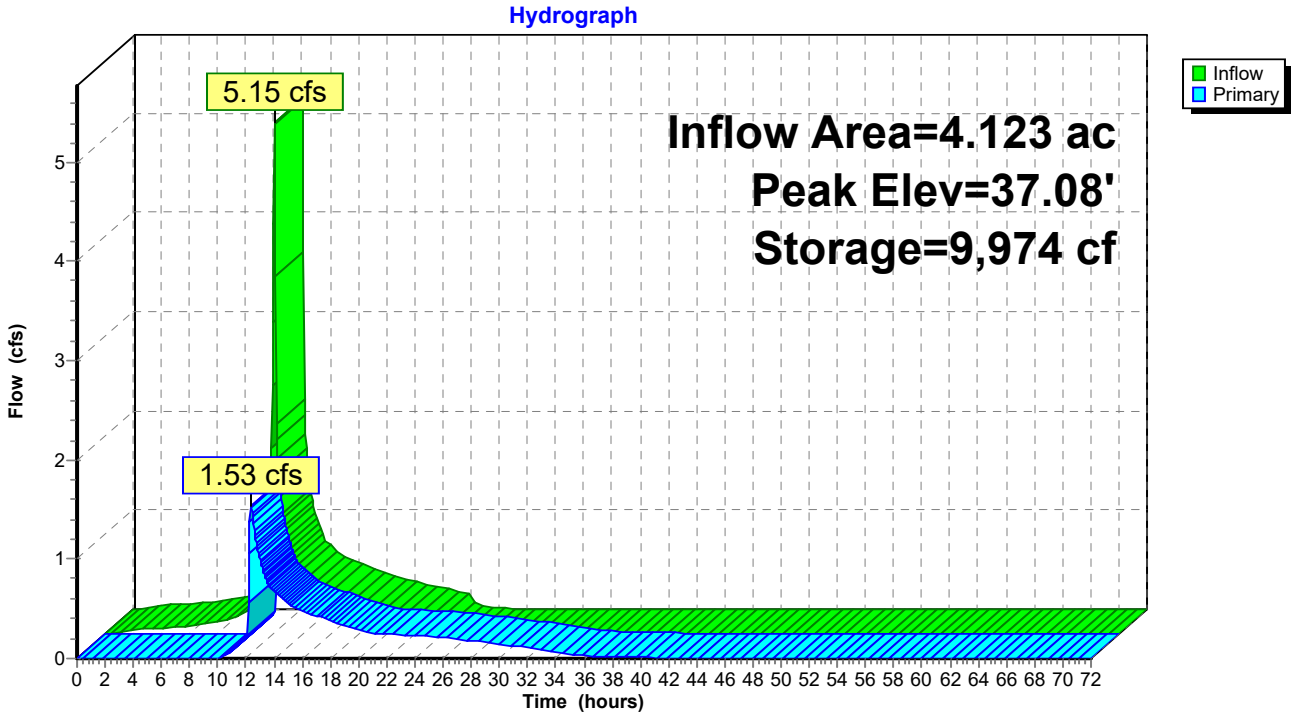
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.52 cfs @ 12.34 hrs HW=37.08' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.09 fps)
2=Orifice/Grate (Weir Controls 1.27 cfs @ 0.95 fps)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 2.35" for Custom event
Inflow = 5.48 cfs @ 12.07 hrs, Volume= 0.586 af
Outflow = 5.04 cfs @ 12.11 hrs, Volume= 0.534 af, Atten= 8%, Lag= 2.2 min
Primary = 5.04 cfs @ 12.11 hrs, Volume= 0.534 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.67' @ 12.11 hrs Surf.Area= 5,639 sf Storage= 3,397 cf

Plug-Flow detention time= 102.5 min calculated for 0.534 af (91% of inflow)
Center-of-Mass det. time= 51.7 min (830.9 - 779.2)

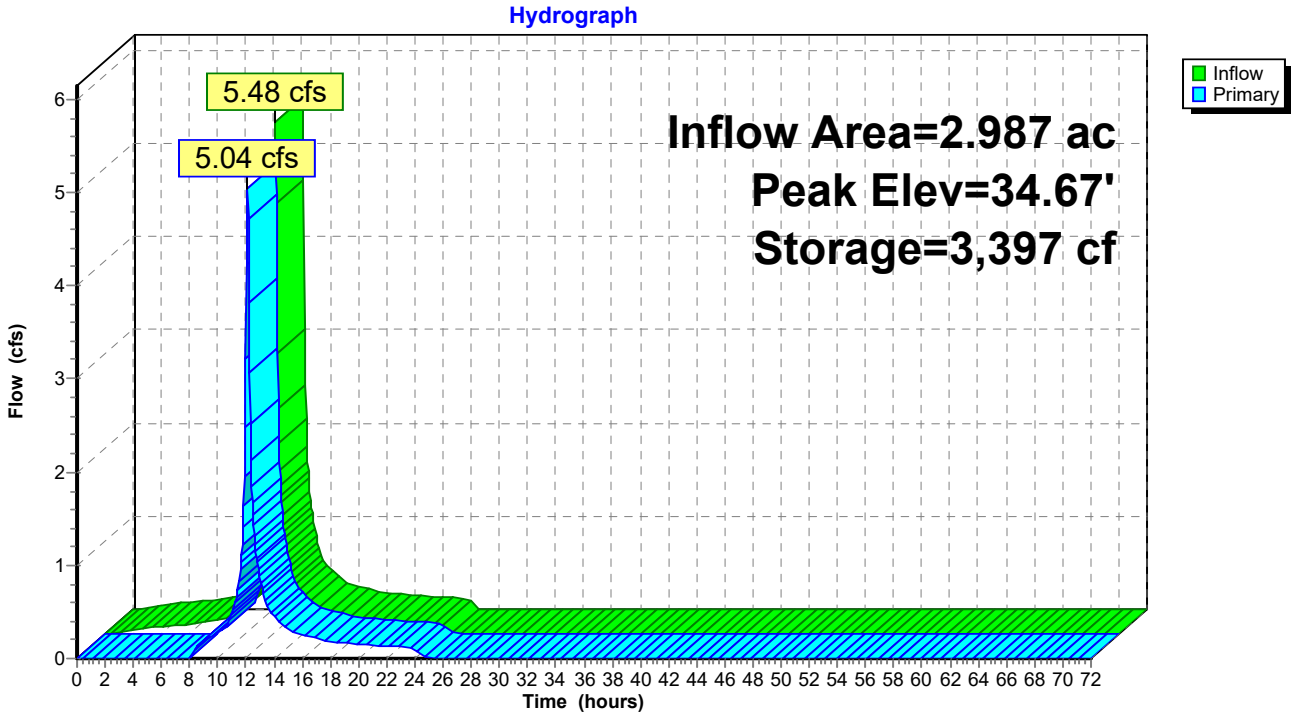
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.94 cfs @ 12.11 hrs HW=34.67' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 4.94 cfs @ 1.49 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

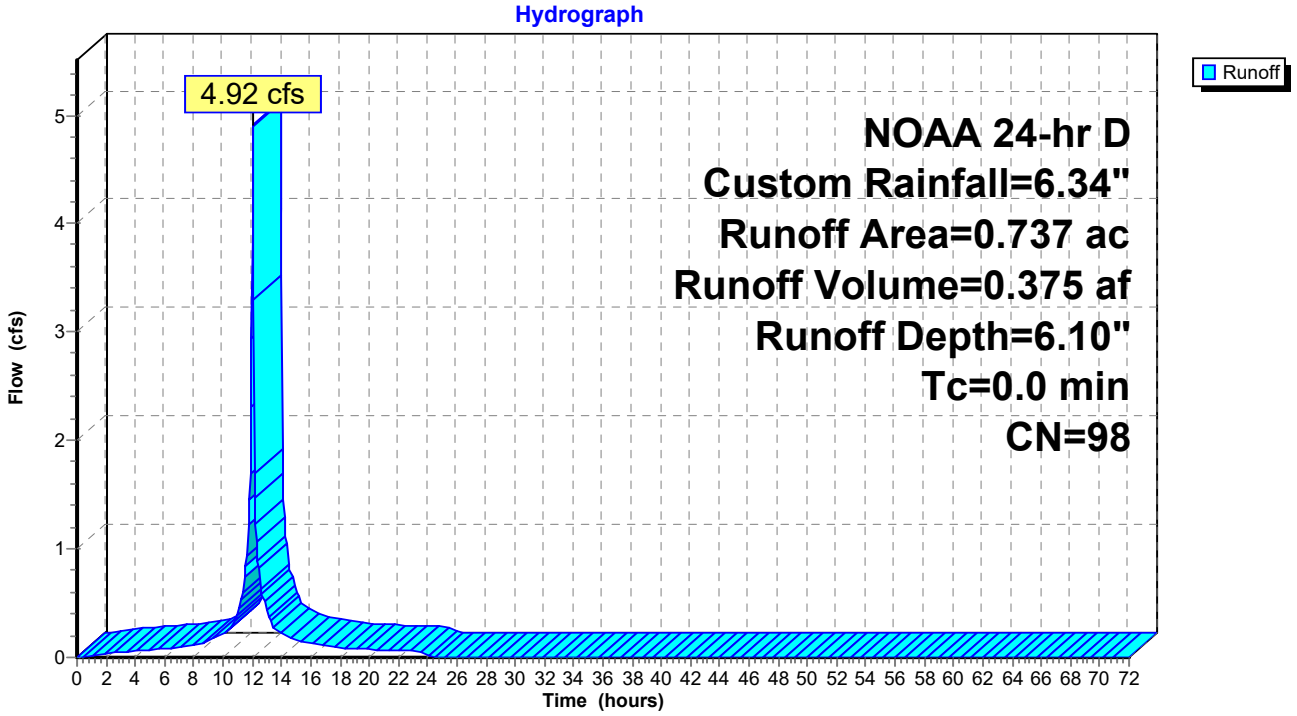
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 4.92 cfs @ 12.04 hrs, Volume= 0.375 af, Depth= 6.10"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 1.92" for Custom event
Inflow = 4.77 cfs @ 12.10 hrs, Volume= 0.897 af
Outflow = 0.33 cfs @ 21.95 hrs, Volume= 0.825 af, Atten= 93%, Lag= 591.1 min
Primary = 0.33 cfs @ 21.95 hrs, Volume= 0.825 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.73' @ 21.95 hrs Surf.Area= 8,815 sf Storage= 16,830 cf

Plug-Flow detention time= 723.1 min calculated for 0.825 af (92% of inflow)
Center-of-Mass det. time= 609.8 min (1,710.1 - 1,100.3)

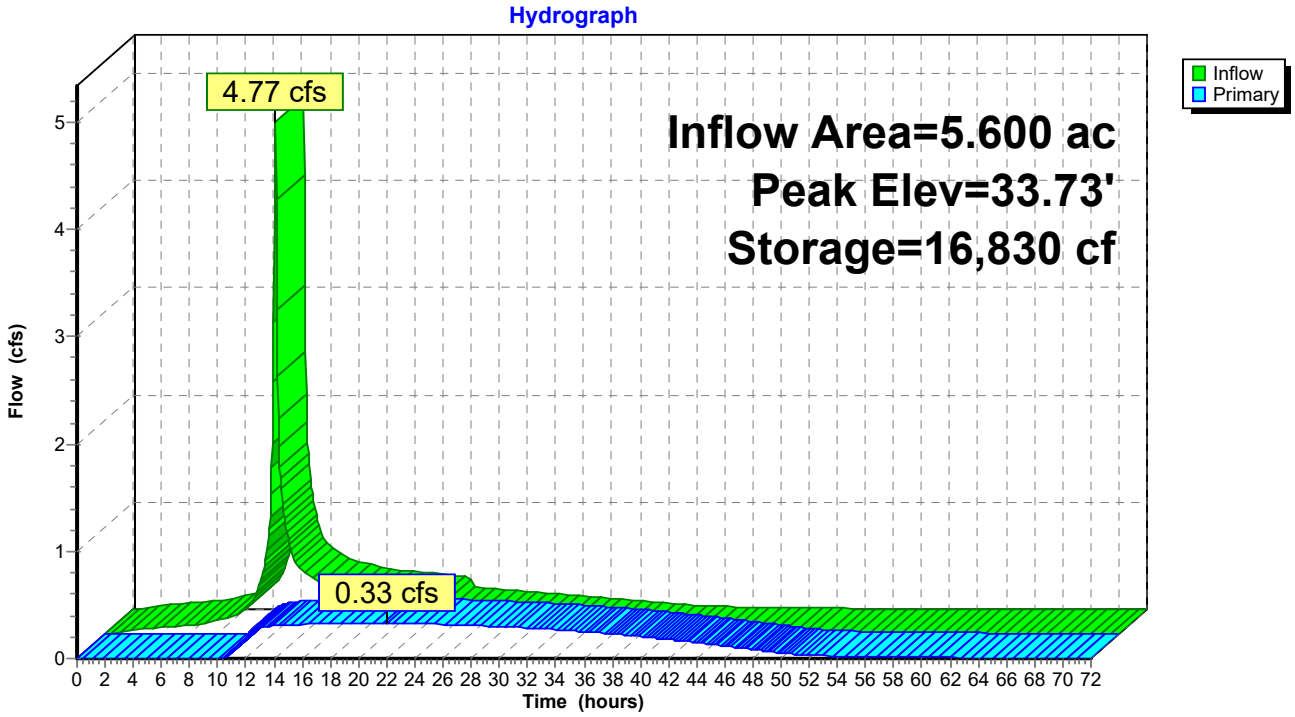
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 21.95 hrs HW=33.73' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.33 cfs @ 6.71 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

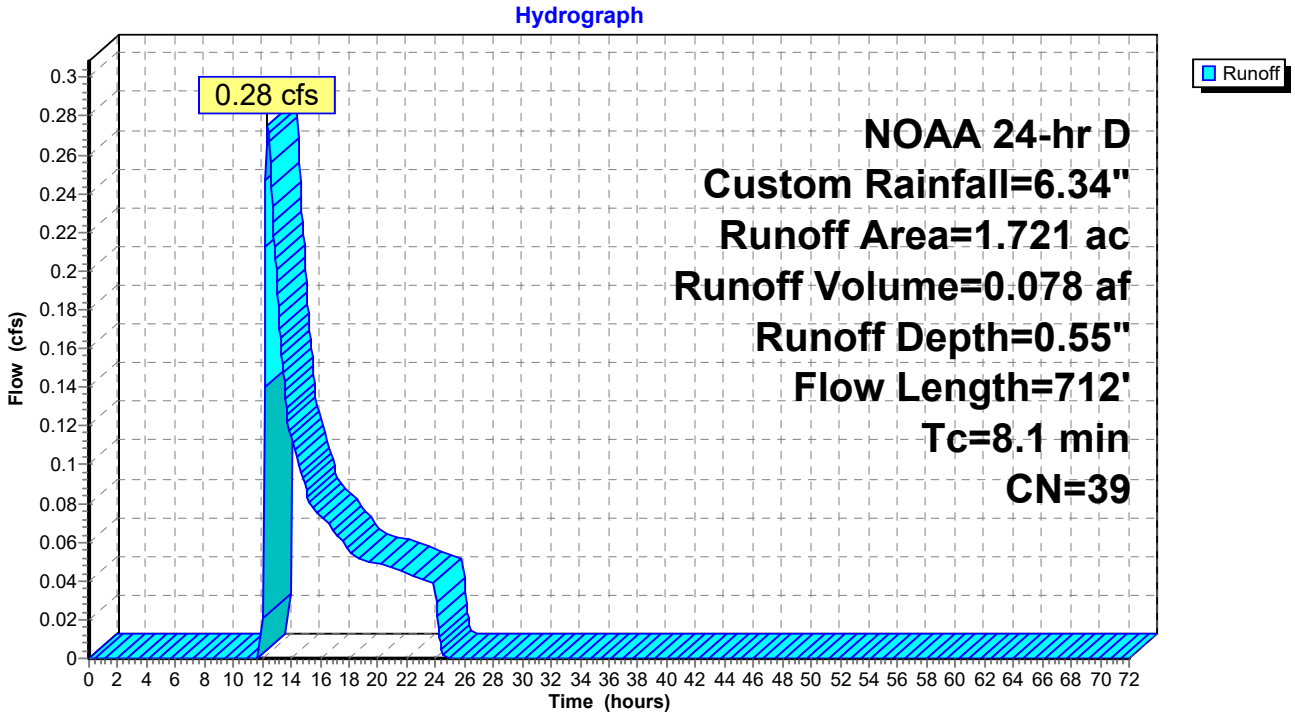
Runoff = 0.28 cfs @ 12.37 hrs, Volume= 0.078 af, Depth= 0.55"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 1.62" for Custom event
Inflow = 2.90 cfs @ 12.11 hrs, Volume= 0.348 af
Outflow = 2.79 cfs @ 12.13 hrs, Volume= 0.305 af, Atten= 4%, Lag= 1.5 min
Primary = 2.79 cfs @ 12.13 hrs, Volume= 0.305 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.00' @ 12.13 hrs Surf.Area= 2,002 sf Storage= 2,153 cf

Plug-Flow detention time= 125.2 min calculated for 0.305 af (88% of inflow)
Center-of-Mass det. time= 58.7 min (866.4 - 807.7)

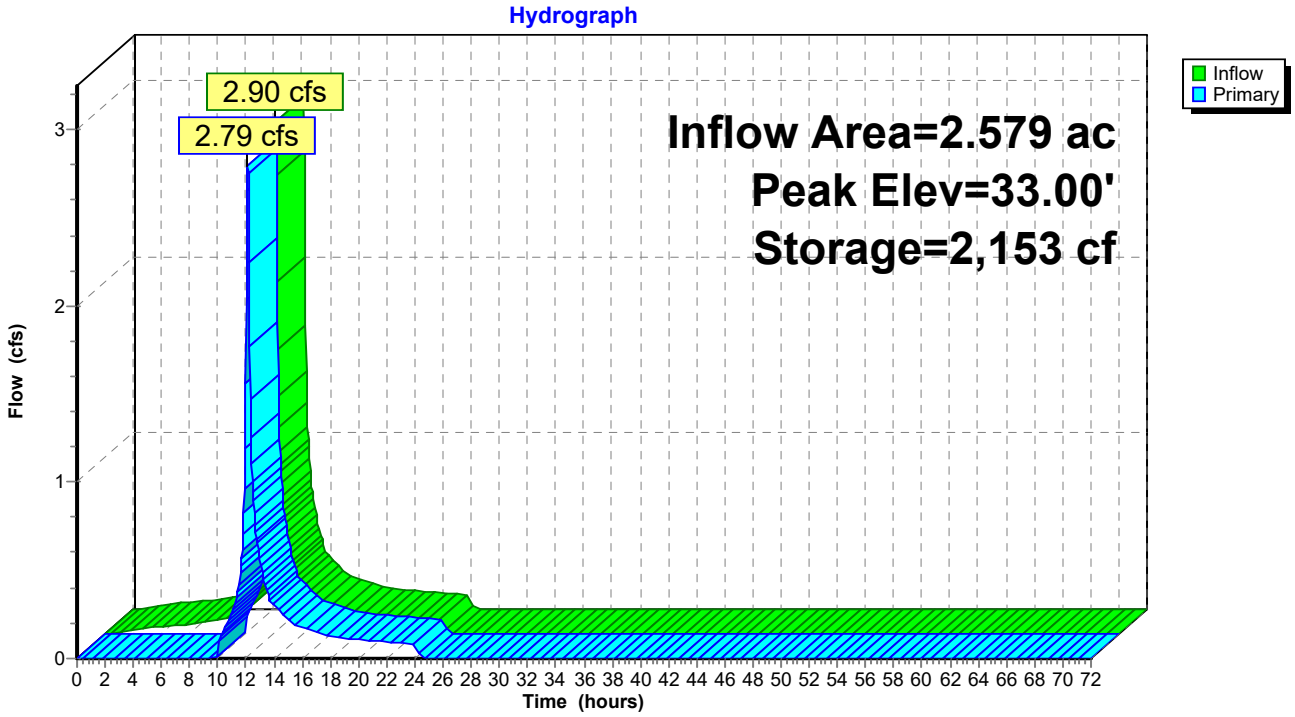
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.72 cfs @ 12.13 hrs HW=33.00' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 2.72 cfs @ 1.22 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 1.89" for Custom event
Inflow = 4.17 cfs @ 12.09 hrs, Volume= 0.473 af
Outflow = 0.24 cfs @ 15.59 hrs, Volume= 0.417 af, Atten= 94%, Lag= 210.0 min
Primary = 0.24 cfs @ 15.59 hrs, Volume= 0.417 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.38' @ 15.59 hrs Surf.Area= 10,530 sf Storage= 12,857 cf

Plug-Flow detention time= 733.6 min calculated for 0.417 af (88% of inflow)
Center-of-Mass det. time= 669.5 min (1,463.8 - 794.3)

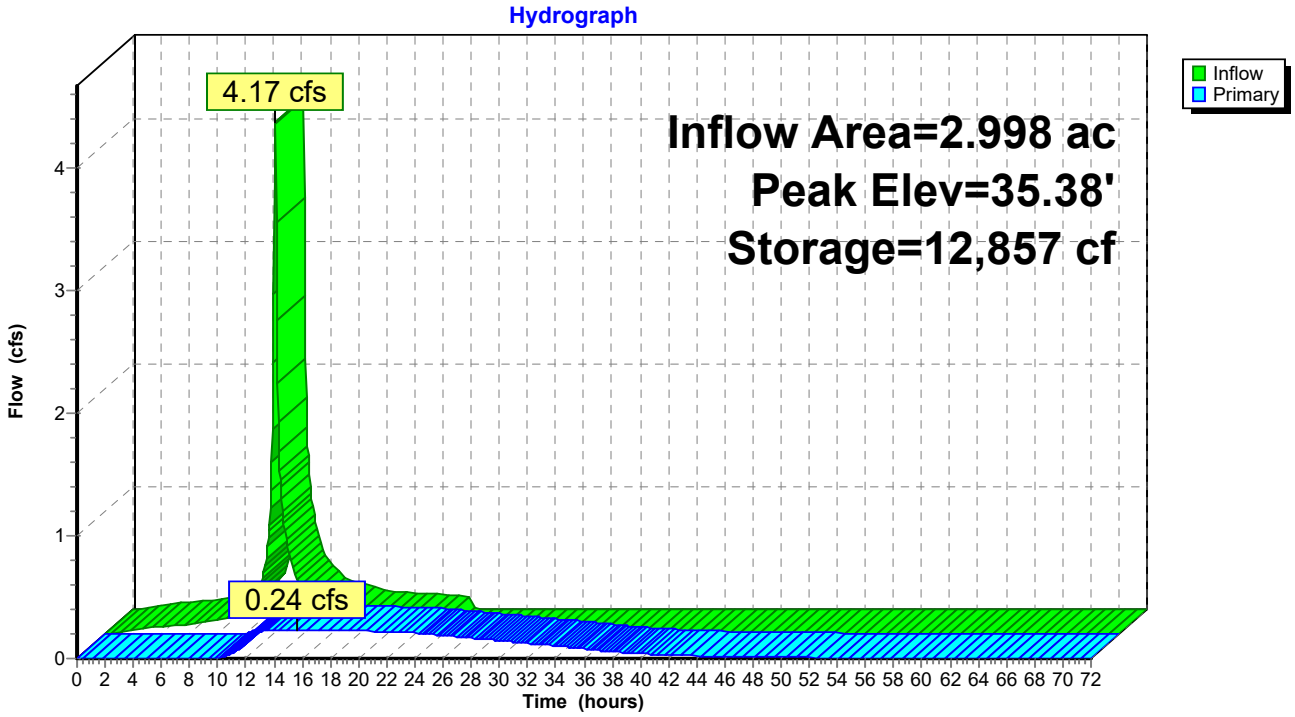
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 15.59 hrs HW=35.38' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.24 cfs @ 4.79 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

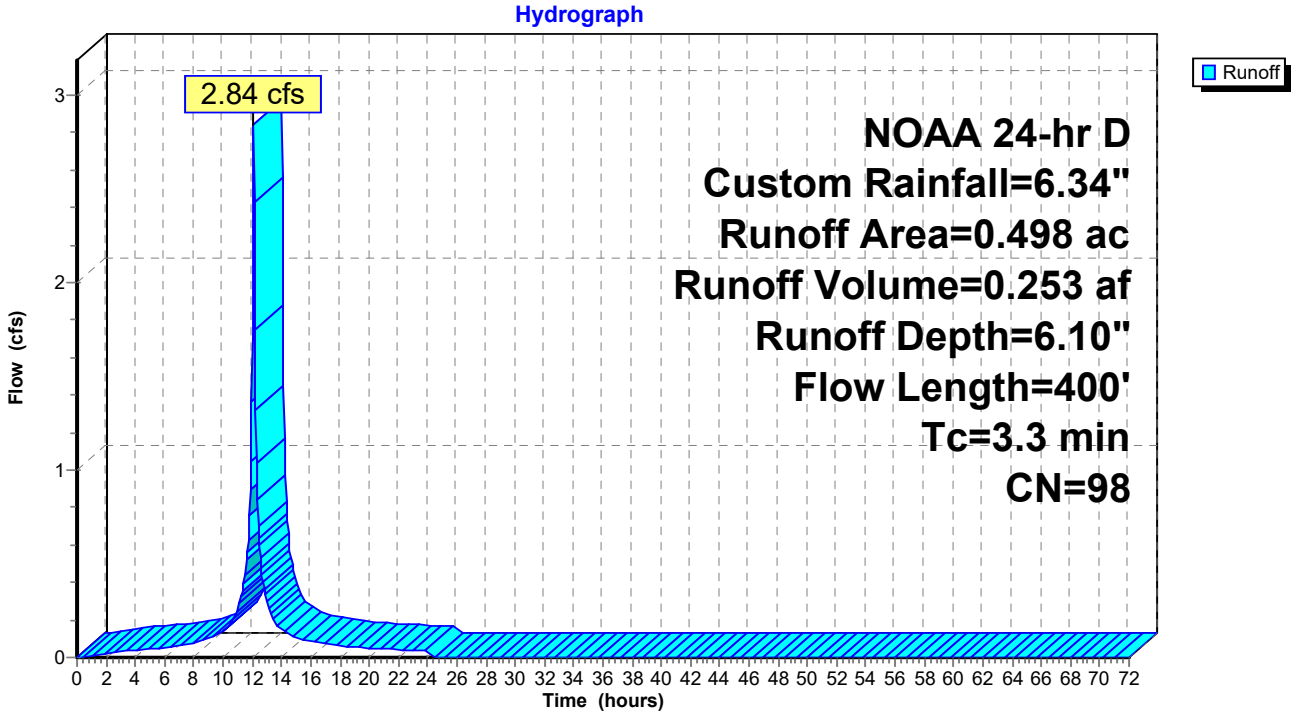
Runoff = 2.84 cfs @ 12.10 hrs, Volume= 0.253 af, Depth= 6.10"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 1.25" for Custom event
Inflow = 20.42 cfs @ 12.15 hrs, Volume= 2.117 af
Outflow = 18.66 cfs @ 12.21 hrs, Volume= 2.094 af, Atten= 9%, Lag= 3.4 min
Primary = 18.66 cfs @ 12.21 hrs, Volume= 2.094 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.50' @ 12.21 hrs Surf.Area= 9,890 sf Storage= 22,679 cf

Plug-Flow detention time= 251.1 min calculated for 2.093 af (99% of inflow)
Center-of-Mass det. time= 246.4 min (1,095.2 - 848.9)

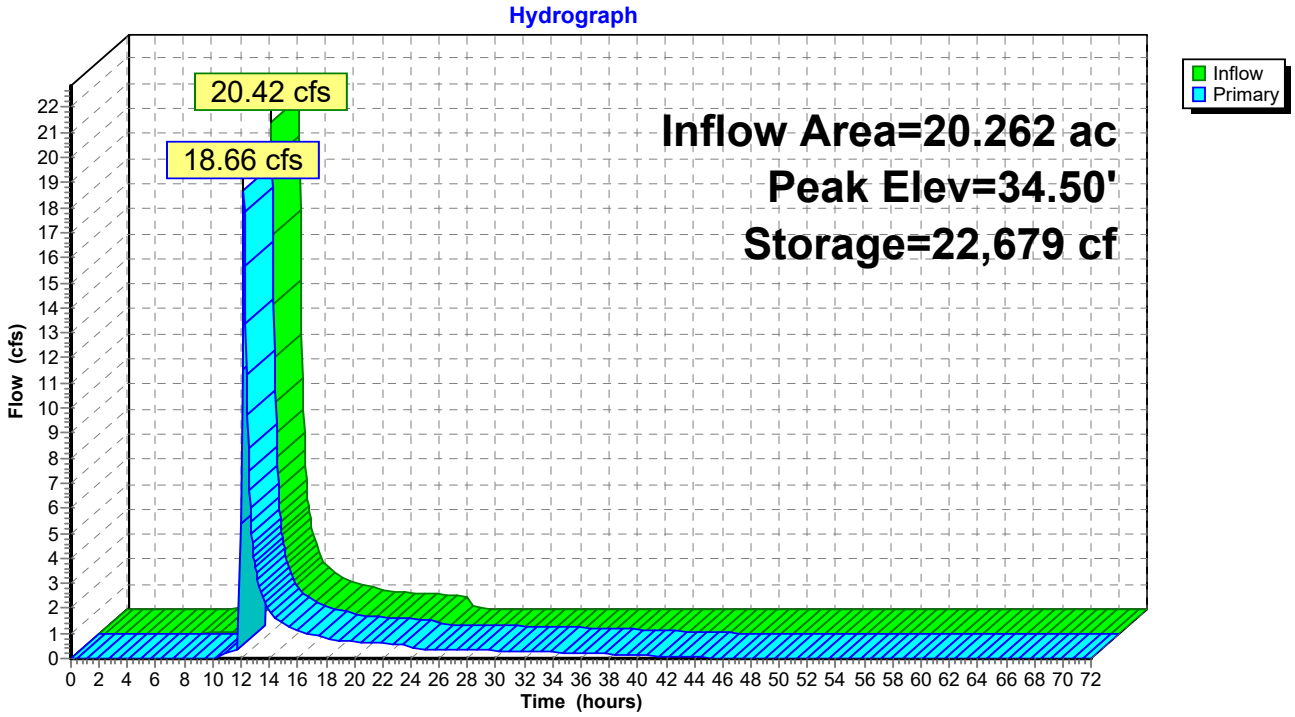
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=18.40 cfs @ 12.21 hrs HW=34.49' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.50 fps)
└—**2=Orifice/Grate** (Weir Controls 17.98 cfs @ 2.29 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

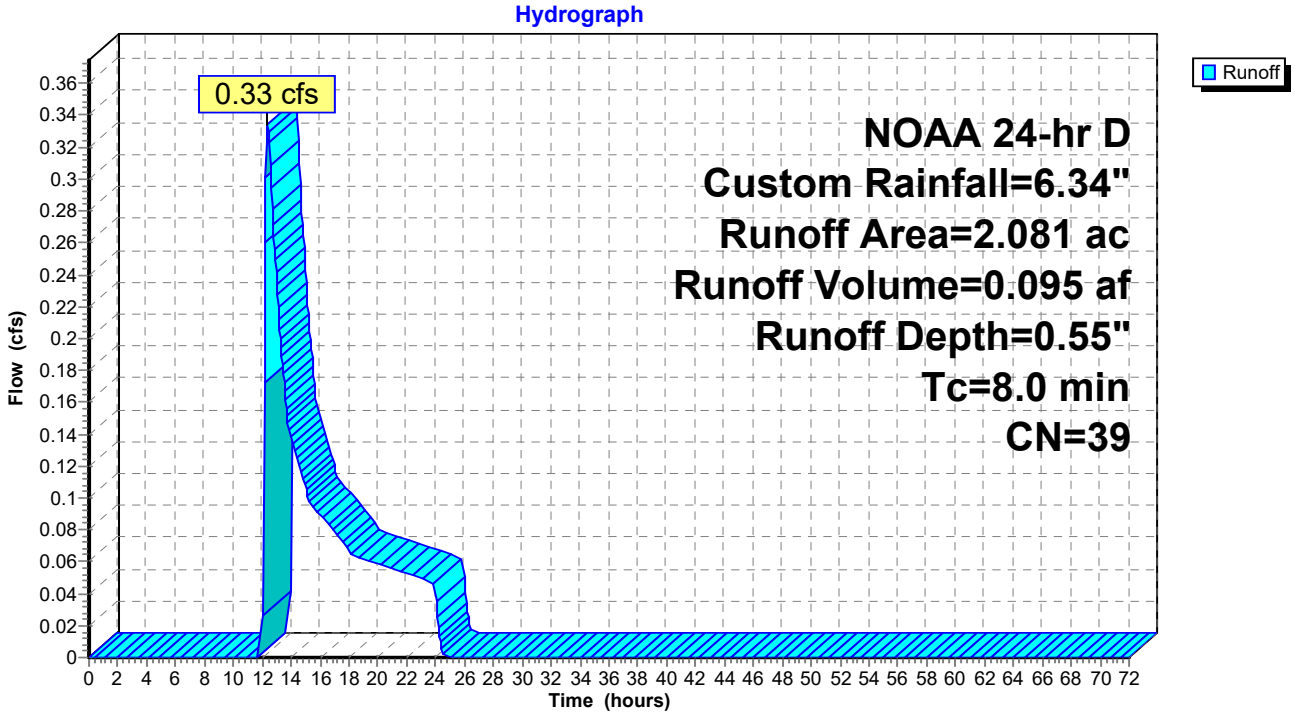
Runoff = 0.33 cfs @ 12.37 hrs, Volume= 0.095 af, Depth= 0.55"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 1.66" for Custom event
Inflow = 46.91 cfs @ 12.15 hrs, Volume= 8.314 af
Outflow = 28.98 cfs @ 12.35 hrs, Volume= 7.576 af, Atten= 38%, Lag= 11.8 min
Primary = 28.71 cfs @ 12.35 hrs, Volume= 7.575 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 0.27 cfs @ 12.35 hrs, Volume= 0.002 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 27.52' @ 12.35 hrs Surf.Area= 25,866 sf Storage= 68,597 cf

Plug-Flow detention time= 399.3 min calculated for 7.576 af (91% of inflow)
Center-of-Mass det. time= 275.7 min (1,388.1 - 1,112.4)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) x 2

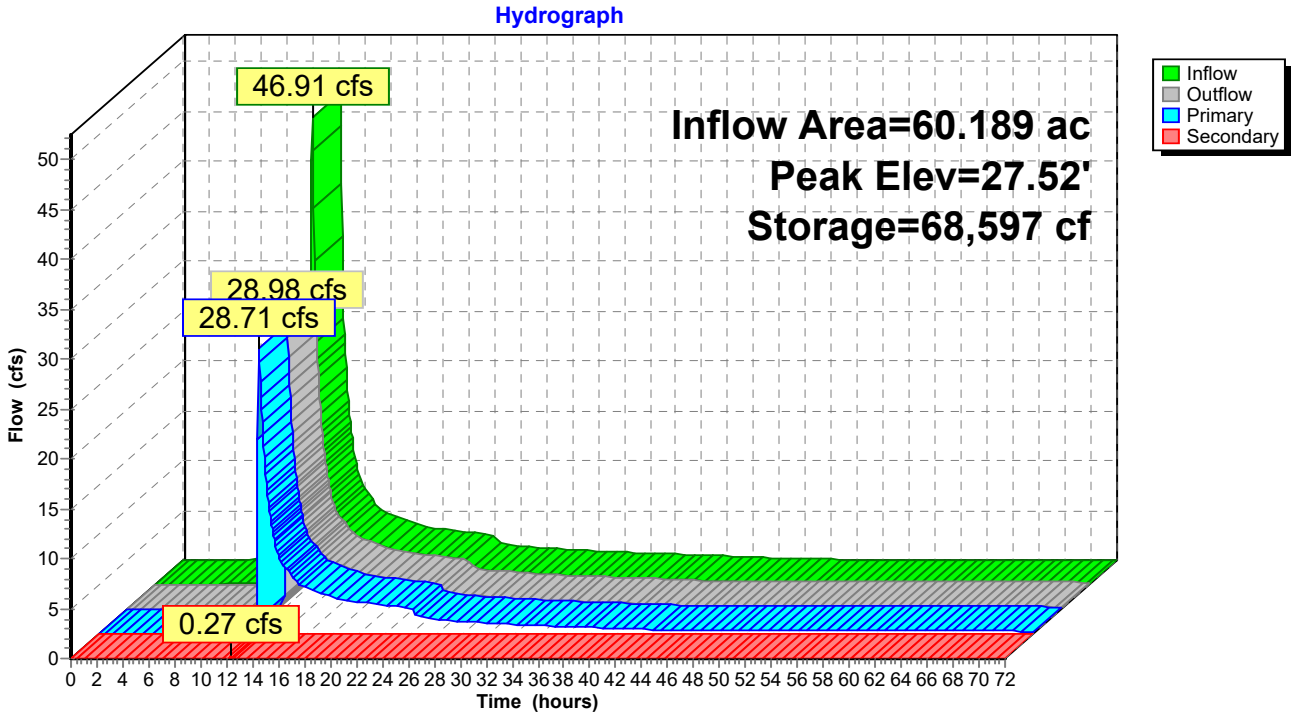
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=28.70 cfs @ 12.35 hrs HW=27.52' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.40 cfs @ 8.05 fps)
└**2=Orifice/Grate** (Weir Controls 28.31 cfs @ 2.11 fps)

Secondary OutFlow Max=0.25 cfs @ 12.35 hrs HW=27.52' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 0.25 cfs @ 0.34 fps)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 2.11" for Custom event
Inflow = 3.14 cfs @ 12.09 hrs, Volume= 0.316 af
Outflow = 0.22 cfs @ 14.37 hrs, Volume= 0.271 af, Atten= 93%, Lag= 136.6 min
Primary = 0.22 cfs @ 14.37 hrs, Volume= 0.271 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.33' @ 14.37 hrs Surf.Area= 7,448 sf Storage= 8,102 cf

Plug-Flow detention time= 536.1 min calculated for 0.271 af (86% of inflow)
Center-of-Mass det. time= 462.1 min (1,248.7 - 786.5)

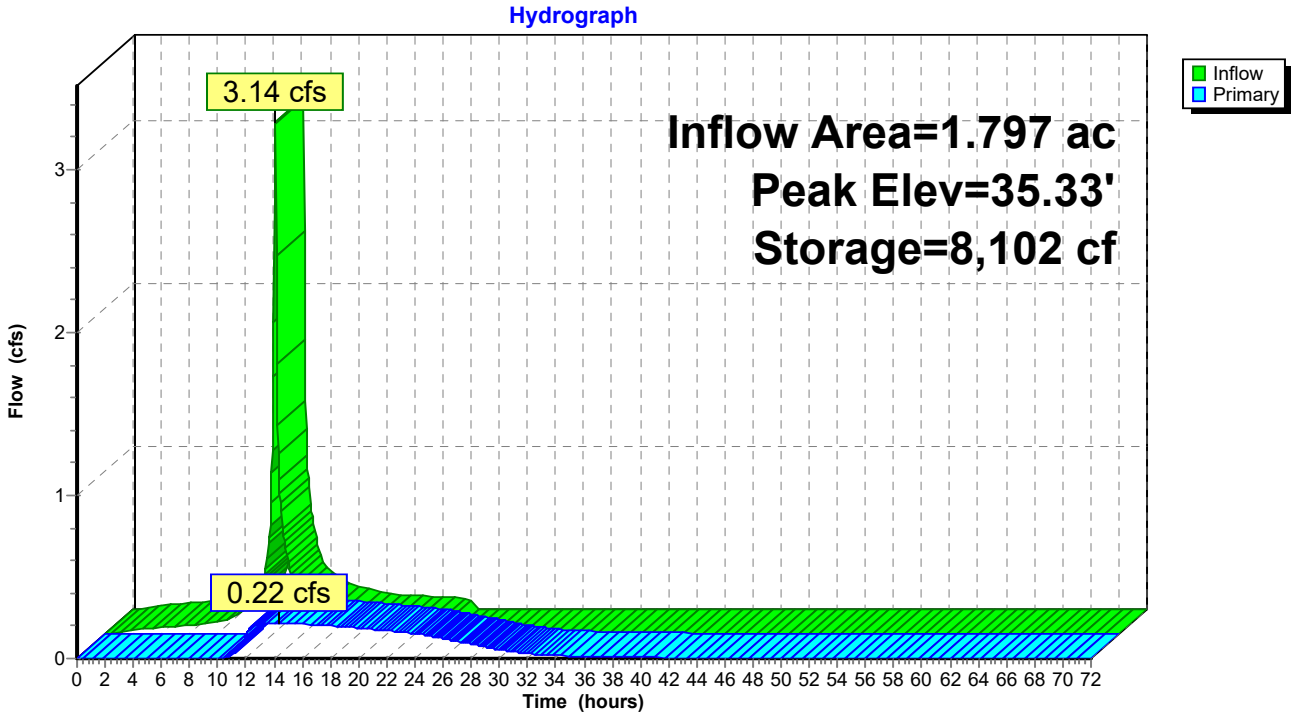
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 14.37 hrs HW=35.33' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.22 cfs @ 4.41 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

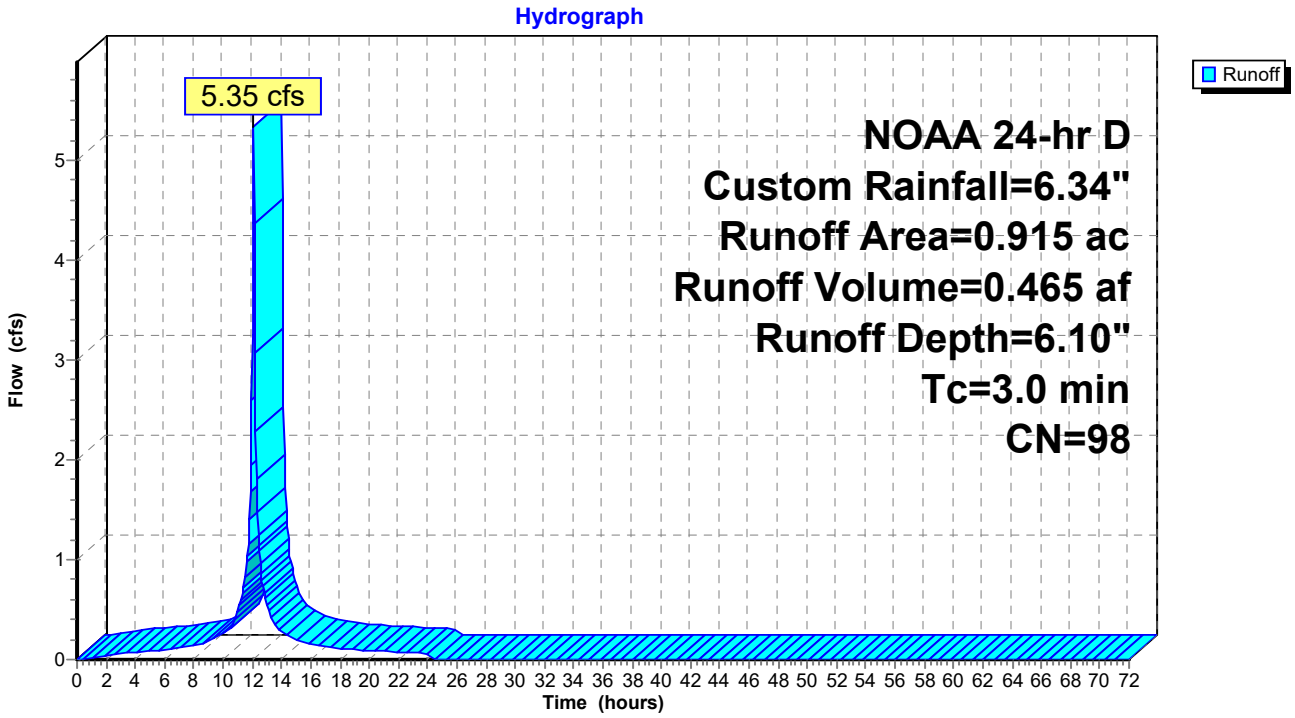
Runoff = 5.35 cfs @ 12.10 hrs, Volume= 0.465 af, Depth= 6.10"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

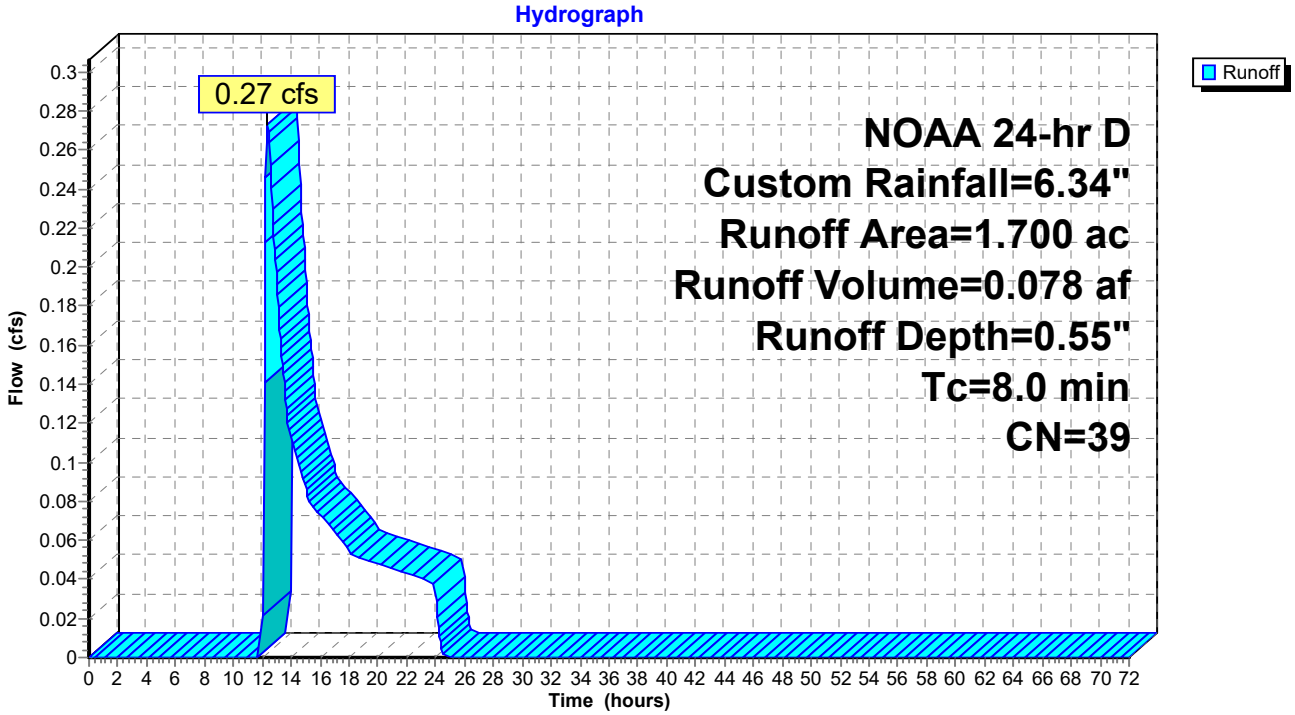
Runoff = 0.27 cfs @ 12.37 hrs, Volume= 0.078 af, Depth= 0.55"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 2.49" for Custom event
Inflow = 5.24 cfs @ 12.10 hrs, Volume= 0.527 af
Outflow = 4.65 cfs @ 12.14 hrs, Volume= 0.450 af, Atten= 11%, Lag= 2.5 min
Primary = 4.65 cfs @ 12.14 hrs, Volume= 0.450 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.92' @ 12.14 hrs Surf.Area= 5,746 sf Storage= 4,479 cf

Plug-Flow detention time= 145.1 min calculated for 0.450 af (85% of inflow)
Center-of-Mass det. time= 70.0 min (847.3 - 777.4)

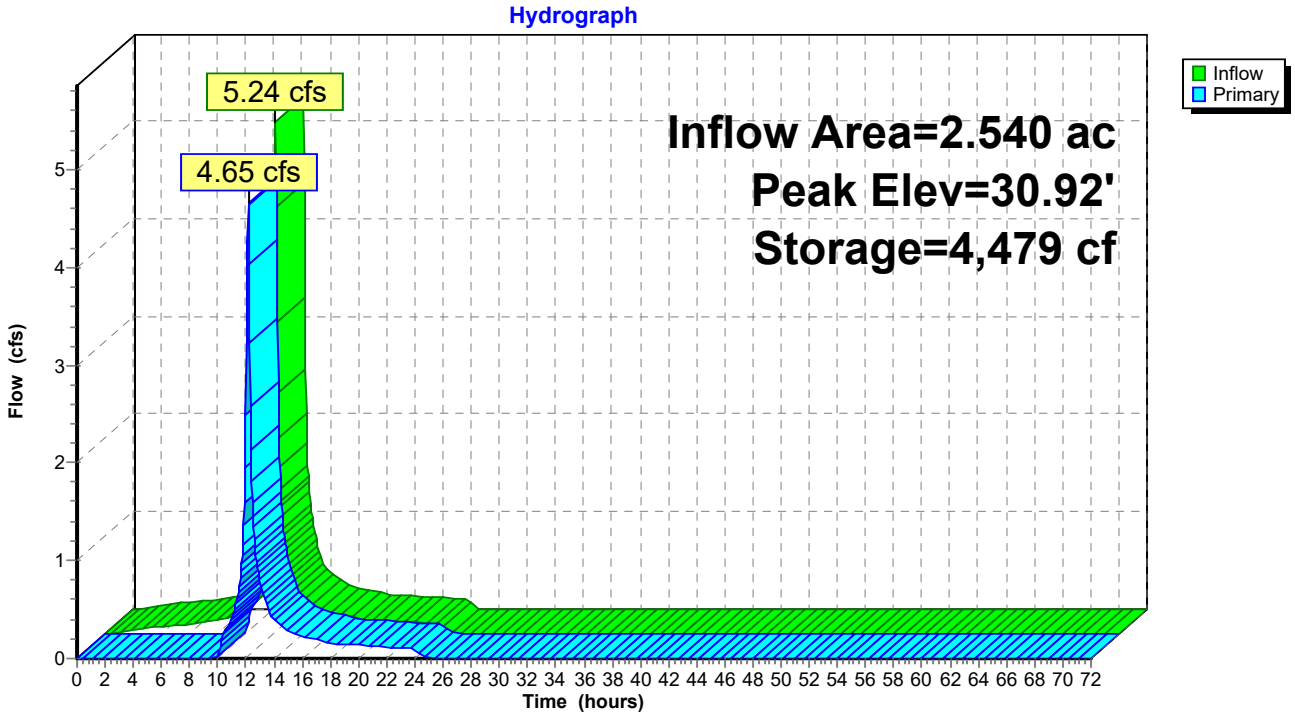
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.60 cfs @ 12.14 hrs HW=30.92' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.60 cfs @ 1.45 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 2.16" for Custom event
Inflow = 4.45 cfs @ 12.10 hrs, Volume= 0.467 af
Outflow = 3.80 cfs @ 12.15 hrs, Volume= 0.402 af, Atten= 15%, Lag= 3.1 min
Primary = 3.80 cfs @ 12.15 hrs, Volume= 0.402 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.63' @ 12.15 hrs Surf.Area= 7,158 sf Storage= 4,076 cf

Plug-Flow detention time= 144.9 min calculated for 0.402 af (86% of inflow)
Center-of-Mass det. time= 71.0 min (856.9 - 785.9)

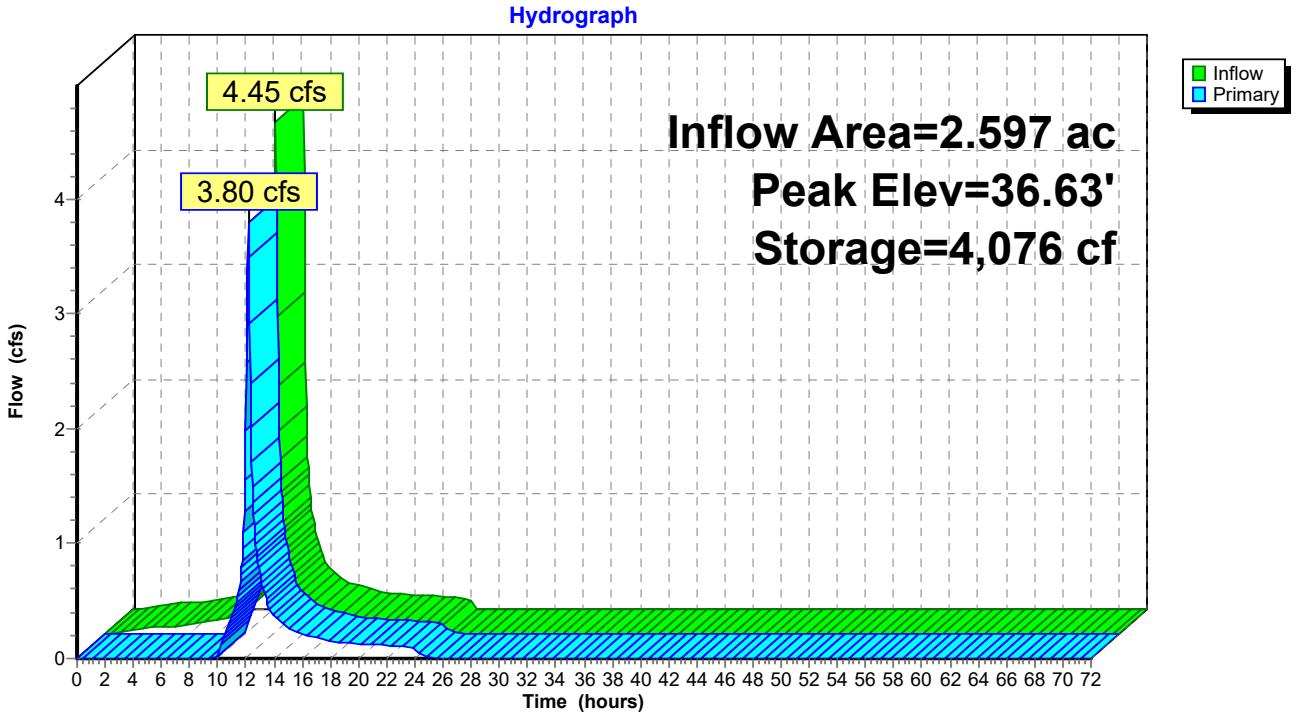
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.77 cfs @ 12.15 hrs HW=36.63' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 3.77 cfs @ 1.36 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

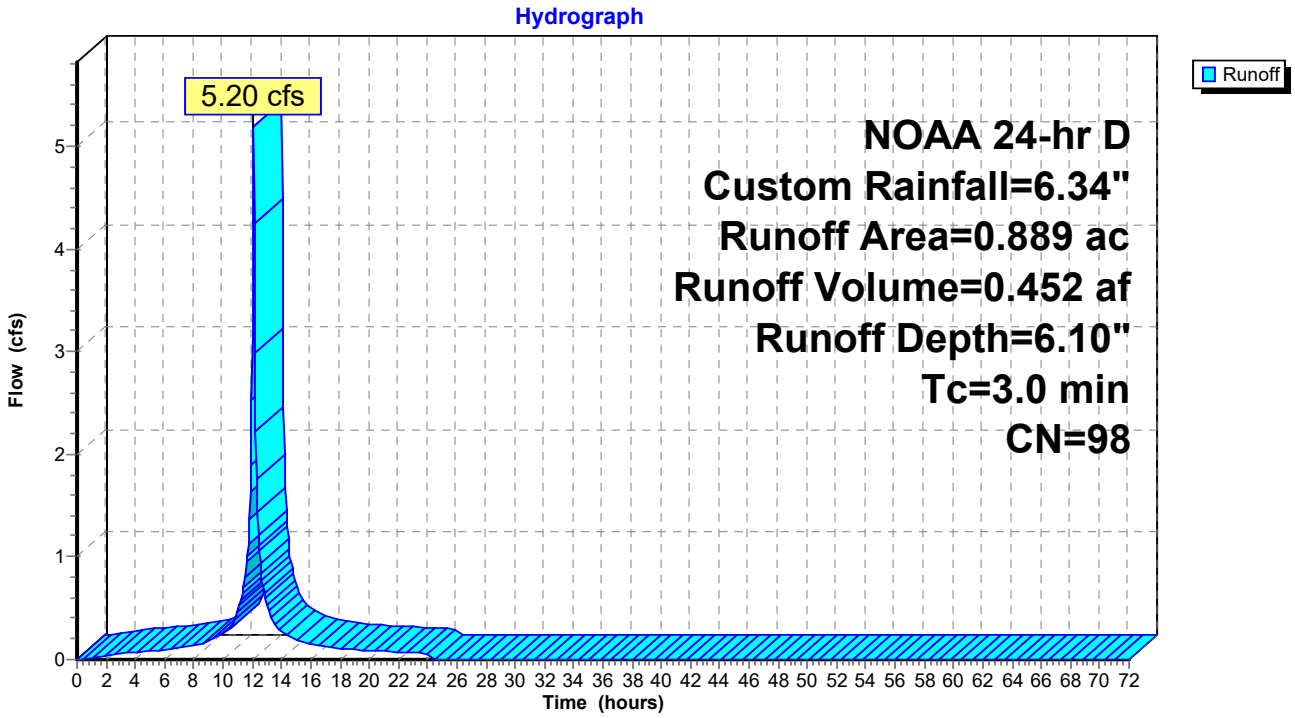
Runoff = 5.20 cfs @ 12.10 hrs, Volume= 0.452 af, Depth= 6.10"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 0.78" for Custom event
Inflow = 8.62 cfs @ 12.11 hrs, Volume= 0.973 af
Outflow = 7.63 cfs @ 12.16 hrs, Volume= 0.836 af, Atten= 11%, Lag= 2.9 min
Primary = 7.63 cfs @ 12.16 hrs, Volume= 0.836 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.16' @ 12.16 hrs Surf.Area= 8,230 sf Storage= 8,166 cf

Plug-Flow detention time= 150.4 min calculated for 0.836 af (86% of inflow)
Center-of-Mass det. time= 73.3 min (877.8 - 804.5)

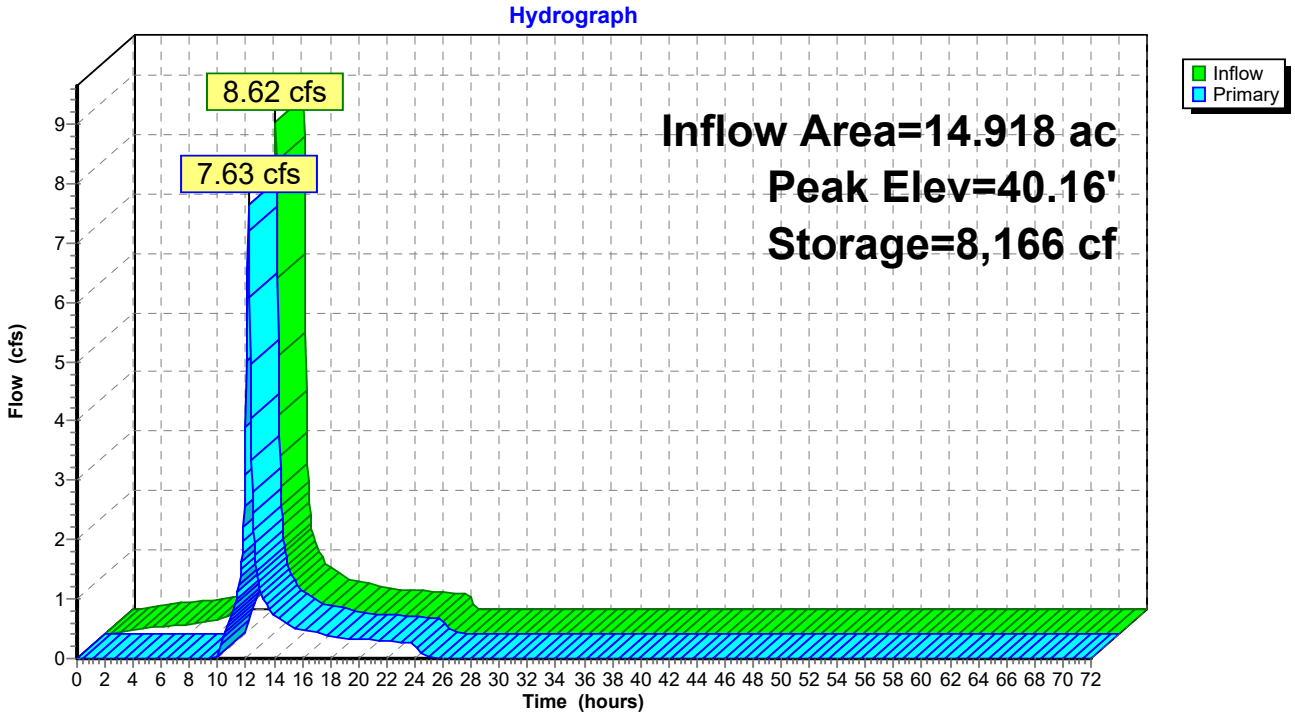
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.50 cfs @ 12.16 hrs HW=40.15' (Free Discharge)
1=Orifice/Grate (Weir Controls 7.50 cfs @ 1.71 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

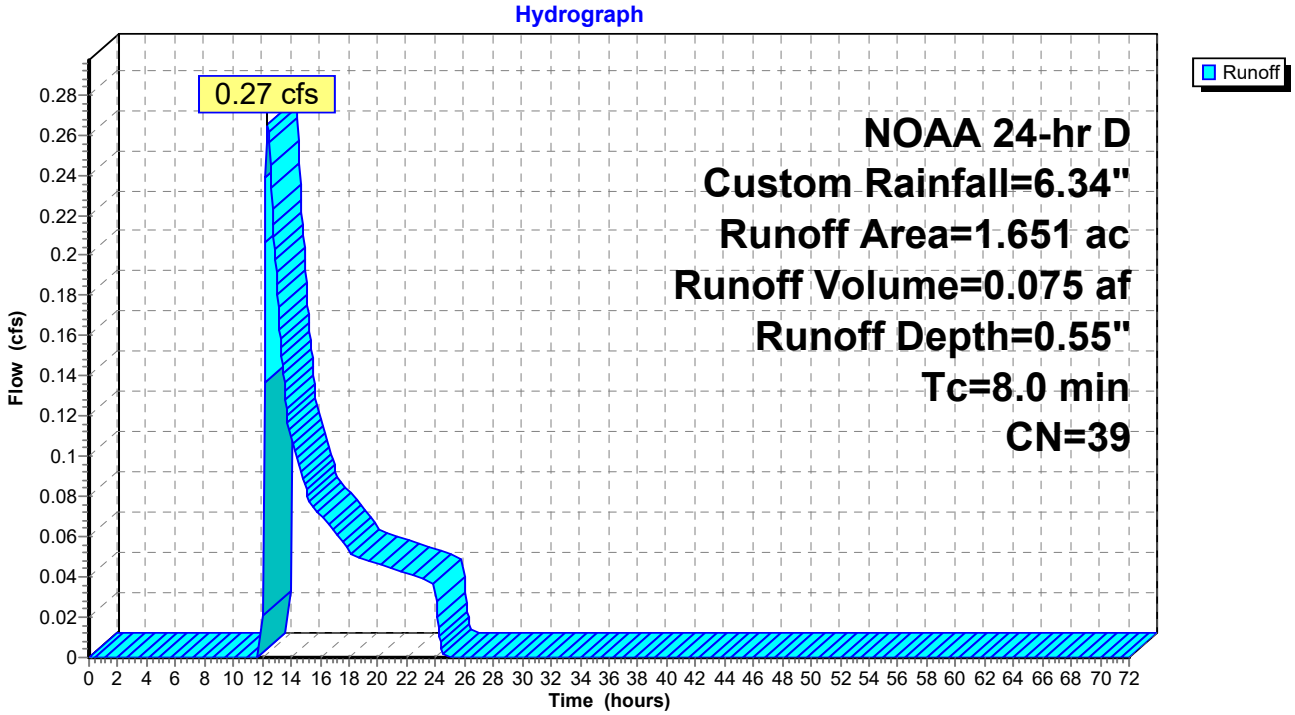
Runoff = 0.27 cfs @ 12.37 hrs, Volume= 0.075 af, Depth= 0.55"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 1.94" for Custom event
Inflow = 4.35 cfs @ 12.06 hrs, Volume= 0.486 af
Outflow = 4.07 cfs @ 12.10 hrs, Volume= 0.453 af, Atten= 6%, Lag= 2.0 min
Primary = 4.07 cfs @ 12.10 hrs, Volume= 0.453 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.08' @ 12.10 hrs Surf.Area= 4,056 sf Storage= 2,152 cf

Plug-Flow detention time= 82.2 min calculated for 0.453 af (93% of inflow)
Center-of-Mass det. time= 42.3 min (833.9 - 791.6)

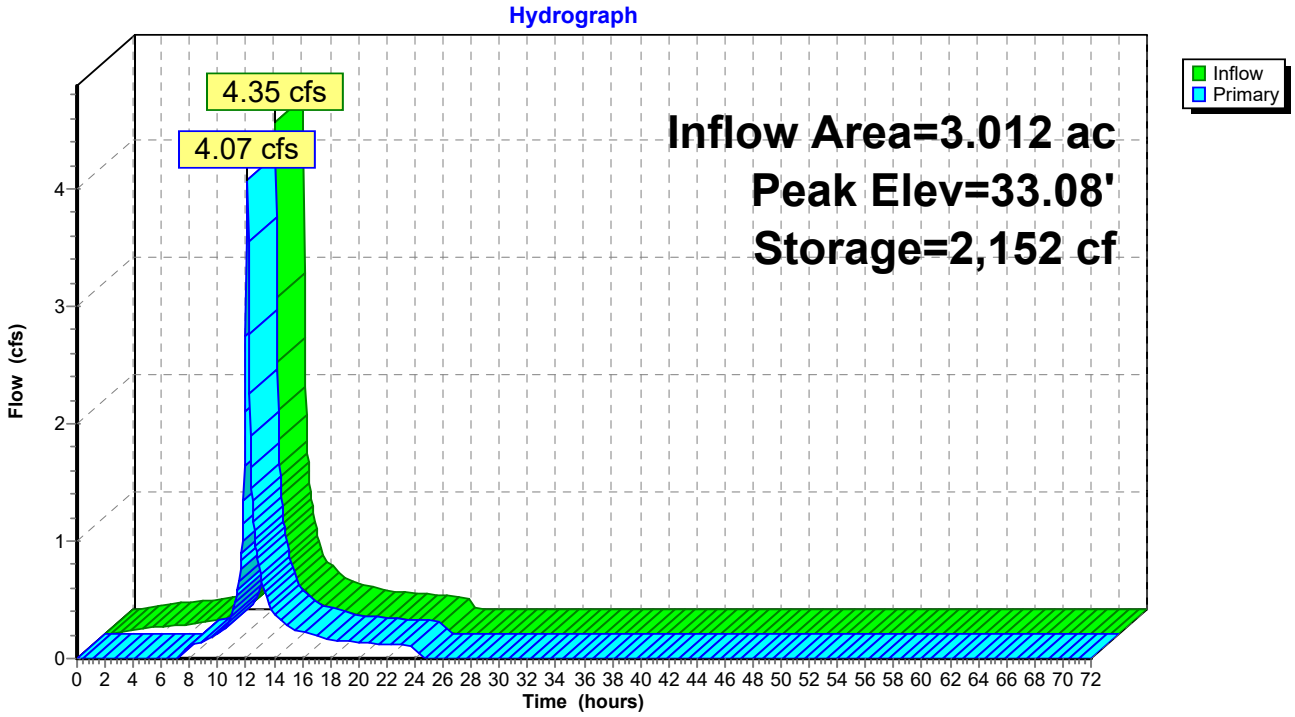
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.06 cfs @ 12.10 hrs HW=33.08' (Free Discharge)
1=Orifice/Grate (Weir Controls 4.06 cfs @ 1.39 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 6.10" for Custom event
Inflow = 8.32 cfs @ 12.11 hrs, Volume= 0.863 af
Outflow = 7.67 cfs @ 12.16 hrs, Volume= 0.717 af, Atten= 8%, Lag= 2.7 min
Primary = 7.67 cfs @ 12.16 hrs, Volume= 0.717 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.55' @ 12.16 hrs Surf.Area= 6,532 sf Storage= 8,125 cf

Plug-Flow detention time= 152.1 min calculated for 0.717 af (83% of inflow)
Center-of-Mass det. time= 74.9 min (822.9 - 748.0)

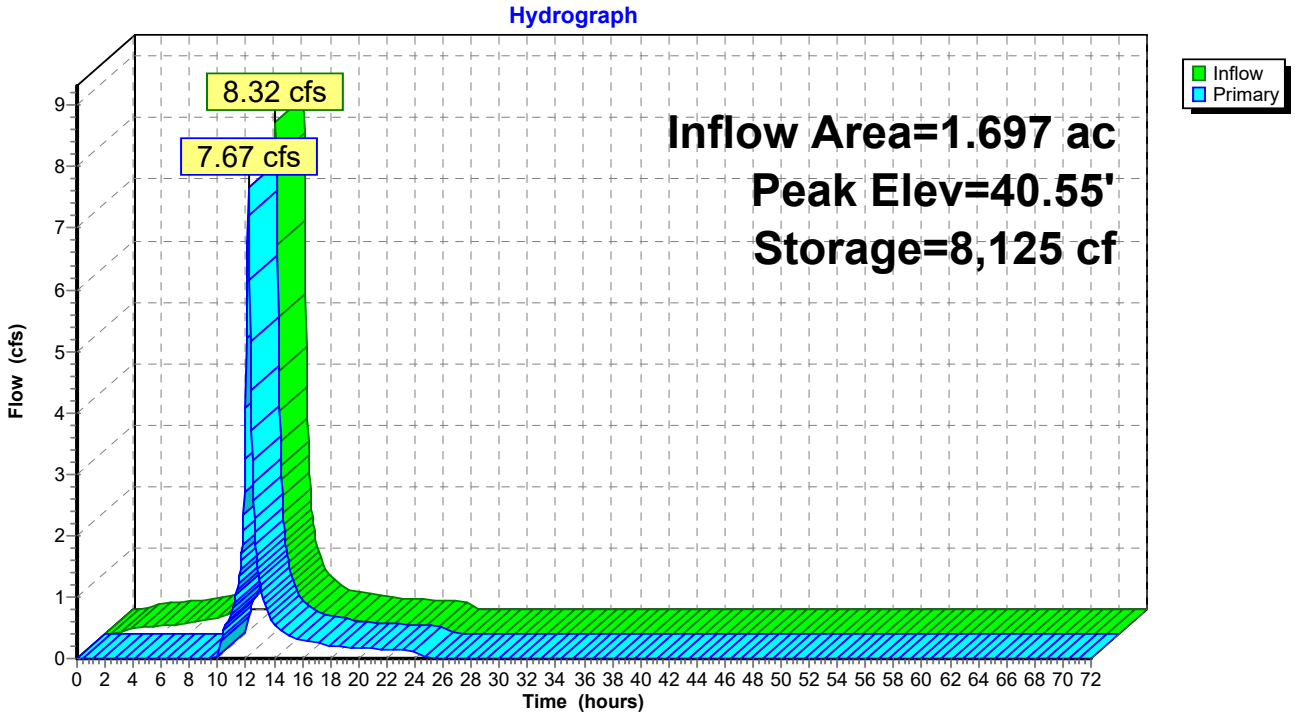
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.57 cfs @ 12.16 hrs HW=40.55' (Free Discharge)
1=Orifice/Grate (Weir Controls 7.57 cfs @ 1.72 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

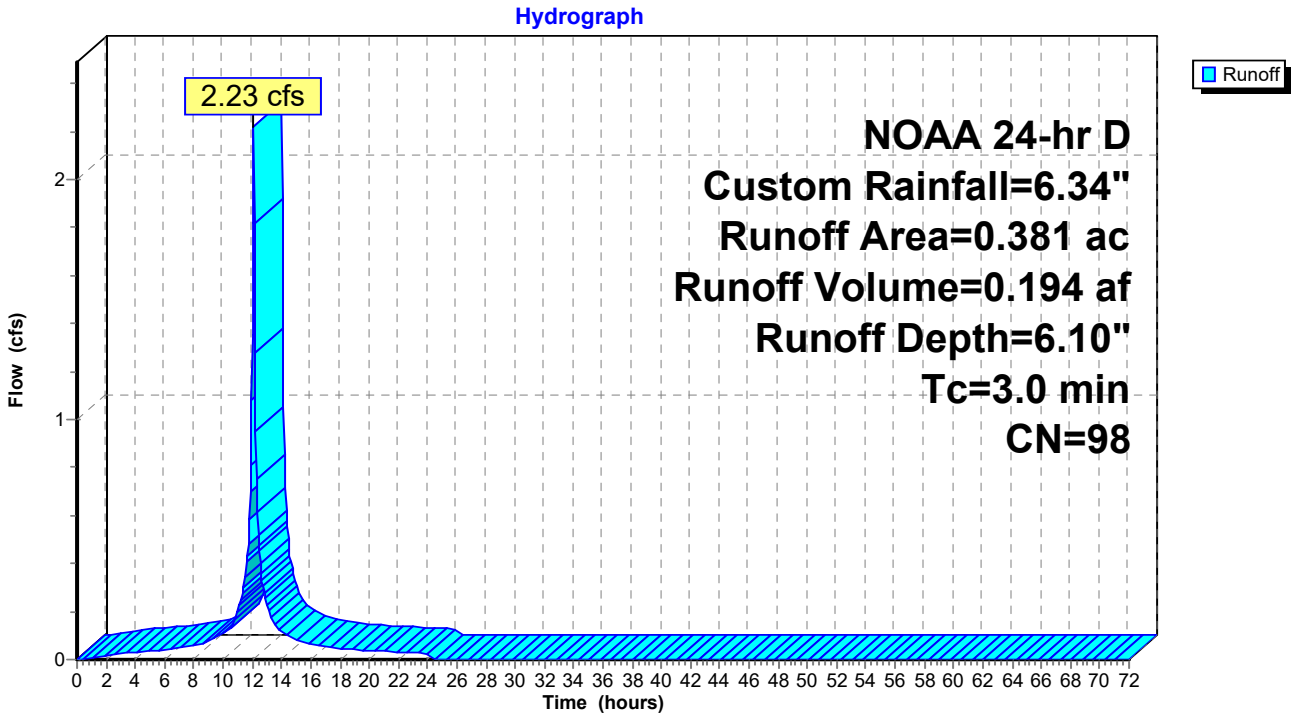
Runoff = 2.23 cfs @ 12.10 hrs, Volume= 0.194 af, Depth= 6.10"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

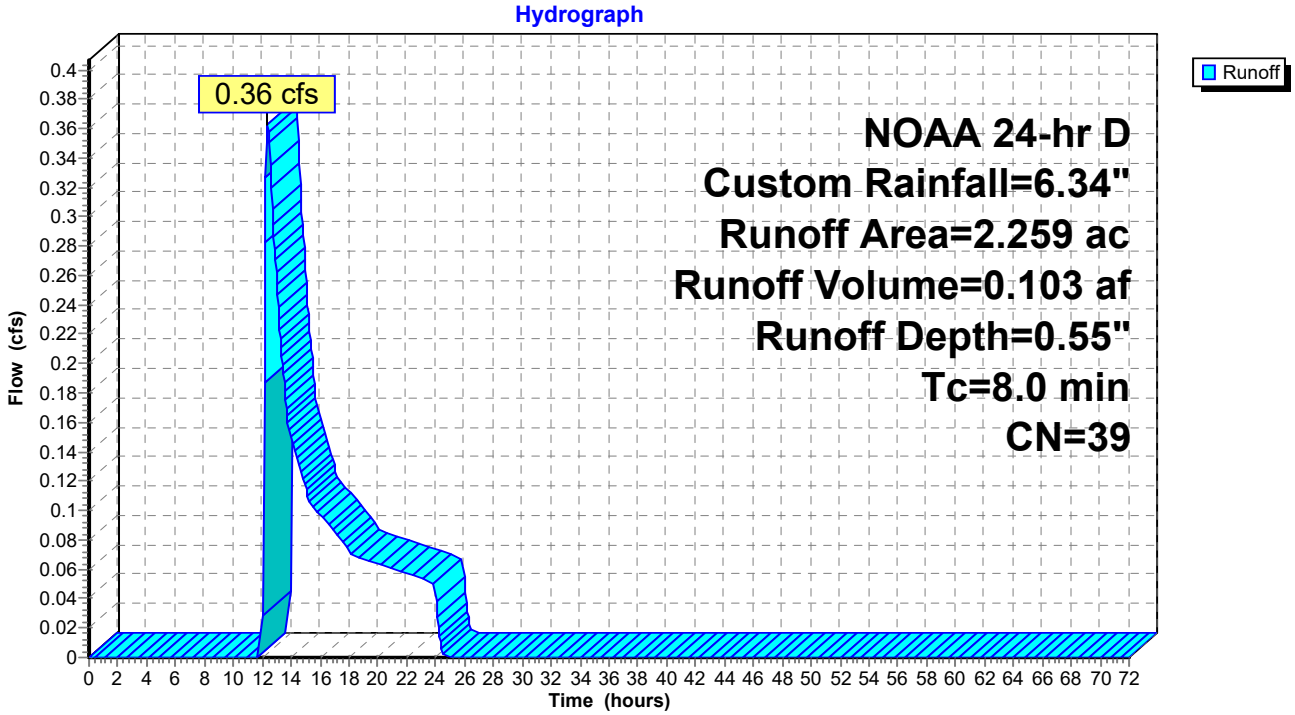
Runoff = 0.36 cfs @ 12.37 hrs, Volume= 0.103 af, Depth= 0.55"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

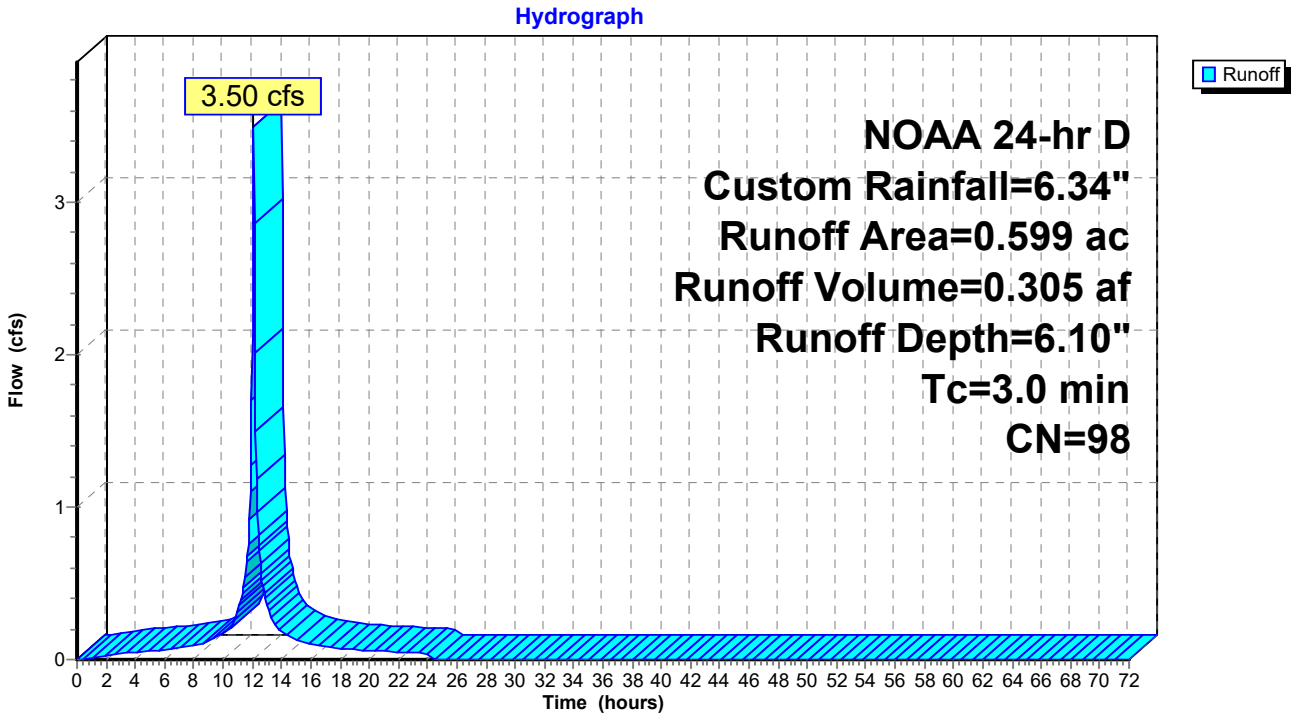
Runoff = 3.50 cfs @ 12.10 hrs, Volume= 0.305 af, Depth= 6.10"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 2.49" for Custom event
Inflow = 3.56 cfs @ 12.11 hrs, Volume= 0.362 af
Outflow = 3.33 cfs @ 12.14 hrs, Volume= 0.310 af, Atten= 7%, Lag= 1.9 min
Primary = 3.33 cfs @ 12.14 hrs, Volume= 0.310 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.56' @ 12.14 hrs Surf.Area= 3,271 sf Storage= 2,792 cf

Plug-Flow detention time= 141.8 min calculated for 0.310 af (86% of inflow)
Center-of-Mass det. time= 66.7 min (844.0 - 777.3)

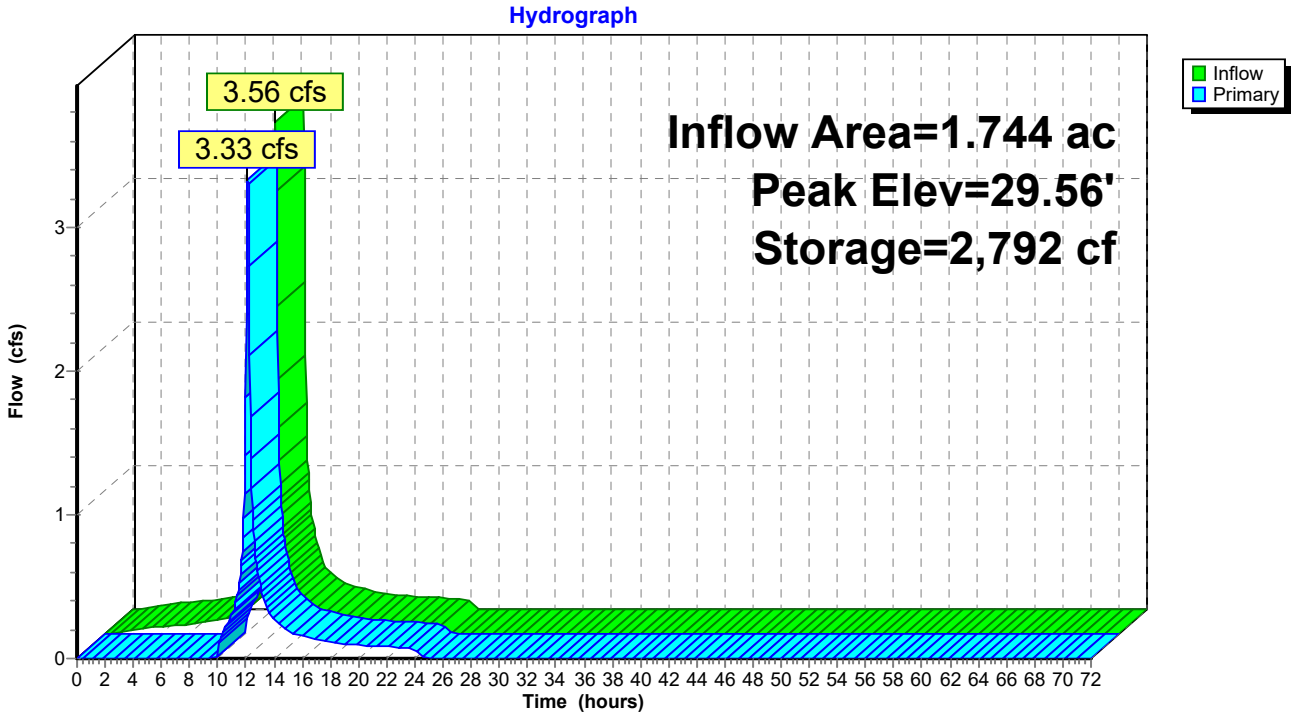
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.25 cfs @ 12.14 hrs HW=29.56' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 3.25 cfs @ 1.30 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

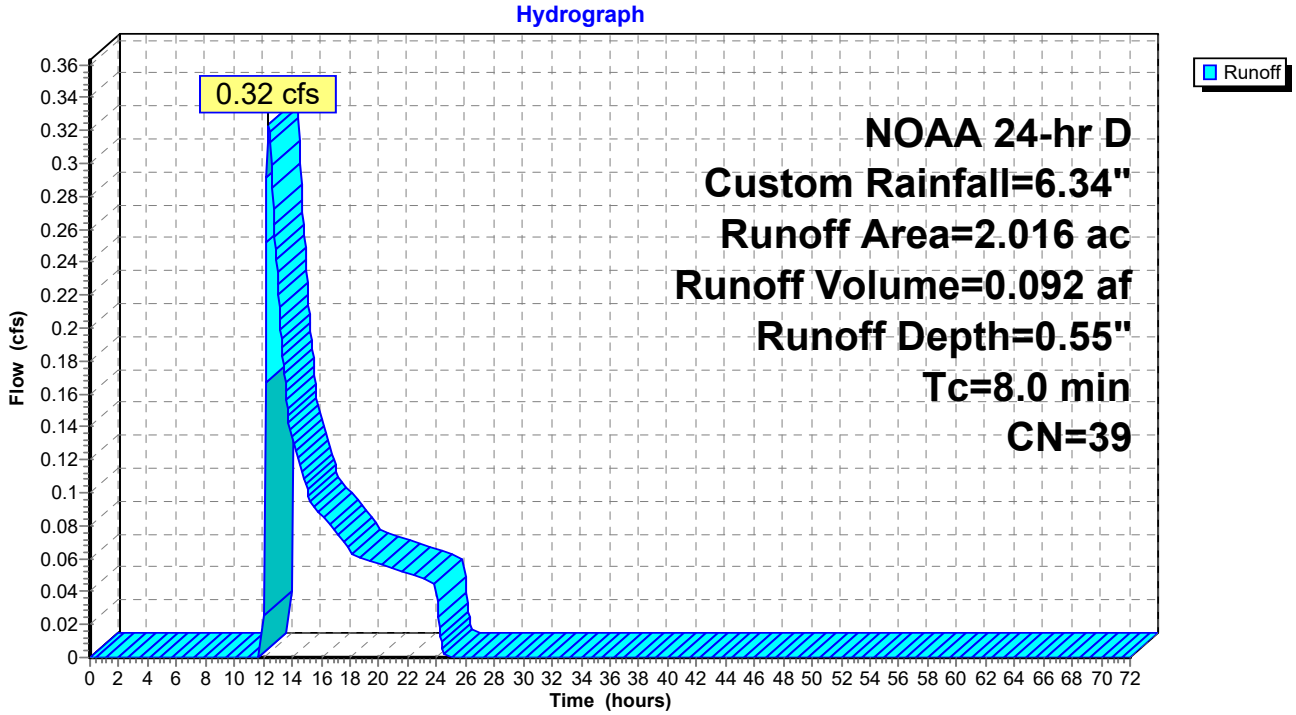
Runoff = 0.32 cfs @ 12.37 hrs, Volume= 0.092 af, Depth= 0.55"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

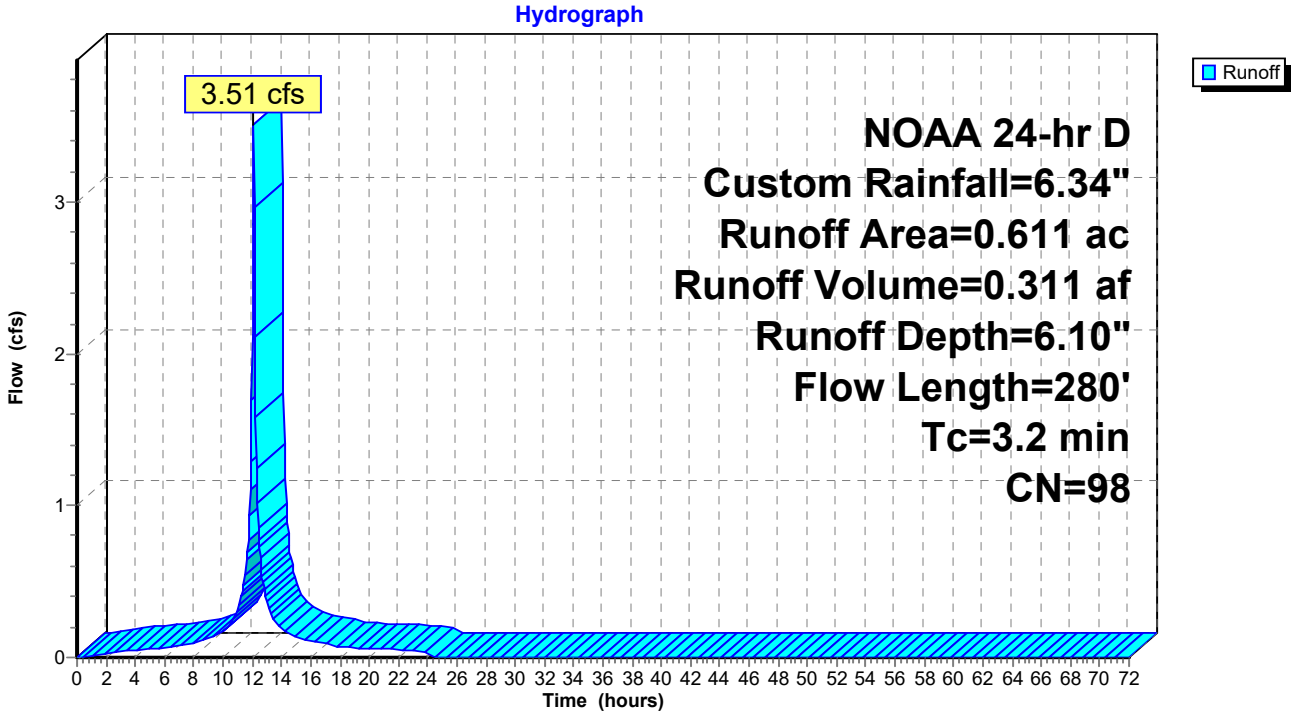
Runoff = 3.51 cfs @ 12.10 hrs, Volume= 0.311 af, Depth= 6.10"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 2.93" for Custom event
Inflow = 6.56 cfs @ 12.10 hrs, Volume= 0.635 af
Outflow = 5.95 cfs @ 12.14 hrs, Volume= 0.477 af, Atten= 9%, Lag= 2.2 min
Primary = 5.95 cfs @ 12.14 hrs, Volume= 0.477 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.21' @ 12.14 hrs Surf.Area= 5,136 sf Storage= 8,036 cf

Plug-Flow detention time= 197.0 min calculated for 0.477 af (75% of inflow)
Center-of-Mass det. time= 93.1 min (862.1 - 769.0)

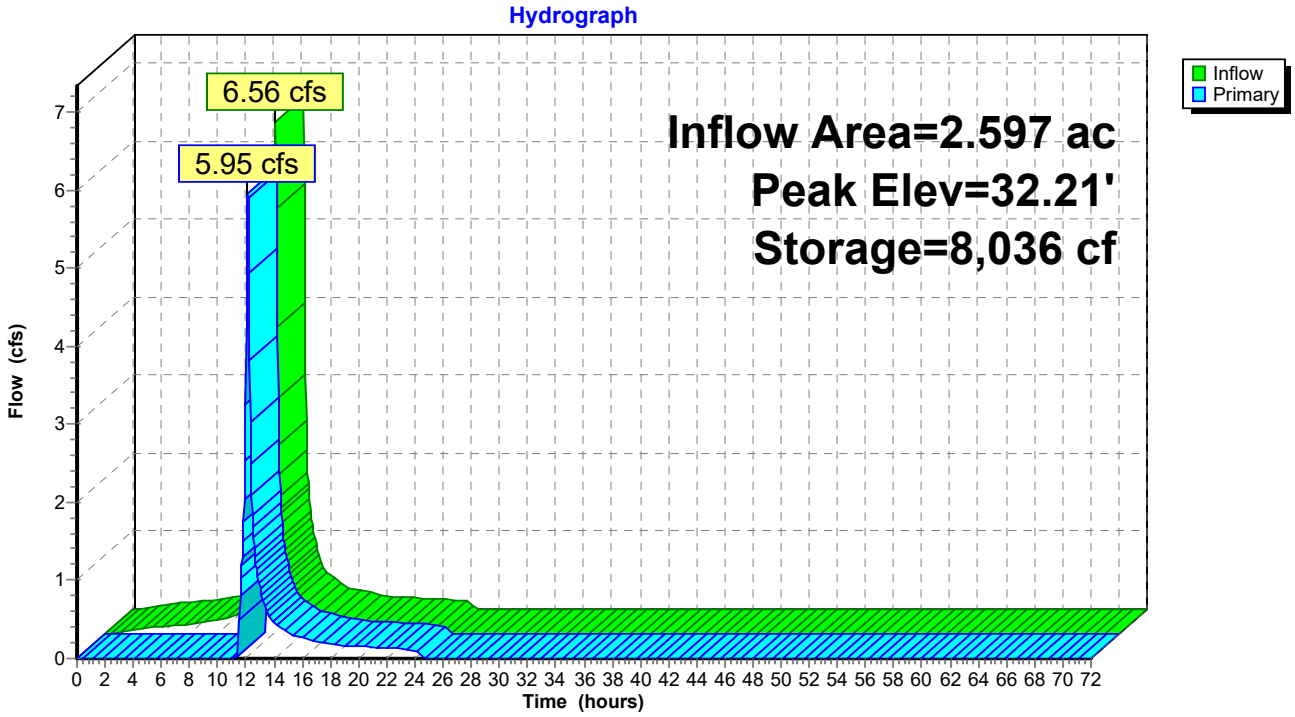
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.82 cfs @ 12.14 hrs HW=32.21' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 5.82 cfs @ 1.57 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

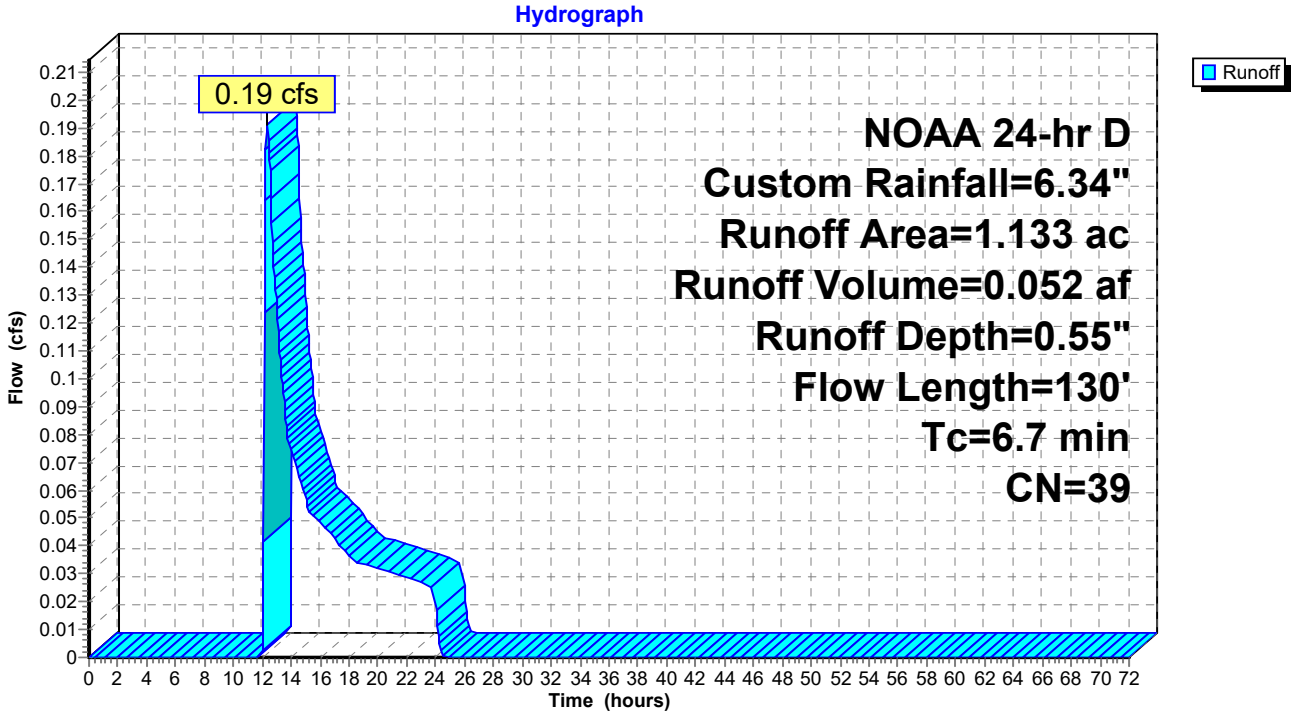
Runoff = 0.19 cfs @ 12.34 hrs, Volume= 0.052 af, Depth= 0.55"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 2.21" for Custom event
Inflow = 4.42 cfs @ 12.10 hrs, Volume= 0.459 af
Outflow = 3.64 cfs @ 12.16 hrs, Volume= 0.394 af, Atten= 18%, Lag= 3.6 min
Primary = 3.64 cfs @ 12.16 hrs, Volume= 0.394 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.86' @ 12.16 hrs Surf.Area= 6,187 sf Storage= 7,220 cf

Plug-Flow detention time= 306.9 min calculated for 0.394 af (86% of inflow)
Center-of-Mass det. time= 233.3 min (1,017.5 - 784.2)

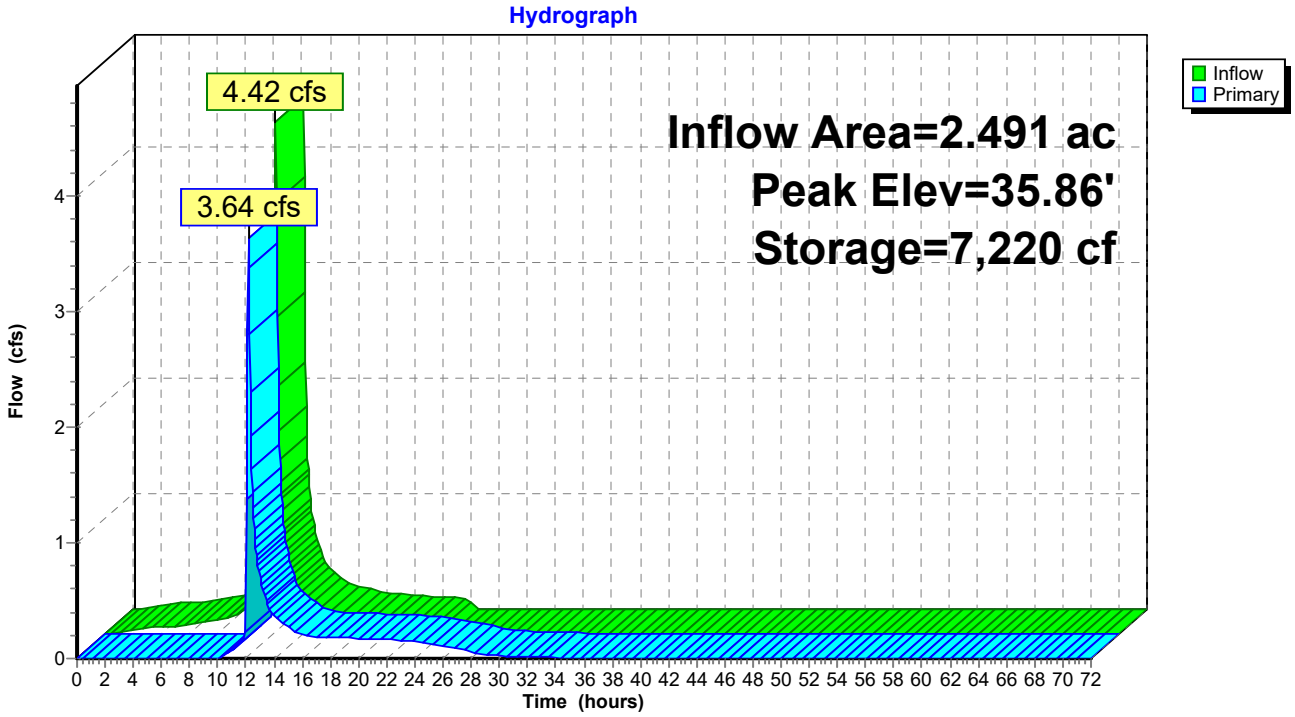
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.53 cfs @ 12.16 hrs HW=35.86' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.21 cfs @ 4.26 fps)
2=Orifice/Grate (Weir Controls 3.32 cfs @ 1.30 fps)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

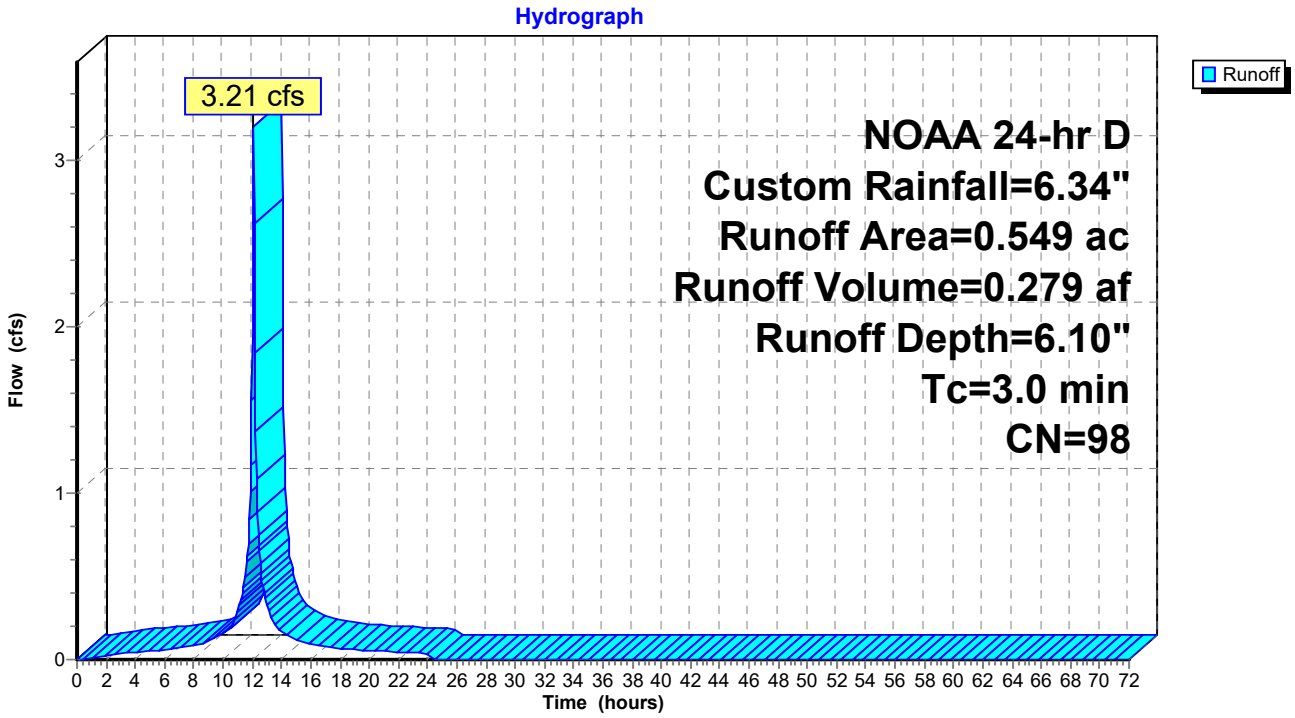
Runoff = 3.21 cfs @ 12.10 hrs, Volume= 0.279 af, Depth= 6.10"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

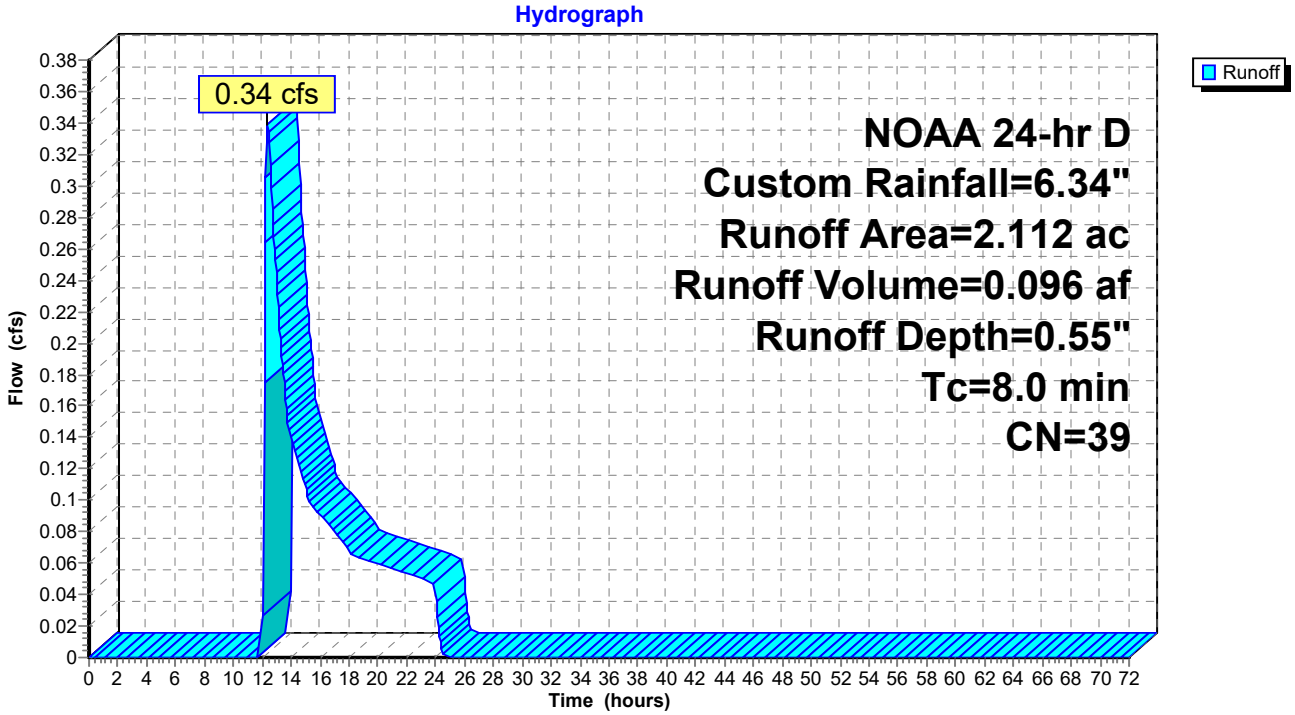
Runoff = 0.34 cfs @ 12.37 hrs, Volume= 0.096 af, Depth= 0.55"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

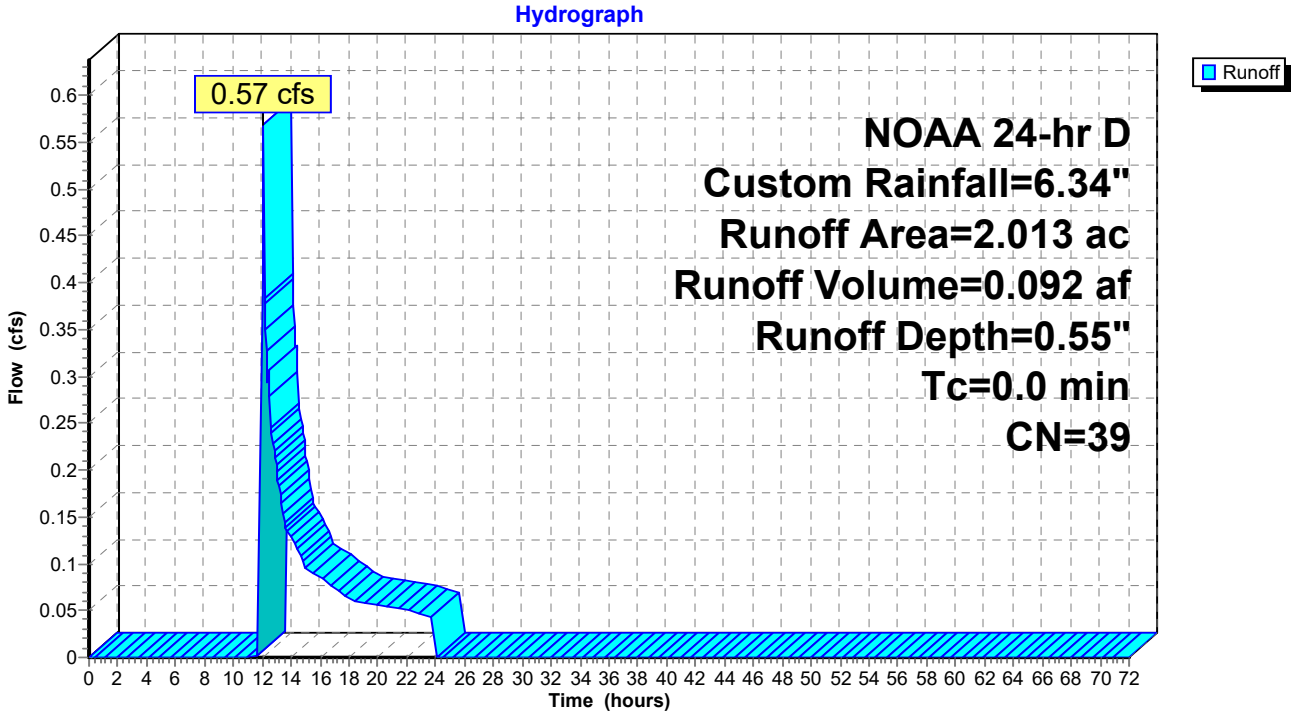
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.57 cfs @ 12.10 hrs, Volume= 0.092 af, Depth= 0.55"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

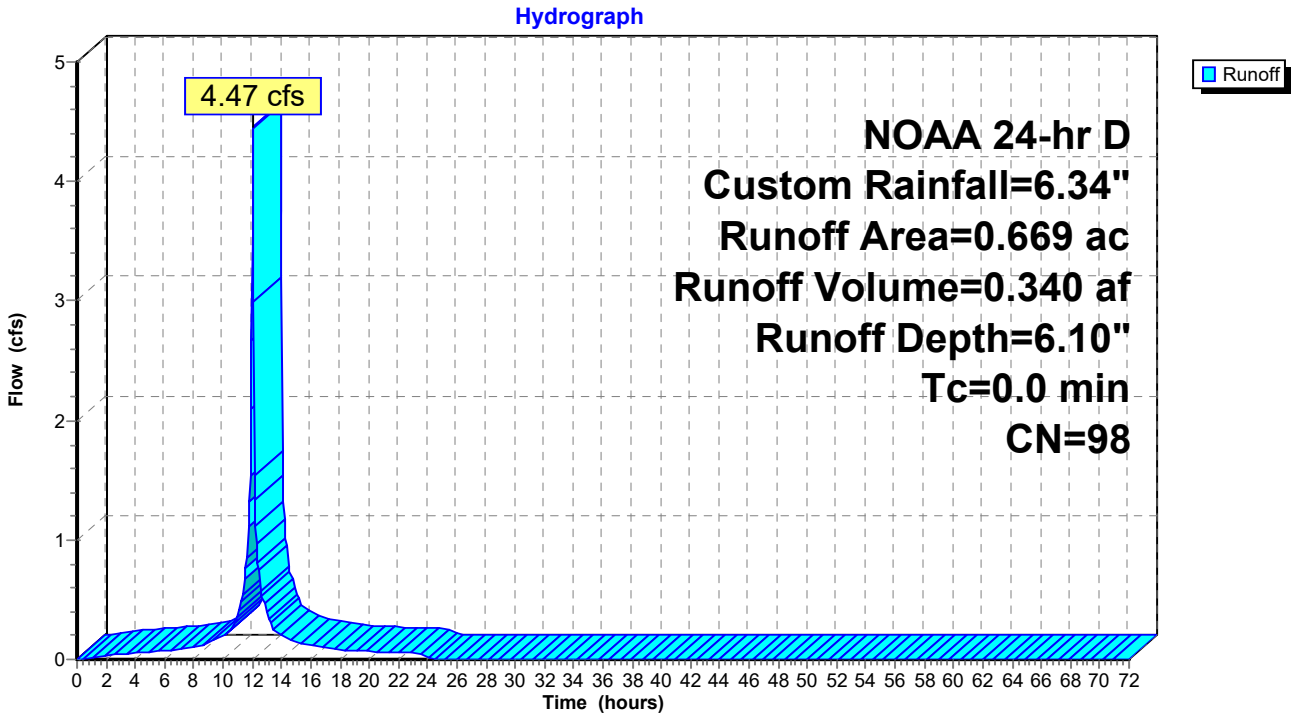
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 4.47 cfs @ 12.04 hrs, Volume= 0.340 af, Depth= 6.10"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

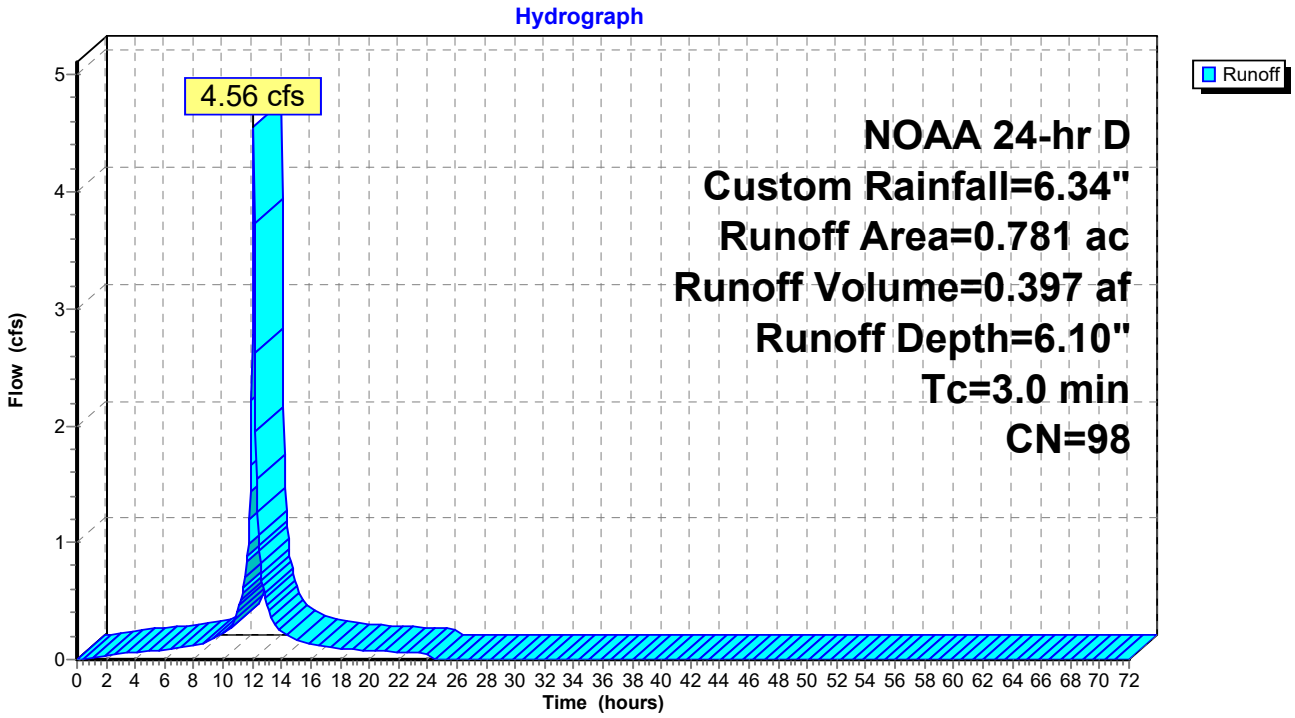
Runoff = 4.56 cfs @ 12.10 hrs, Volume= 0.397 af, Depth= 6.10"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

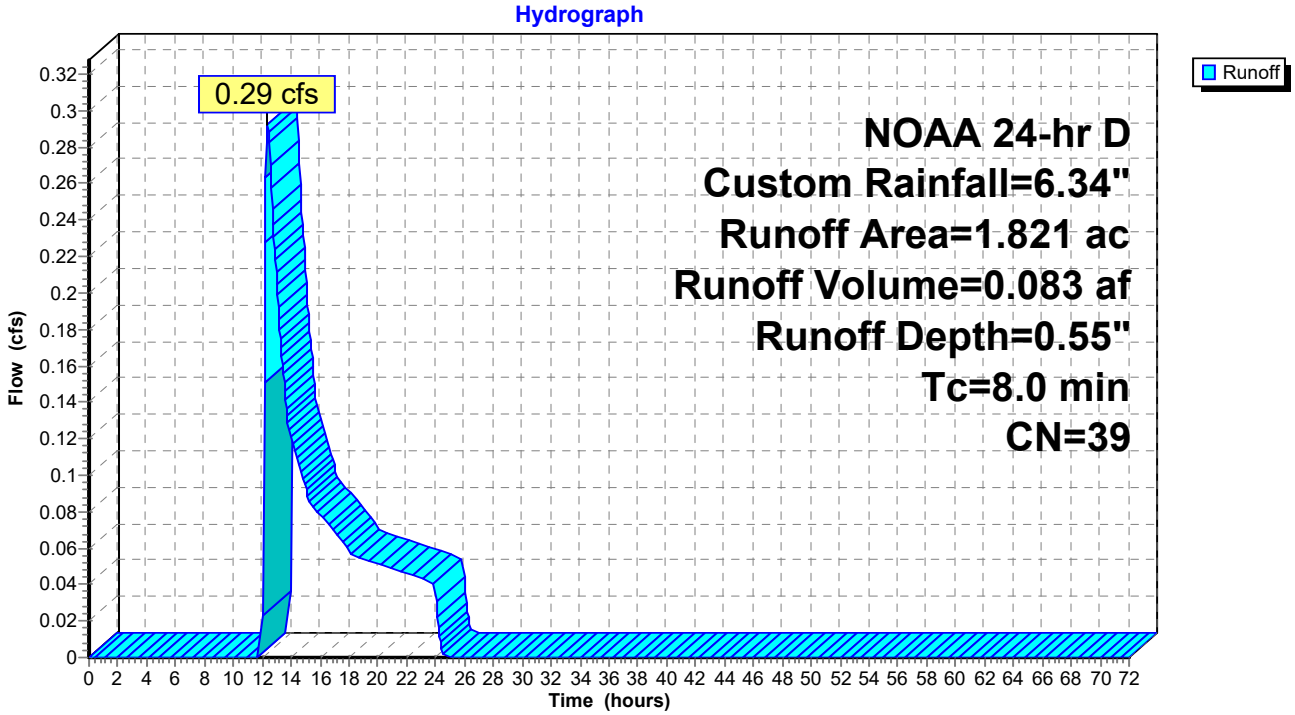
Runoff = 0.29 cfs @ 12.37 hrs, Volume= 0.083 af, Depth= 0.55"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

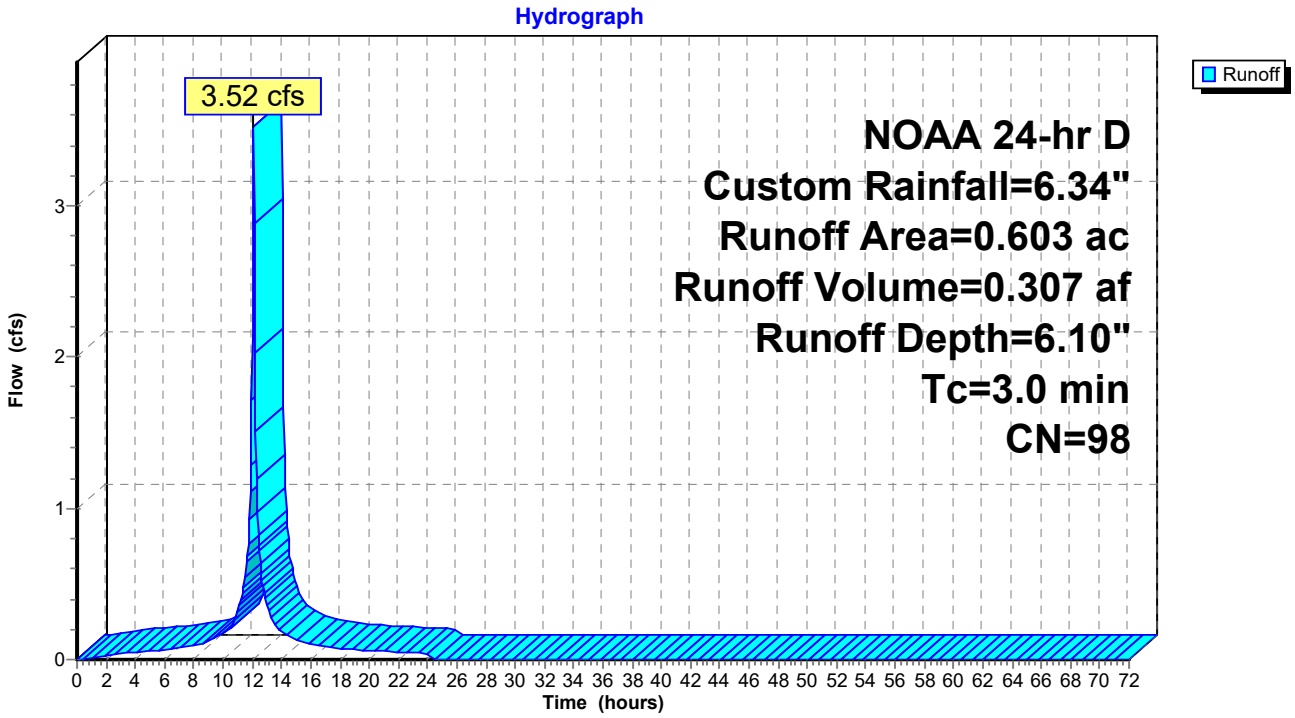
Runoff = 3.52 cfs @ 12.10 hrs, Volume= 0.307 af, Depth= 6.10"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

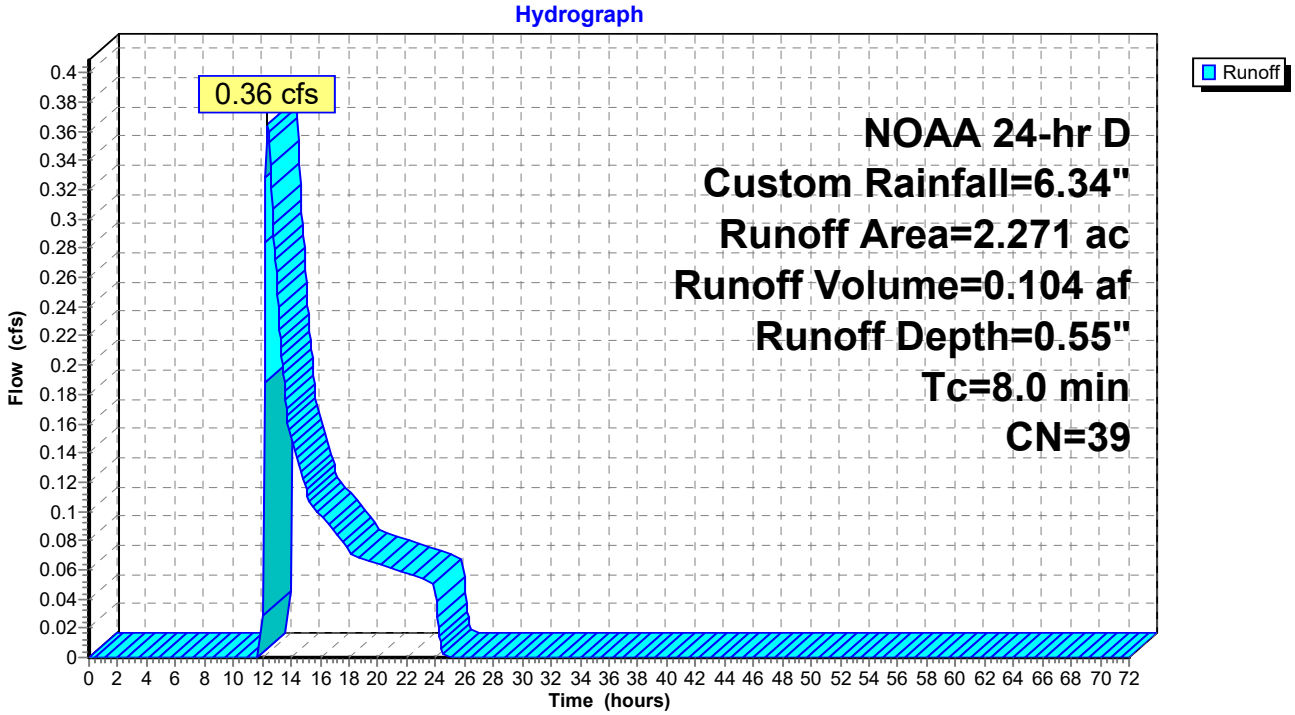
Runoff = 0.36 cfs @ 12.37 hrs, Volume= 0.104 af, Depth= 0.55"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

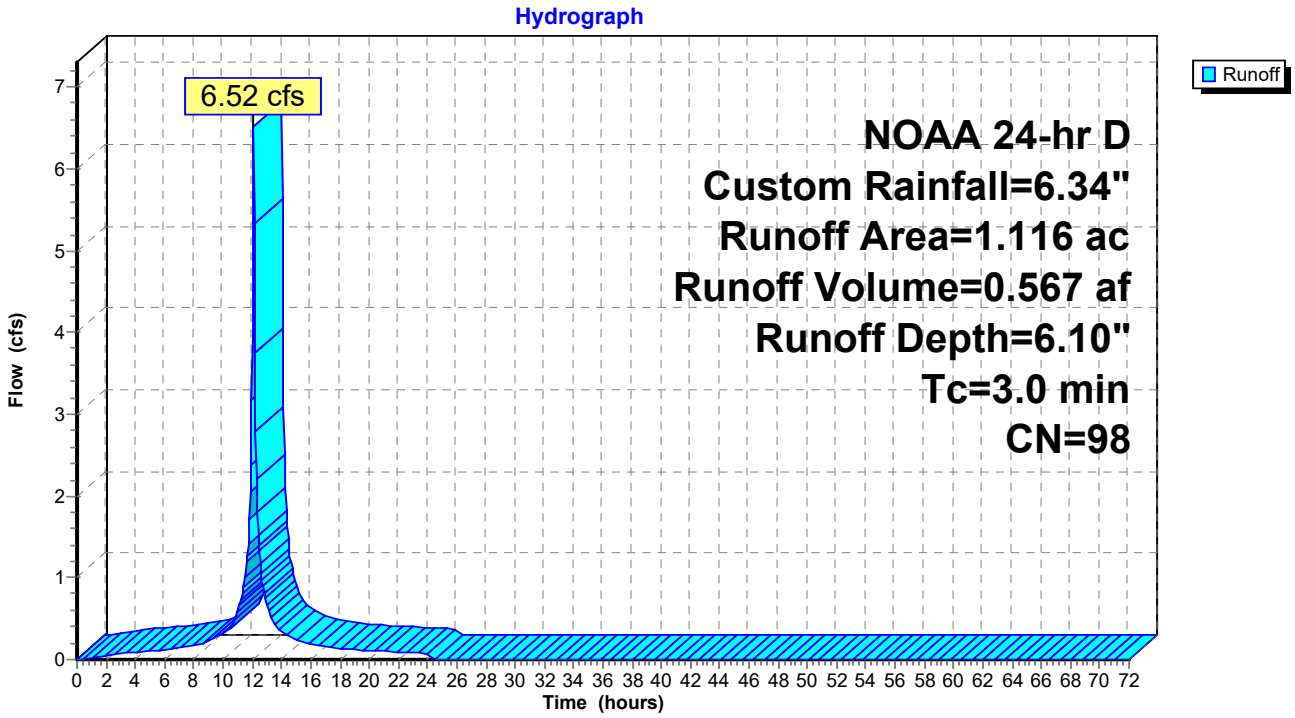
Runoff = 6.52 cfs @ 12.10 hrs, Volume= 0.567 af, Depth= 6.10"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

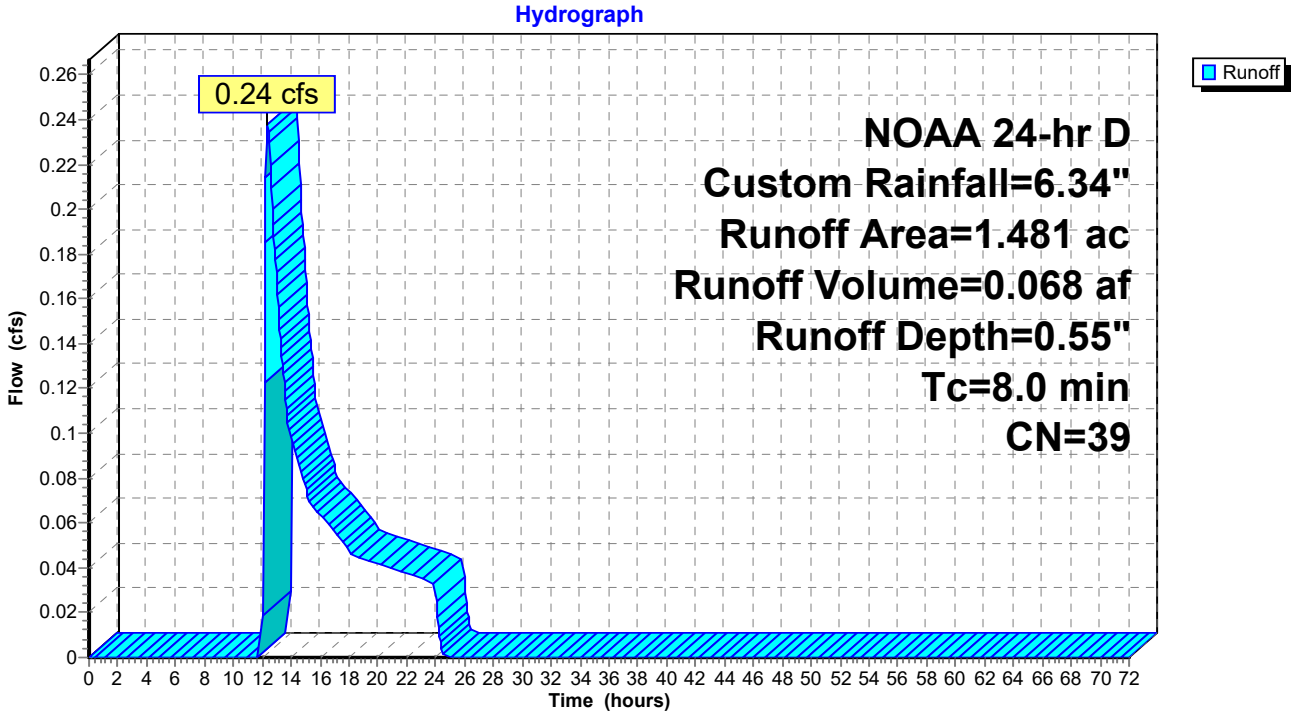
Runoff = 0.24 cfs @ 12.37 hrs, Volume= 0.068 af, Depth= 0.55"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

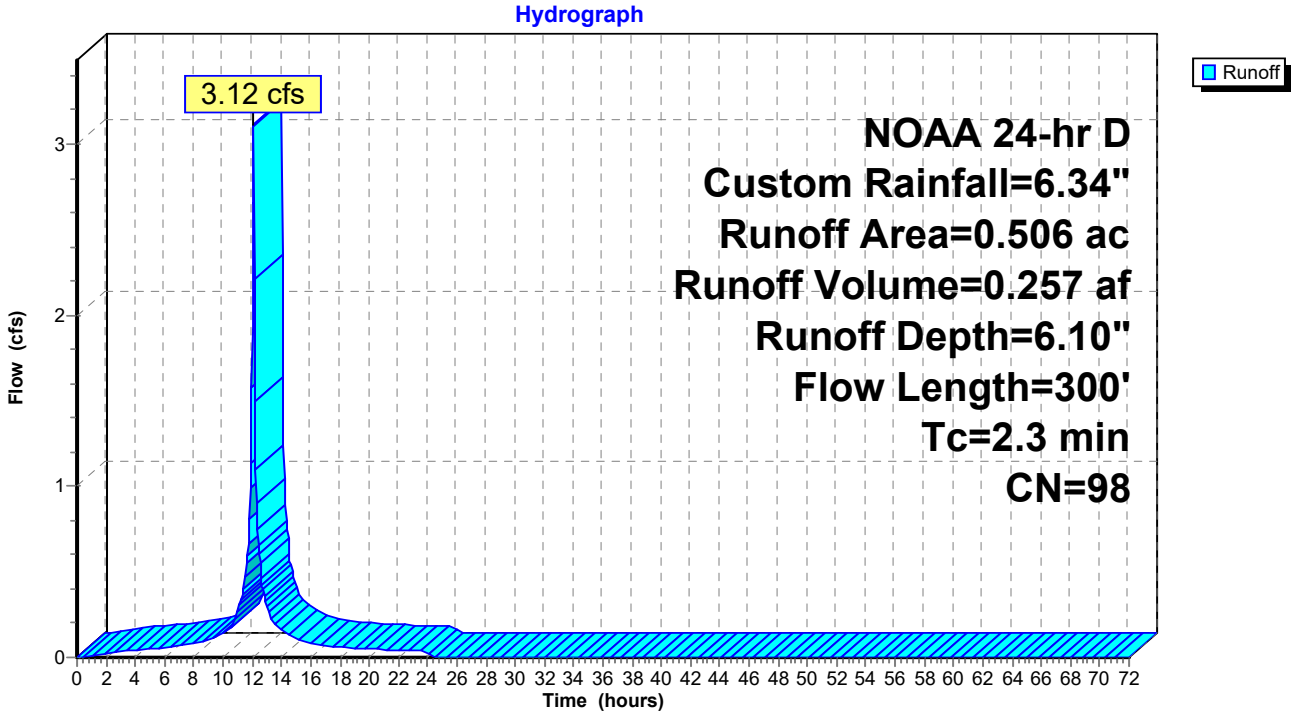
Runoff = 3.12 cfs @ 12.09 hrs, Volume= 0.257 af, Depth= 6.10"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

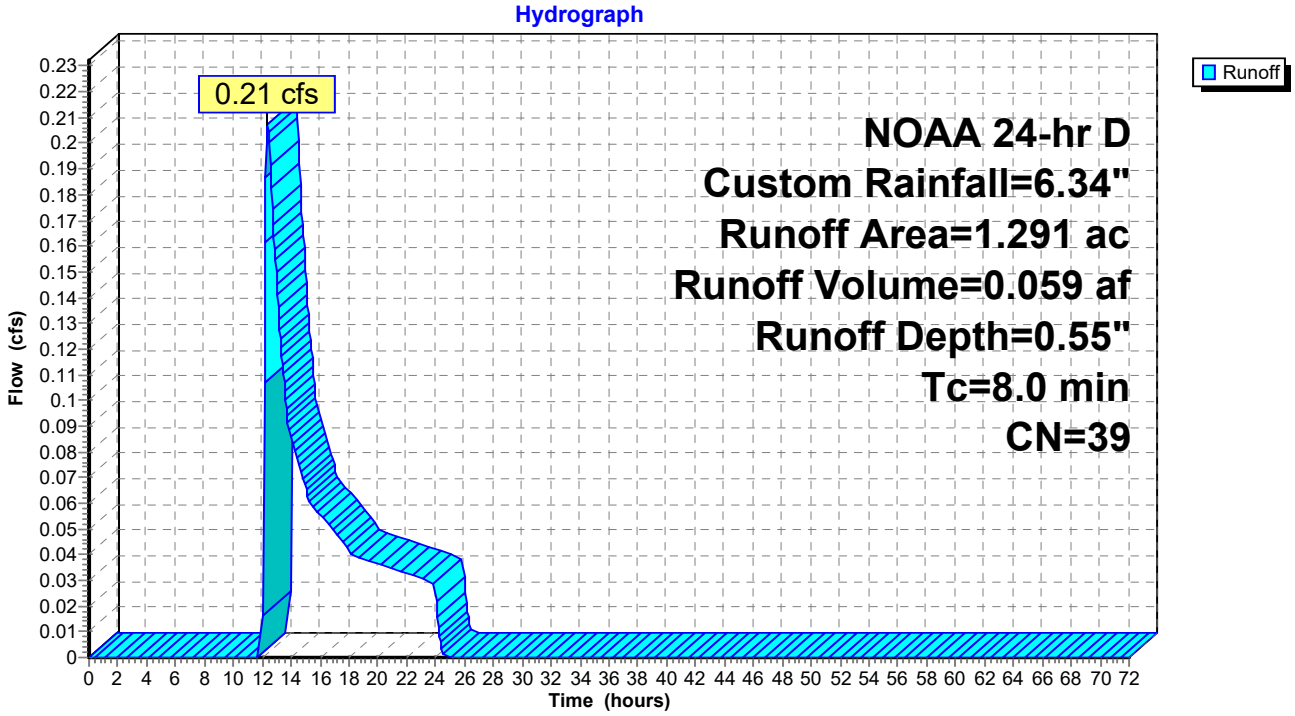
Runoff = 0.21 cfs @ 12.37 hrs, Volume= 0.059 af, Depth= 0.55"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

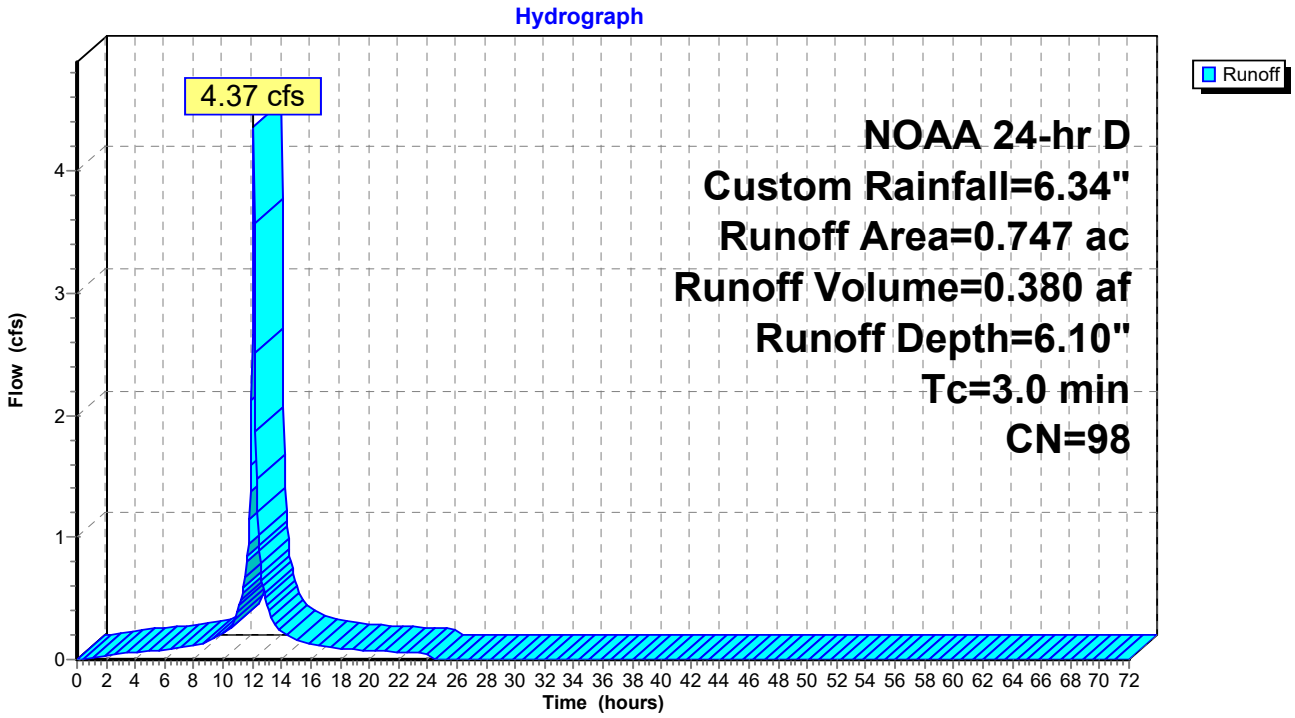
Runoff = 4.37 cfs @ 12.10 hrs, Volume= 0.380 af, Depth= 6.10"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

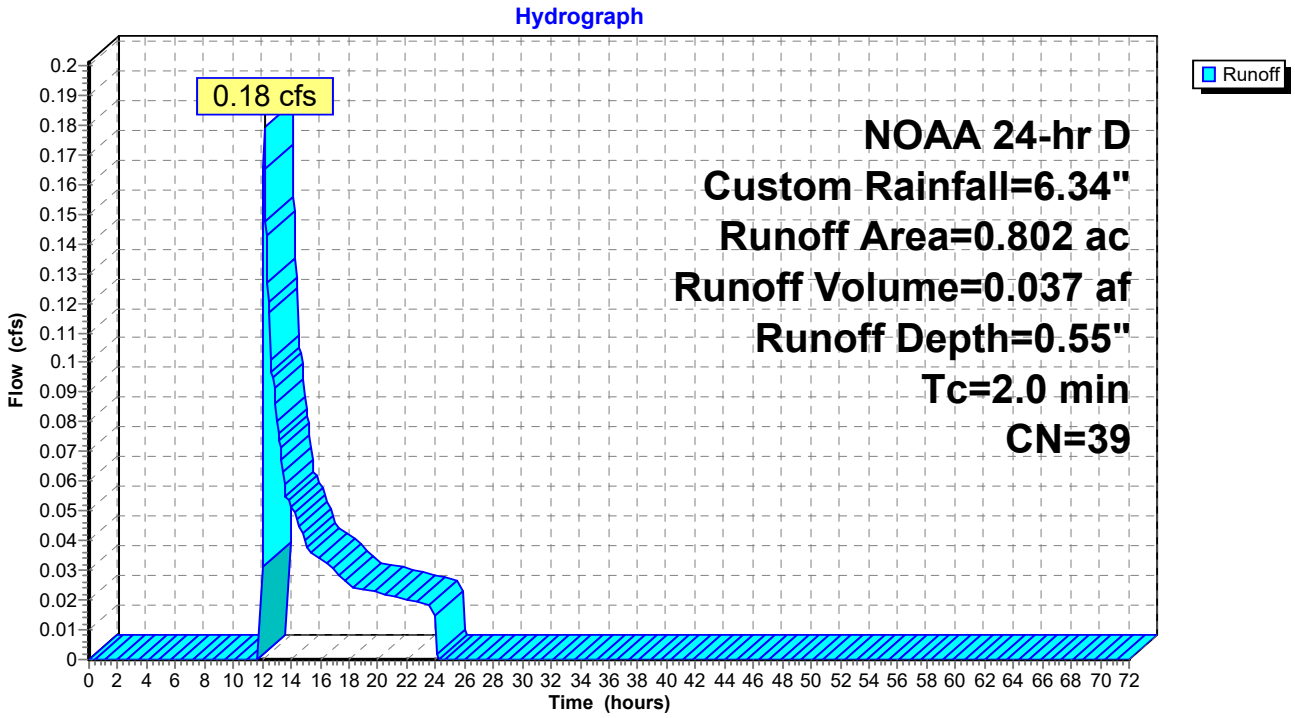
Runoff = 0.18 cfs @ 12.15 hrs, Volume= 0.037 af, Depth= 0.55"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

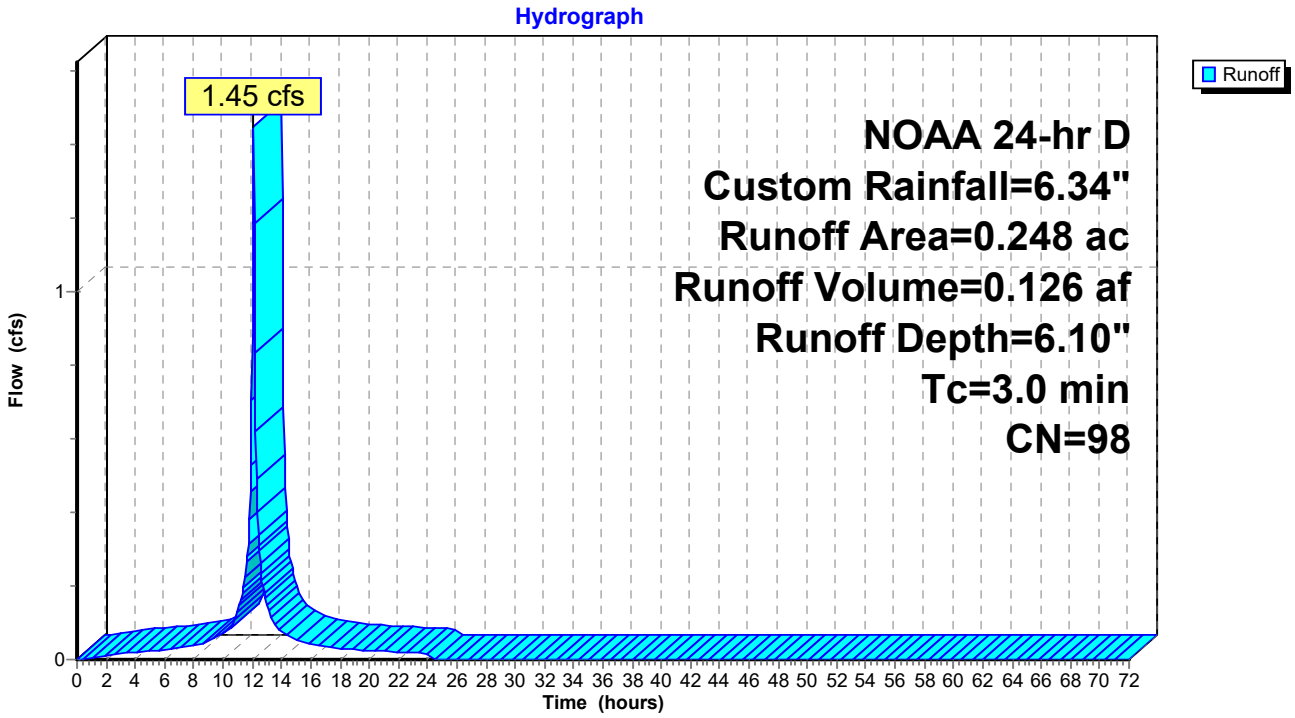
Runoff = 1.45 cfs @ 12.10 hrs, Volume= 0.126 af, Depth= 6.10"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

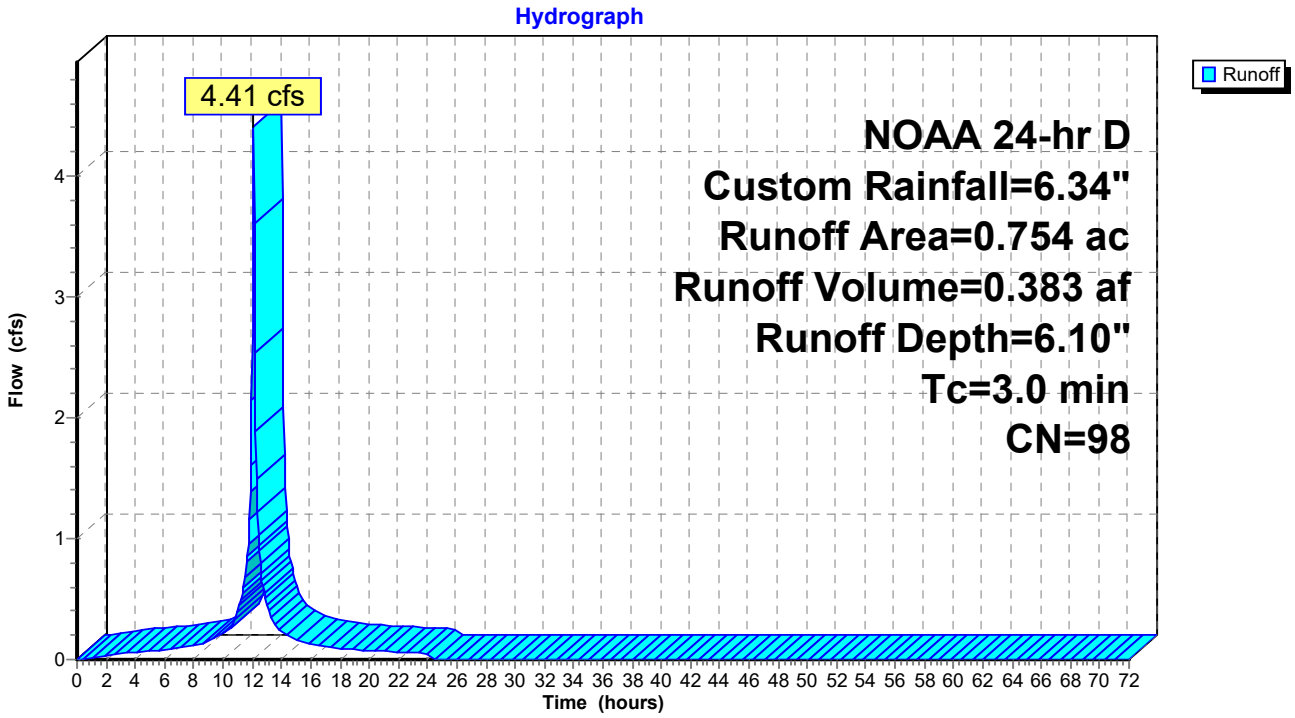
Runoff = 4.41 cfs @ 12.10 hrs, Volume= 0.383 af, Depth= 6.10"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

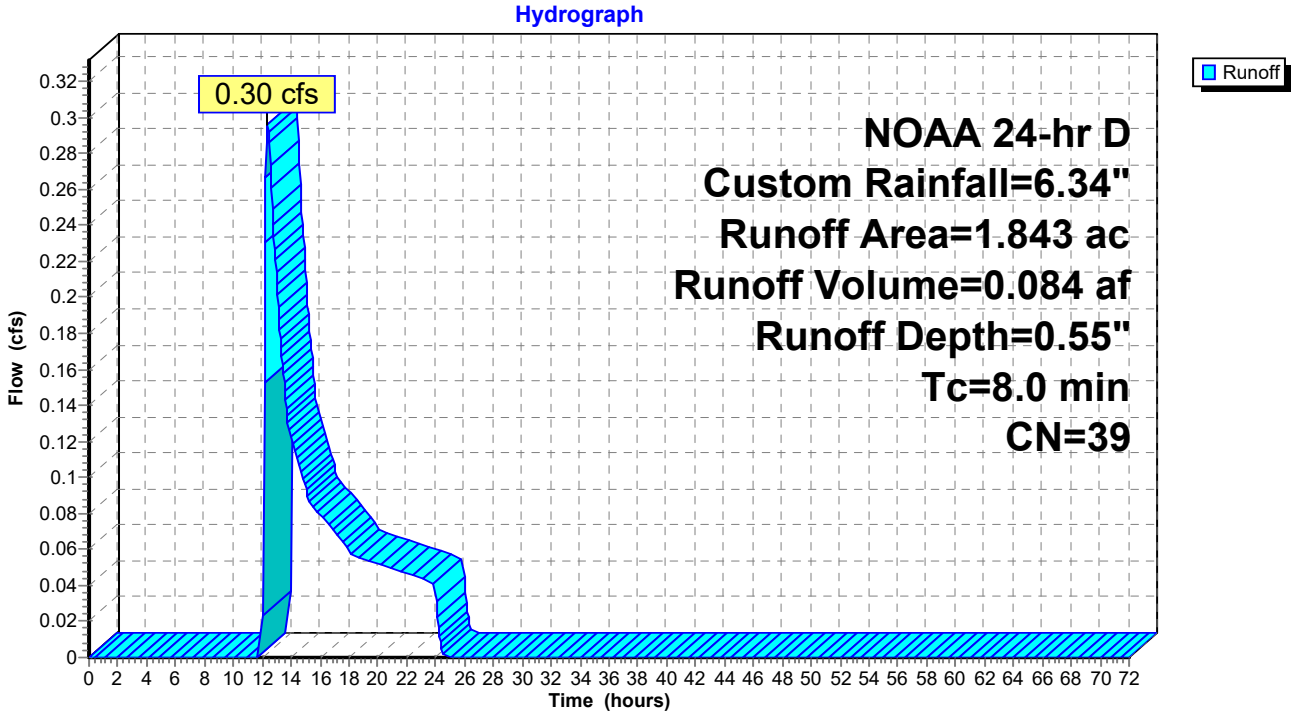
Runoff = 0.30 cfs @ 12.37 hrs, Volume= 0.084 af, Depth= 0.55"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

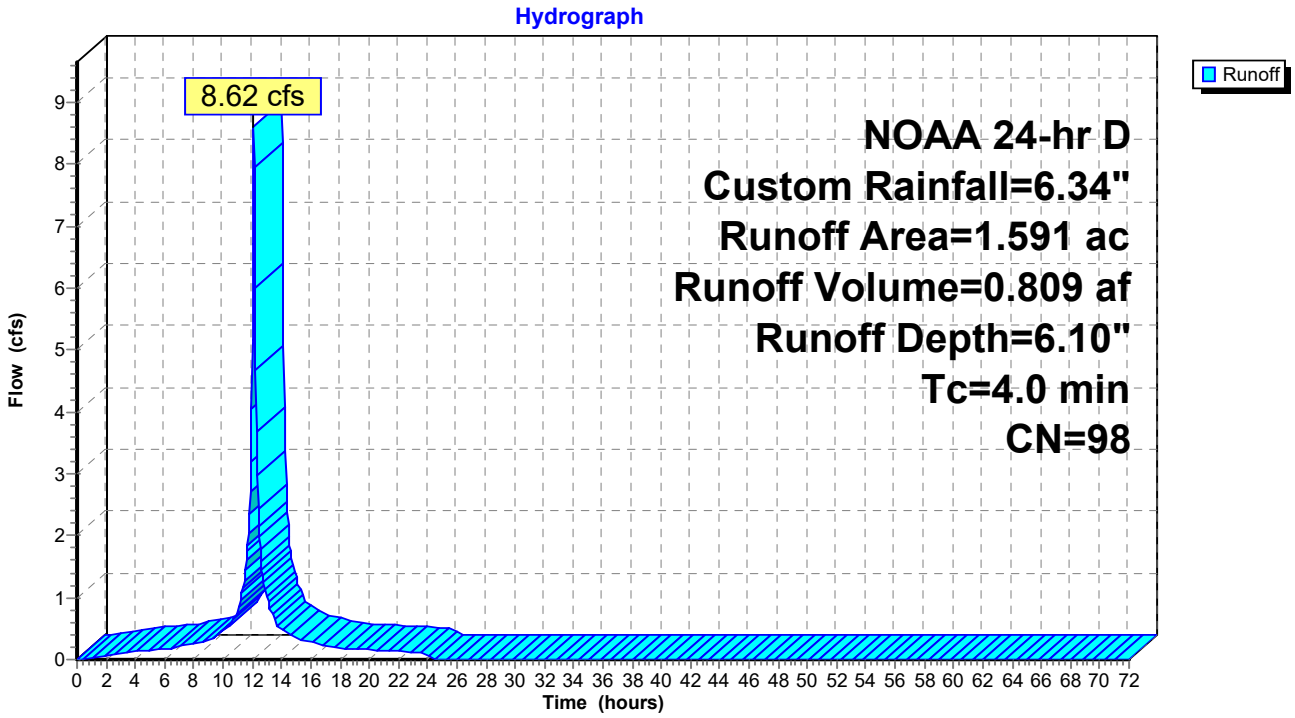
Runoff = 8.62 cfs @ 12.11 hrs, Volume= 0.809 af, Depth= 6.10"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

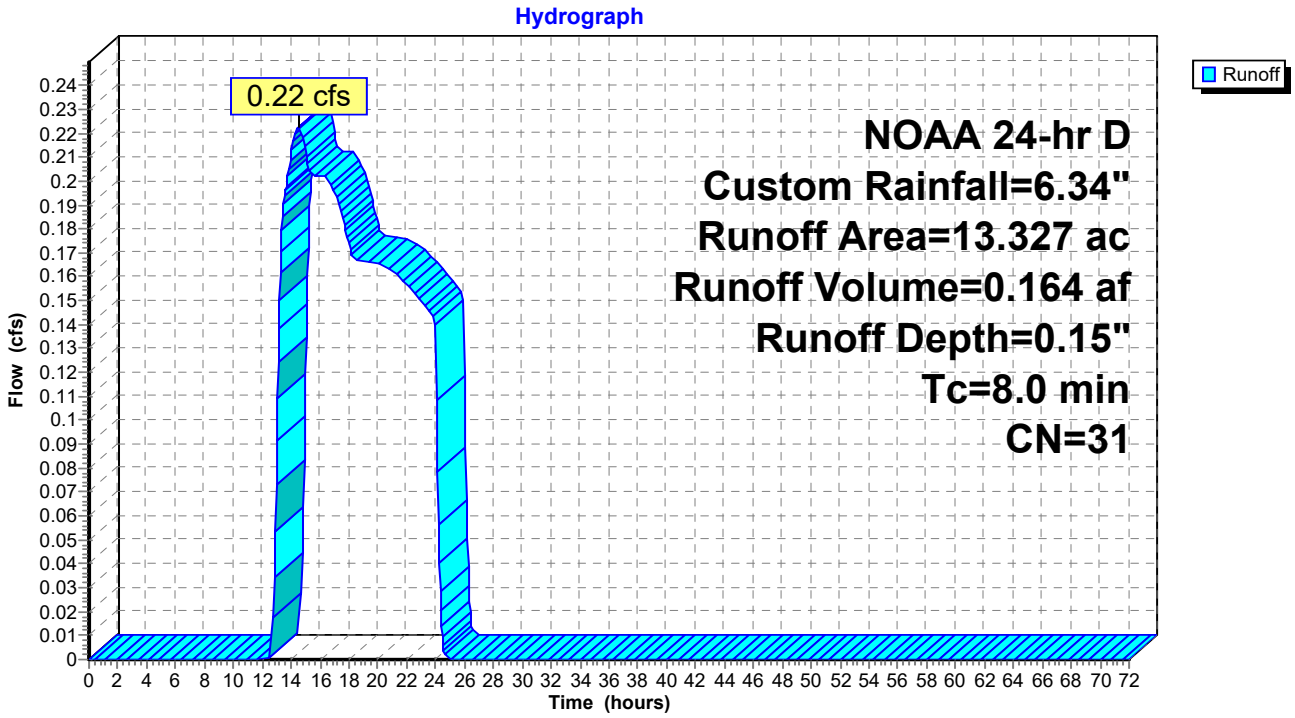
Runoff = 0.22 cfs @ 14.47 hrs, Volume= 0.164 af, Depth= 0.15"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

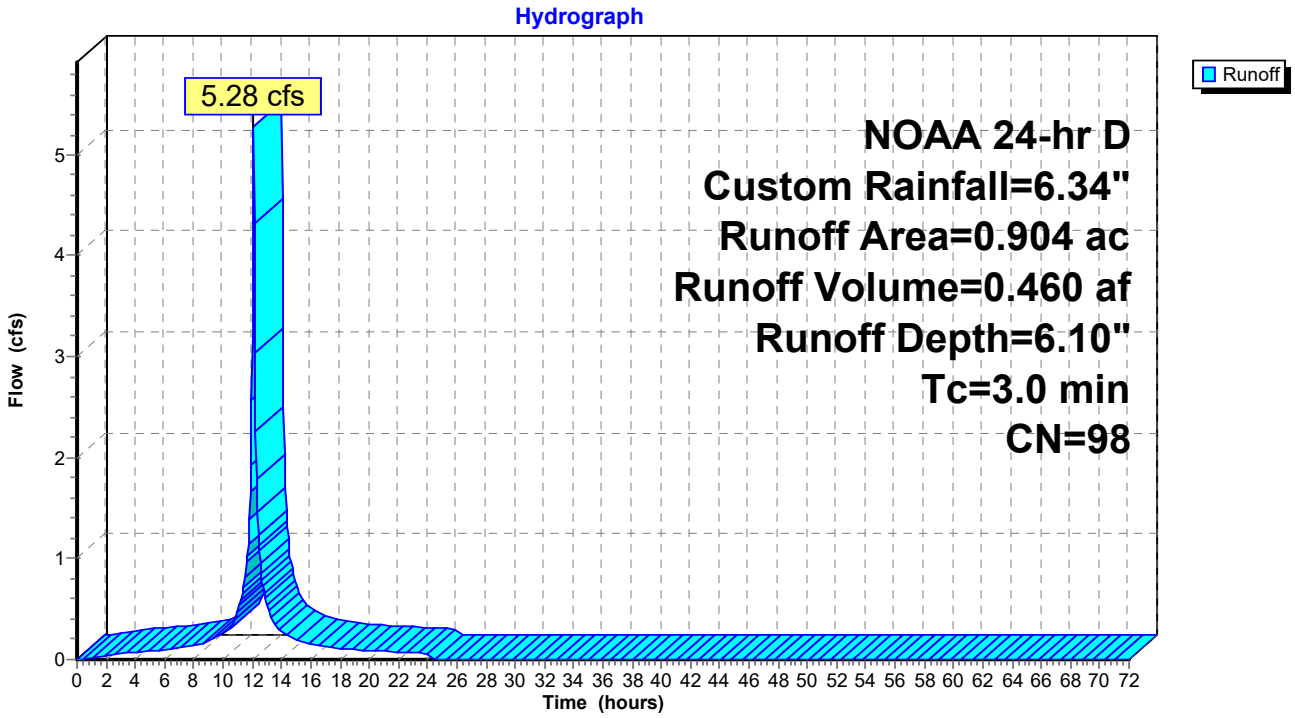
Runoff = 5.28 cfs @ 12.10 hrs, Volume= 0.460 af, Depth= 6.10"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

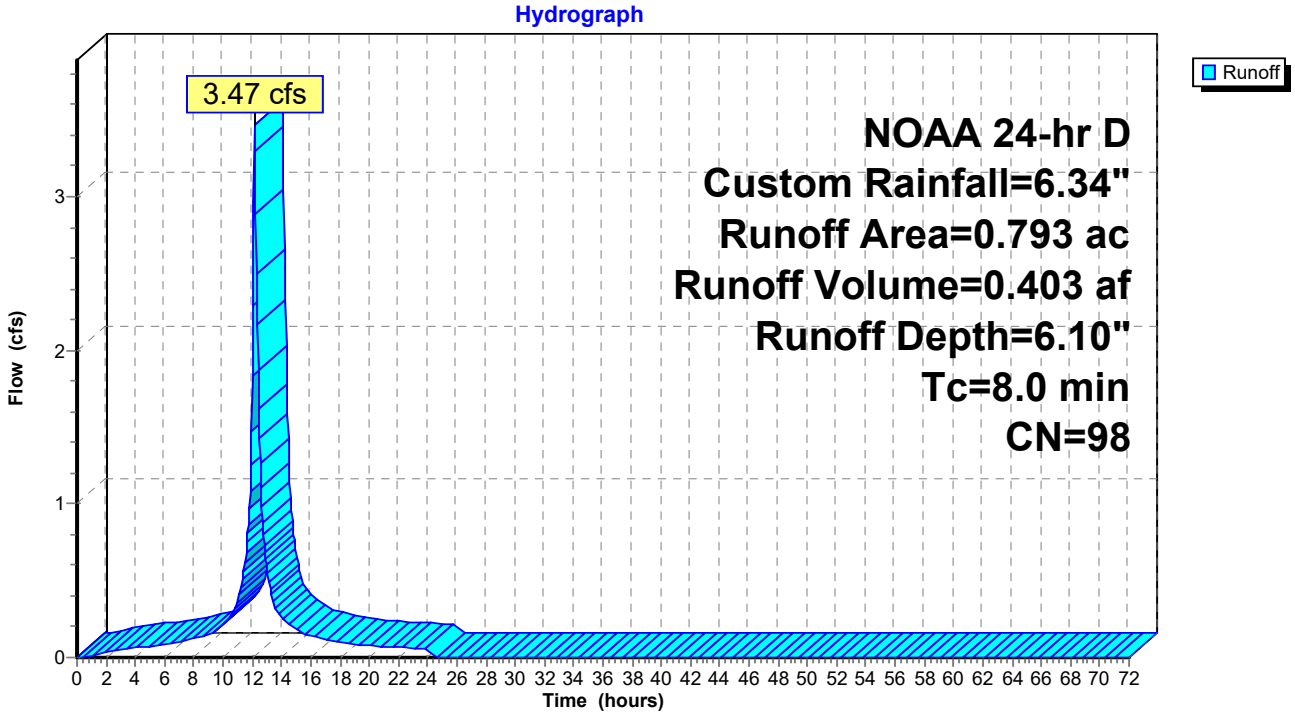
Runoff = 3.47 cfs @ 12.16 hrs, Volume= 0.403 af, Depth= 6.10"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

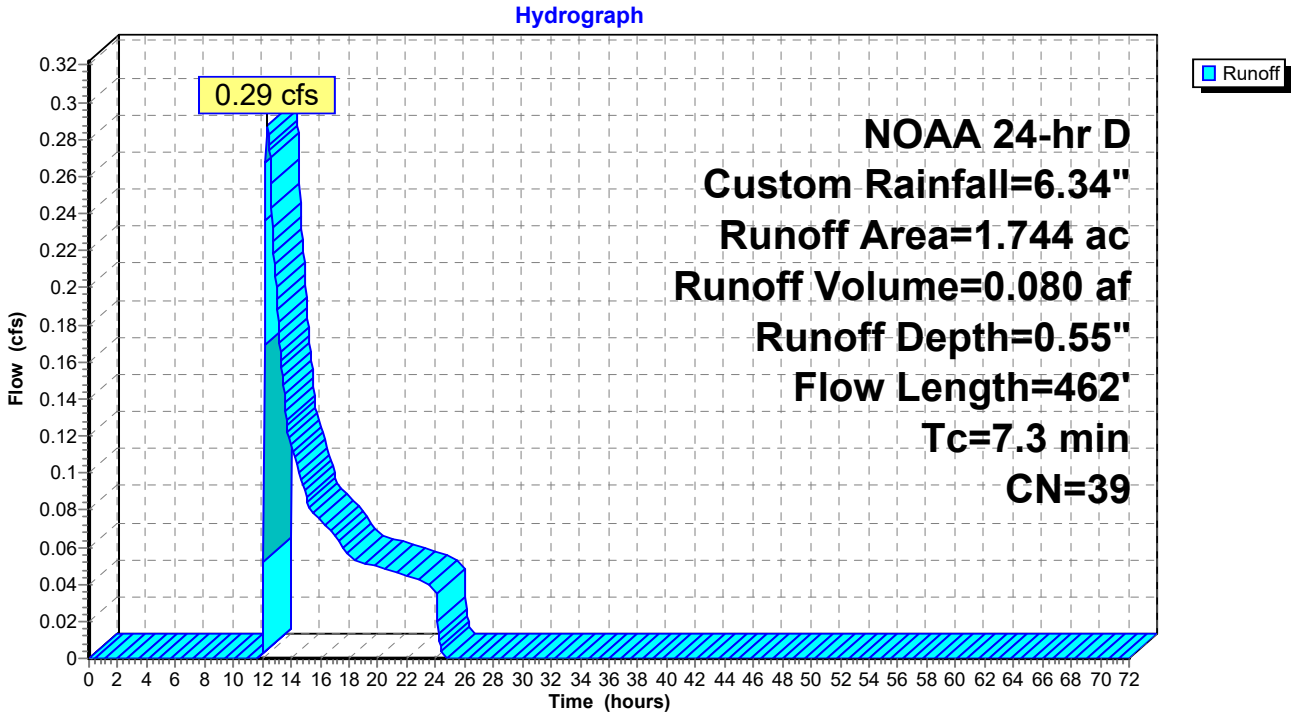
Runoff = 0.29 cfs @ 12.35 hrs, Volume= 0.080 af, Depth= 0.55"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[79] Warning: Submerged Pond 69P Primary device # 1 by 0.51'
[81] Warning: Exceeded Pond 88P by 1.07' @ 29.15 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth = 2.02" for Custom event
Inflow = 8.52 cfs @ 12.14 hrs, Volume= 1.534 af
Outflow = 3.36 cfs @ 12.63 hrs, Volume= 1.352 af, Atten= 61%, Lag= 29.7 min
Primary = 3.36 cfs @ 12.63 hrs, Volume= 1.352 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.35' @ 12.63 hrs Surf.Area= 8,880 sf Storage= 19,486 cf

Plug-Flow detention time= 446.0 min calculated for 1.351 af (88% of inflow)
Center-of-Mass det. time= 340.4 min (1,337.2 - 996.7)

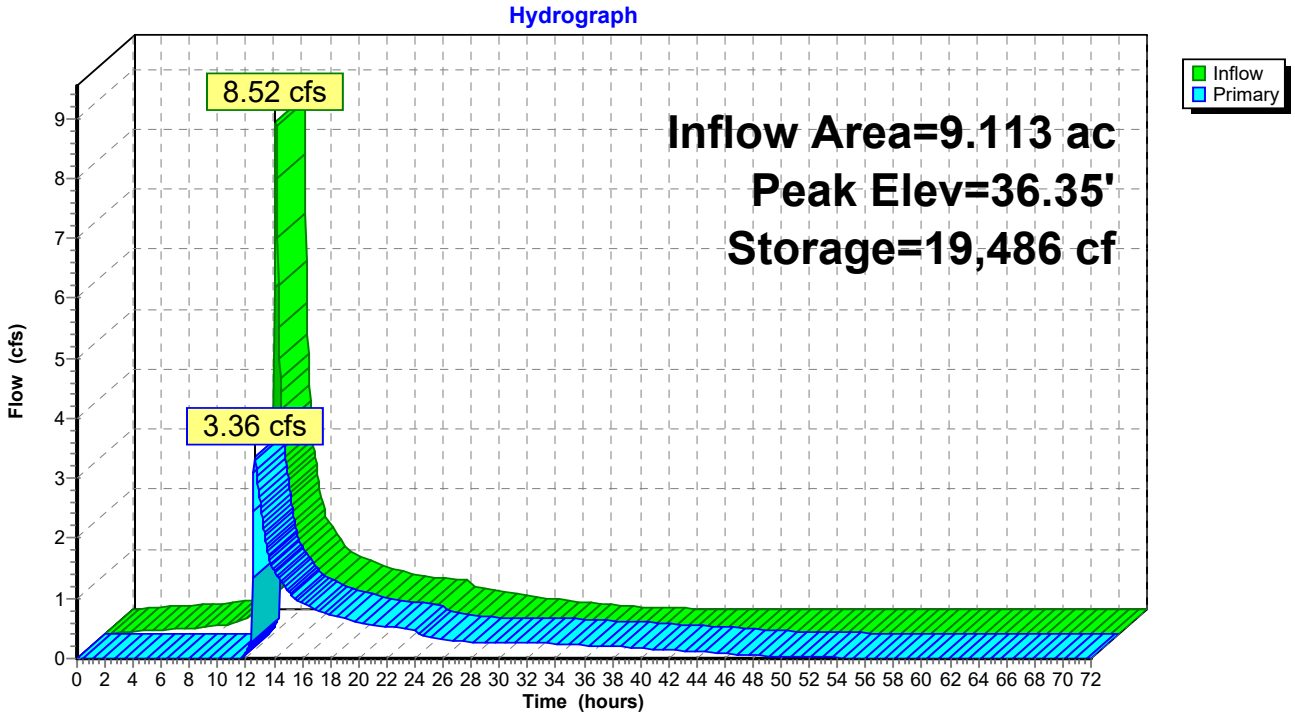
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.32 cfs @ 12.63 hrs HW=36.35' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.29 cfs @ 5.96 fps)
2=Orifice/Grate (Weir Controls 3.03 cfs @ 1.26 fps)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

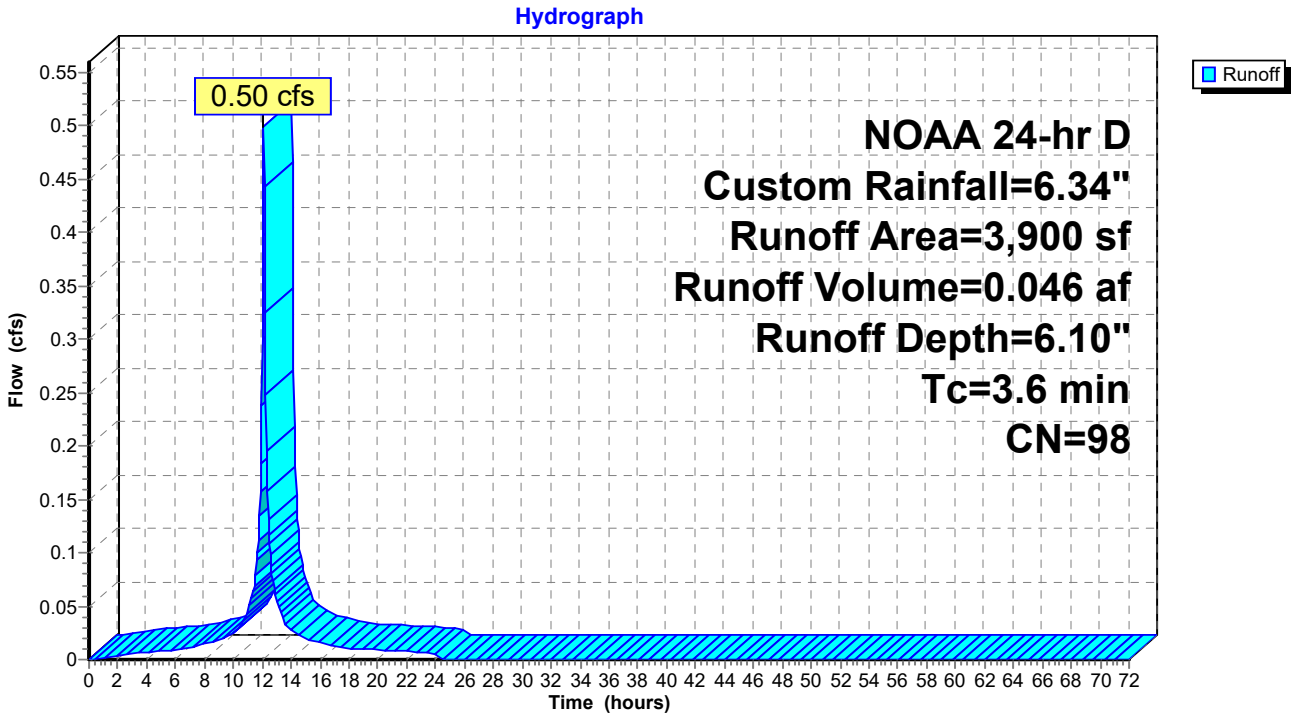
Runoff = 0.50 cfs @ 12.11 hrs, Volume= 0.046 af, Depth= 6.10"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

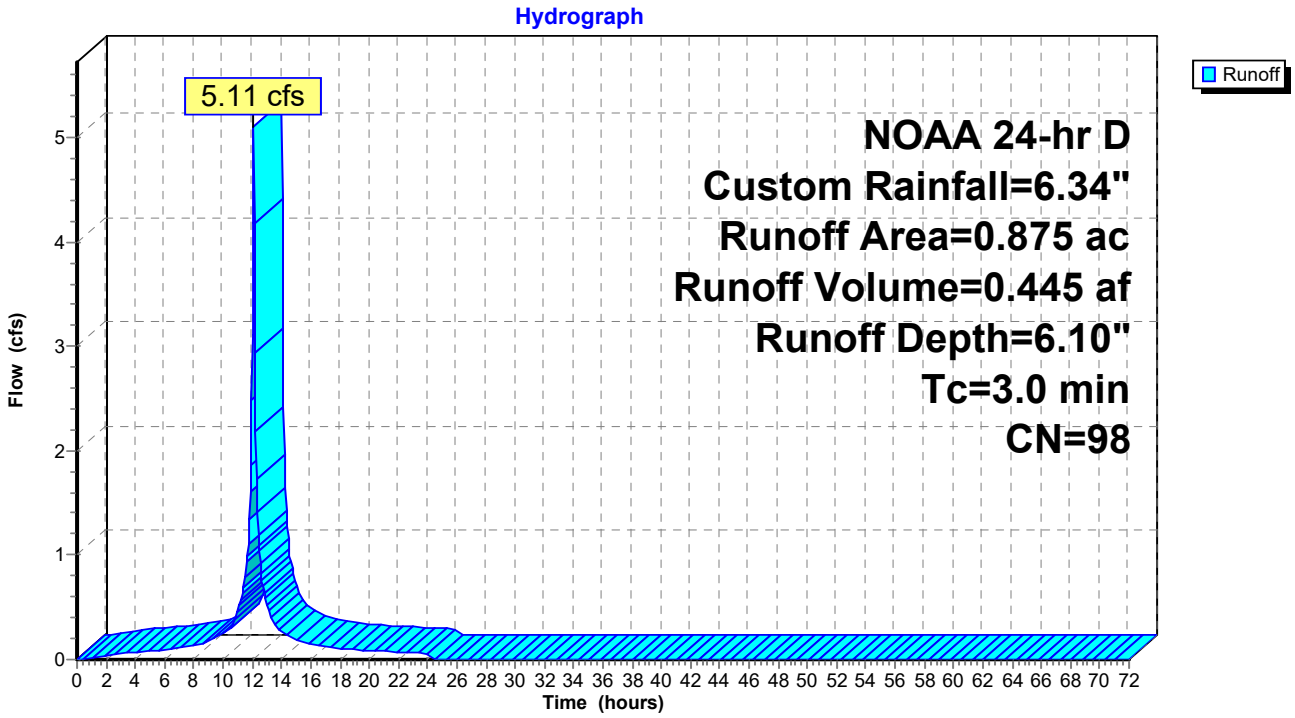
Runoff = 5.11 cfs @ 12.10 hrs, Volume= 0.445 af, Depth= 6.10"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

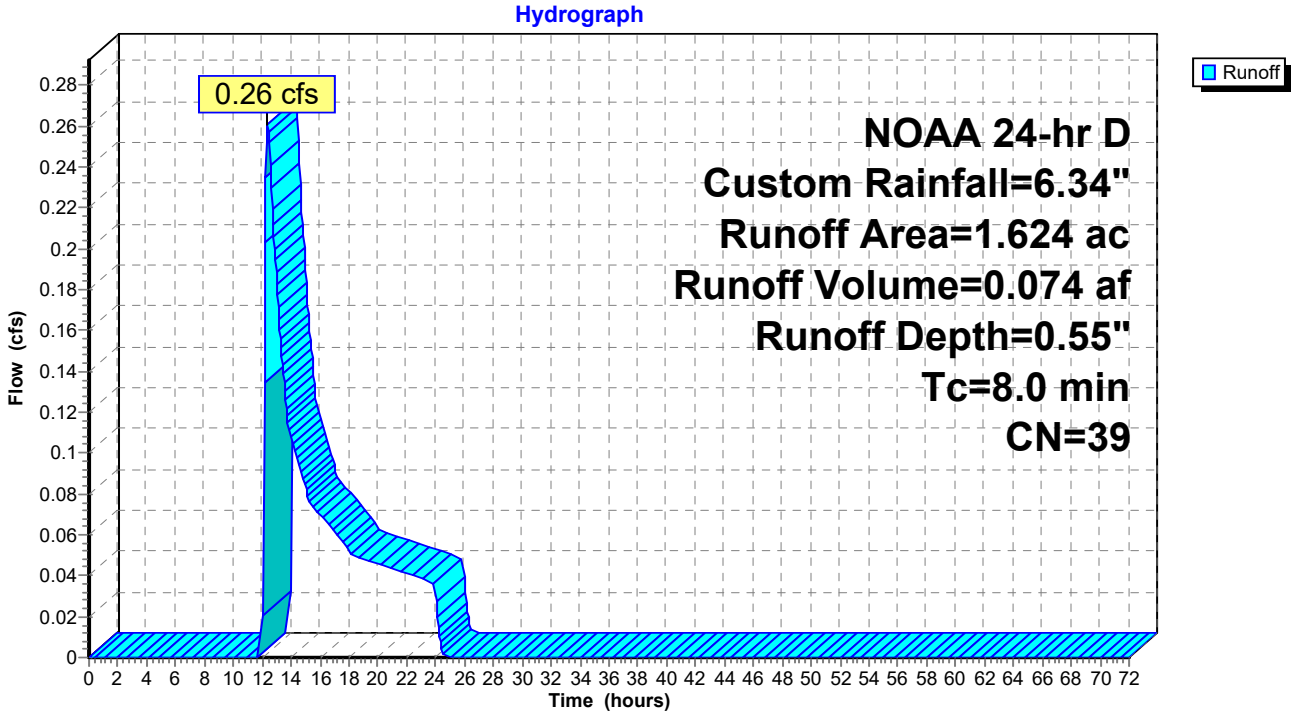
Runoff = 0.26 cfs @ 12.37 hrs, Volume= 0.074 af, Depth= 0.55"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

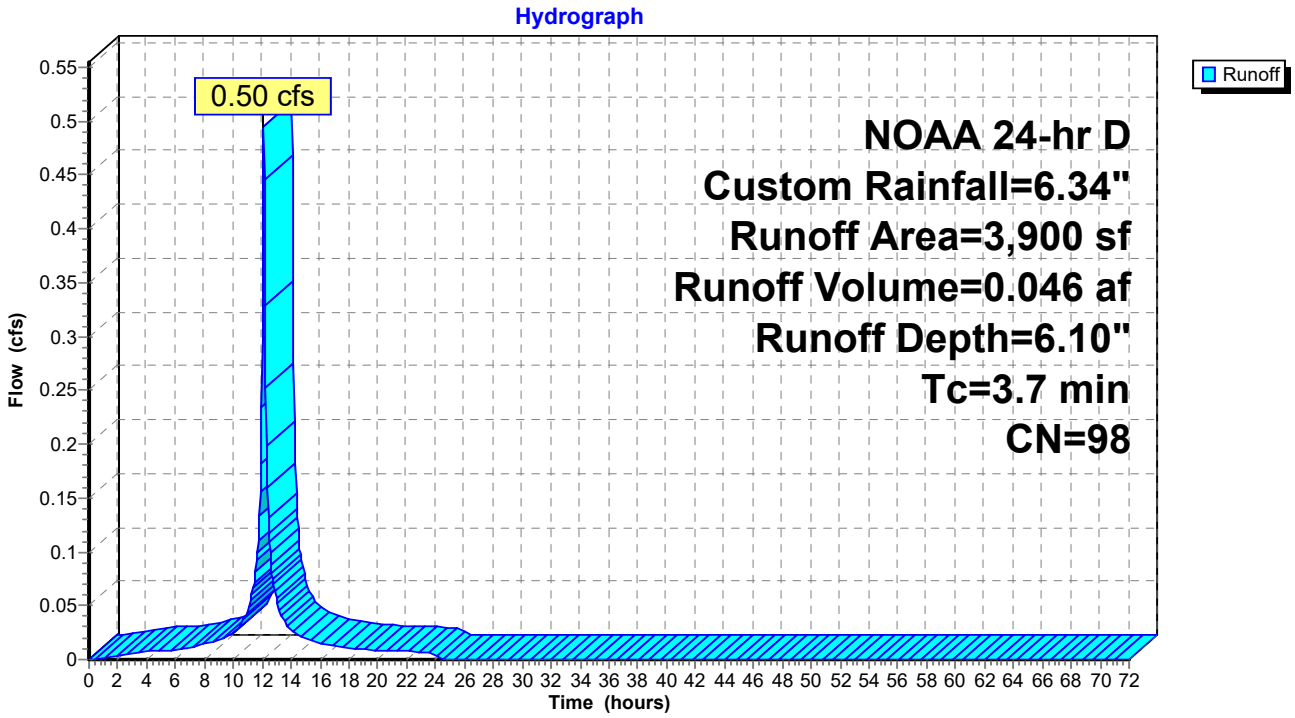
Runoff = 0.50 cfs @ 12.11 hrs, Volume= 0.046 af, Depth= 6.10"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

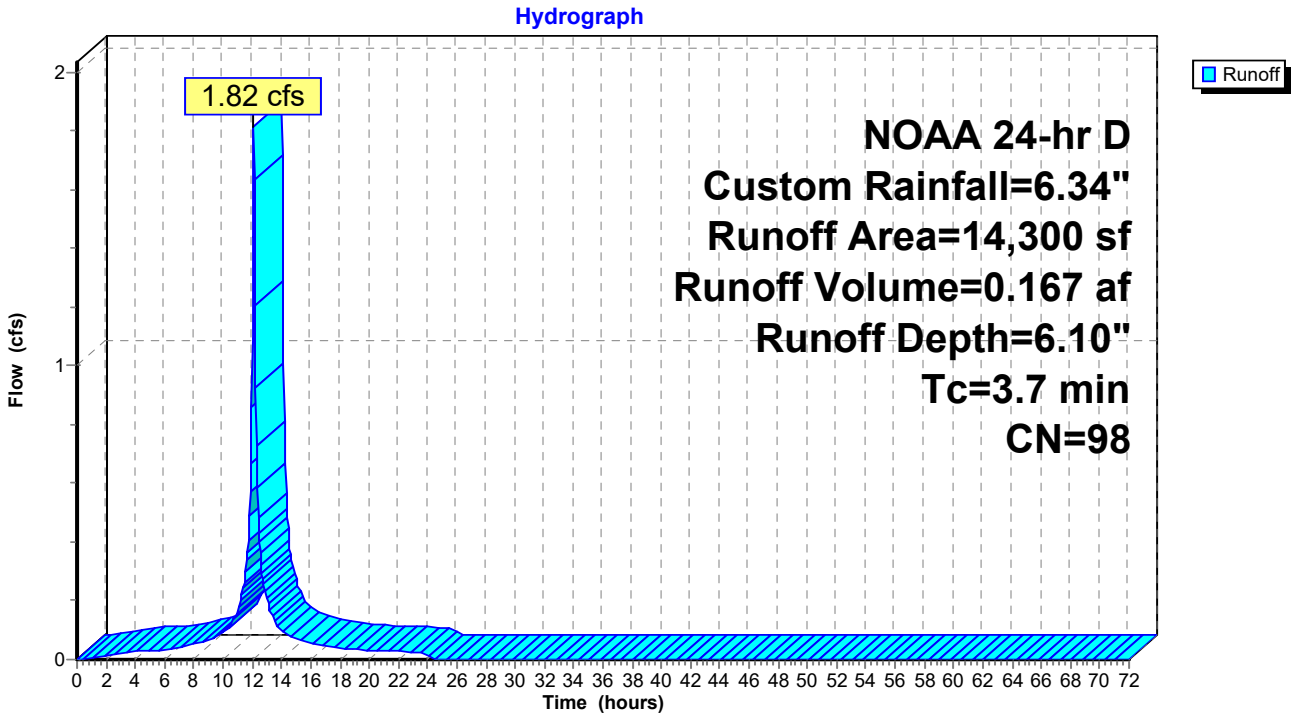
Runoff = 1.82 cfs @ 12.11 hrs, Volume= 0.167 af, Depth= 6.10"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 158% of capacity of segment #1

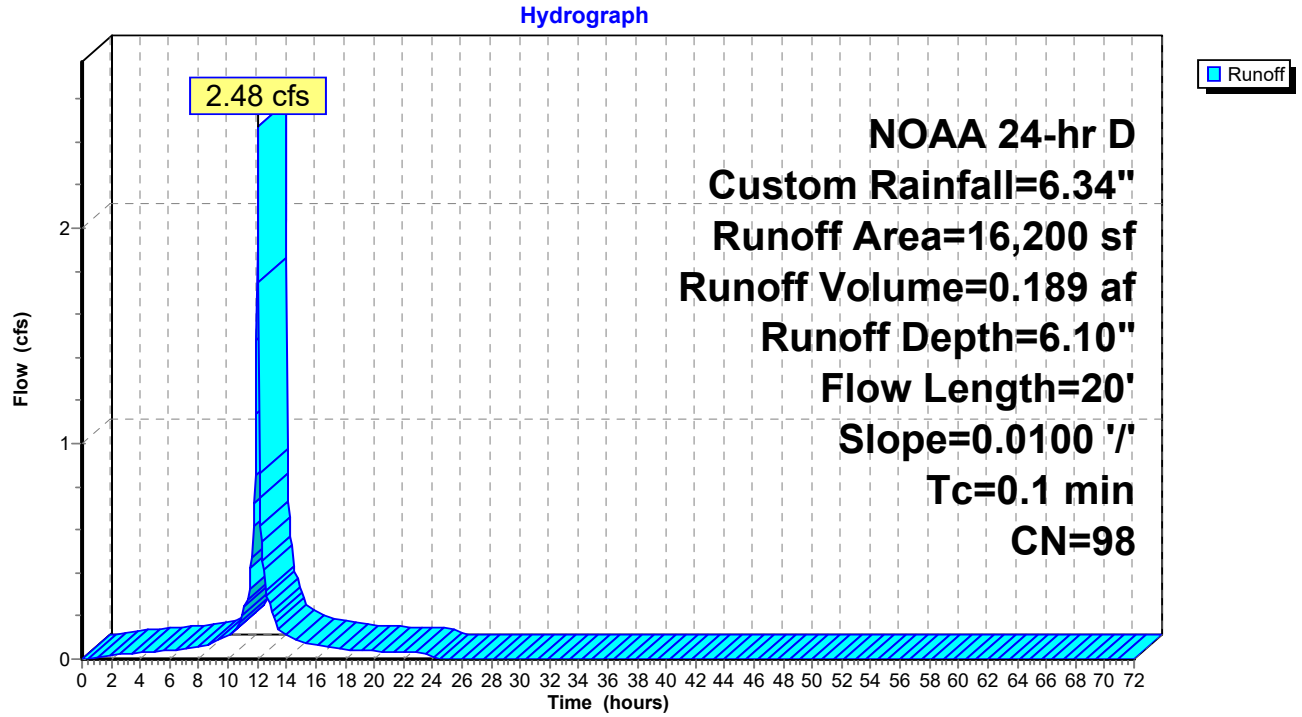
Runoff = 2.48 cfs @ 12.05 hrs, Volume= 0.189 af, Depth= 6.10"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 158% of capacity of segment #1

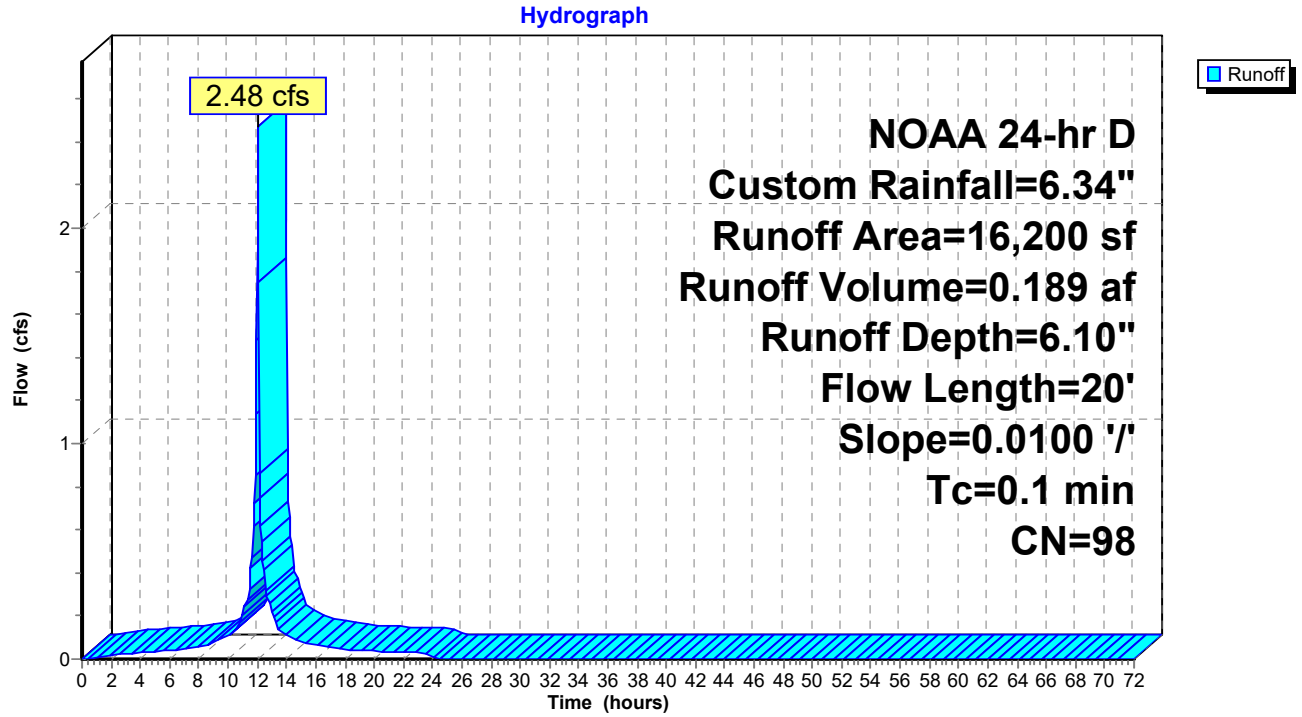
Runoff = 2.48 cfs @ 12.05 hrs, Volume= 0.189 af, Depth= 6.10"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

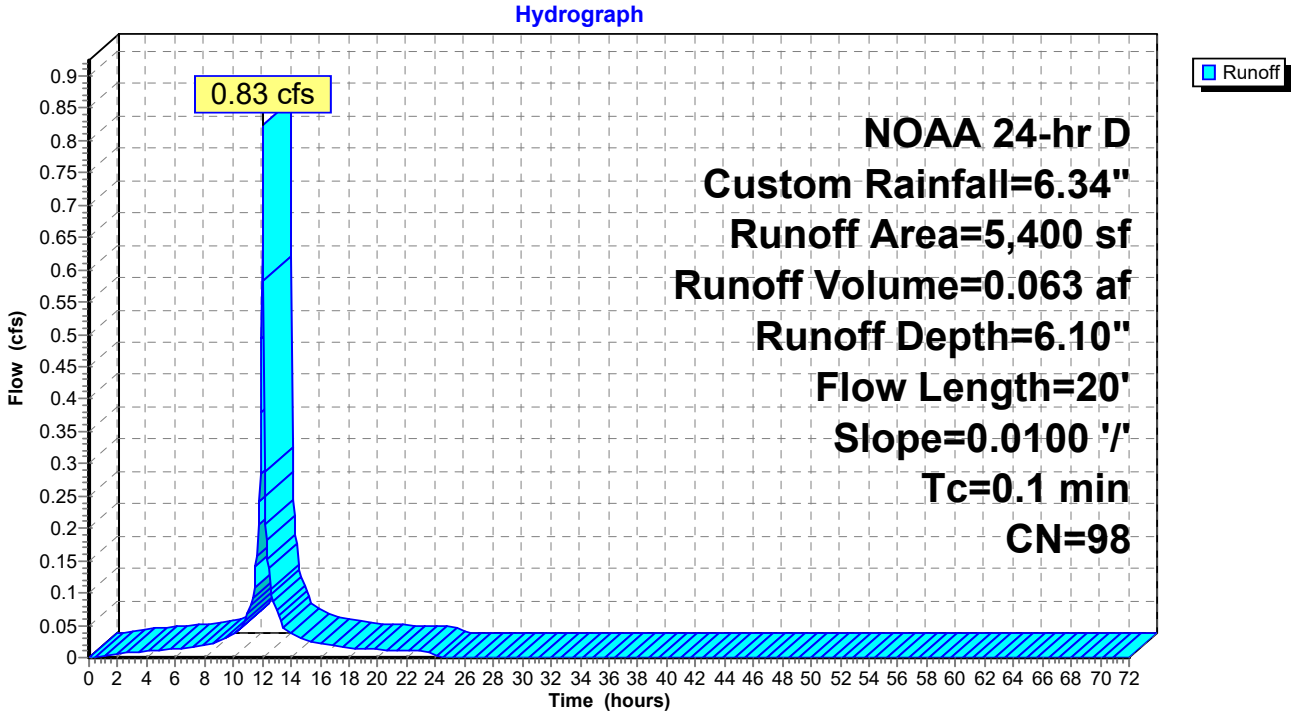
Runoff = 0.83 cfs @ 12.05 hrs, Volume= 0.063 af, Depth= 6.10"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

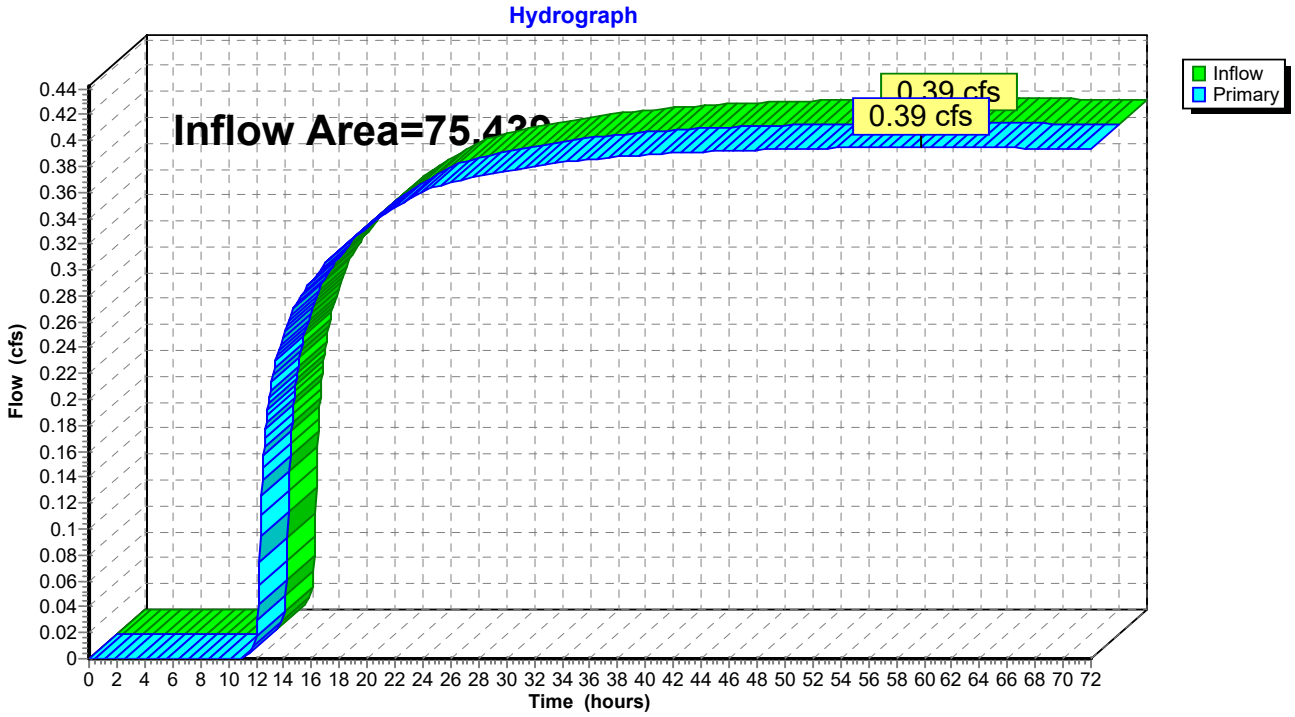


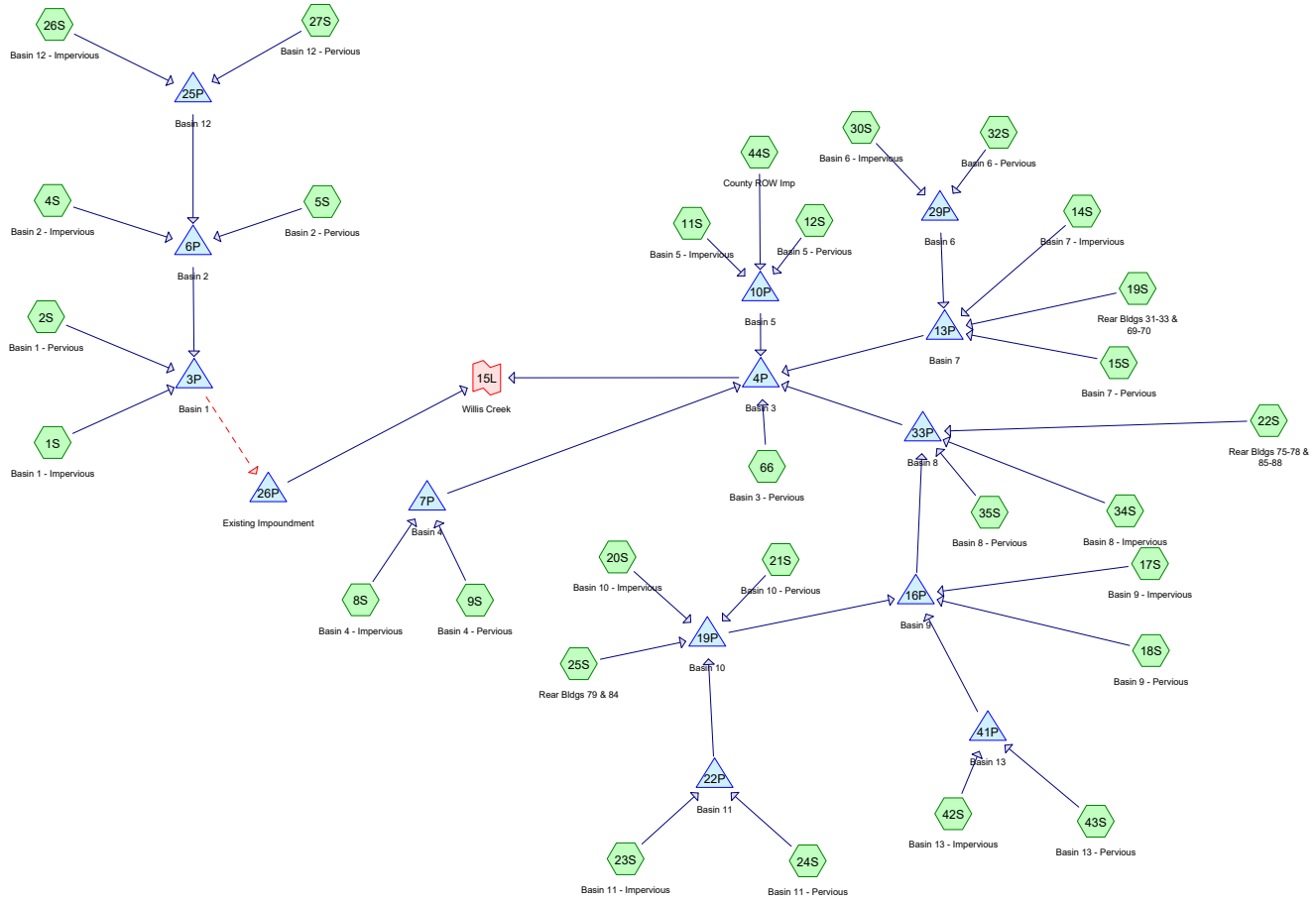
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 0.29" for Custom event
Inflow = 0.39 cfs @ 59.72 hrs, Volume= 1.836 af
Primary = 0.39 cfs @ 59.72 hrs, Volume= 1.836 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	6.34	2

Summary for Subcatchment 1S: Basin 1 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 102% of capacity of segment #3

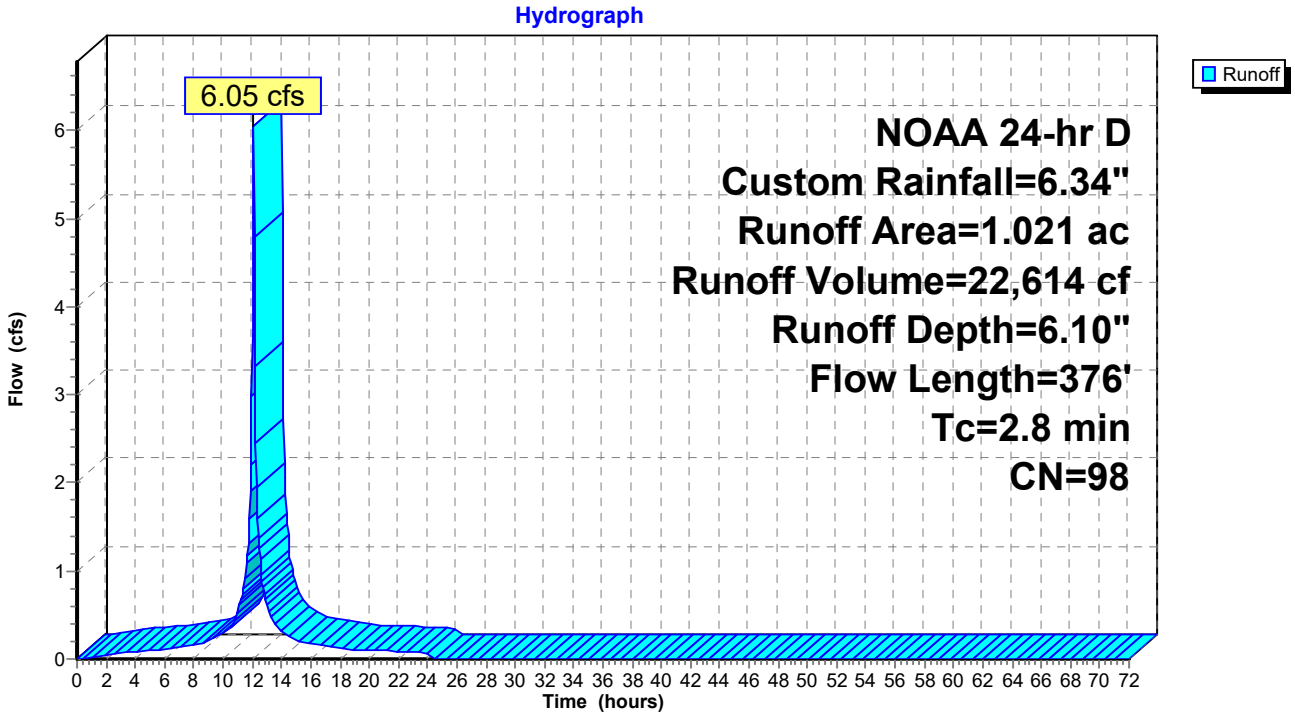
Runoff = 6.05 cfs @ 12.10 hrs, Volume= 22,614 cf, Depth= 6.10"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

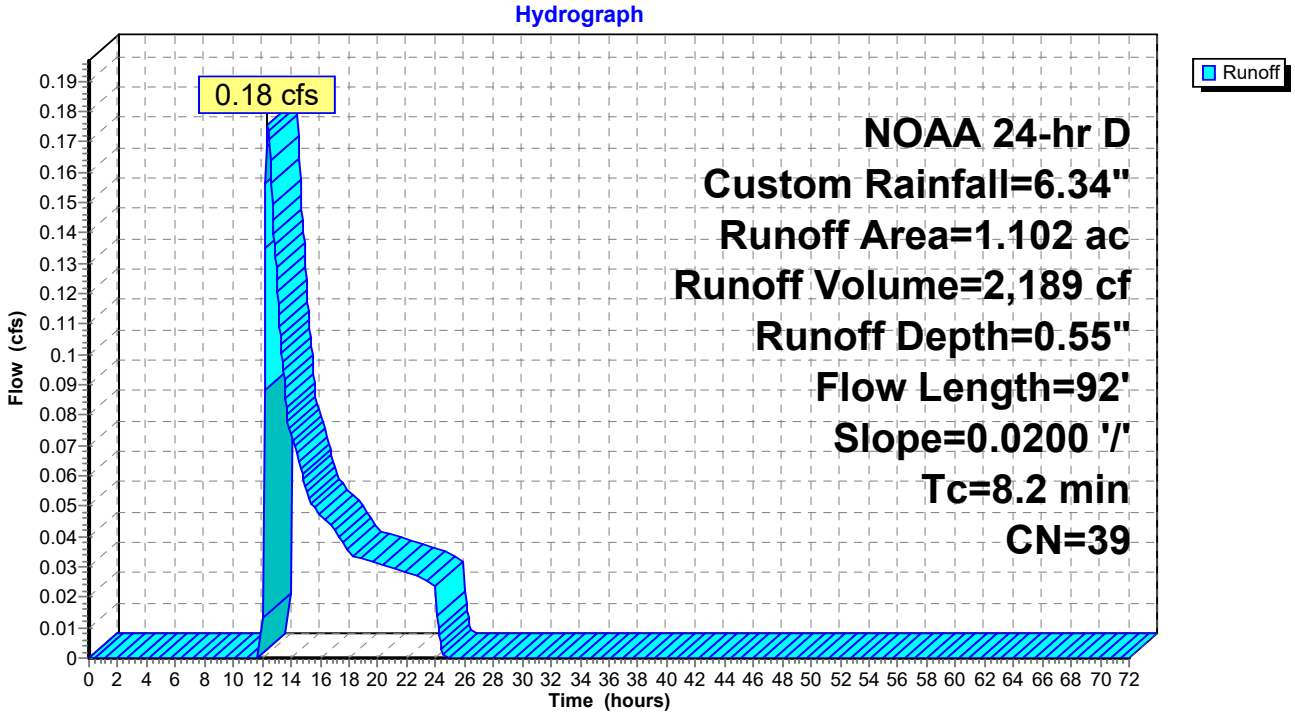
Runoff = 0.18 cfs @ 12.37 hrs, Volume= 2,189 cf, Depth= 0.55"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 2.35" for Custom event
Inflow = 6.30 cfs @ 12.10 hrs, Volume= 55,252 cf
Outflow = 5.24 cfs @ 12.15 hrs, Volume= 51,183 cf, Atten= 17%, Lag= 3.2 min
Primary = 0.21 cfs @ 12.15 hrs, Volume= 25,509 cf
Secondary = 5.02 cfs @ 12.15 hrs, Volume= 25,674 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.76' @ 12.15 hrs Surf.Area= 6,794 sf Storage= 9,527 cf

Plug-Flow detention time= 343.5 min calculated for 51,183 cf (93% of inflow)
Center-of-Mass det. time= 231.0 min (1,452.5 - 1,221.5)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

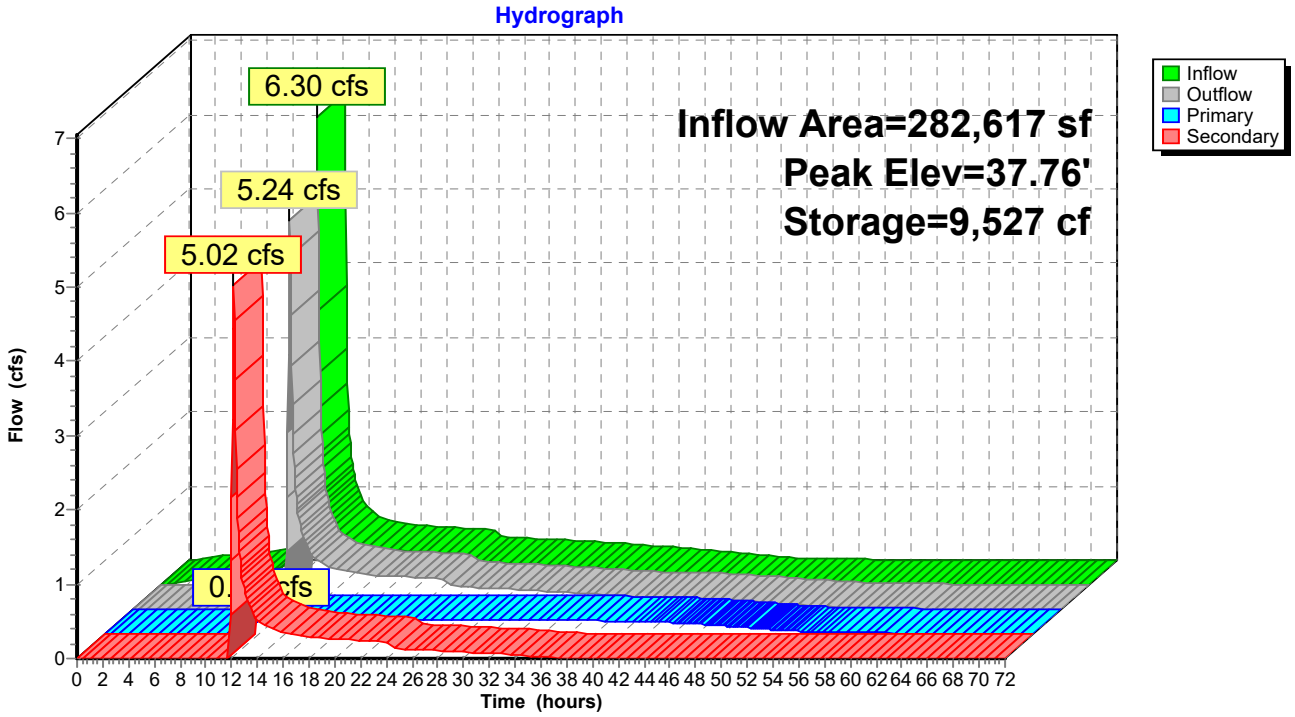
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 12.15 hrs HW=37.76' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.21 cfs @ 4.37 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=4.99 cfs @ 12.15 hrs HW=37.76' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 4.99 cfs @ 1.28 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 3.17" for Custom event
Inflow = 52.33 cfs @ 12.18 hrs, Volume= 250,030 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.35' @ 72.00 hrs Surf.Area= 49,515 sf Storage= 250,029 cf

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

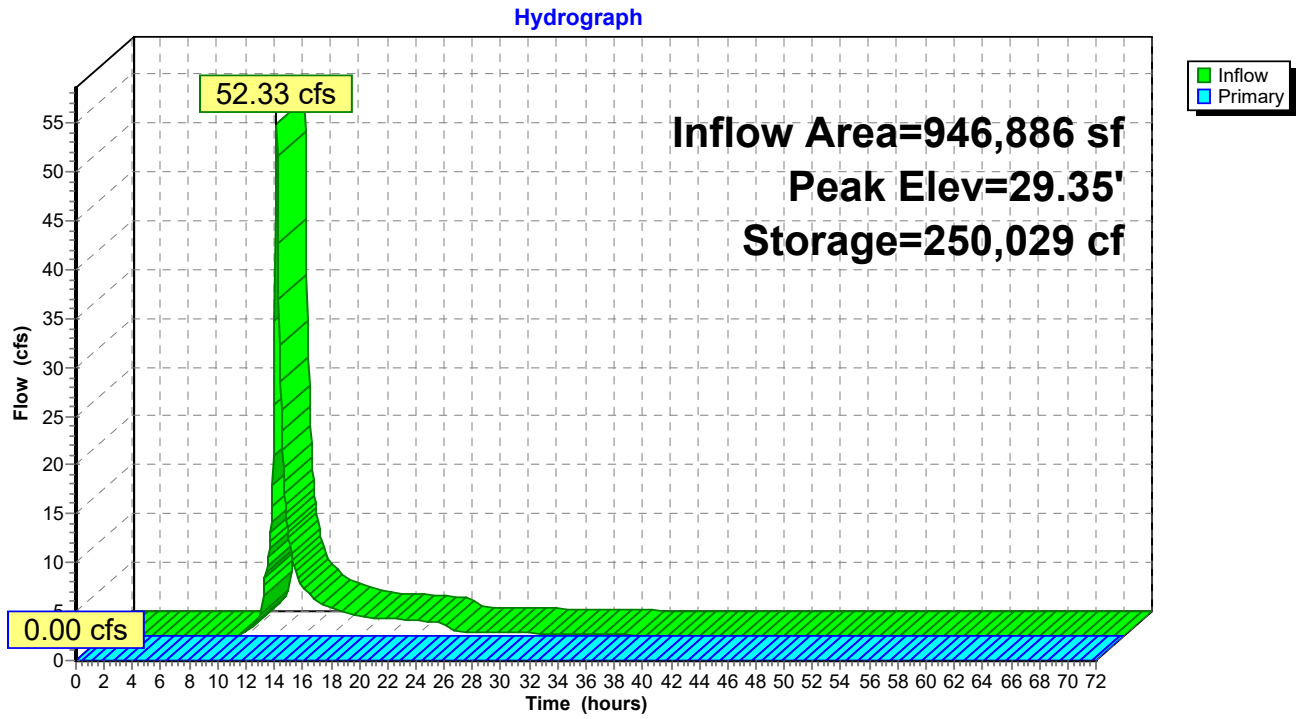
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

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

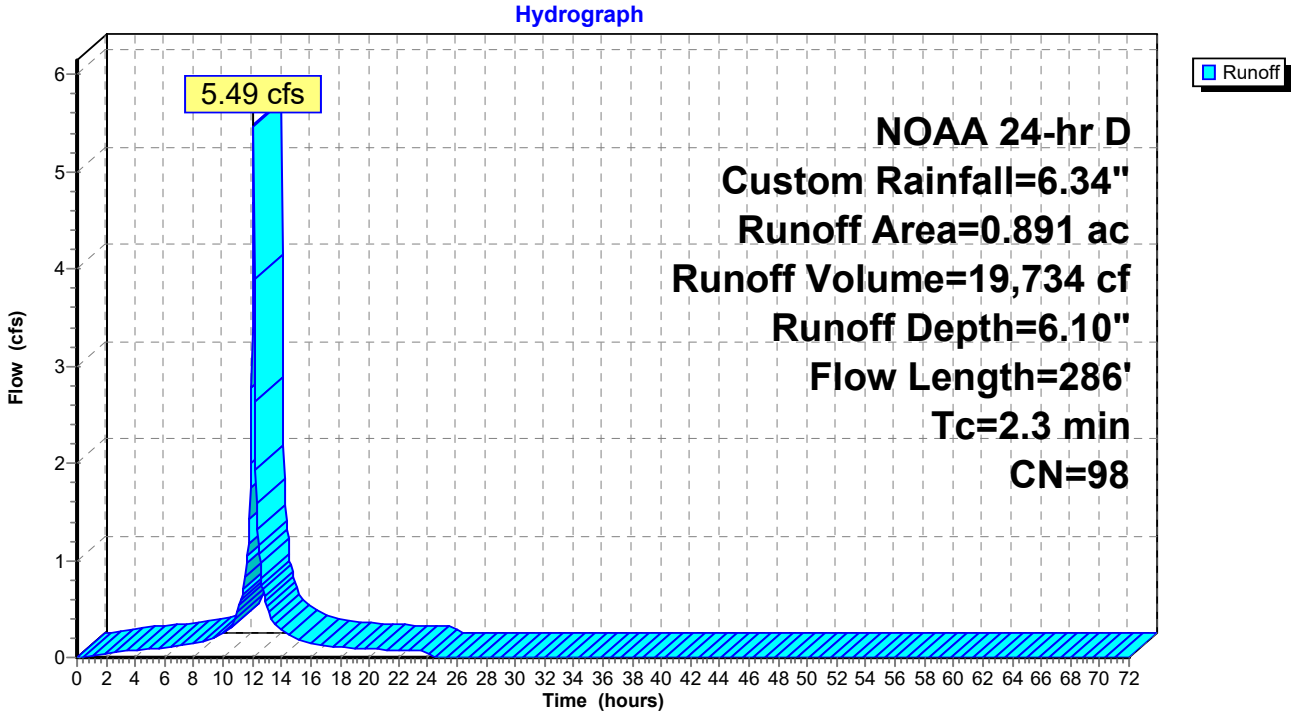
Runoff = 5.49 cfs @ 12.09 hrs, Volume= 19,734 cf, Depth= 6.10"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

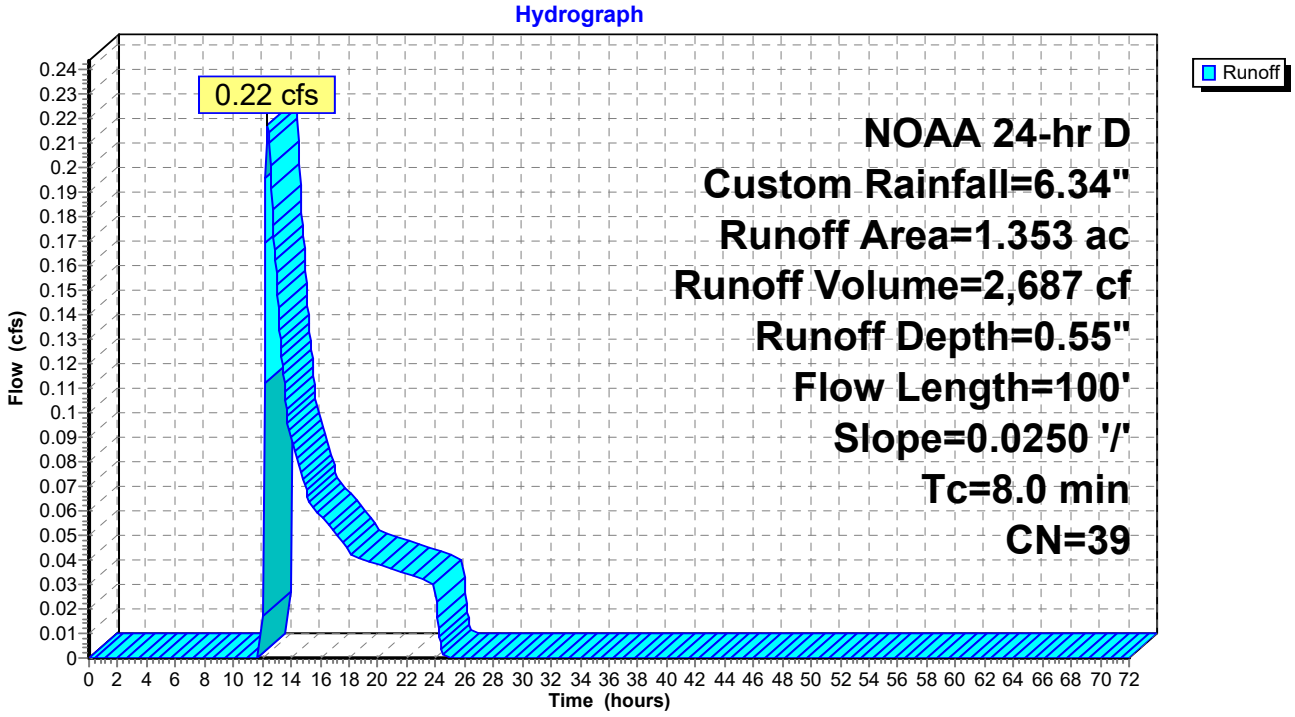
Runoff = 0.22 cfs @ 12.37 hrs, Volume= 2,687 cf, Depth= 0.55"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[81] Warning: Exceeded Pond 25P by 0.75' @ 25.05 hrs

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 2.14" for Custom event
Inflow = 5.64 cfs @ 12.09 hrs, Volume= 33,932 cf
Outflow = 0.32 cfs @ 19.05 hrs, Volume= 30,449 cf, Atten= 94%, Lag= 417.2 min
Primary = 0.32 cfs @ 19.05 hrs, Volume= 30,449 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.59' @ 19.05 hrs Surf.Area= 9,361 sf Storage= 17,238 cf

Plug-Flow detention time= 744.3 min calculated for 30,428 cf (90% of inflow)
Center-of-Mass det. time= 645.0 min (1,593.6 - 948.6)

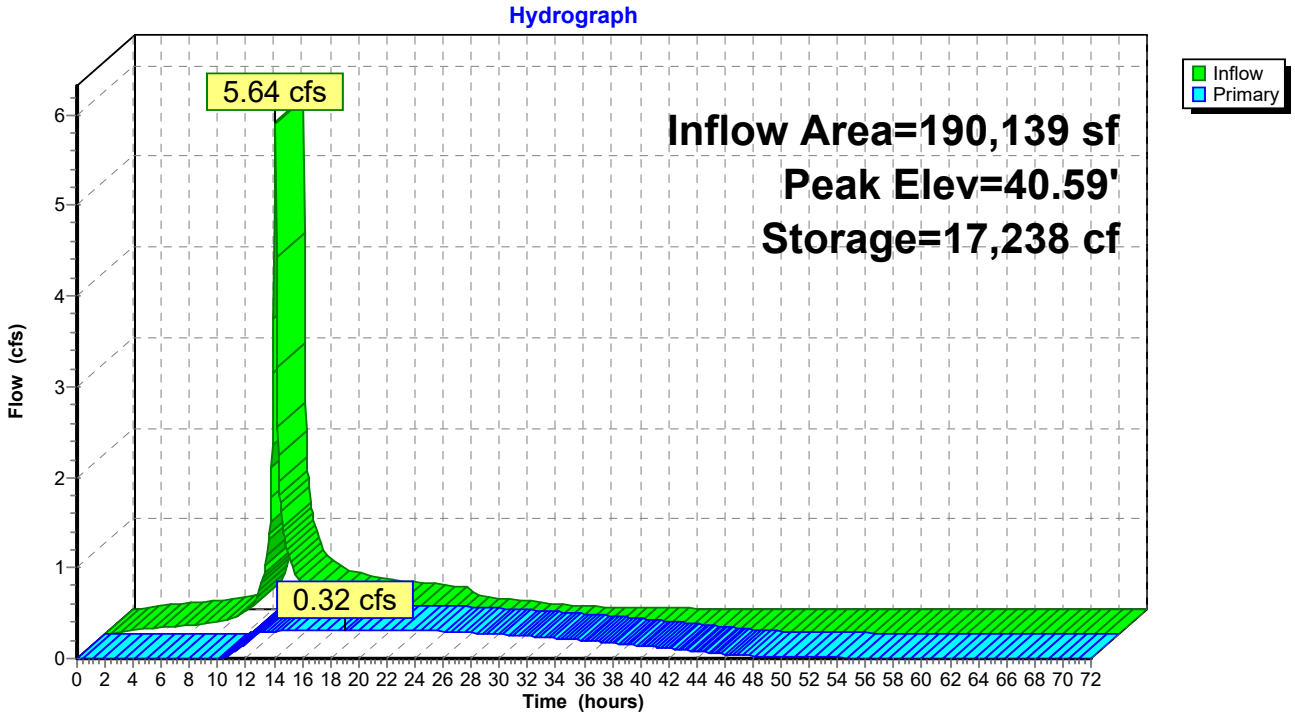
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.32 cfs @ 19.05 hrs HW=40.59' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.42 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 3.12" for Custom event
Inflow = 6.67 cfs @ 12.11 hrs, Volume= 28,627 cf
Outflow = 5.72 cfs @ 12.16 hrs, Volume= 24,173 cf, Atten= 14%, Lag= 3.3 min
Primary = 5.72 cfs @ 12.16 hrs, Volume= 24,173 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.22' @ 12.16 hrs Surf.Area= 6,866 sf Storage= 11,051 cf

Plug-Flow detention time= 345.7 min calculated for 24,156 cf (84% of inflow)
Center-of-Mass det. time= 270.8 min (1,037.5 - 766.7)

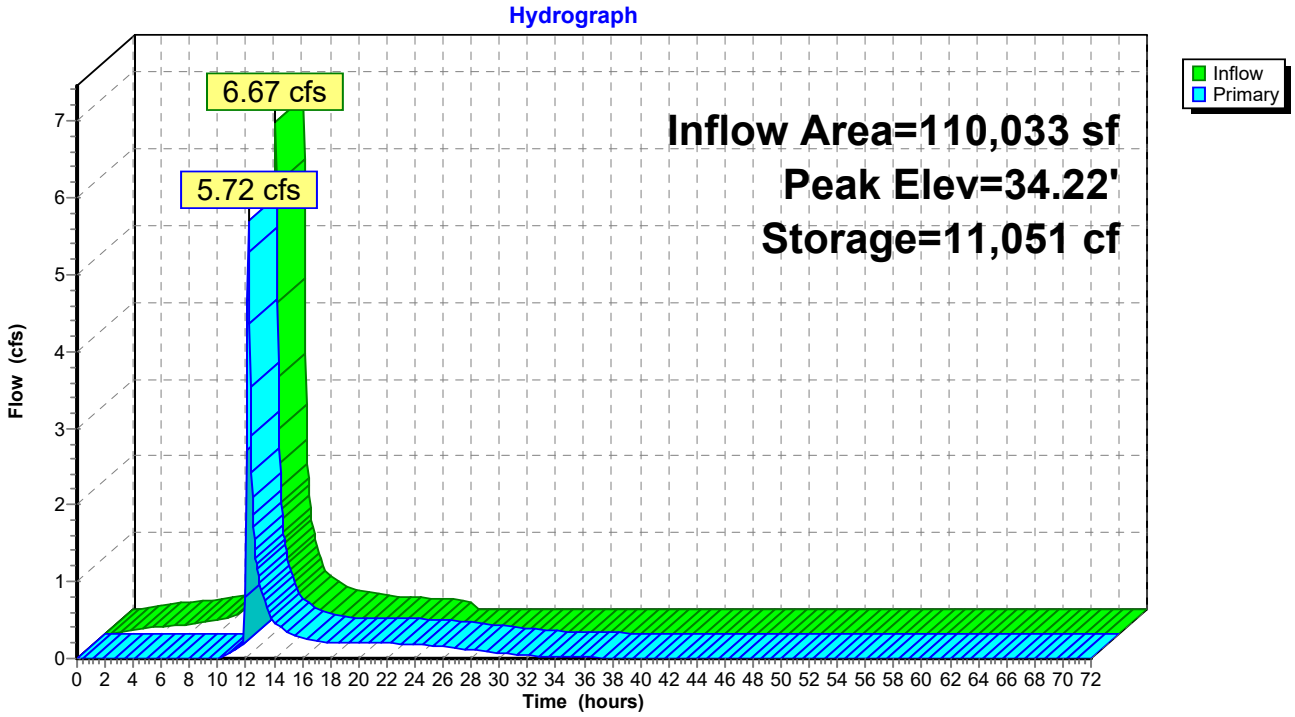
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.59 cfs @ 12.16 hrs HW=34.22' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.24 cfs @ 4.90 fps)
2=Orifice/Grate (Weir Controls 5.35 cfs @ 1.53 fps)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 112% of capacity of segment #3

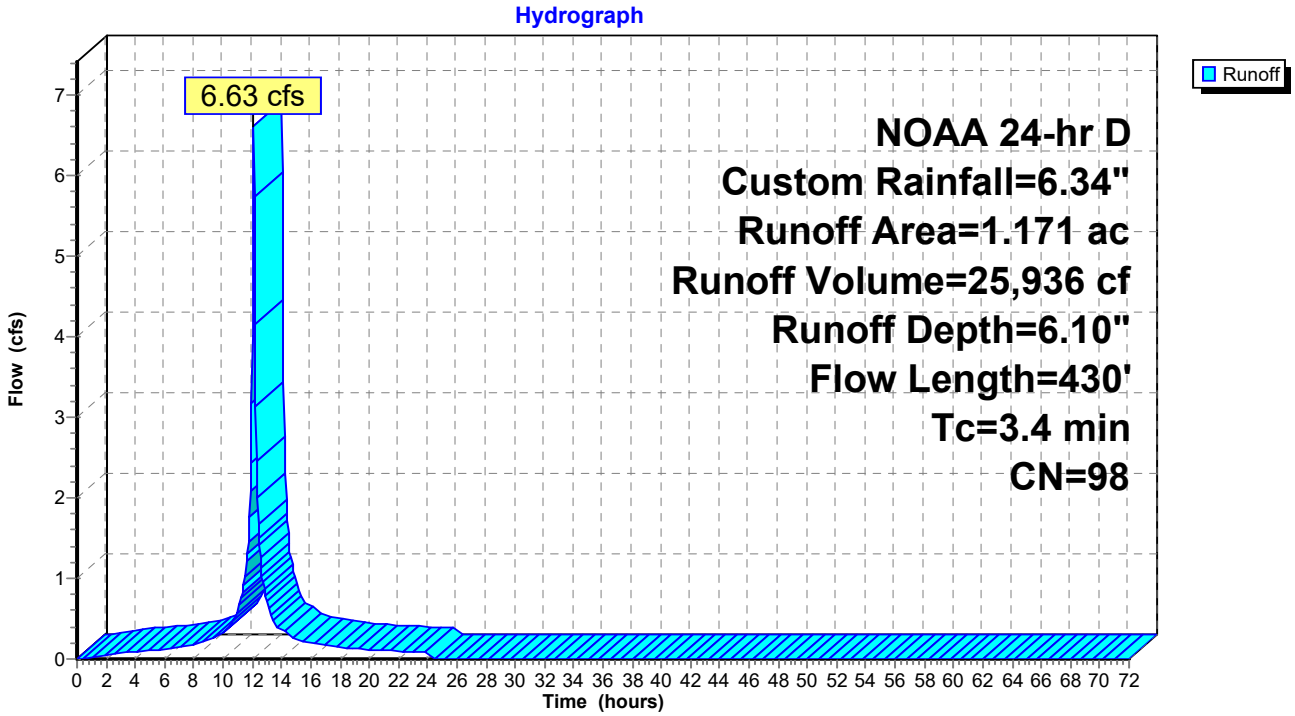
Runoff = 6.63 cfs @ 12.10 hrs, Volume= 25,936 cf, Depth= 6.10"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

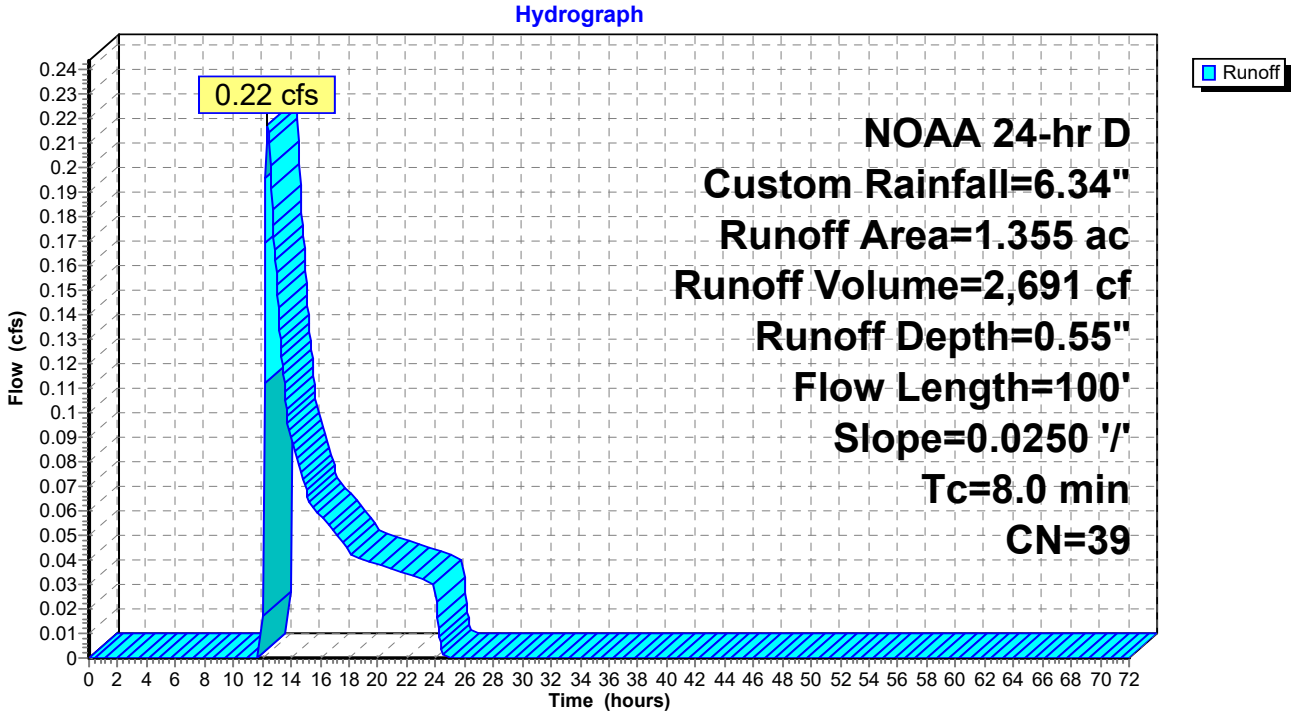
Runoff = 0.22 cfs @ 12.37 hrs, Volume= 2,691 cf, Depth= 0.55"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 4.01" for Custom event
Inflow = 7.99 cfs @ 12.10 hrs, Volume= 29,133 cf
Outflow = 7.34 cfs @ 12.12 hrs, Volume= 24,130 cf, Atten= 8%, Lag= 1.5 min
Primary = 7.34 cfs @ 12.12 hrs, Volume= 24,130 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.83' @ 12.12 hrs Surf.Area= 3,979 sf Storage= 6,030 cf

Plug-Flow detention time= 151.7 min calculated for 24,130 cf (83% of inflow)
Center-of-Mass det. time= 71.1 min (838.8 - 767.6)

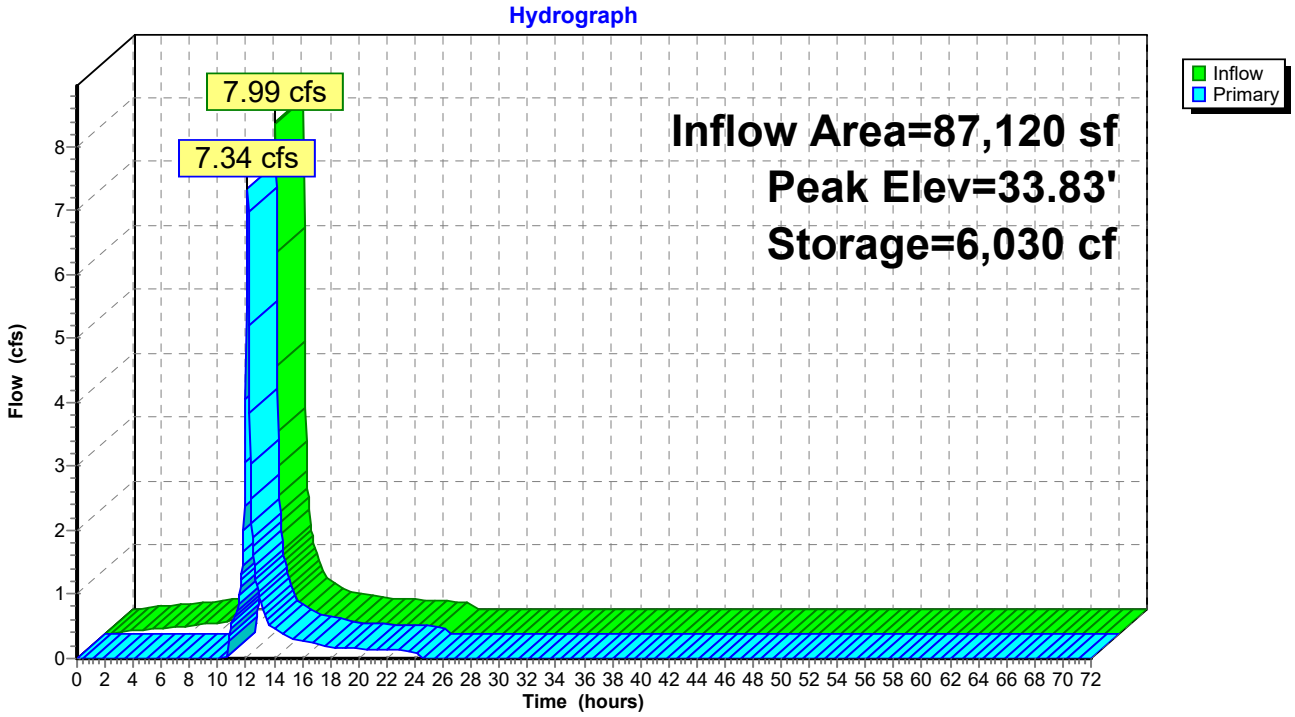
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.10 cfs @ 12.12 hrs HW=33.82' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 7.10 cfs @ 1.68 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

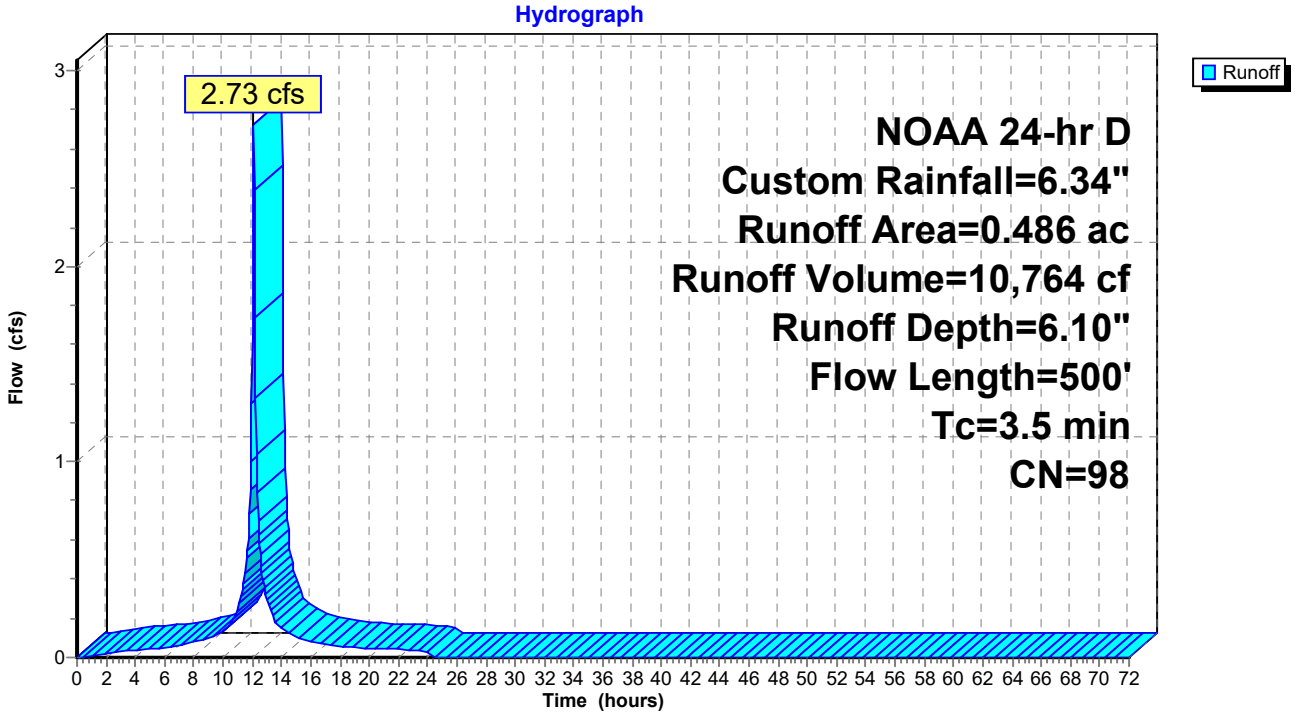
Runoff = 2.73 cfs @ 12.11 hrs, Volume= 10,764 cf, Depth= 6.10"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

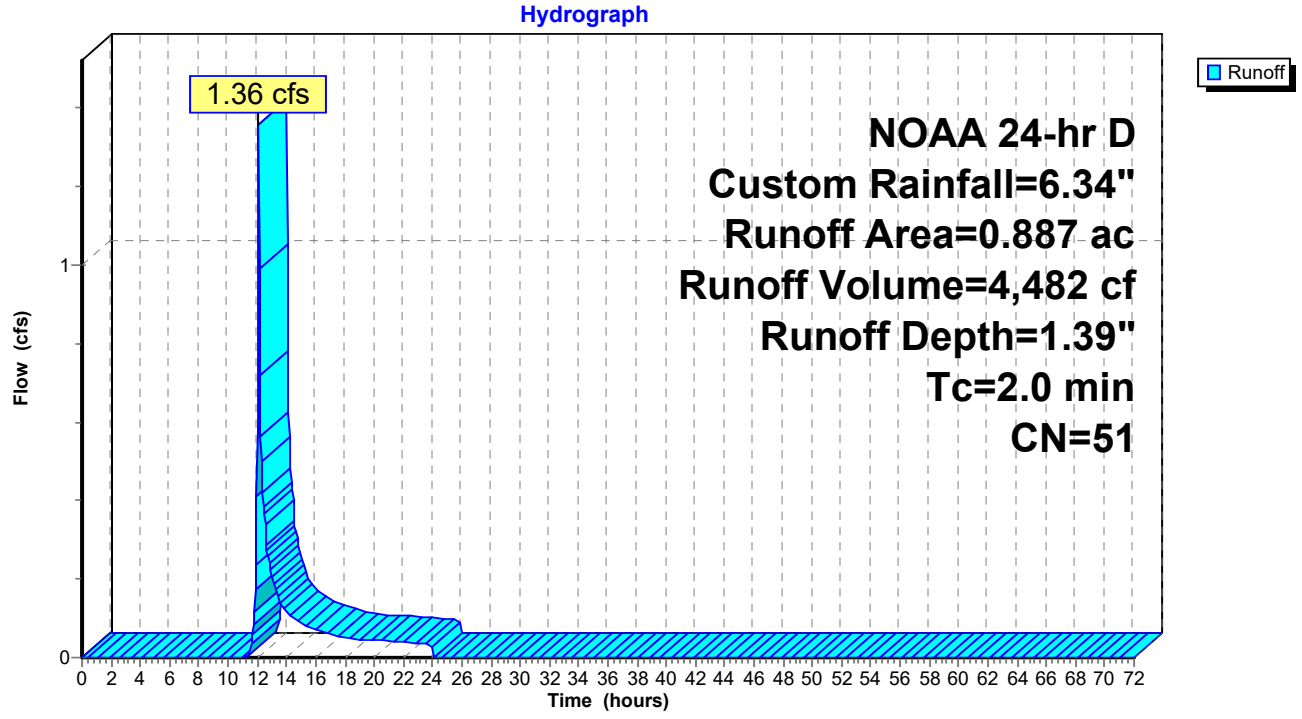
Runoff = 1.36 cfs @ 12.10 hrs, Volume= 4,482 cf, Depth= 1.39"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 4.53" for Custom event
Inflow = 14.26 cfs @ 12.17 hrs, Volume= 67,557 cf
Outflow = 13.84 cfs @ 12.21 hrs, Volume= 62,515 cf, Atten= 3%, Lag= 2.2 min
Primary = 13.84 cfs @ 12.21 hrs, Volume= 62,515 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.47' @ 12.21 hrs Surf.Area= 5,297 sf Storage= 7,063 cf

Plug-Flow detention time= 76.9 min calculated for 62,515 cf (93% of inflow)
Center-of-Mass det. time= 35.4 min (835.8 - 800.4)

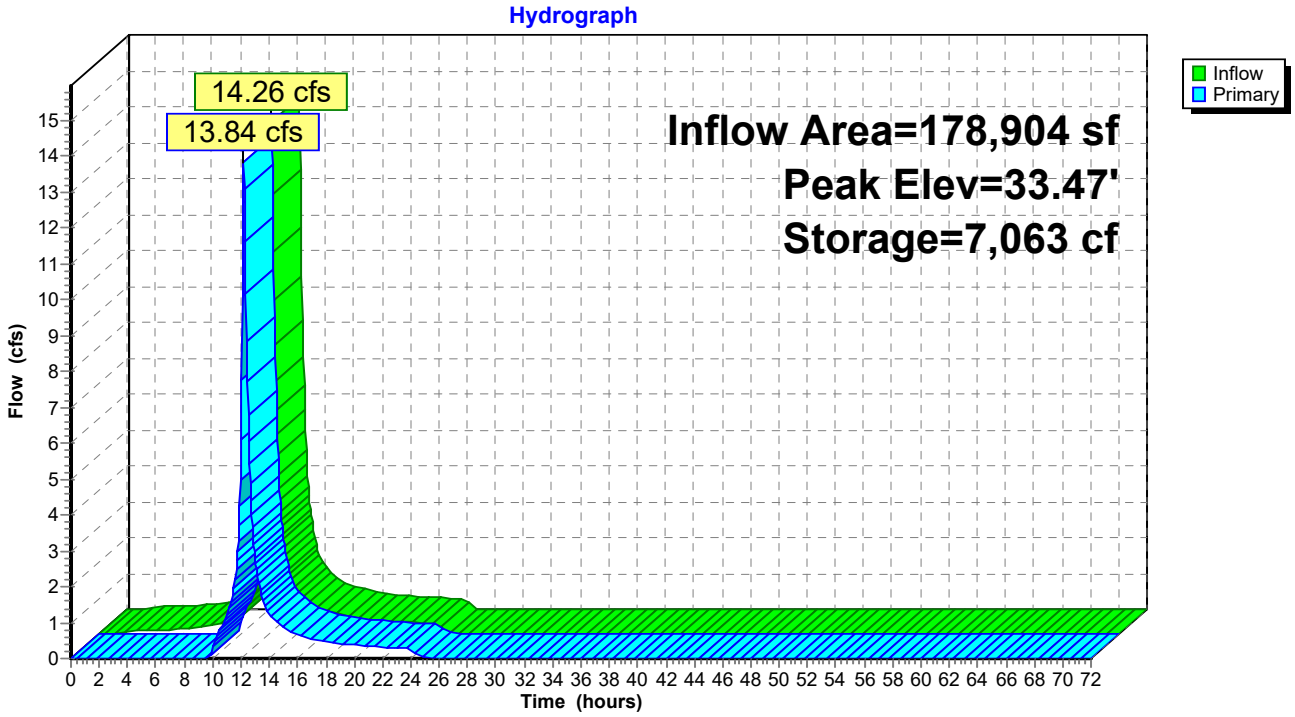
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.74 cfs @ 12.21 hrs HW=33.47' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 13.74 cfs @ 2.09 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

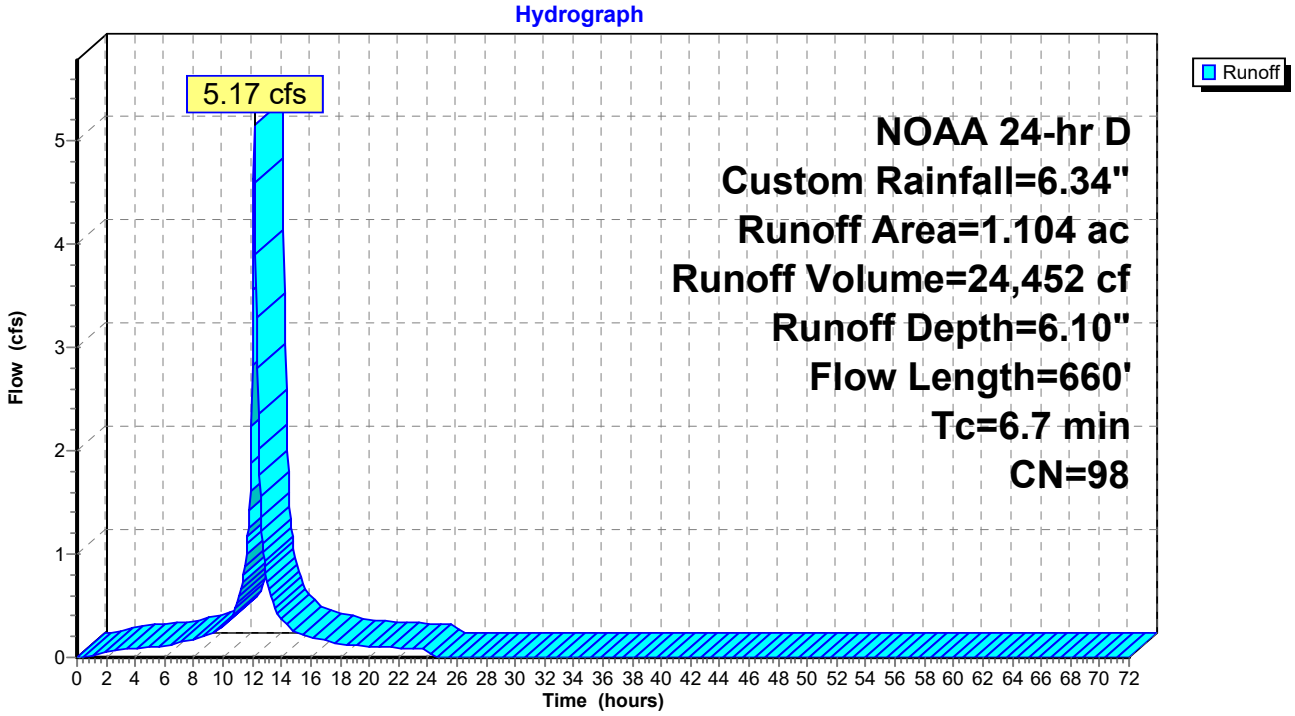
Runoff = 5.17 cfs @ 12.15 hrs, Volume= 24,452 cf, Depth= 6.10"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

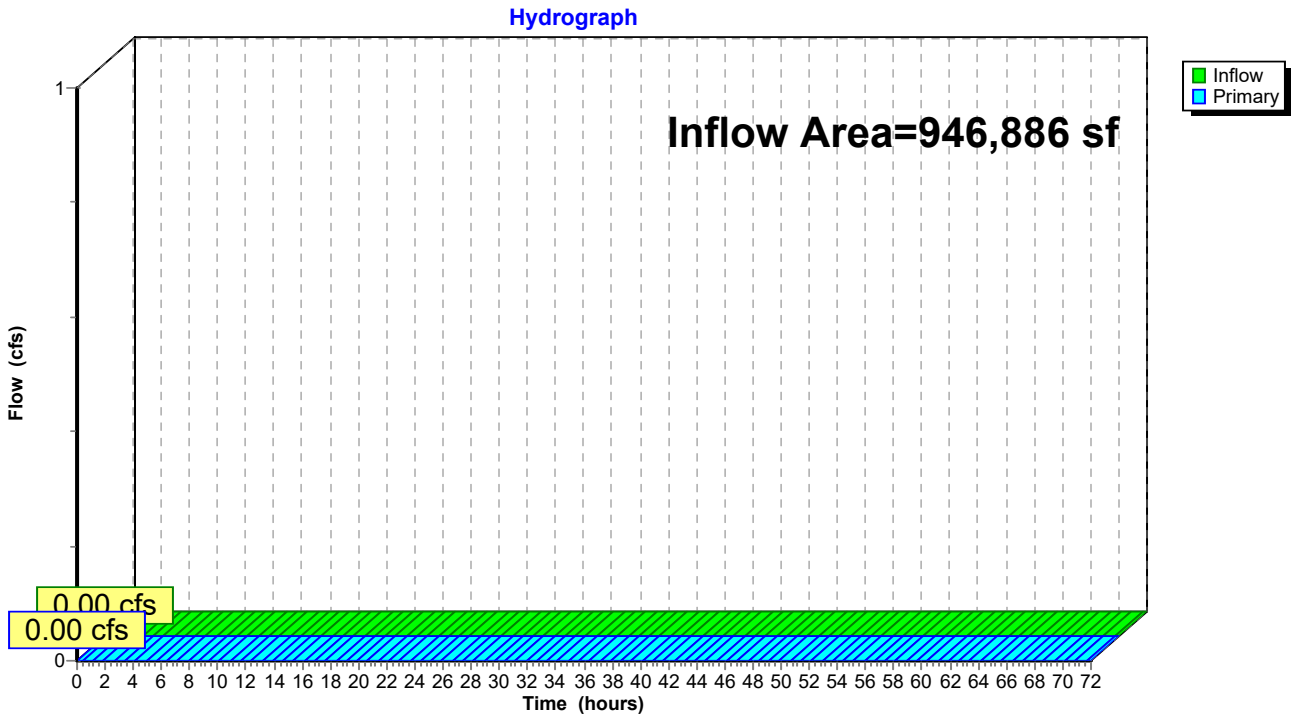


Summary for Link 15L: Willis Creek

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

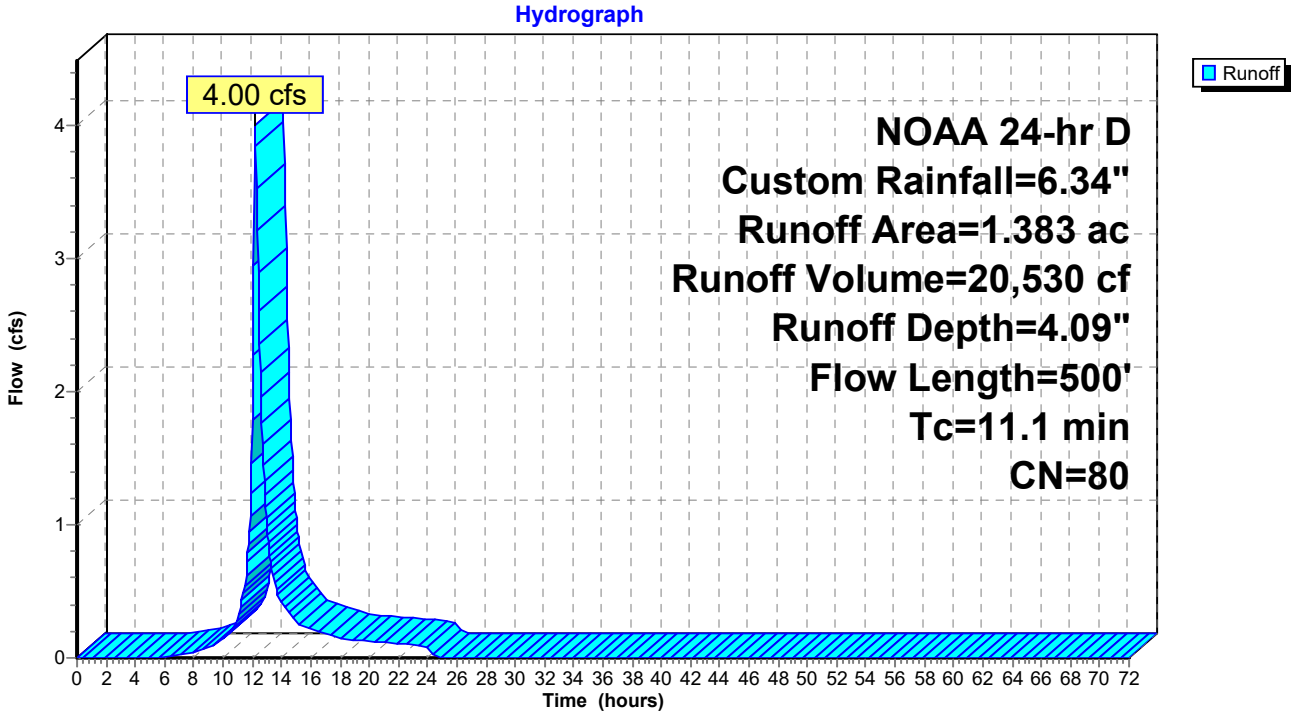
Runoff = 4.00 cfs @ 12.21 hrs, Volume= 20,530 cf, Depth= 4.09"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.44' @ 10.20 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 2.87" for Custom event
Inflow = 18.66 cfs @ 12.14 hrs, Volume= 95,602 cf
Outflow = 18.18 cfs @ 12.17 hrs, Volume= 91,369 cf, Atten= 3%, Lag= 1.9 min
Primary = 18.18 cfs @ 12.17 hrs, Volume= 91,369 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.42' @ 12.17 hrs Surf.Area= 5,809 sf Storage= 6,956 cf

Plug-Flow detention time= 69.1 min calculated for 91,306 cf (96% of inflow)
Center-of-Mass det. time= 27.2 min (922.6 - 895.4)

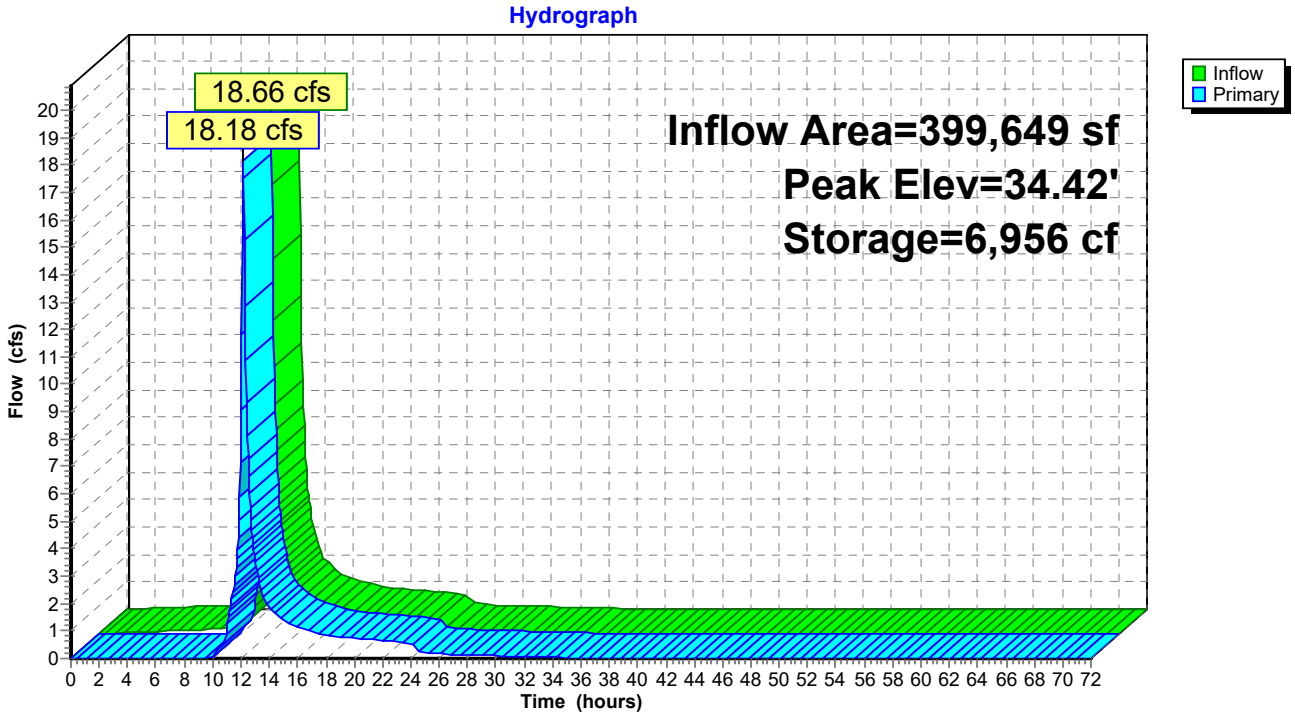
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=17.84 cfs @ 12.17 hrs HW=34.42' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 17.84 cfs @ 2.28 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 108% of capacity of segment #3

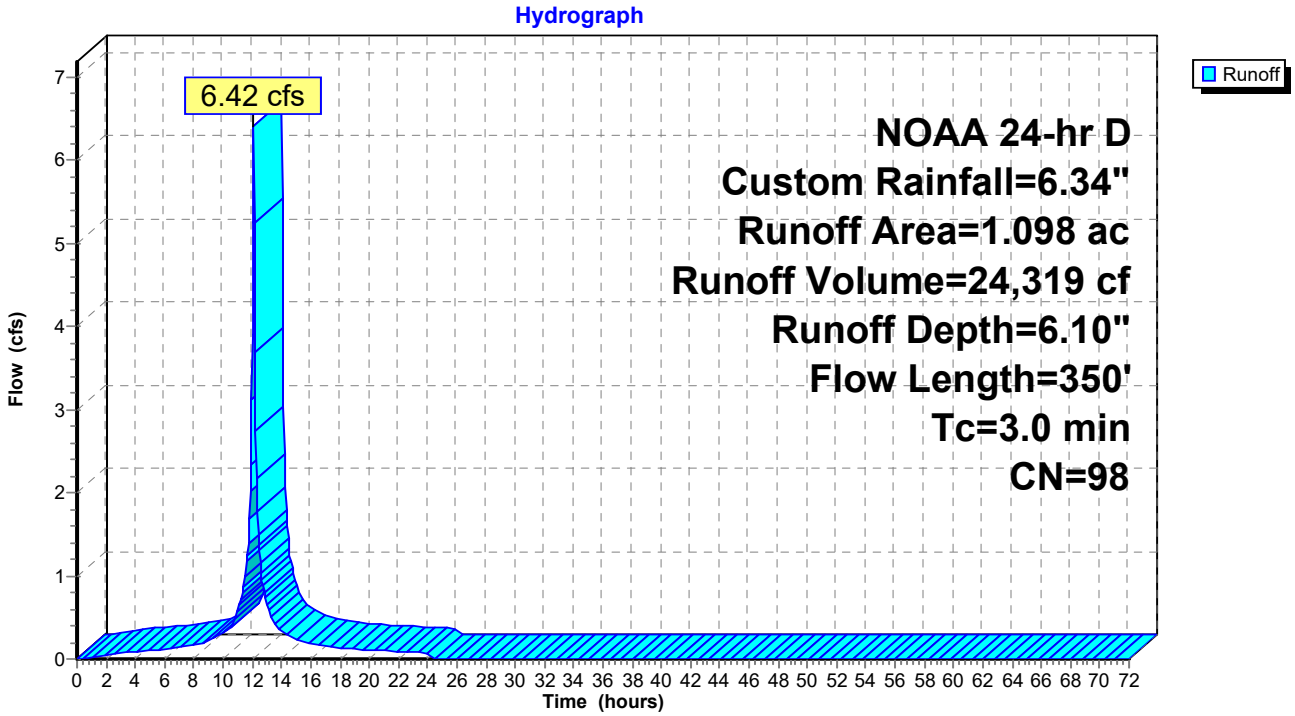
Runoff = 6.42 cfs @ 12.10 hrs, Volume= 24,319 cf, Depth= 6.10"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

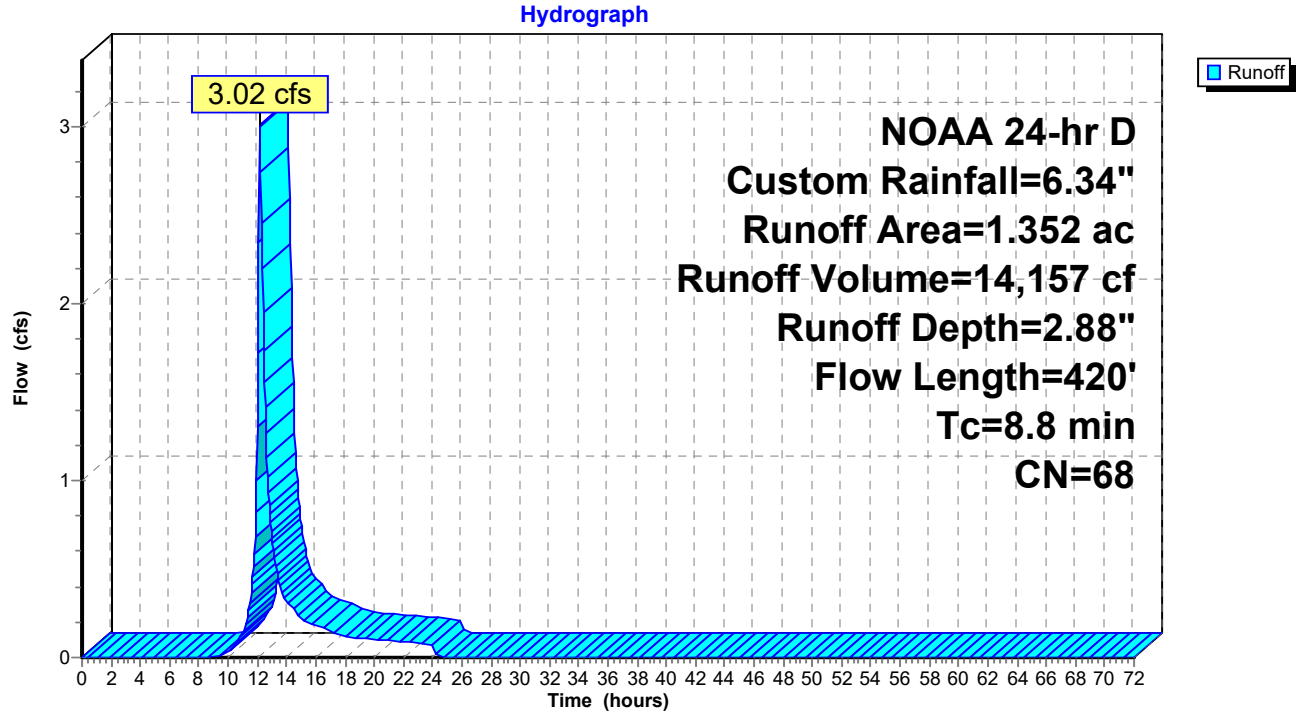
Runoff = 3.02 cfs @ 12.18 hrs, Volume= 14,157 cf, Depth= 2.88"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 2.80" for Custom event
Inflow = 10.62 cfs @ 12.12 hrs, Volume= 47,577 cf
Outflow = 10.19 cfs @ 12.16 hrs, Volume= 42,359 cf, Atten= 4%, Lag= 2.2 min
Primary = 10.19 cfs @ 12.16 hrs, Volume= 42,359 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.31' @ 12.16 hrs Surf.Area= 5,073 sf Storage= 6,798 cf

Plug-Flow detention time= 102.0 min calculated for 42,329 cf (89% of inflow)
Center-of-Mass det. time= 44.6 min (855.2 - 810.5)

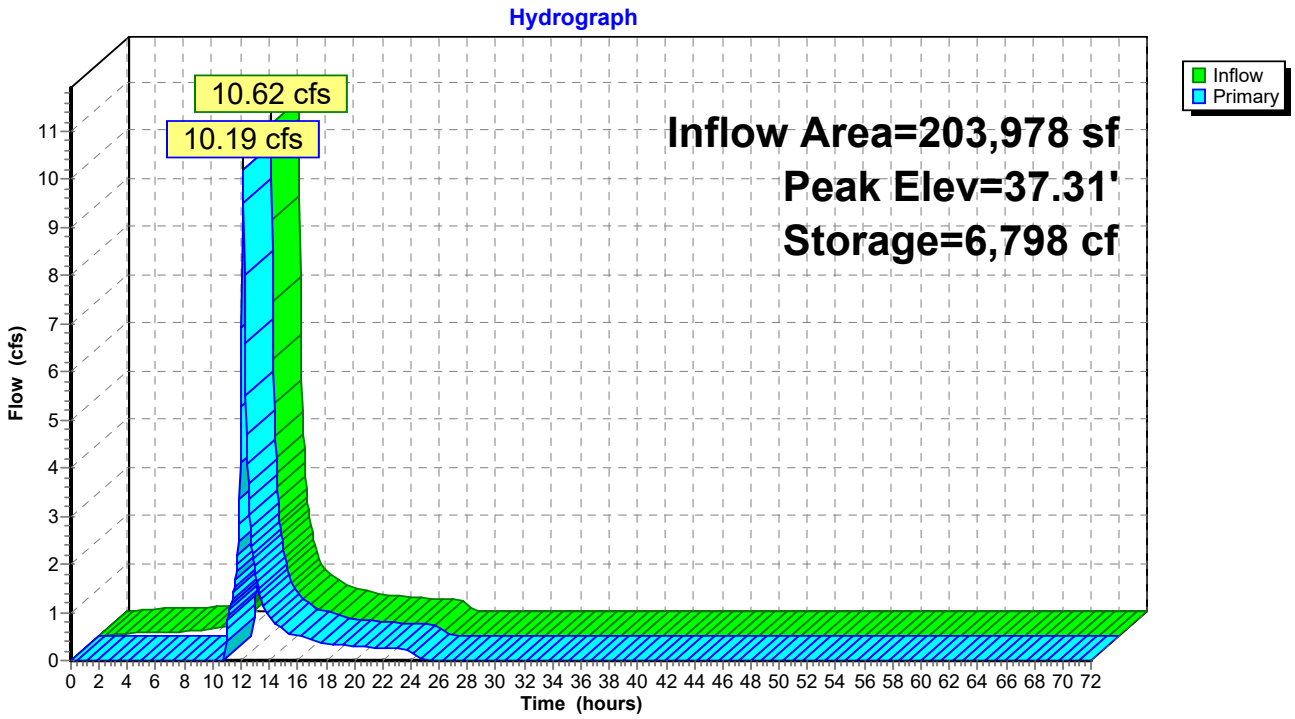
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.08 cfs @ 12.16 hrs HW=37.30' (Free Discharge)
1=Orifice/Grate (Weir Controls 10.08 cfs @ 1.89 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

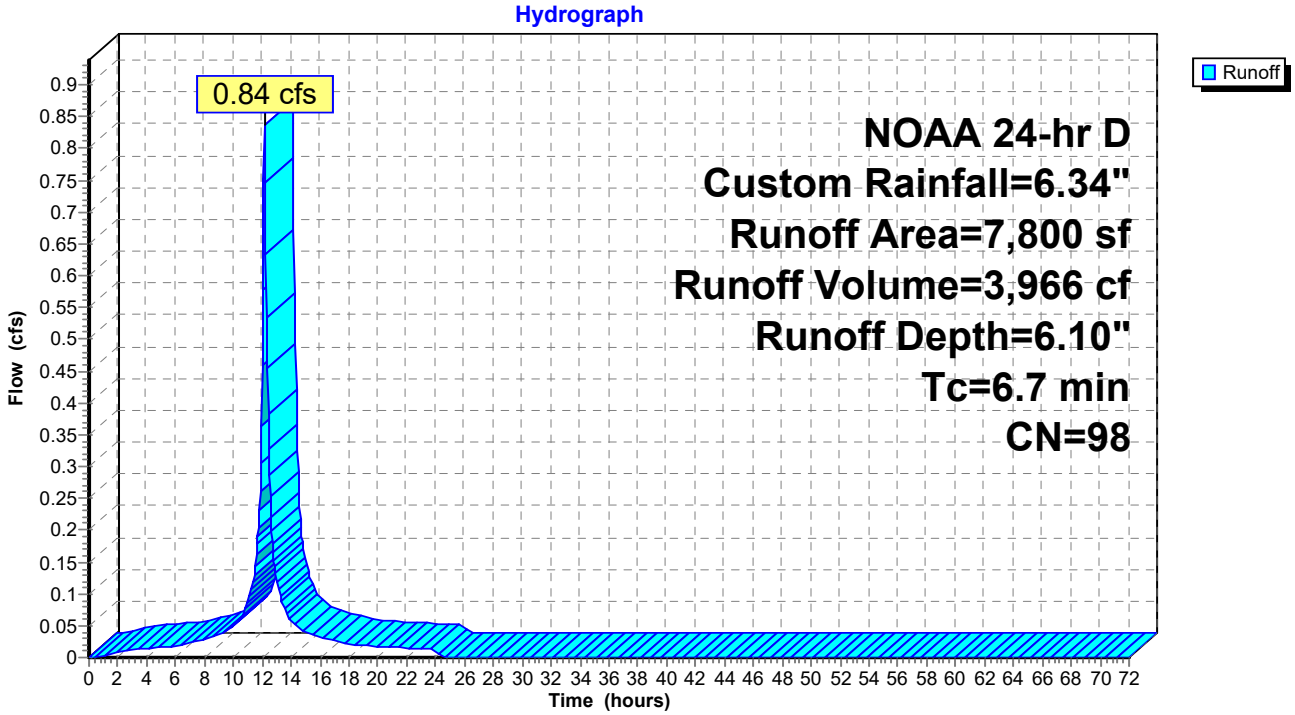
Runoff = 0.84 cfs @ 12.15 hrs, Volume= 3,966 cf, Depth= 6.10"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

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

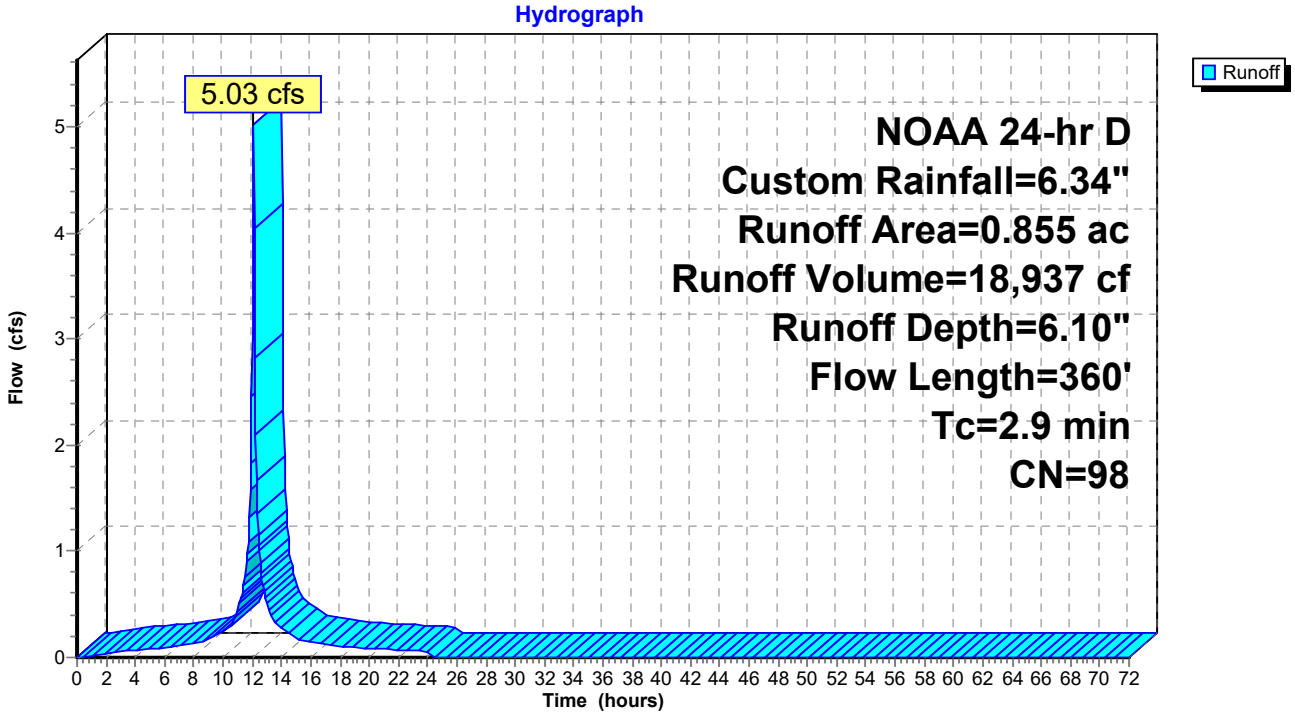
Runoff = 5.03 cfs @ 12.10 hrs, Volume= 18,937 cf, Depth= 6.10"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

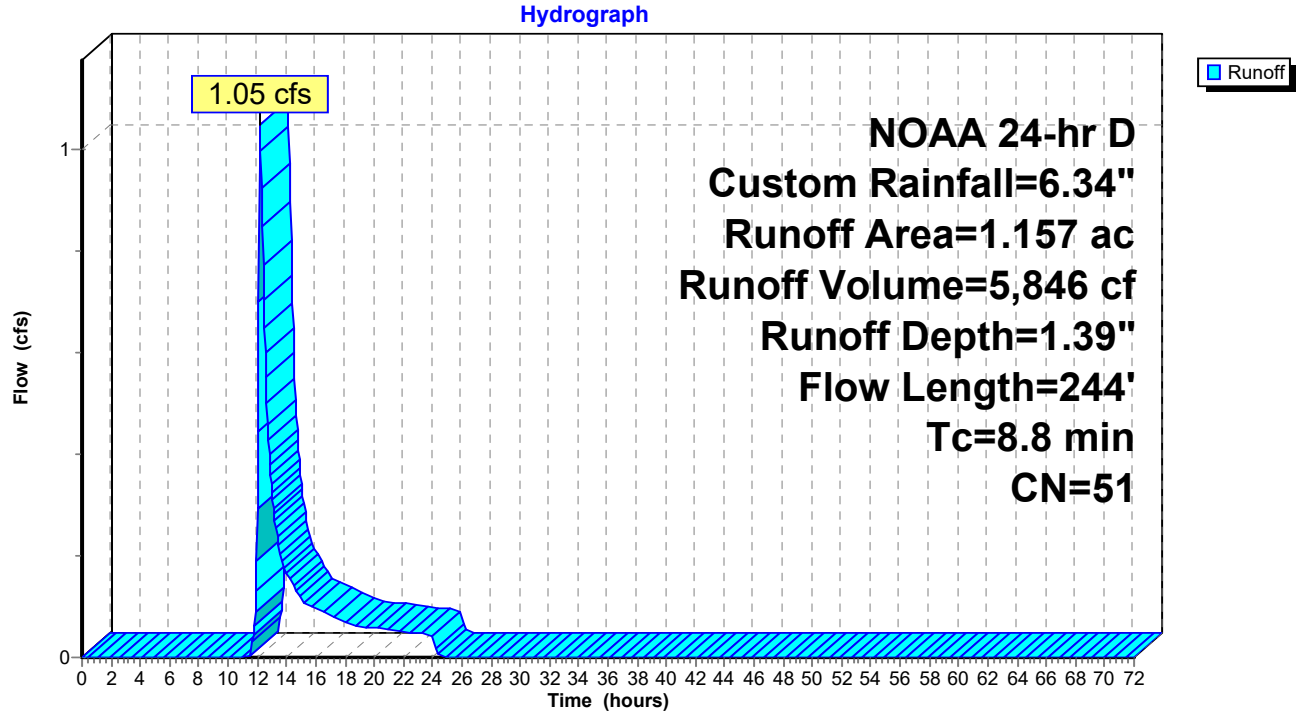
Runoff = 1.05 cfs @ 12.20 hrs, Volume= 5,846 cf, Depth= 1.39"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 2.64" for Custom event
Inflow = 5.42 cfs @ 12.12 hrs, Volume= 25,030 cf
Outflow = 5.06 cfs @ 12.15 hrs, Volume= 21,473 cf, Atten= 7%, Lag= 2.3 min
Primary = 5.06 cfs @ 12.15 hrs, Volume= 21,473 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.20' @ 12.15 hrs Surf.Area= 4,821 sf Storage= 4,515 cf

Plug-Flow detention time= 139.2 min calculated for 21,458 cf (86% of inflow)
Center-of-Mass det. time= 66.6 min (846.6 - 780.0)

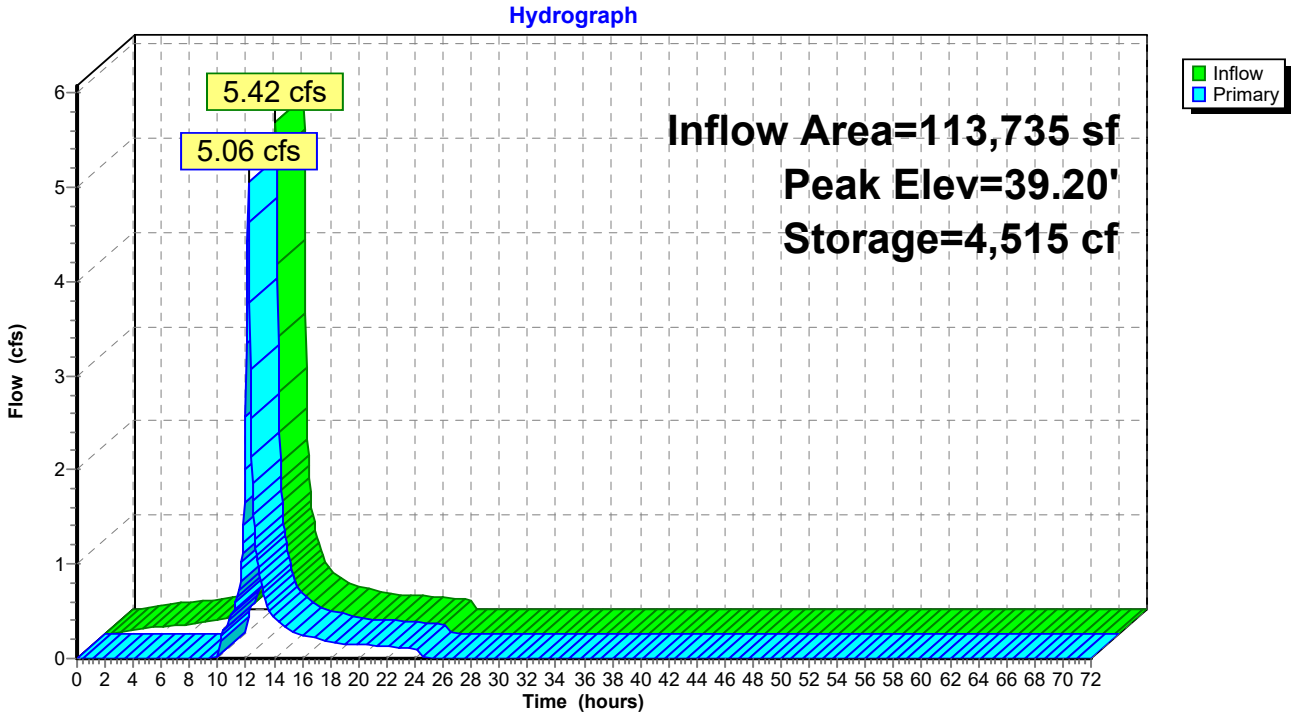
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.01 cfs @ 12.15 hrs HW=39.20' (Free Discharge)
1=Orifice/Grate (Weir Controls 5.01 cfs @ 1.50 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

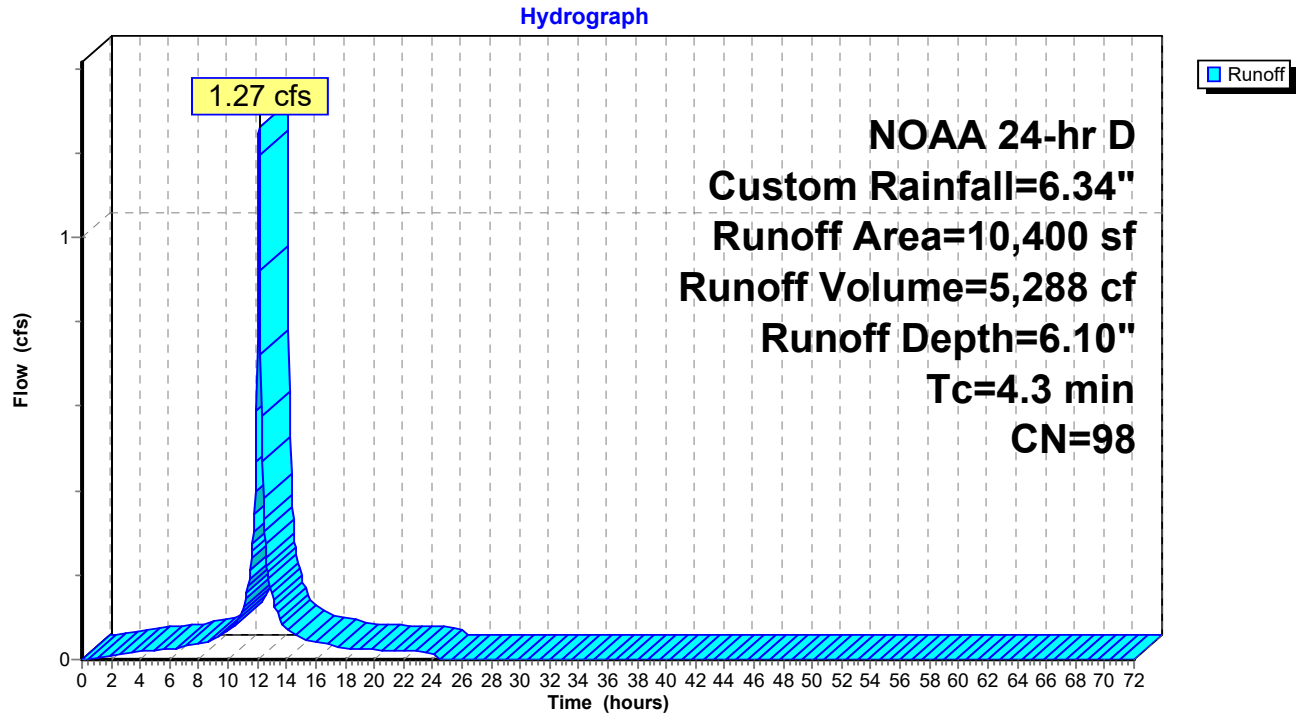
Runoff = 1.27 cfs @ 12.12 hrs, Volume= 5,288 cf, Depth= 6.10"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

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

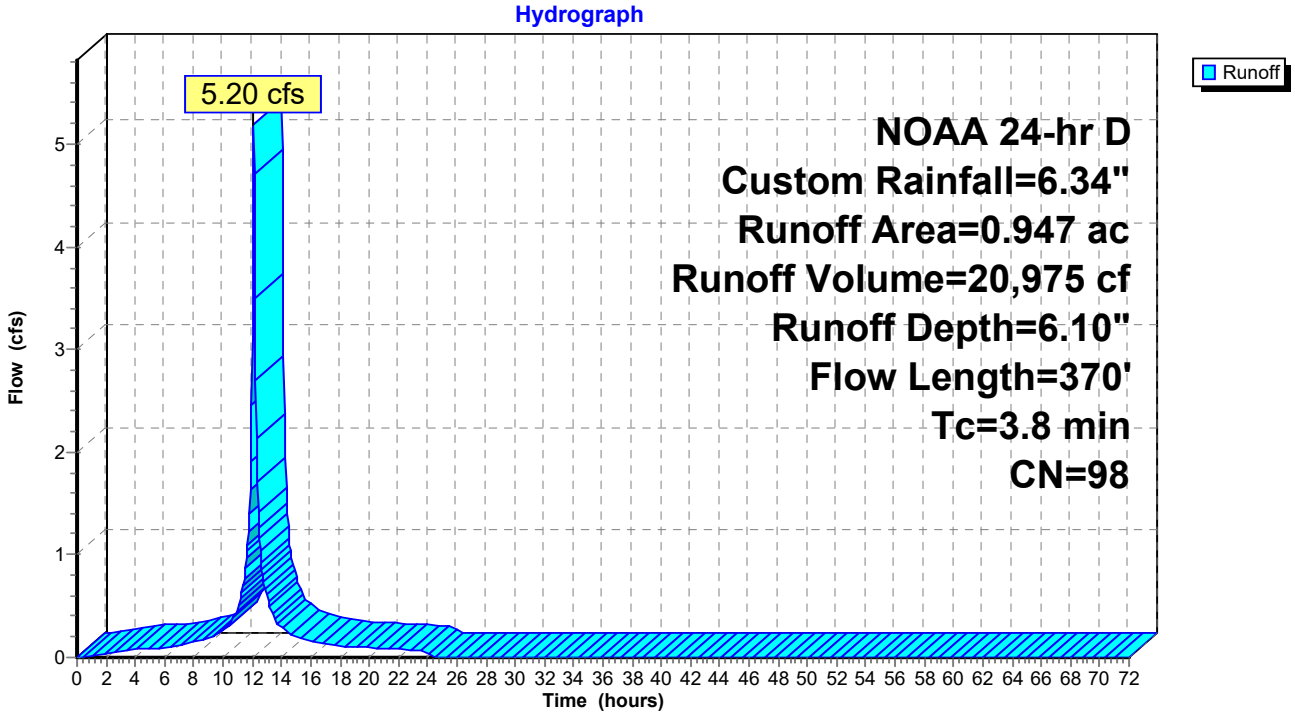
Runoff = 5.20 cfs @ 12.11 hrs, Volume= 20,975 cf, Depth= 6.10"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

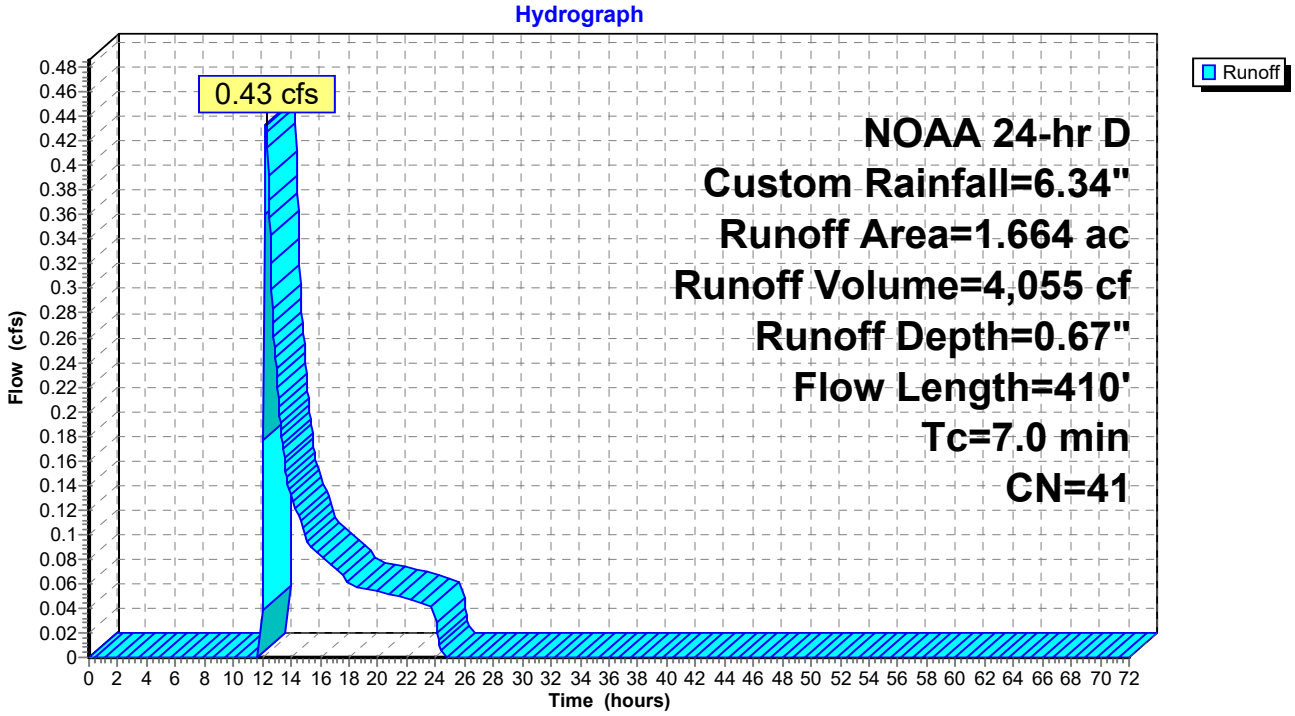
Runoff = 0.43 cfs @ 12.26 hrs, Volume= 4,055 cf, Depth= 0.67"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 1.73" for Custom event
Inflow = 2.68 cfs @ 12.10 hrs, Volume= 13,286 cf
Outflow = 0.20 cfs @ 14.75 hrs, Volume= 11,510 cf, Atten= 93%, Lag= 158.9 min
Primary = 0.20 cfs @ 14.75 hrs, Volume= 11,510 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.09' @ 14.75 hrs Surf.Area= 7,850 sf Storage= 7,677 cf

Plug-Flow detention time= 563.0 min calculated for 11,510 cf (87% of inflow)
Center-of-Mass det. time= 492.1 min (1,294.4 - 802.3)

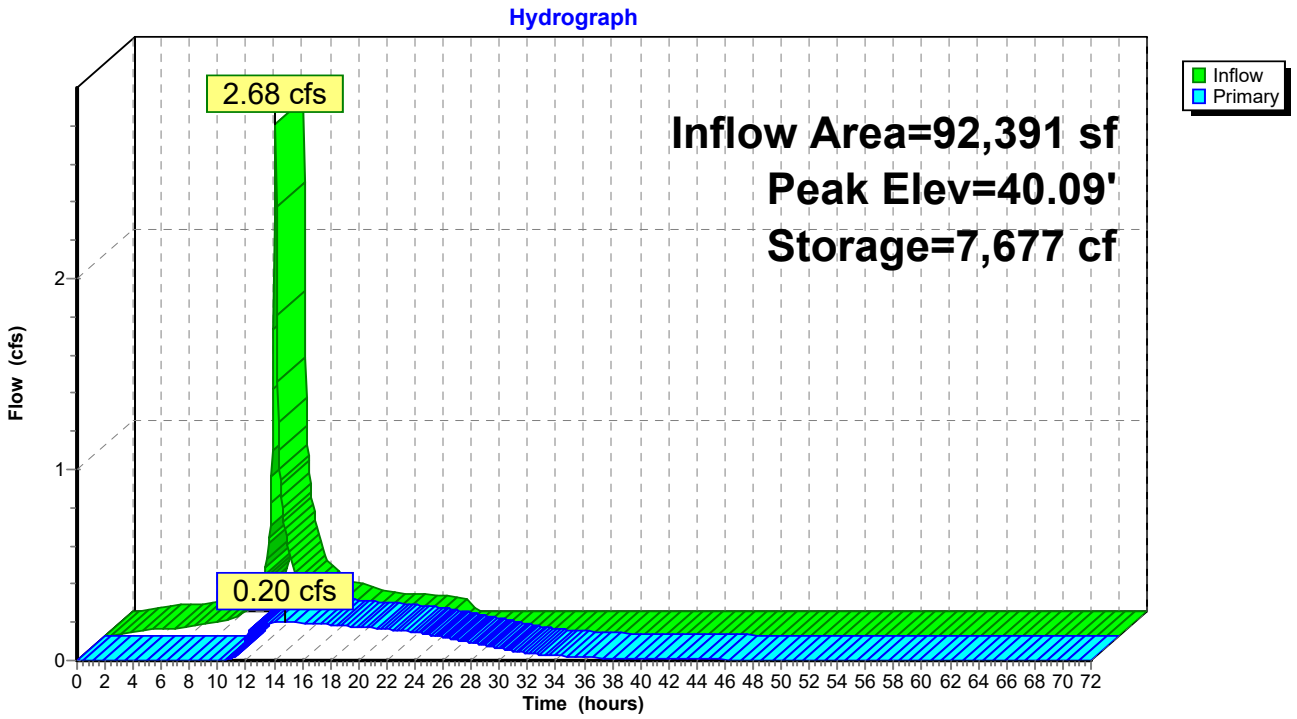
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 14.75 hrs HW=40.09' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 4.05 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

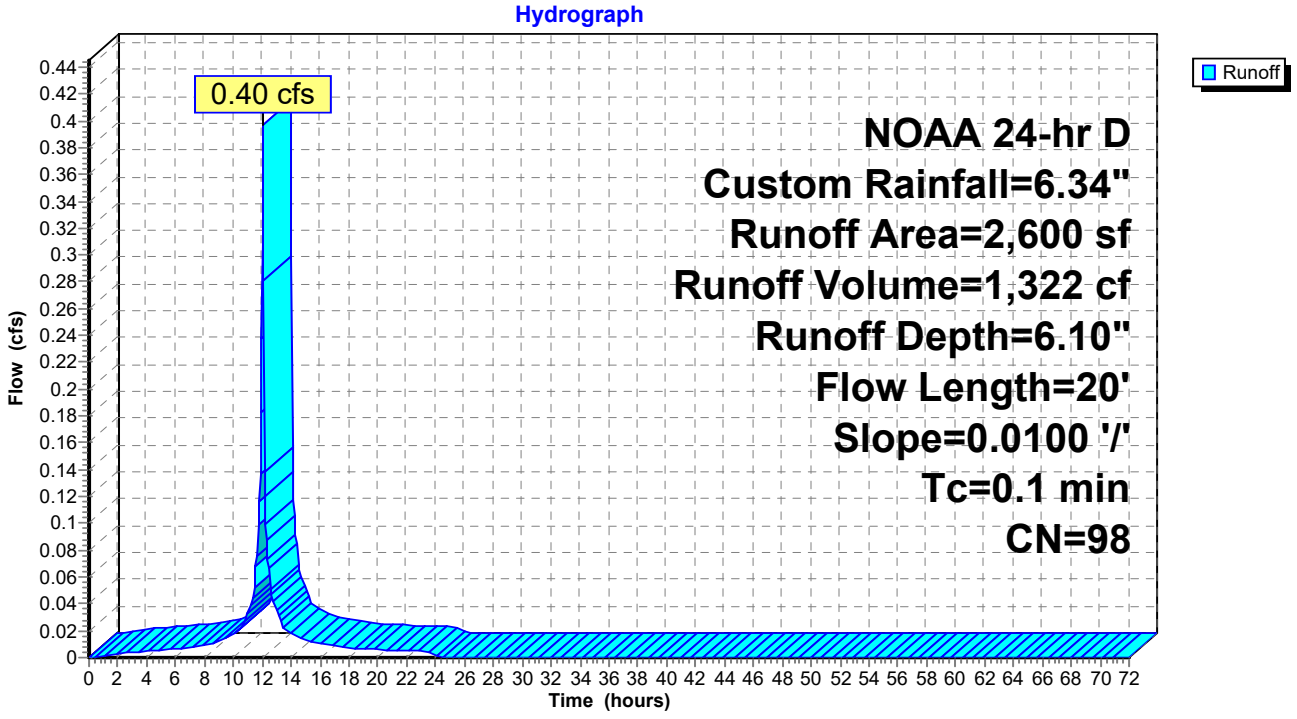
Runoff = 0.40 cfs @ 12.05 hrs, Volume= 1,322 cf, Depth= 6.10"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

[81] Warning: Exceeded Pond 3P by 1.35' @ 71.95 hrs

Inflow = 5.02 cfs @ 12.15 hrs, Volume= 25,674 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.20' @ 37.75 hrs Surf.Area= 28,449 sf Storage= 25,672 cf

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

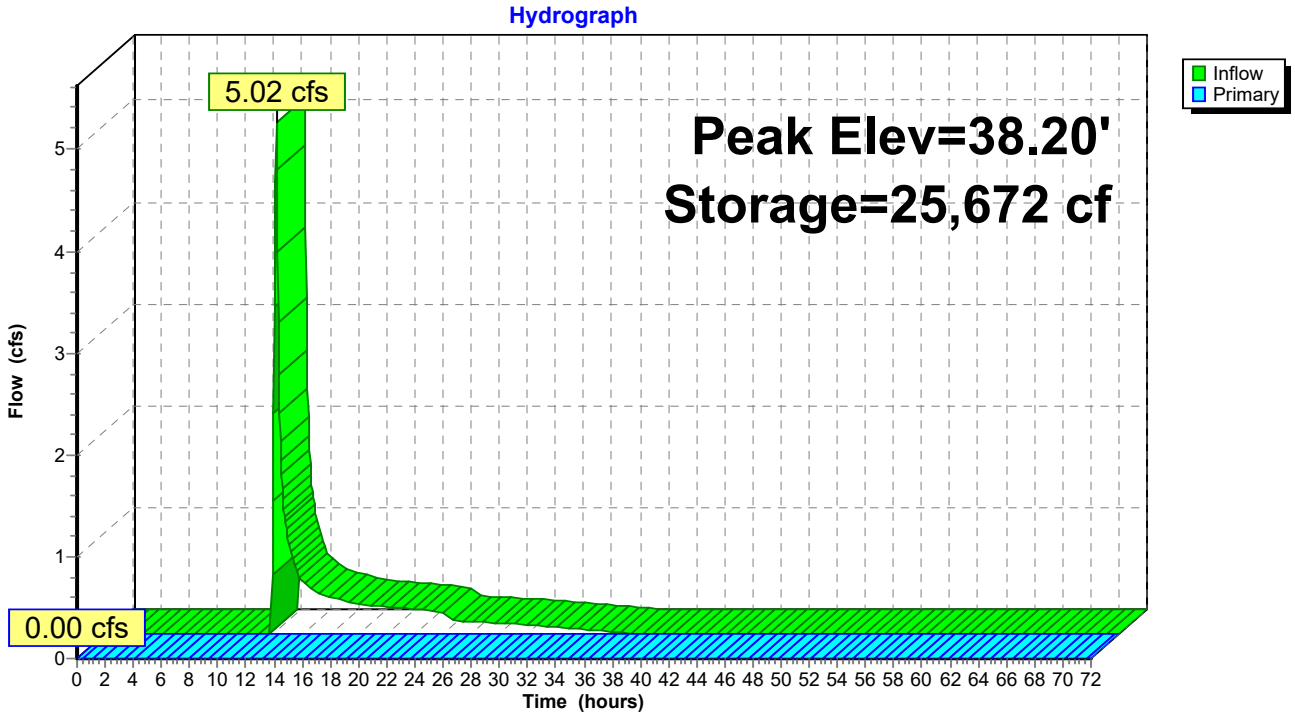
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

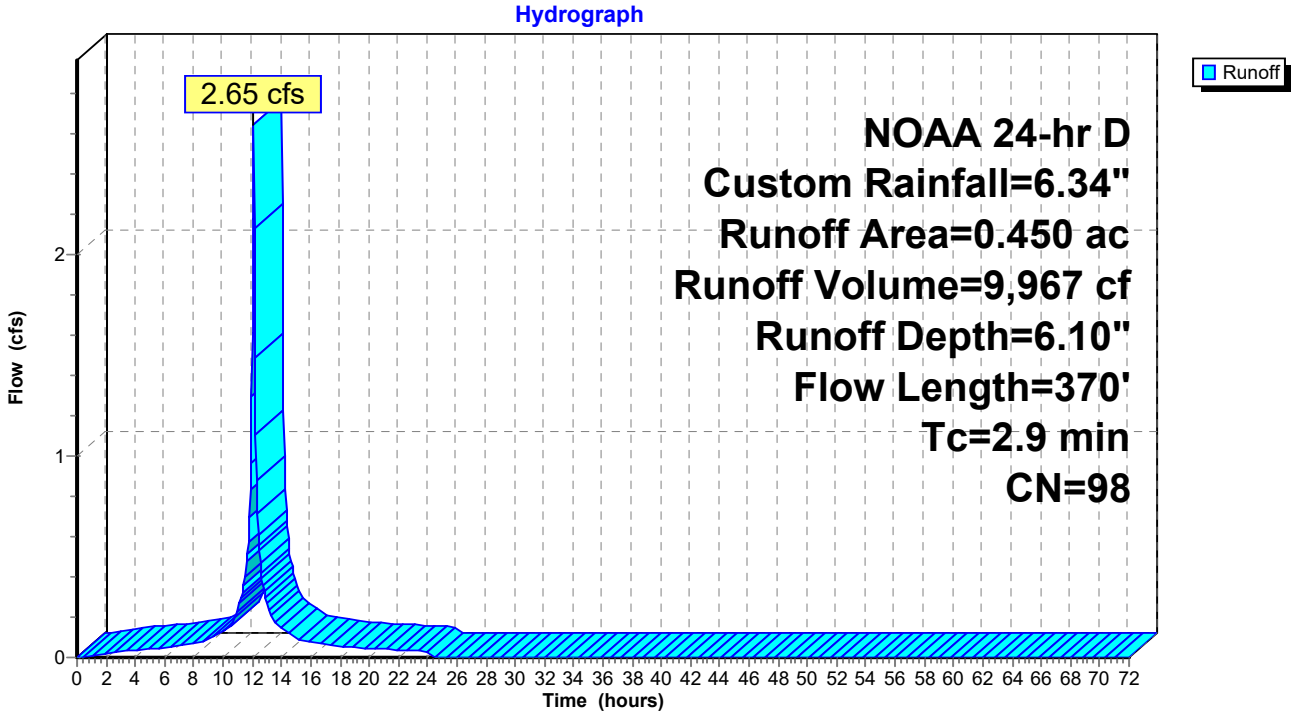
Runoff = 2.65 cfs @ 12.10 hrs, Volume= 9,967 cf, Depth= 6.10"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

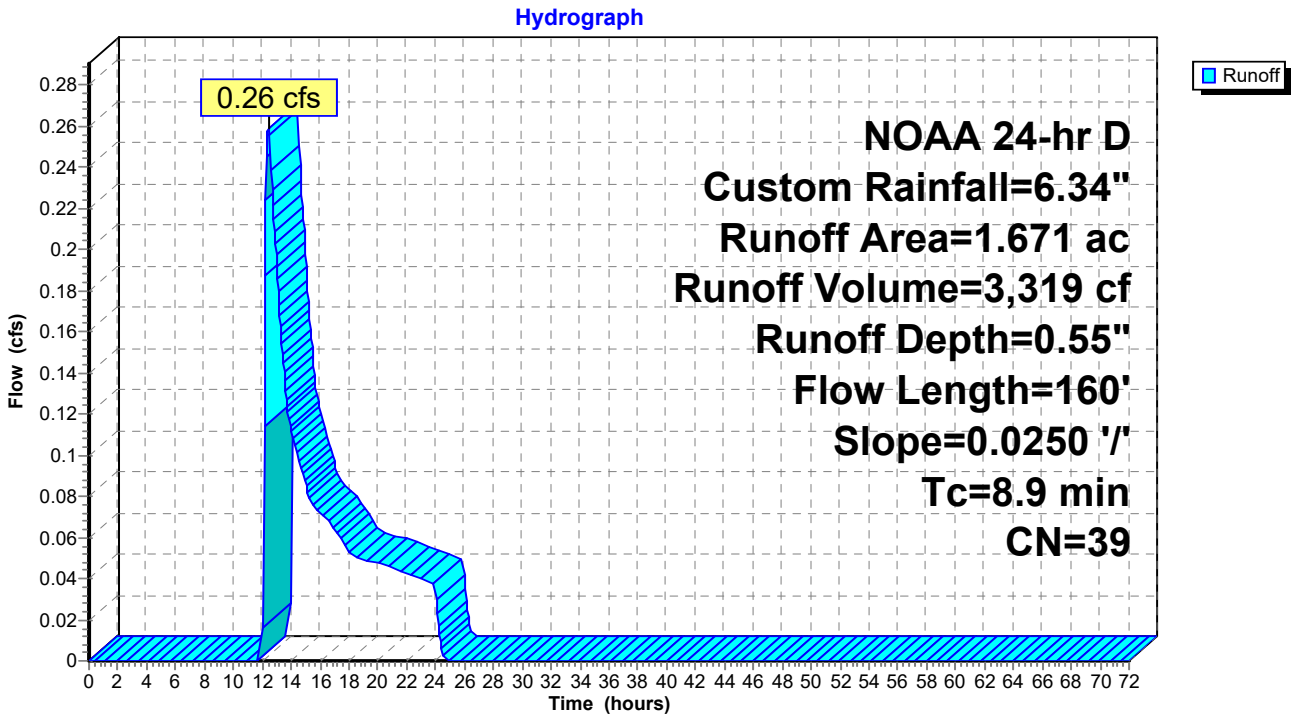
Runoff = 0.26 cfs @ 12.40 hrs, Volume= 3,319 cf, Depth= 0.55"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 3.92" for Custom event
Inflow = 4.67 cfs @ 12.15 hrs, Volume= 20,506 cf
Outflow = 4.49 cfs @ 12.18 hrs, Volume= 18,609 cf, Atten= 4%, Lag= 1.6 min
Primary = 4.49 cfs @ 12.18 hrs, Volume= 18,609 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.05' @ 12.18 hrs Surf.Area= 2,998 sf Storage= 2,456 cf

Plug-Flow detention time= 92.2 min calculated for 18,596 cf (91% of inflow)
Center-of-Mass det. time= 42.6 min (843.1 - 800.5)

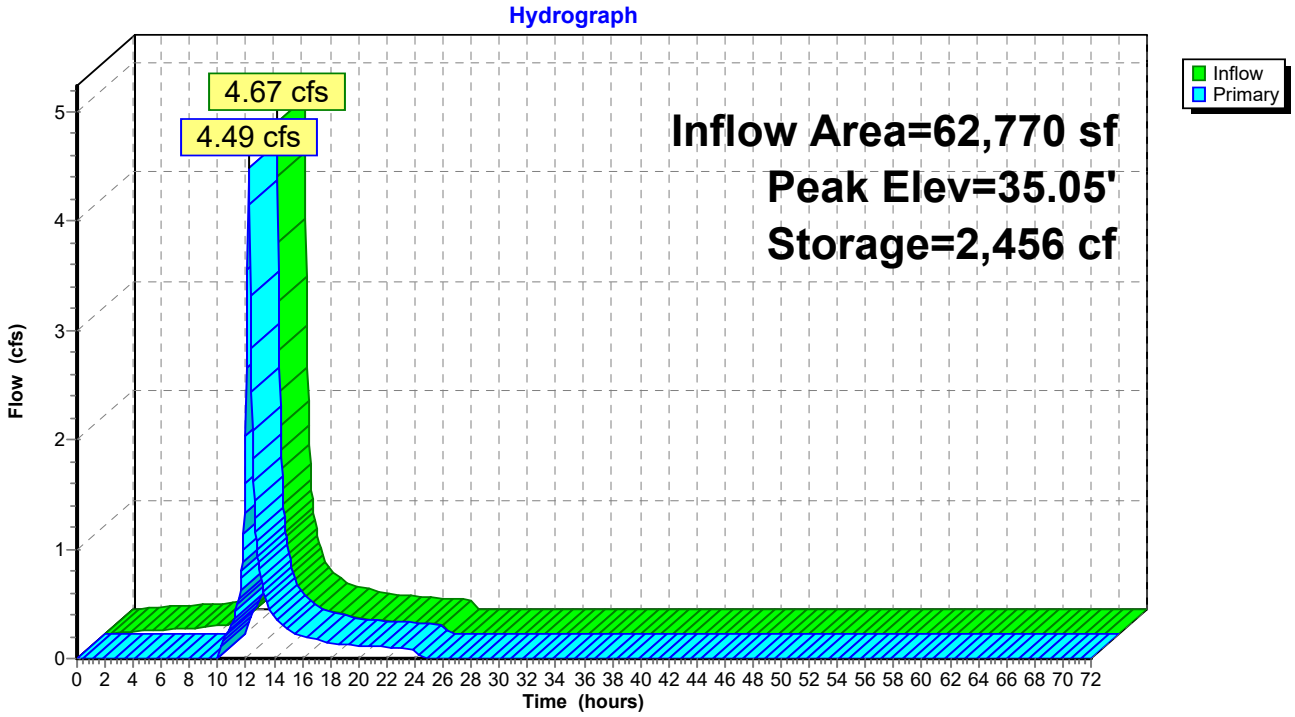
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.41 cfs @ 12.18 hrs HW=35.05' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 4.41 cfs @ 1.43 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

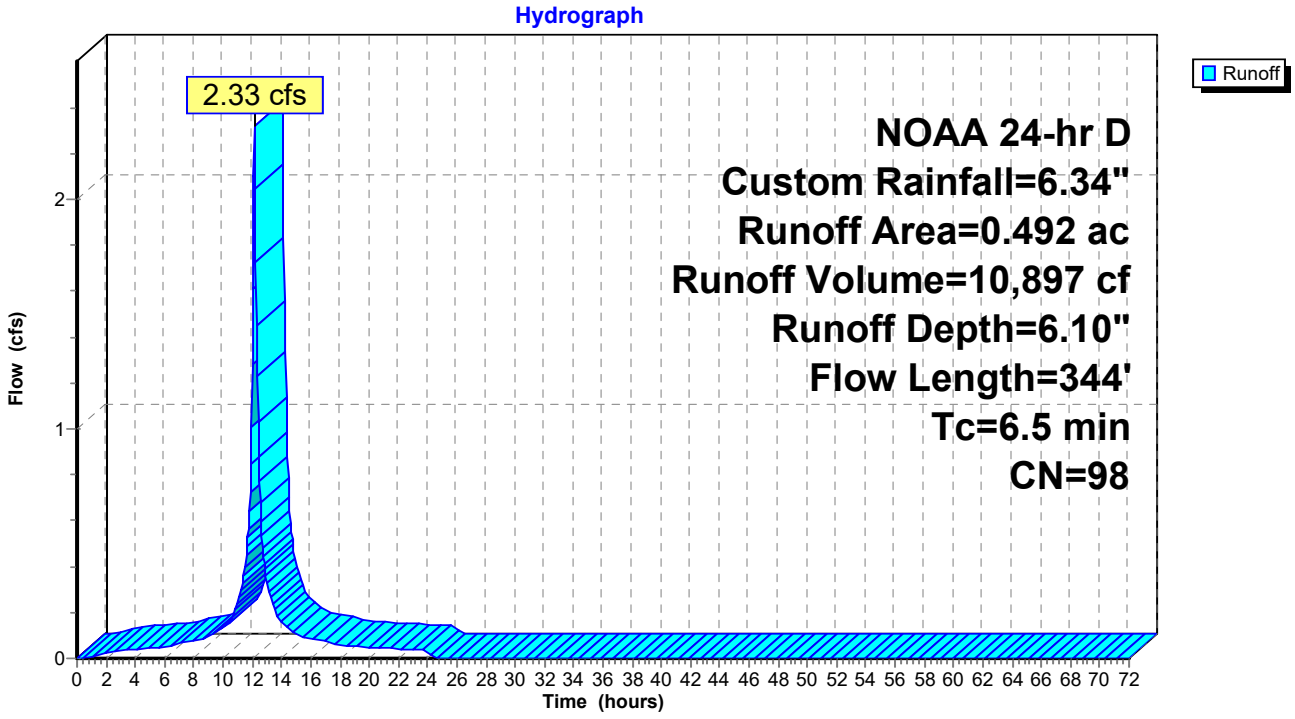
Runoff = 2.33 cfs @ 12.15 hrs, Volume= 10,897 cf, Depth= 6.10"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

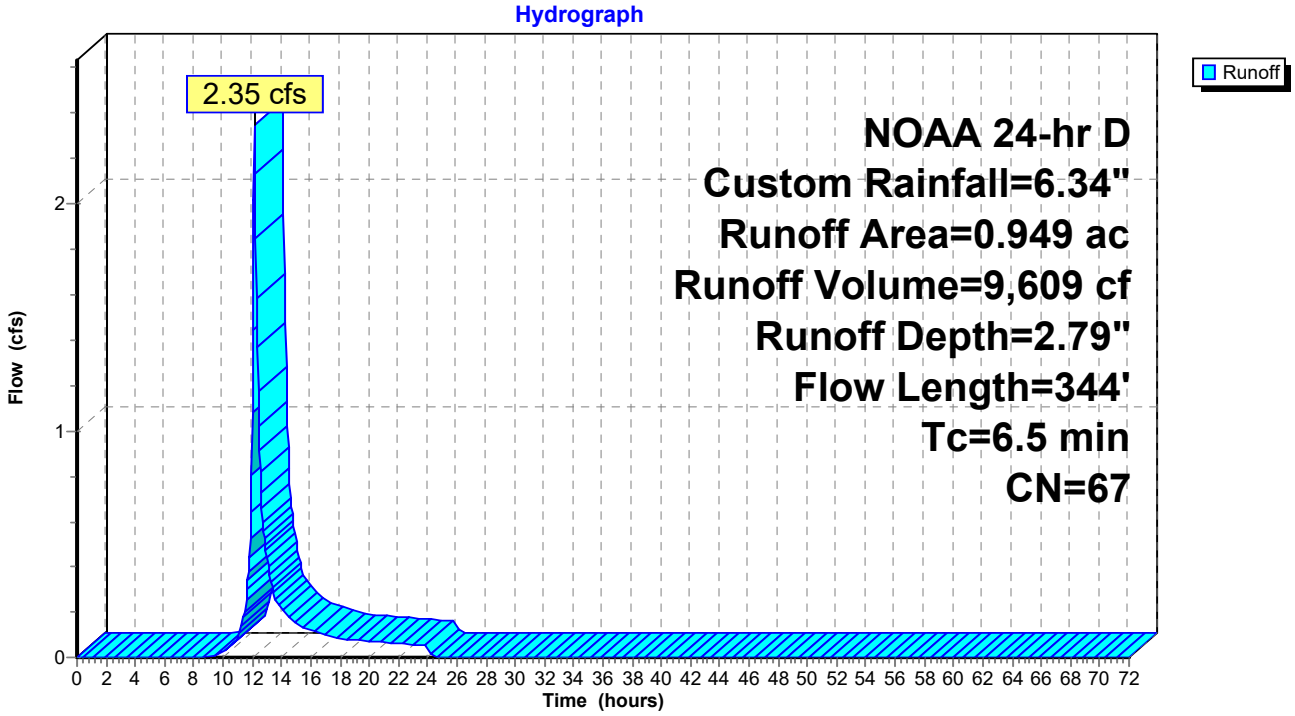
Runoff = 2.35 cfs @ 12.16 hrs, Volume= 9,609 cf, Depth= 2.79"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.34' @ 12.25 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 3.22" for Custom event
Inflow = 27.90 cfs @ 12.16 hrs, Volume= 141,070 cf
Outflow = 27.22 cfs @ 12.19 hrs, Volume= 137,131 cf, Atten= 2%, Lag= 1.8 min
Primary = 27.22 cfs @ 12.19 hrs, Volume= 137,131 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.74' @ 12.19 hrs Surf.Area= 5,761 sf Storage= 12,505 cf

Plug-Flow detention time= 94.4 min calculated for 137,131 cf (97% of inflow)
Center-of-Mass det. time= 65.9 min (943.9 - 877.9)

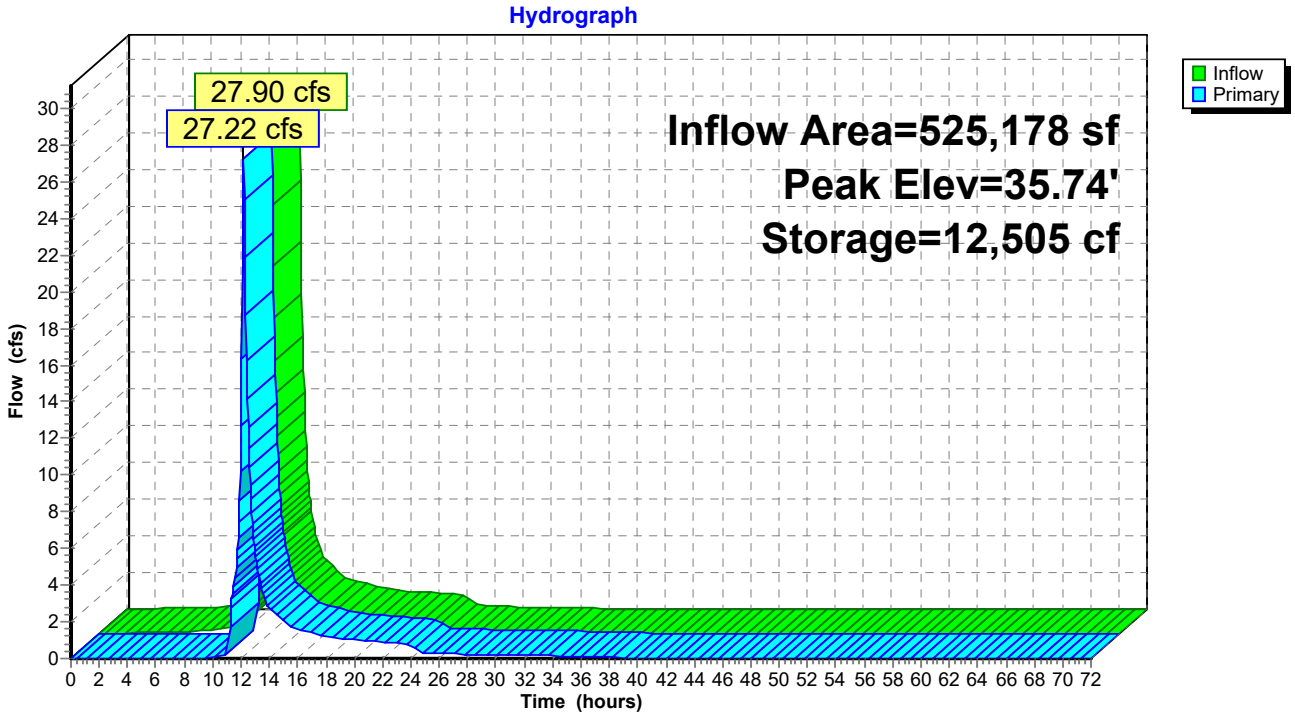
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=27.02 cfs @ 12.19 hrs HW=35.74' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.32 cfs @ 6.61 fps)
2=Orifice/Grate (Weir Controls 26.69 cfs @ 2.61 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

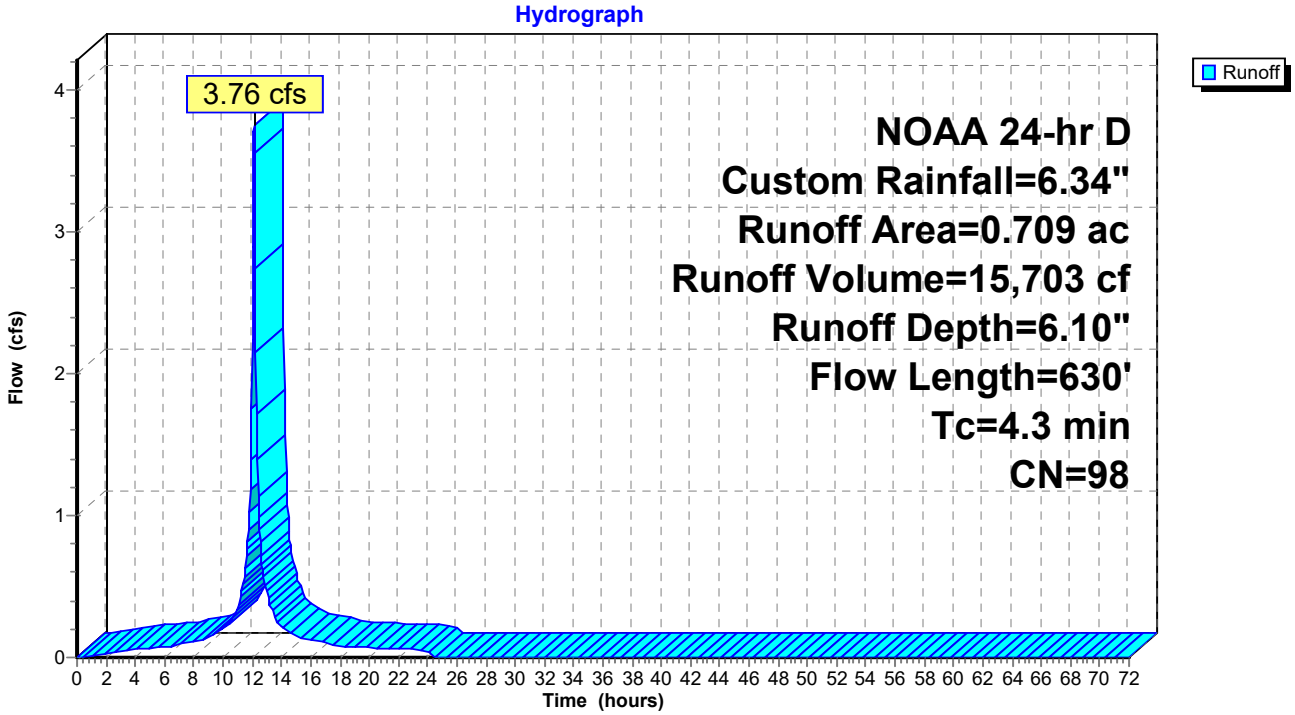
Runoff = 3.76 cfs @ 12.12 hrs, Volume= 15,703 cf, Depth= 6.10"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

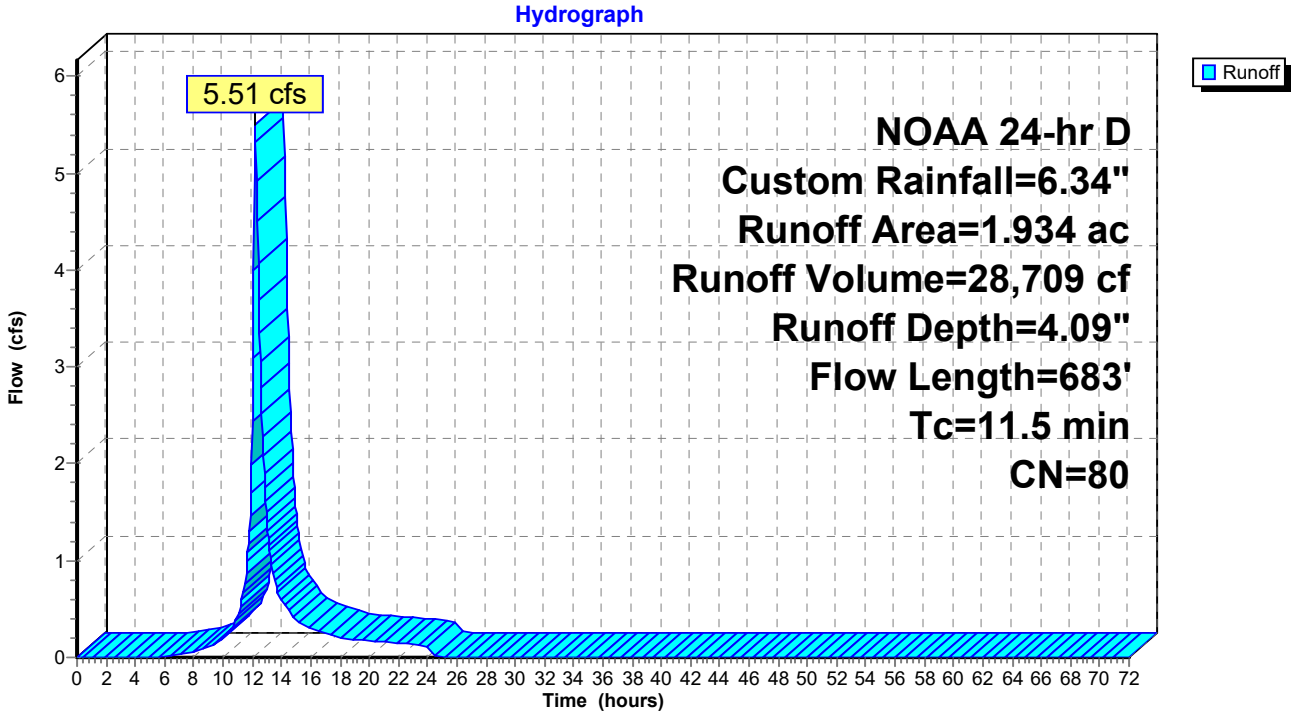
Runoff = 5.51 cfs @ 12.21 hrs, Volume= 28,709 cf, Depth= 4.09"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 2.34" for Custom event
Inflow = 3.48 cfs @ 12.13 hrs, Volume= 17,343 cf
Outflow = 0.25 cfs @ 14.62 hrs, Volume= 14,768 cf, Atten= 93%, Lag= 149.4 min
Primary = 0.25 cfs @ 14.62 hrs, Volume= 14,768 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.71' @ 14.62 hrs Surf.Area= 8,052 sf Storage= 10,634 cf

Plug-Flow detention time= 586.7 min calculated for 14,768 cf (85% of inflow)
Center-of-Mass det. time= 511.0 min (1,294.2 - 783.1)

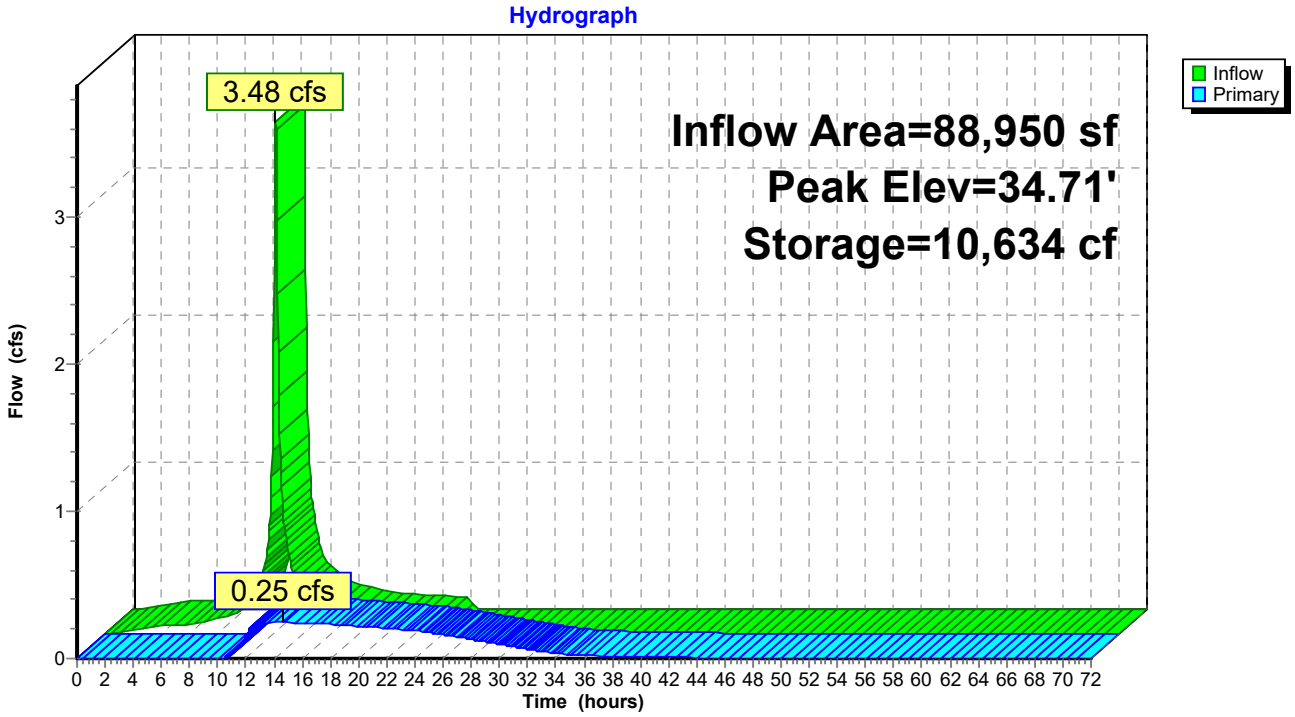
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.25 cfs @ 14.62 hrs HW=34.71' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.01 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

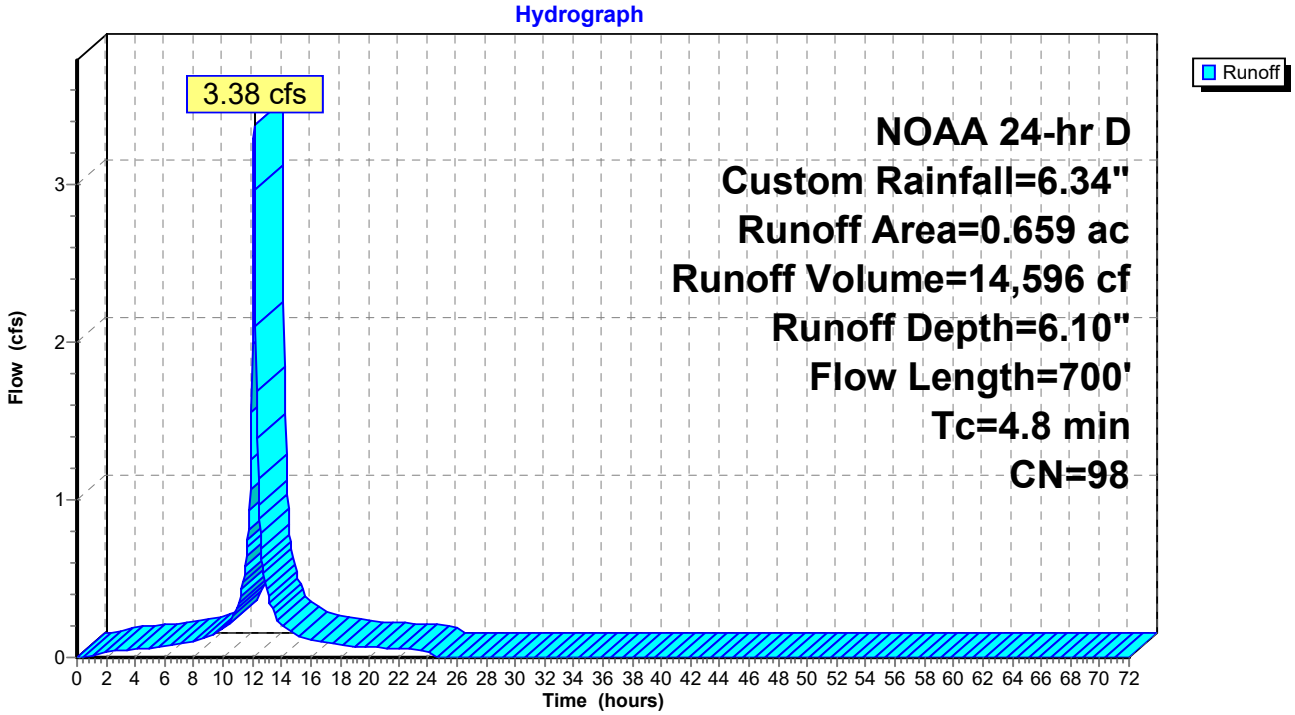
Runoff = 3.38 cfs @ 12.13 hrs, Volume= 14,596 cf, Depth= 6.10"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

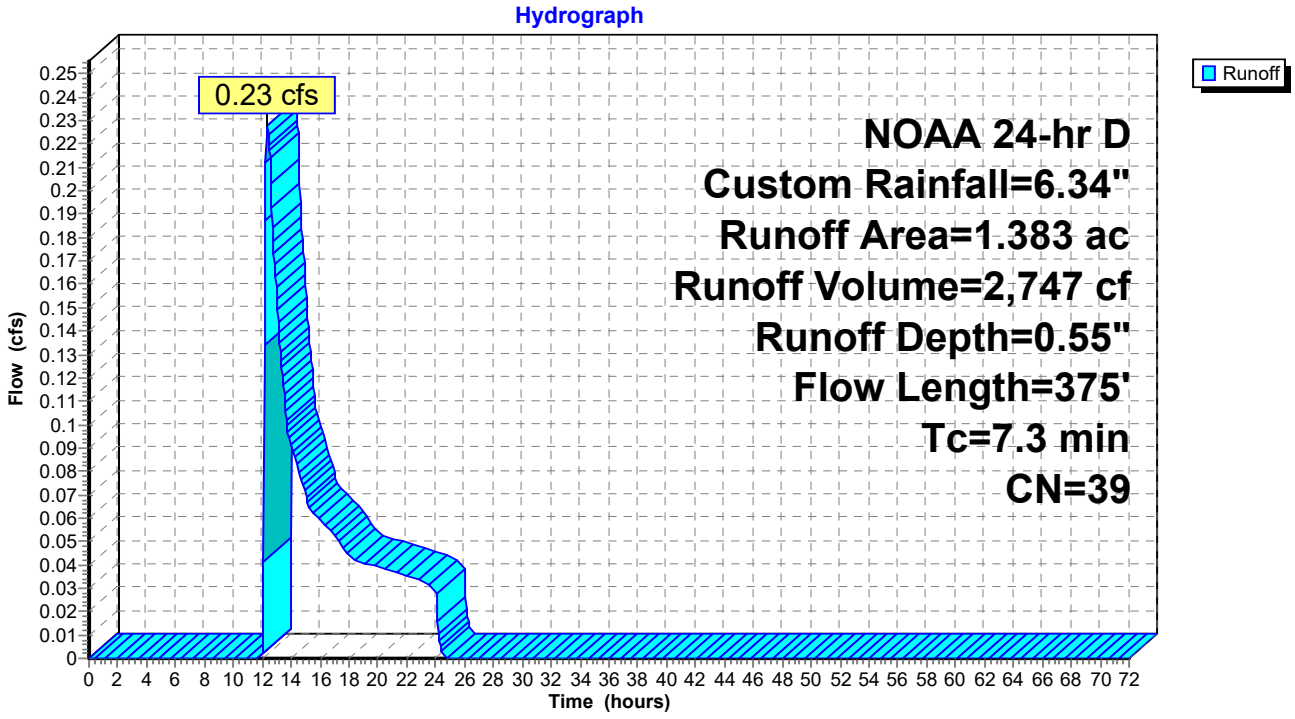
Runoff = 0.23 cfs @ 12.35 hrs, Volume= 2,747 cf, Depth= 0.55"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

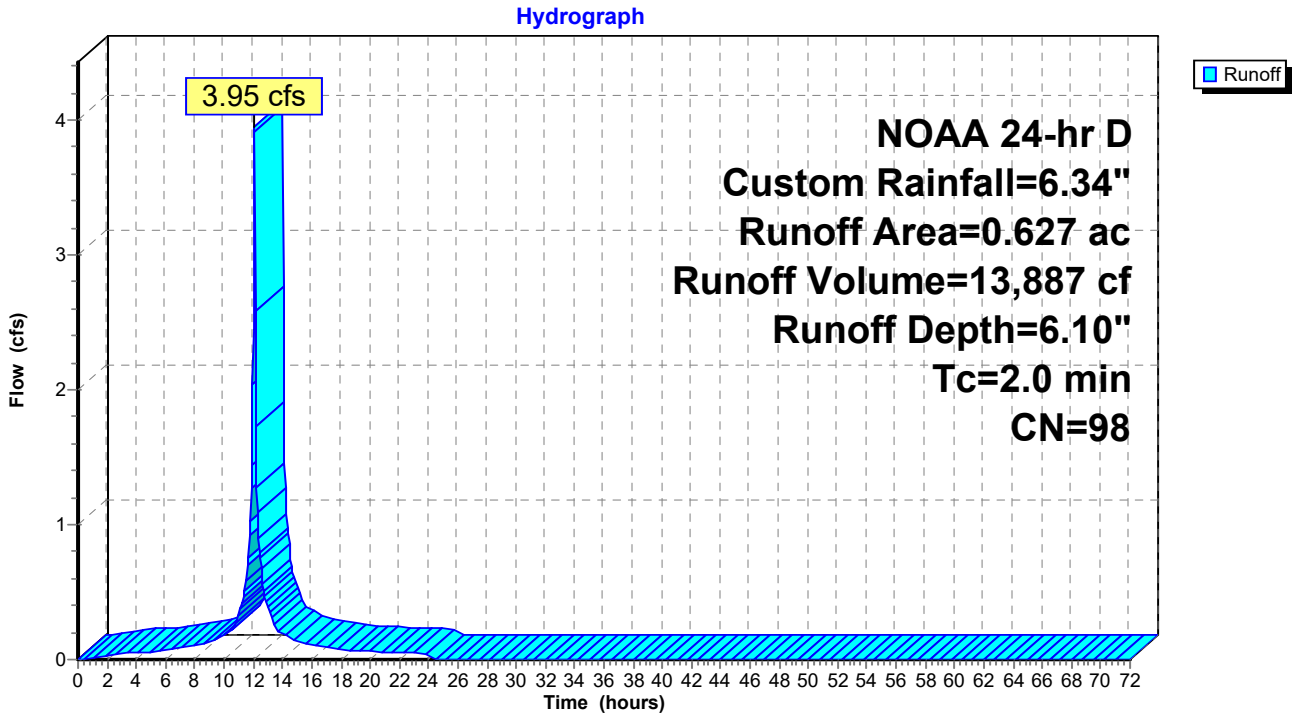
Runoff = 3.95 cfs @ 12.09 hrs, Volume= 13,887 cf, Depth= 6.10"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

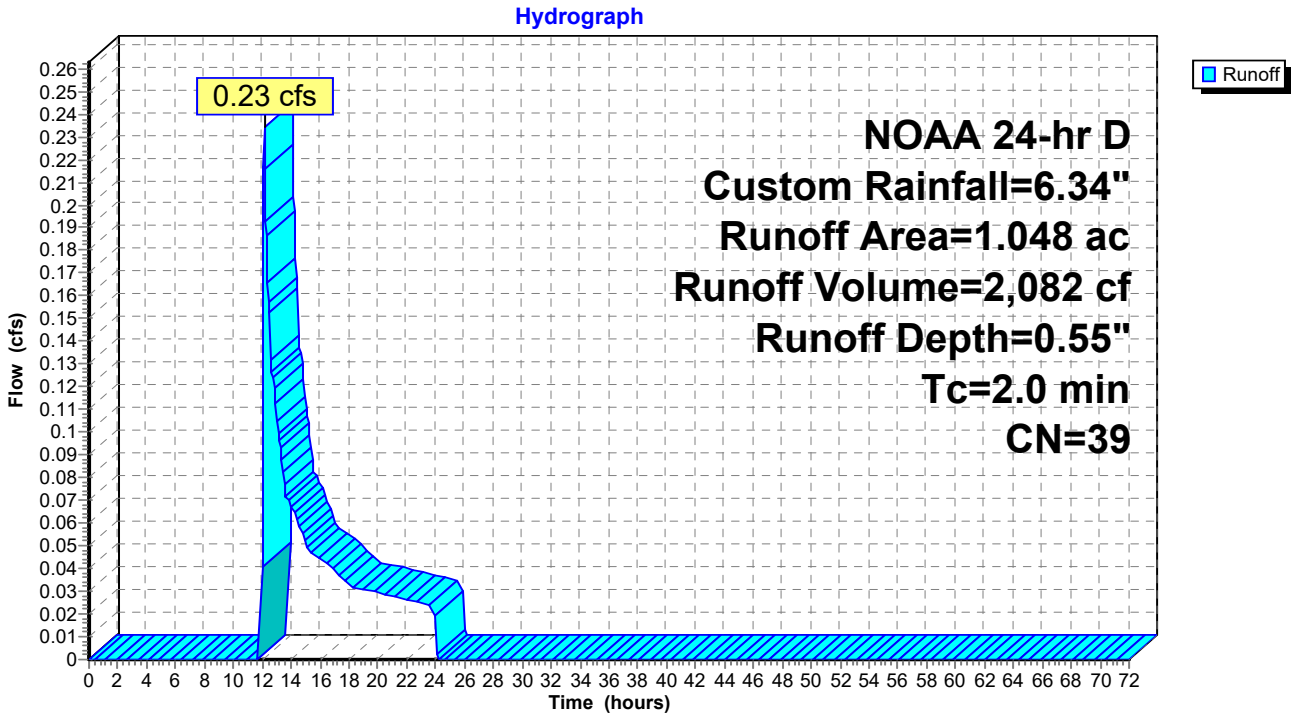
Runoff = 0.23 cfs @ 12.15 hrs, Volume= 2,082 cf, Depth= 0.55"
Routed to Pond 4P : Basin 3

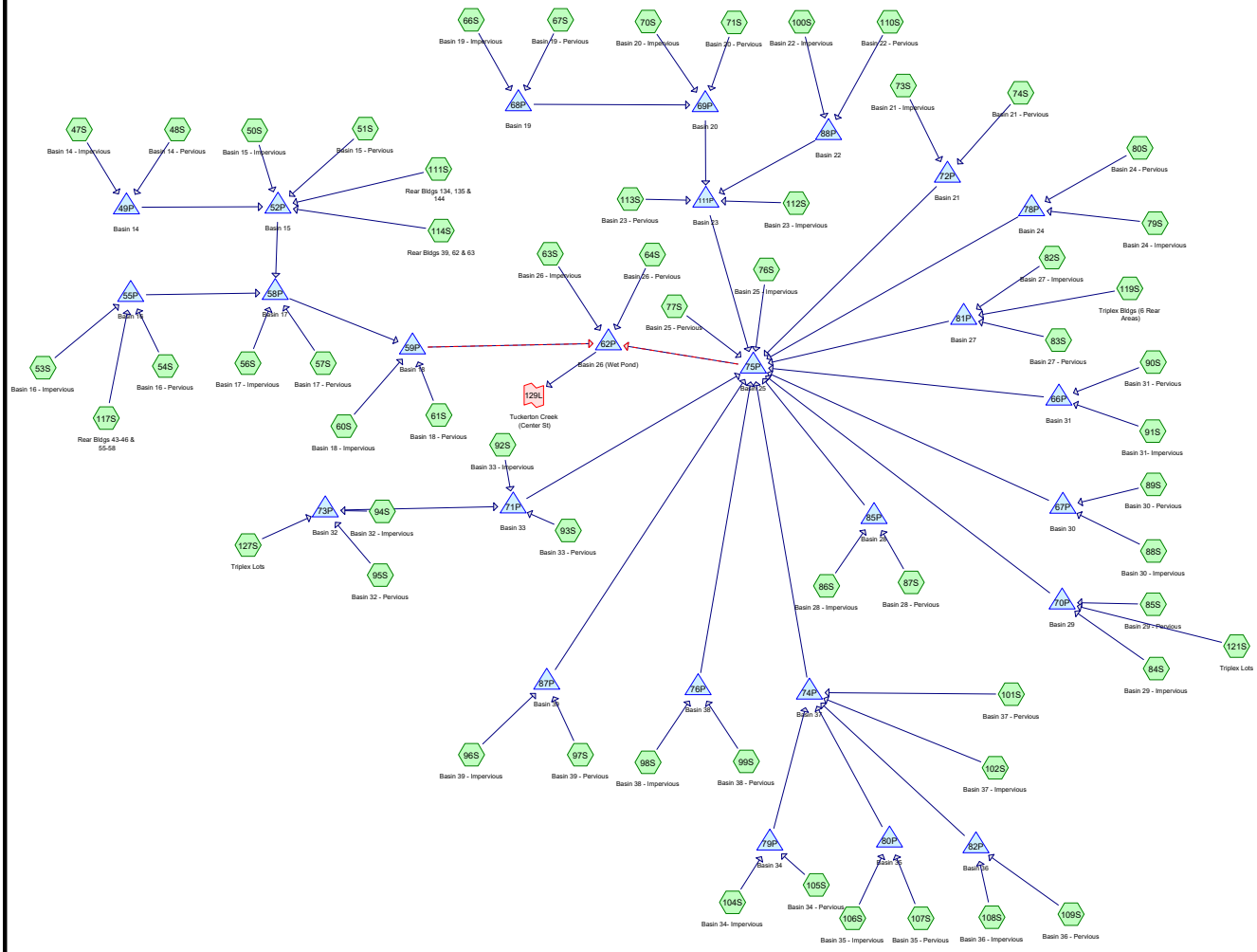
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=6.34"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	9.48	2

Summary for Subcatchment 47S: Basin 14 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 133% of capacity of segment #2

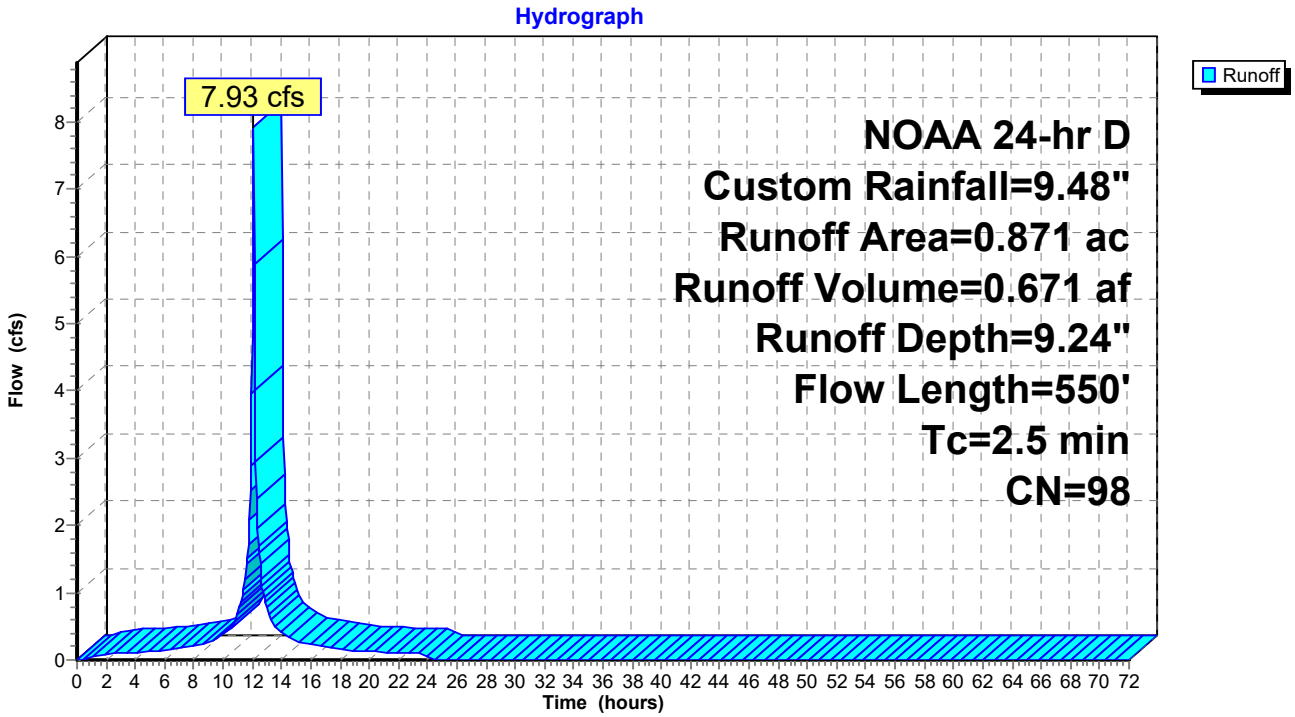
Runoff = 7.93 cfs @ 12.09 hrs, Volume= 0.671 af, Depth= 9.24"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

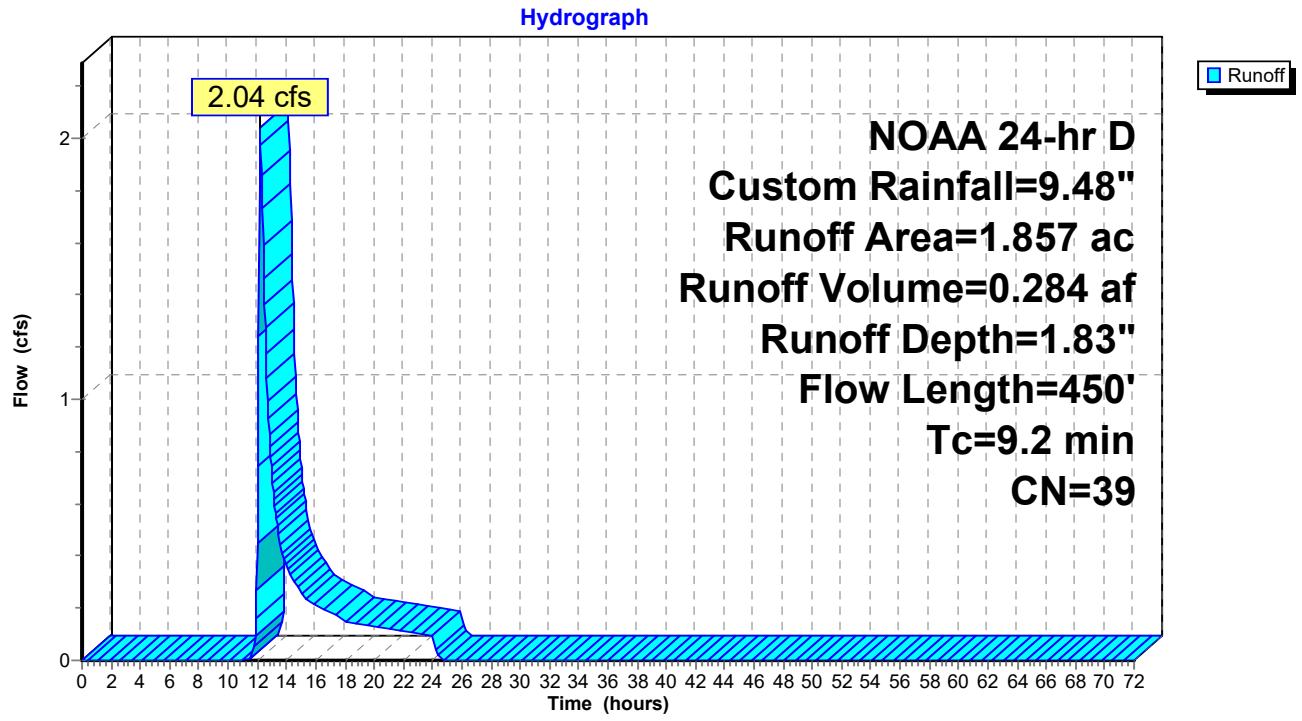
Runoff = 2.04 cfs @ 12.21 hrs, Volume= 0.284 af, Depth= 1.83"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 4.20" for Custom event
Inflow = 9.15 cfs @ 12.10 hrs, Volume= 0.955 af
Outflow = 0.35 cfs @ 17.33 hrs, Volume= 0.872 af, Atten= 96%, Lag= 313.4 min
Primary = 0.35 cfs @ 17.33 hrs, Volume= 0.872 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.45' @ 17.33 hrs Surf.Area= 13,339 sf Storage= 28,109 cf

Plug-Flow detention time= 975.9 min calculated for 0.871 af (91% of inflow)
Center-of-Mass det. time= 928.6 min (1,720.3 - 791.7)

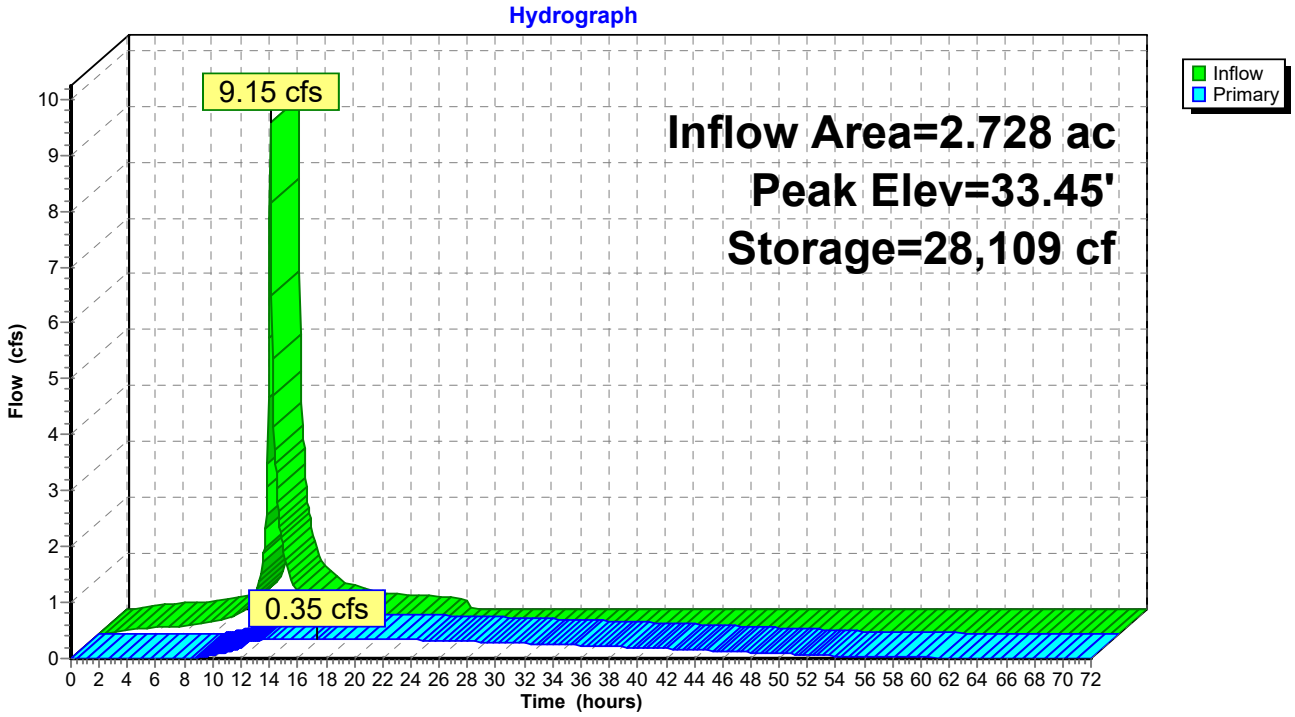
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 17.33 hrs HW=33.45' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.35 cfs @ 7.08 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 105% of capacity of segment #3

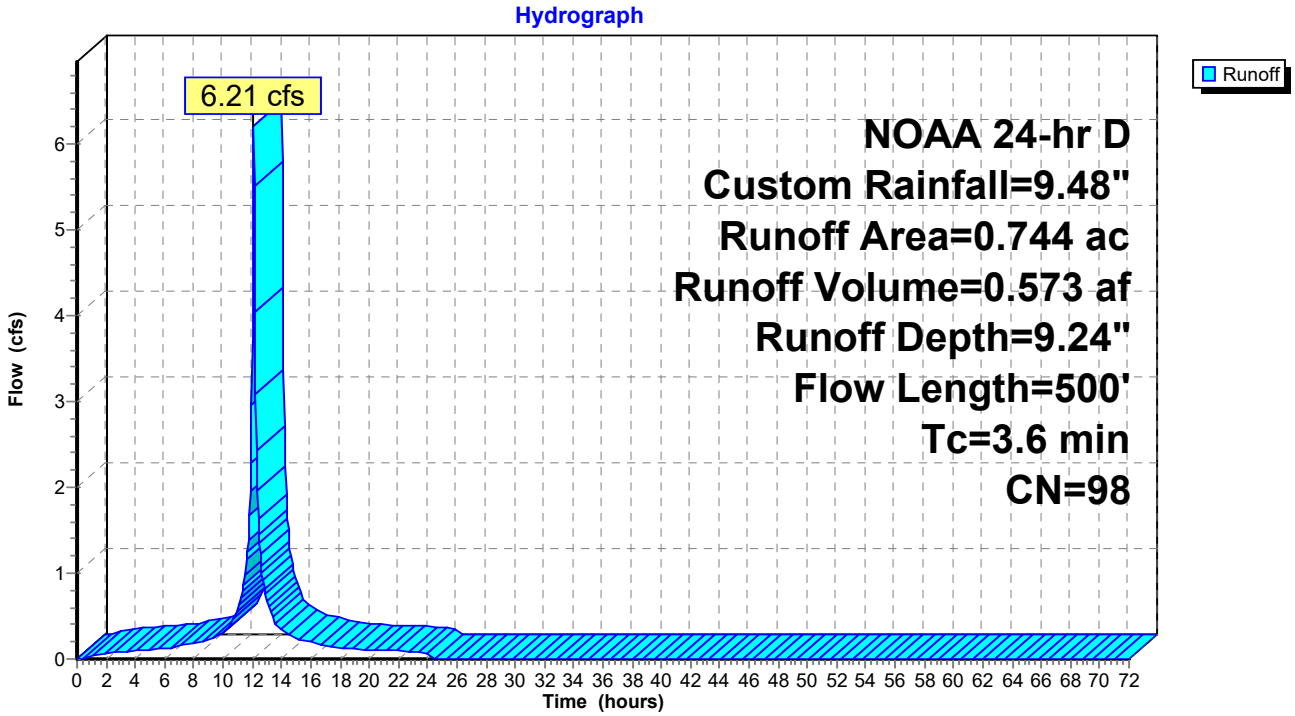
Runoff = 6.21 cfs @ 12.11 hrs, Volume= 0.573 af, Depth= 9.24"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

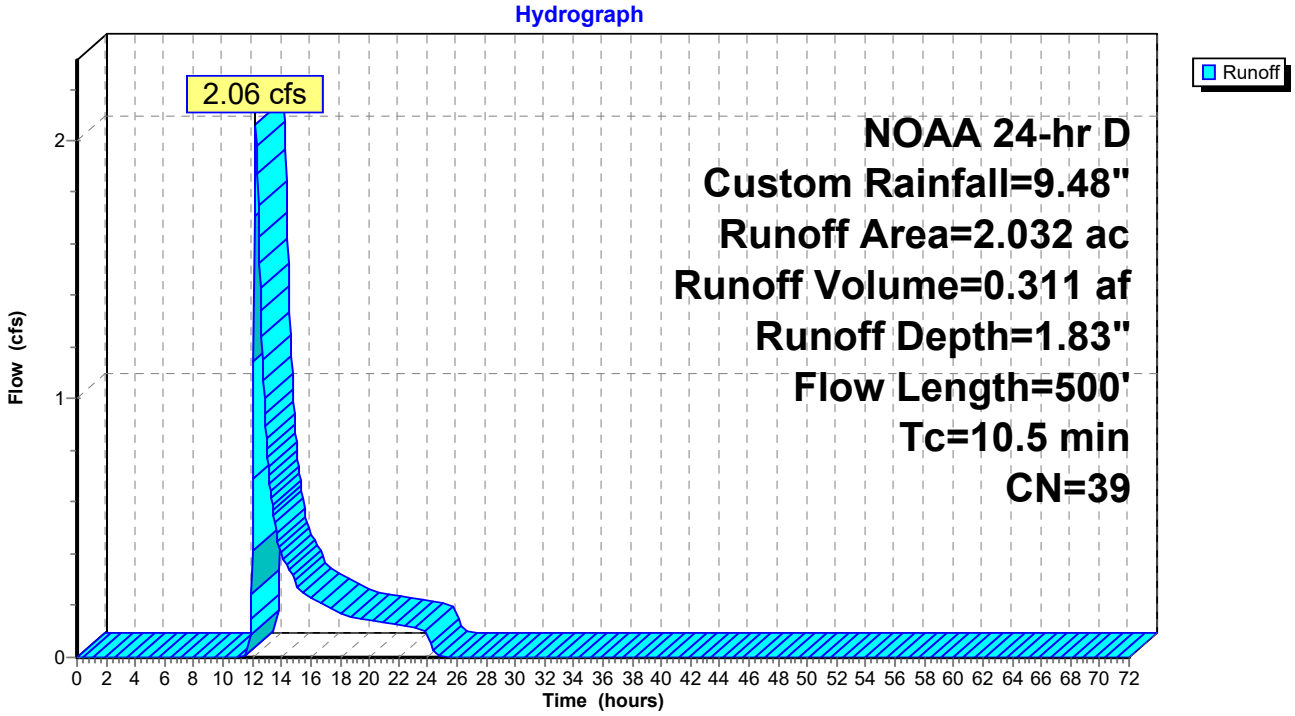
Runoff = 2.06 cfs @ 12.24 hrs, Volume= 0.311 af, Depth= 1.83"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 1.22' @ 38.75 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 4.00" for Custom event
Inflow = 9.23 cfs @ 12.12 hrs, Volume= 1.893 af
Outflow = 2.37 cfs @ 12.80 hrs, Volume= 1.823 af, Atten= 74%, Lag= 41.1 min
Primary = 2.37 cfs @ 12.80 hrs, Volume= 1.823 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.11' @ 12.80 hrs Surf.Area= 9,021 sf Storage= 23,332 cf

Plug-Flow detention time= 593.4 min calculated for 1.822 af (96% of inflow)
Center-of-Mass det. time= 518.7 min (1,739.6 - 1,220.9)

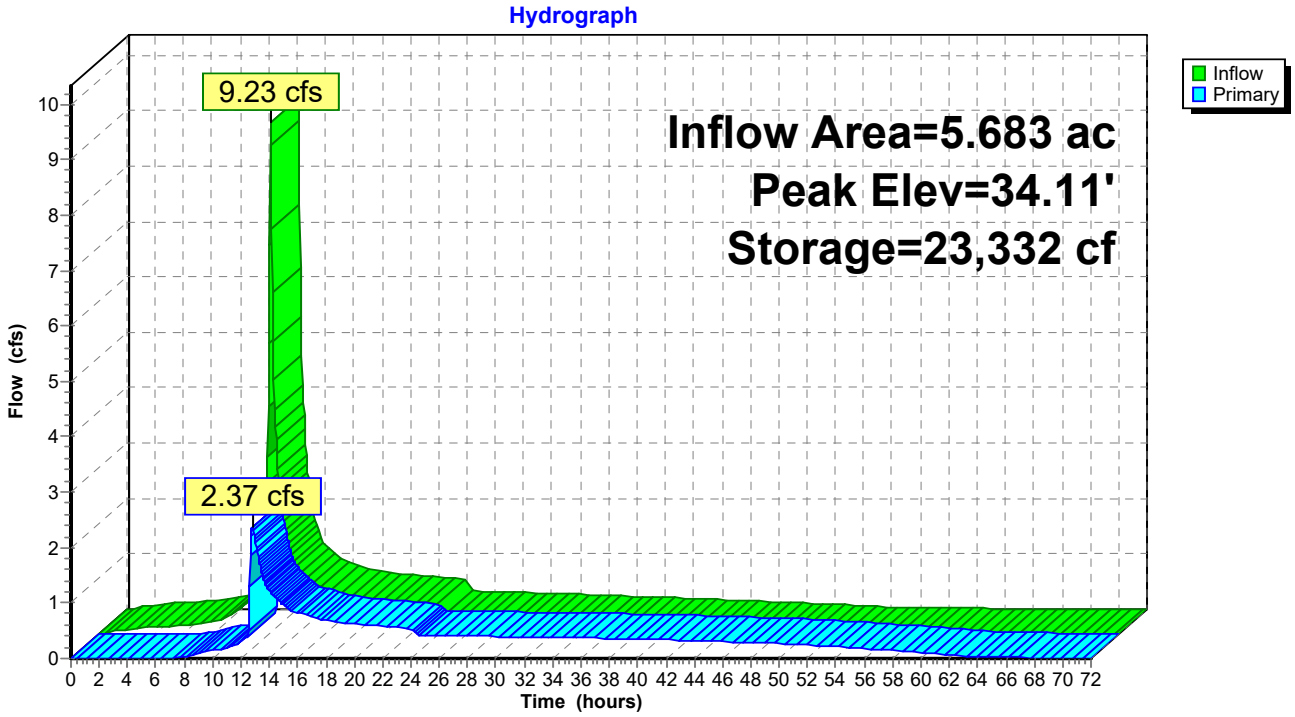
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.33 cfs @ 12.80 hrs HW=34.11' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.51 fps)
└—**2=Orifice/Grate** (Weir Controls 1.91 cfs @ 1.09 fps)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 107% of capacity of segment #3

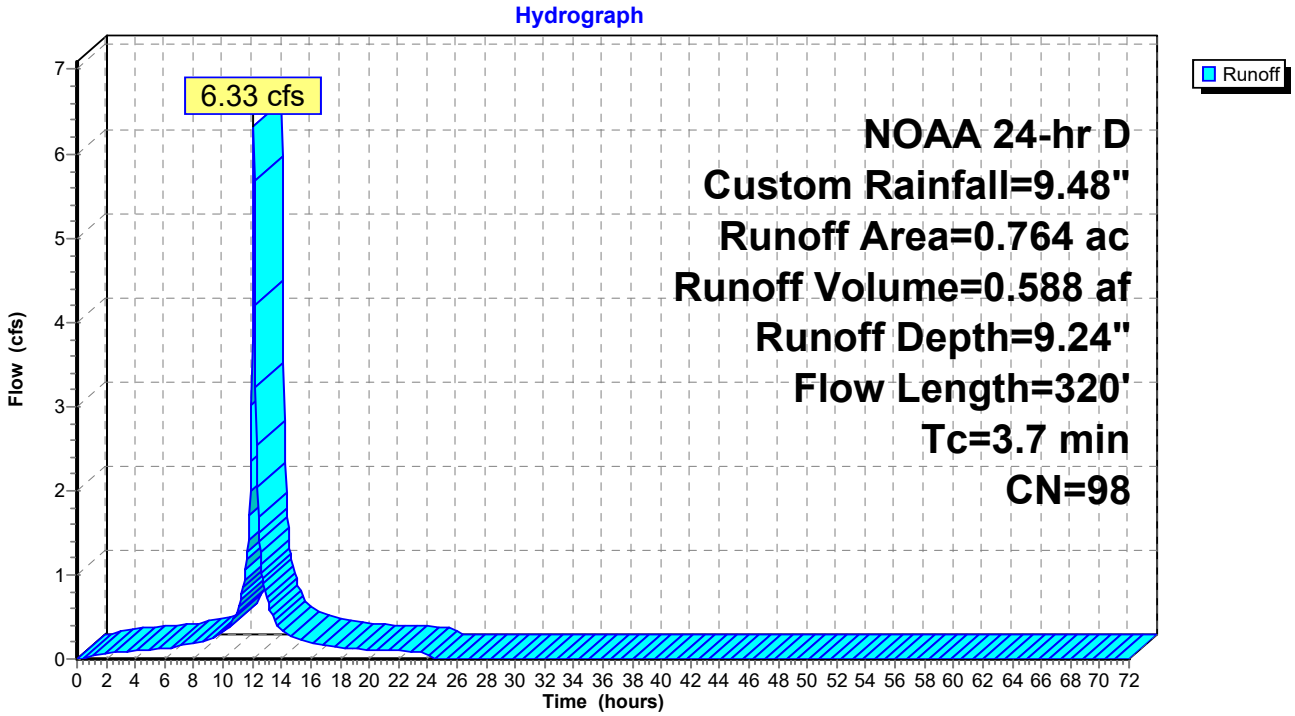
Runoff = 6.33 cfs @ 12.11 hrs, Volume= 0.588 af, Depth= 9.24"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

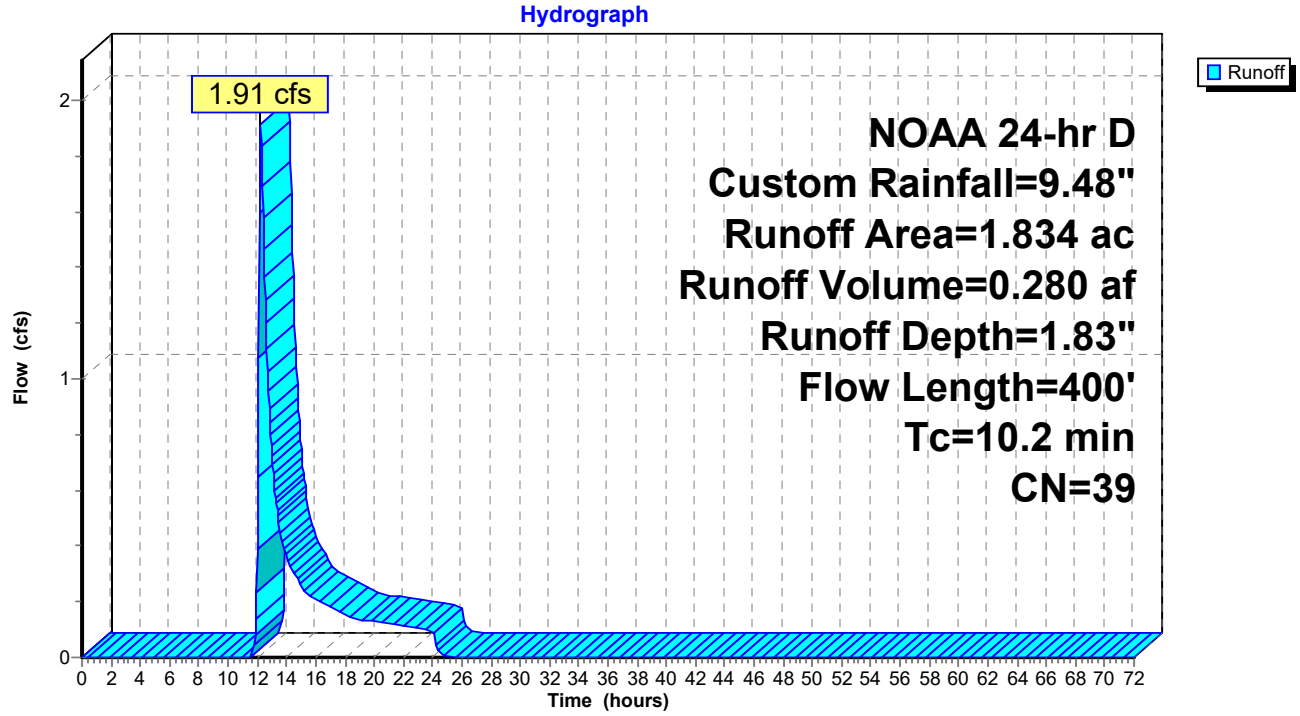
Runoff = 1.91 cfs @ 12.22 hrs, Volume= 0.280 af, Depth= 1.83"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 4.60" for Custom event
Inflow = 10.26 cfs @ 12.12 hrs, Volume= 1.121 af
Outflow = 9.97 cfs @ 12.15 hrs, Volume= 1.056 af, Atten= 3%, Lag= 1.7 min
Primary = 9.97 cfs @ 12.15 hrs, Volume= 1.056 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.52' @ 12.15 hrs Surf.Area= 3,525 sf Storage= 3,969 cf

Plug-Flow detention time= 71.6 min calculated for 1.056 af (94% of inflow)
Center-of-Mass det. time= 36.6 min (821.5 - 784.9)

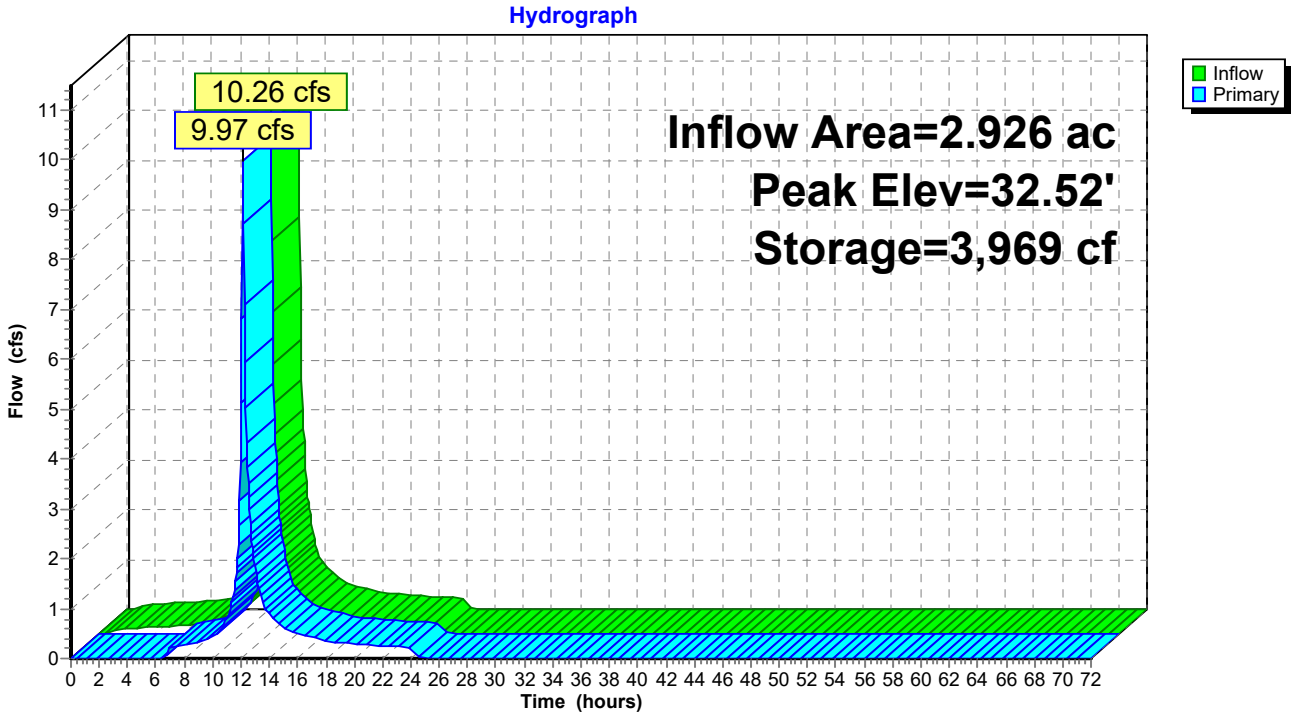
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.89 cfs @ 12.15 hrs HW=32.52' (Free Discharge)
1=Orifice/Grate (Weir Controls 9.89 cfs @ 1.88 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

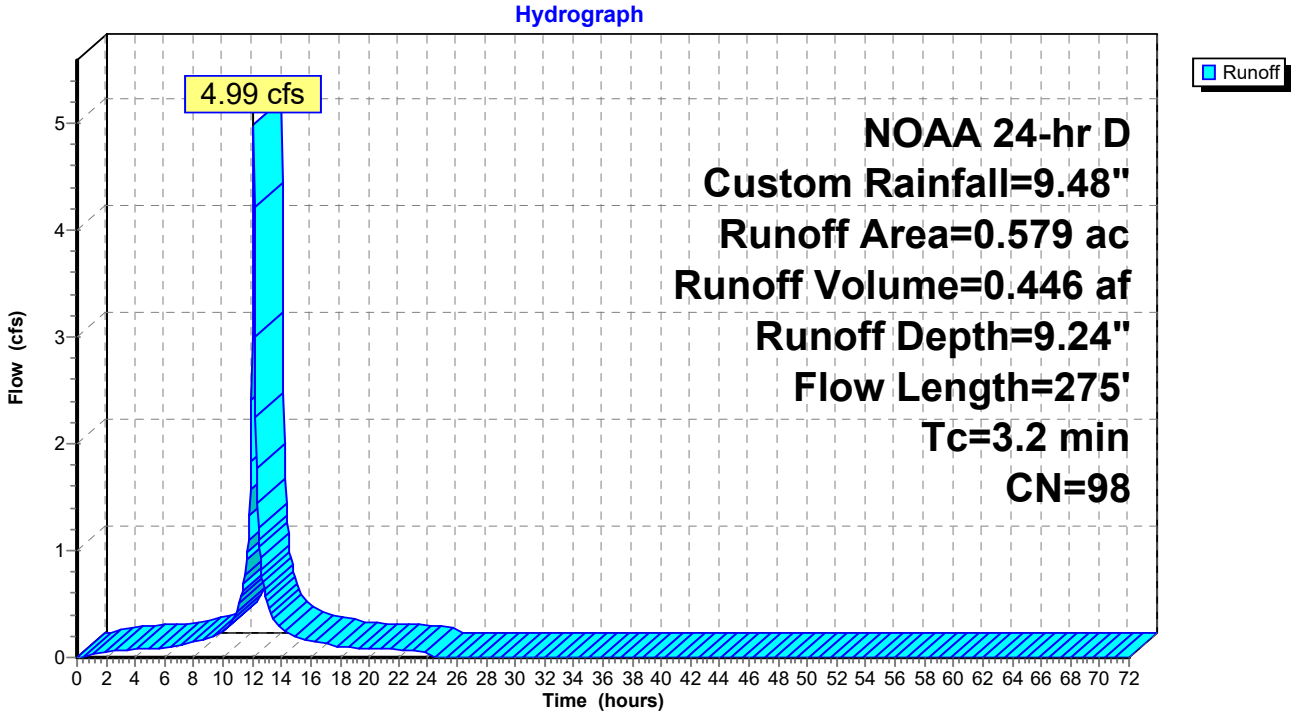
Runoff = 4.99 cfs @ 12.10 hrs, Volume= 0.446 af, Depth= 9.24"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

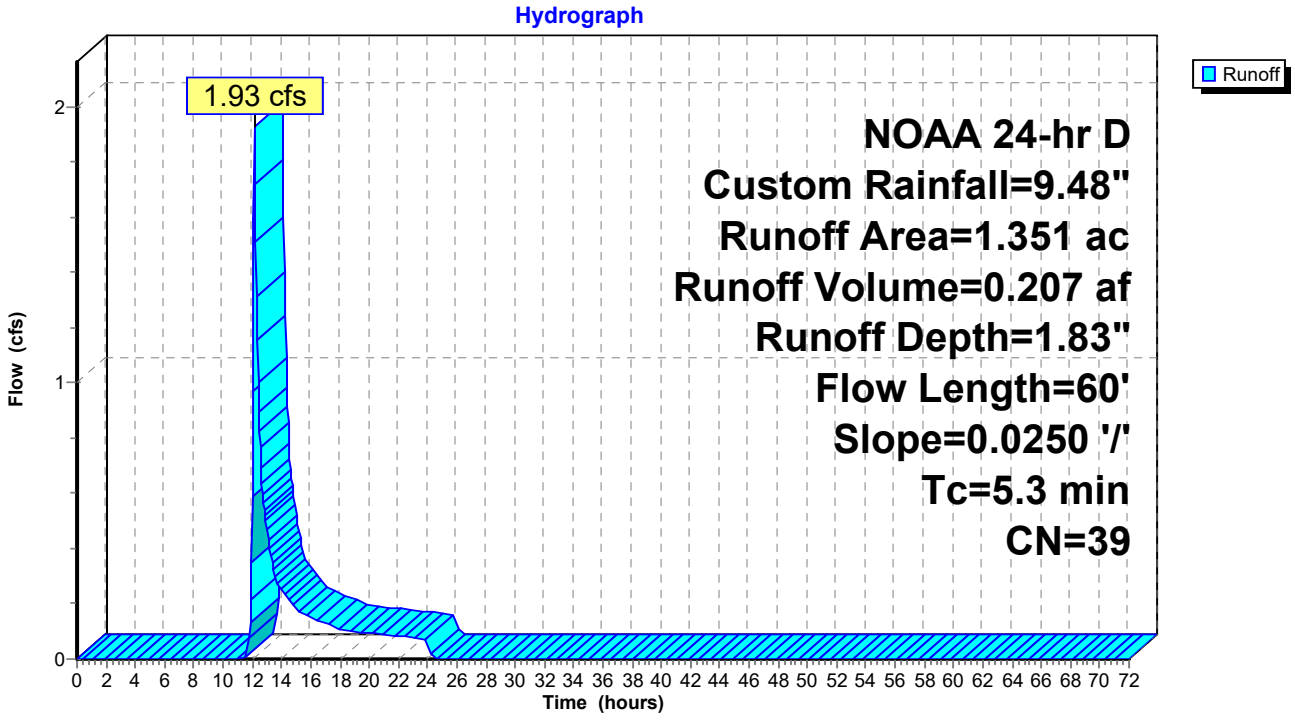
Runoff = 1.93 cfs @ 12.16 hrs, Volume= 0.207 af, Depth= 1.83"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 4.02" for Custom event
Inflow = 16.63 cfs @ 12.13 hrs, Volume= 3.531 af
Outflow = 16.37 cfs @ 12.16 hrs, Volume= 3.481 af, Atten= 2%, Lag= 1.4 min
Primary = 16.37 cfs @ 12.16 hrs, Volume= 3.481 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.85' @ 12.16 hrs Surf.Area= 4,036 sf Storage= 3,921 cf

Plug-Flow detention time= 52.4 min calculated for 3.479 af (99% of inflow)
Center-of-Mass det. time= 18.0 min (1,308.5 - 1,290.5)

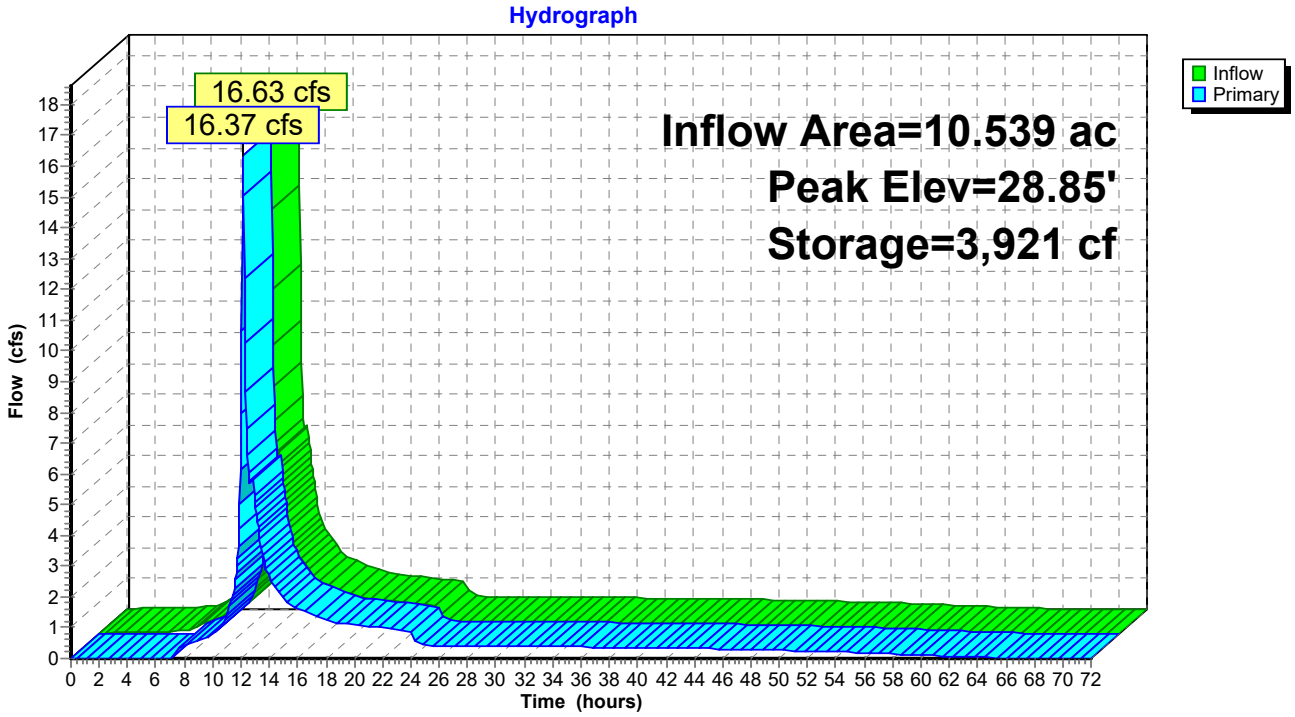
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.19 cfs @ 12.16 hrs HW=28.85' (Free Discharge)
1=Orifice/Grate (Weir Controls 16.19 cfs @ 2.21 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

[79] Warning: Submerged Pond 58P Primary device # 1 by 0.29'

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 3.97" for Custom event
Inflow = 23.42 cfs @ 12.13 hrs, Volume= 4.400 af
Outflow = 23.03 cfs @ 12.16 hrs, Volume= 4.296 af, Atten= 2%, Lag= 1.8 min
Primary = 18.04 cfs @ 12.16 hrs, Volume= 4.202 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 4.99 cfs @ 12.16 hrs, Volume= 0.094 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.69' @ 12.16 hrs Surf.Area= 8,835 sf Storage= 16,786 cf

Plug-Flow detention time= 221.1 min calculated for 4.296 af (98% of inflow)
Center-of-Mass det. time= 164.7 min (1,366.4 - 1,201.8)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

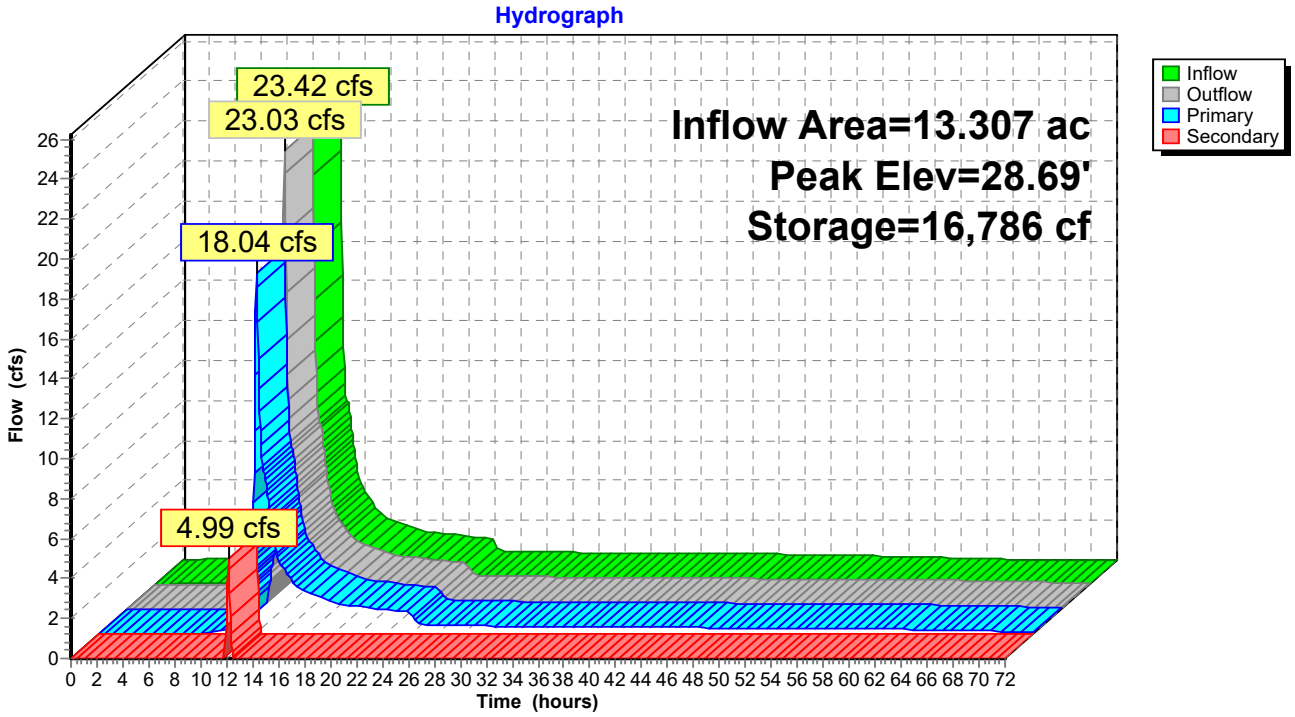
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=17.81 cfs @ 12.16 hrs HW=28.68' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.32 cfs @ 6.45 fps)
└**2=Orifice/Grate** (Weir Controls 17.49 cfs @ 2.27 fps)

Secondary OutFlow Max=4.82 cfs @ 12.16 hrs HW=28.68' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 4.82 cfs @ 1.06 fps)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 126% of capacity of segment #2

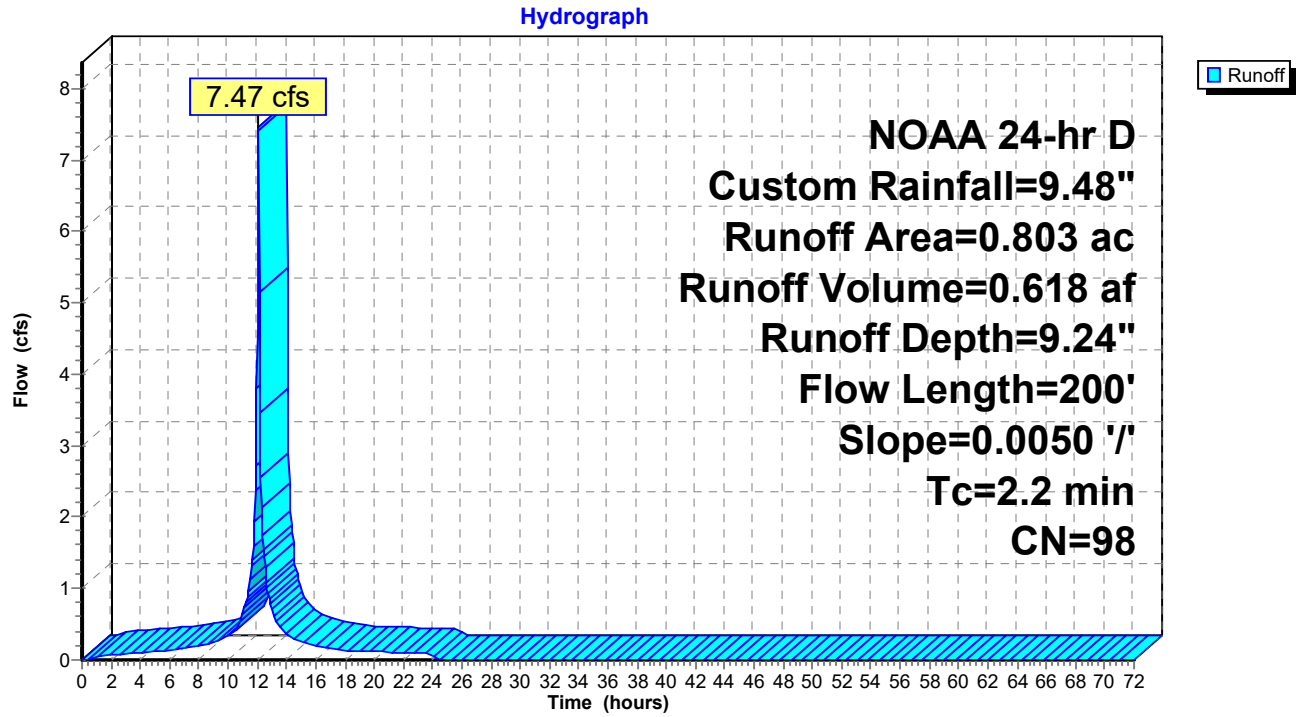
Runoff = 7.47 cfs @ 12.09 hrs, Volume= 0.618 af, Depth= 9.24"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

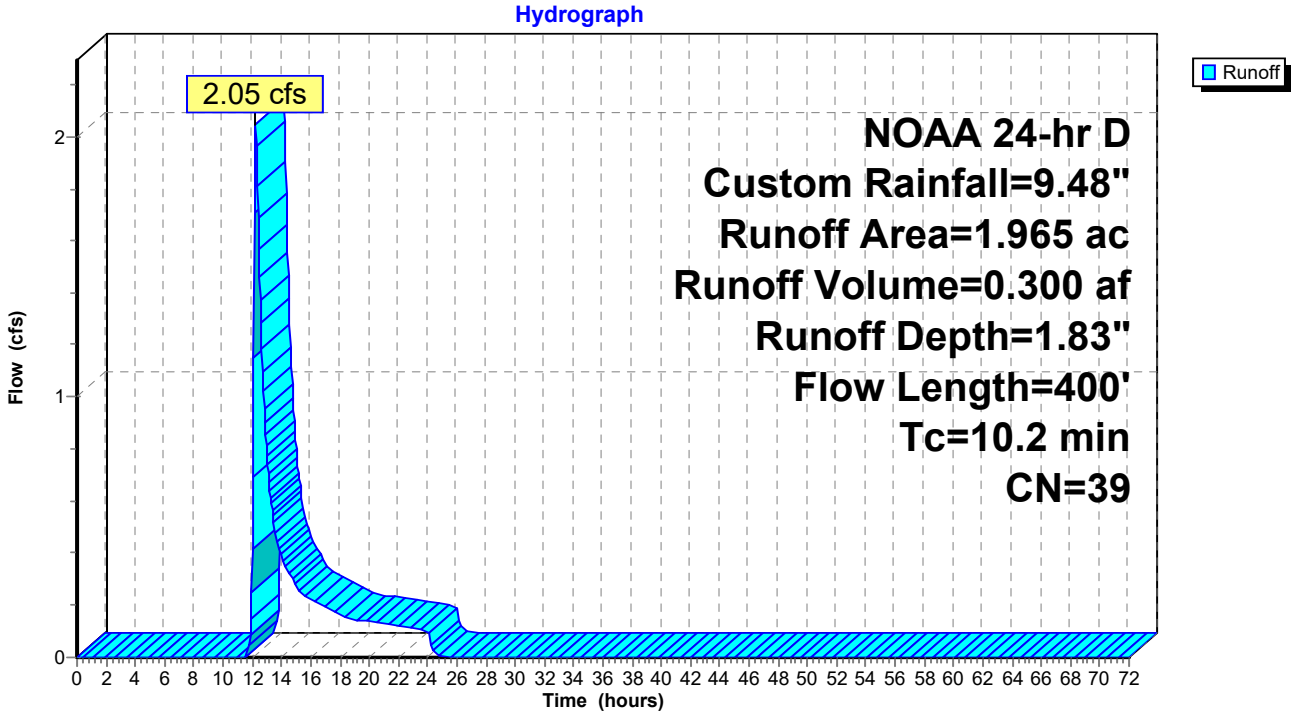
Runoff = 2.05 cfs @ 12.22 hrs, Volume= 0.300 af, Depth= 1.83"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

[79] Warning: Submerged Pond 75P Primary device # 1 by 1.69'

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 3.33" for Custom event
Inflow = 143.69 cfs @ 12.17 hrs, Volume= 20.910 af
Outflow = 8.81 cfs @ 17.76 hrs, Volume= 10.328 af, Atten= 94%, Lag= 335.4 min
Primary = 8.81 cfs @ 17.76 hrs, Volume= 10.328 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 26.29' @ 17.76 hrs Surf.Area= 165,306 sf Storage= 866,171 cf (508,357 cf above start)

Plug-Flow detention time= 2,452.8 min calculated for 2.114 af (10% of inflow)
Center-of-Mass det. time= 545.5 min (1,746.9 - 1,201.4)

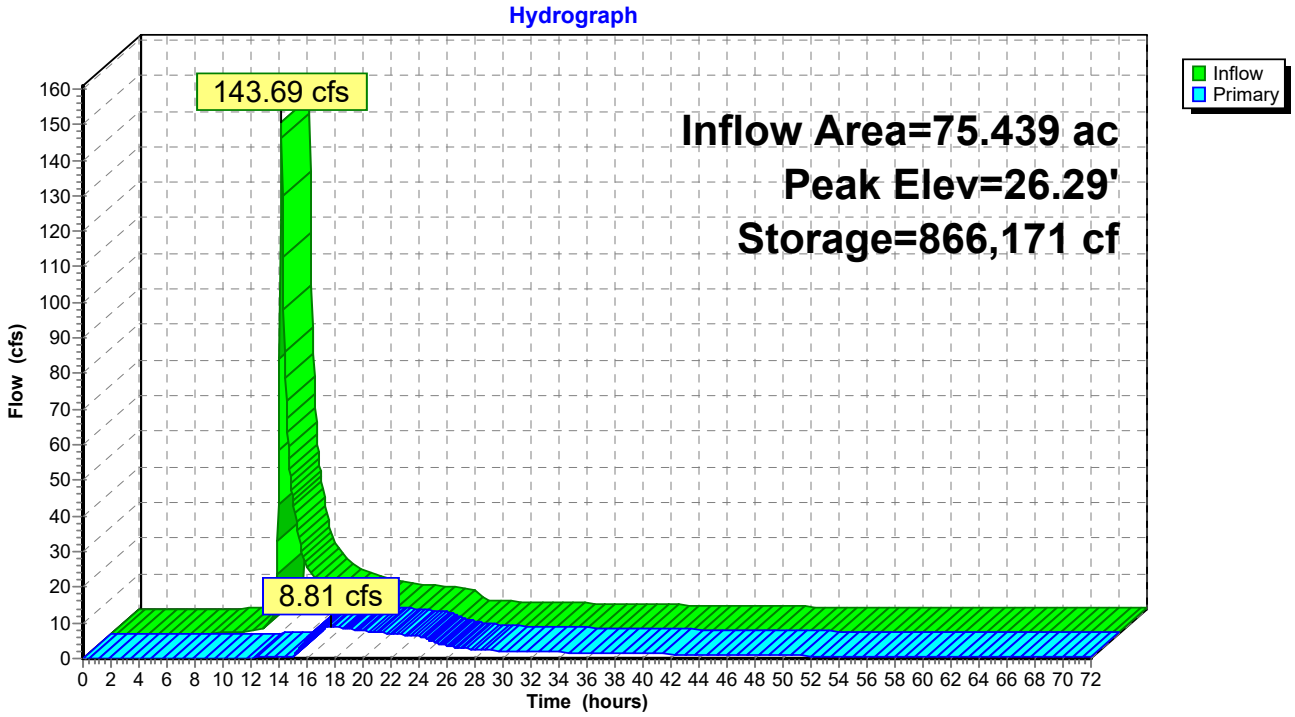
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.75 cfs @ 17.76 hrs HW=26.29' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.45 cfs @ 9.16 fps)
2=Orifice/Grate (Weir Controls 8.30 cfs @ 1.77 fps)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

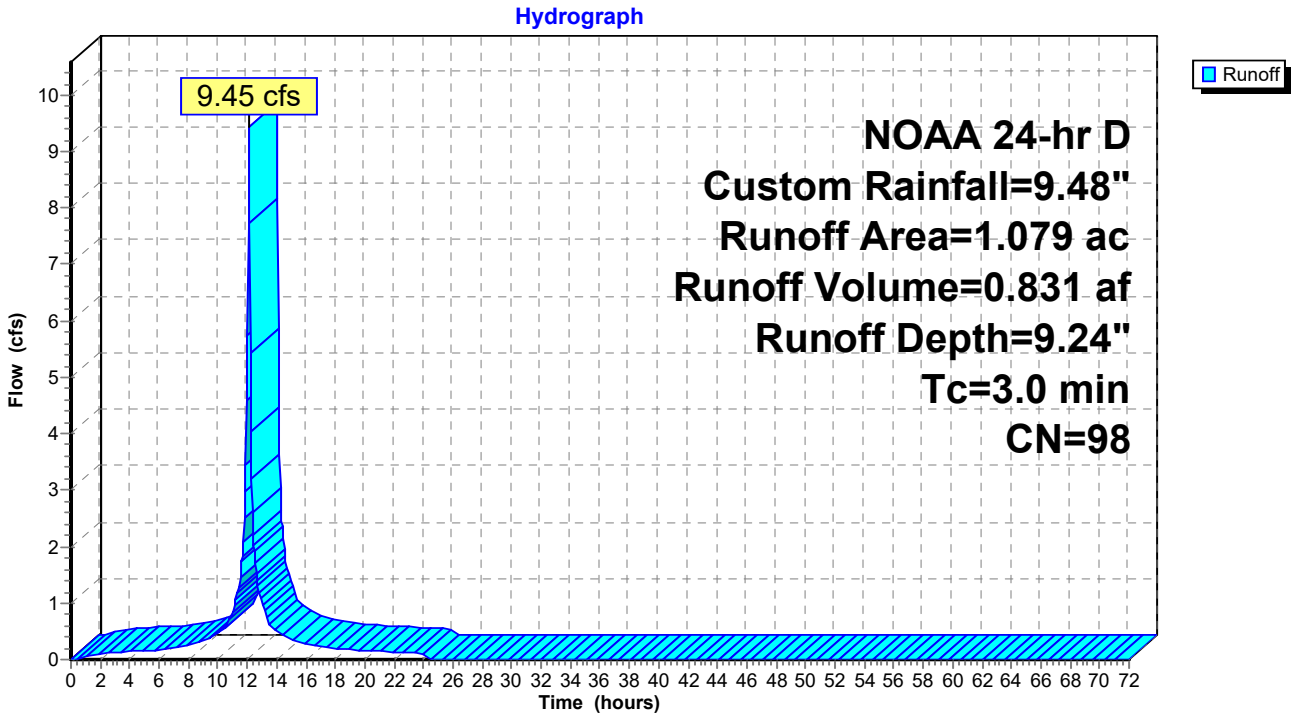
Runoff = 9.45 cfs @ 12.10 hrs, Volume= 0.831 af, Depth= 9.24"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

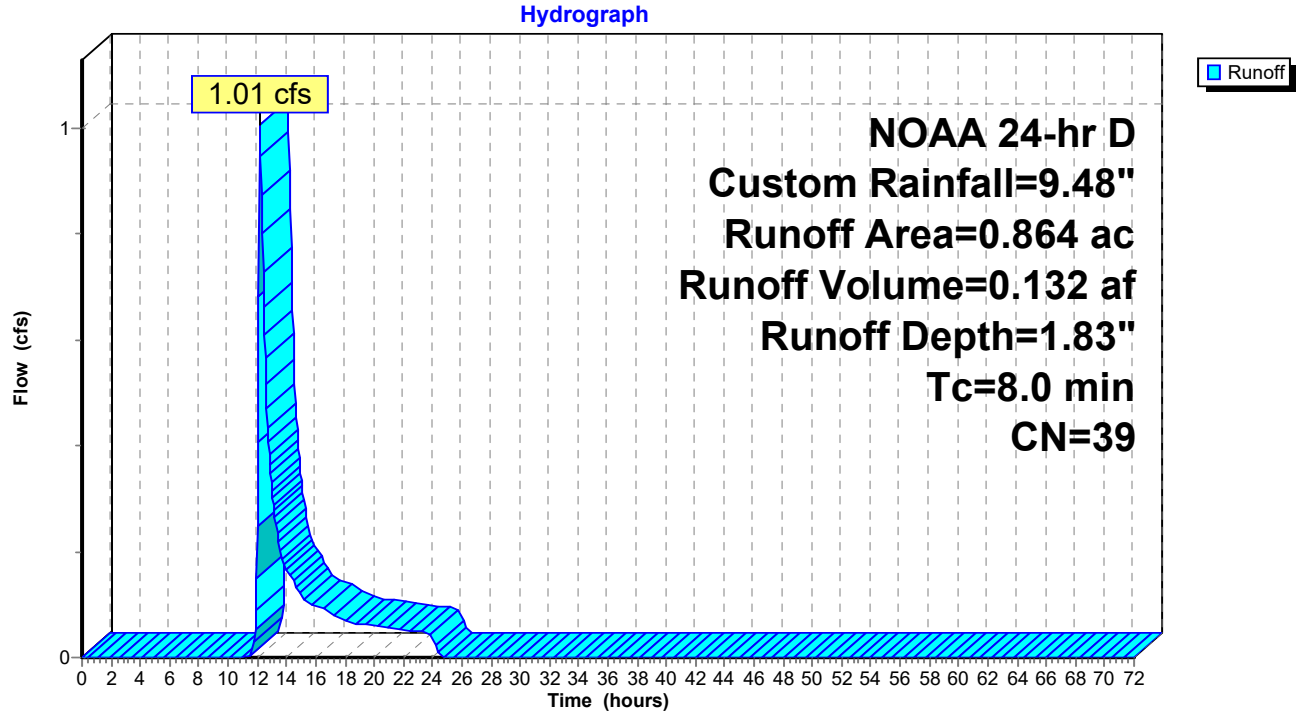
Runoff = 1.01 cfs @ 12.20 hrs, Volume= 0.132 af, Depth= 1.83"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 3.68" for Custom event
Inflow = 10.79 cfs @ 12.05 hrs, Volume= 0.823 af
Outflow = 8.69 cfs @ 12.10 hrs, Volume= 0.764 af, Atten= 20%, Lag= 2.8 min
Primary = 8.69 cfs @ 12.10 hrs, Volume= 0.764 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.10' @ 12.10 hrs Surf.Area= 7,111 sf Storage= 10,721 cf

Plug-Flow detention time= 279.5 min calculated for 0.764 af (93% of inflow)
Center-of-Mass det. time= 238.7 min (1,036.5 - 797.7)

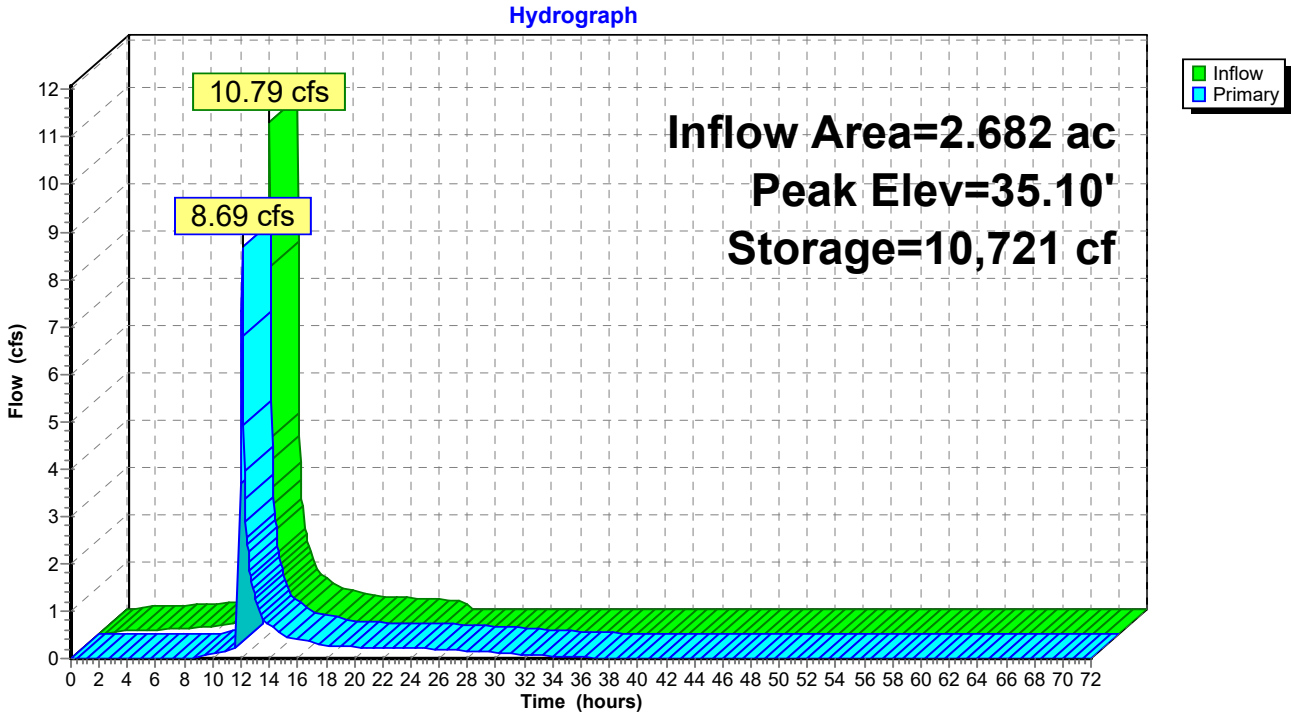
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.56 cfs @ 12.10 hrs HW=35.09' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.27 cfs @ 5.51 fps)
2=Orifice/Grate (Weir Controls 8.29 cfs @ 1.77 fps)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

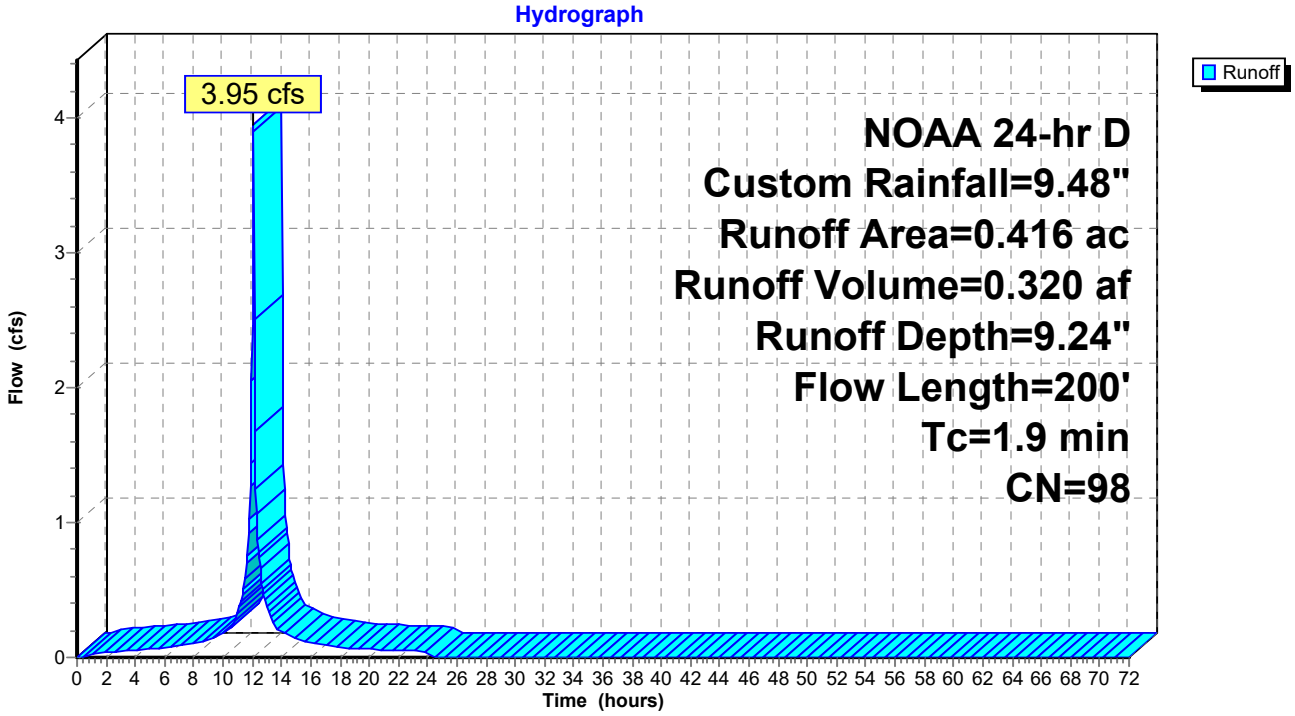
Runoff = 3.95 cfs @ 12.09 hrs, Volume= 0.320 af, Depth= 9.24"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 3.36" for Custom event
Inflow = 6.60 cfs @ 12.12 hrs, Volume= 0.746 af
Outflow = 1.18 cfs @ 13.09 hrs, Volume= 0.696 af, Atten= 82%, Lag= 58.1 min
Primary = 1.18 cfs @ 13.09 hrs, Volume= 0.696 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.76' @ 13.09 hrs Surf.Area= 8,121 sf Storage= 16,231 cf

Plug-Flow detention time= 534.3 min calculated for 0.696 af (93% of inflow)
Center-of-Mass det. time= 496.5 min (1,312.2 - 815.7)

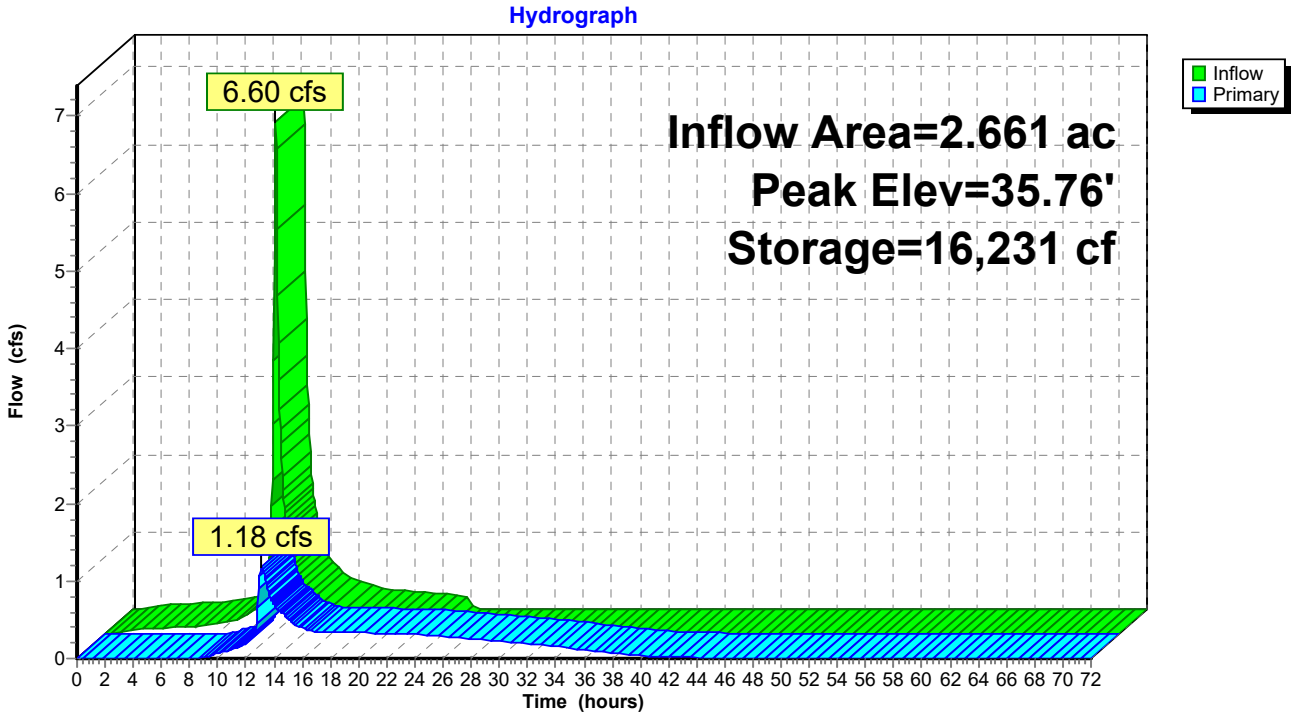
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 13.09 hrs HW=35.76' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.34 cfs @ 7.02 fps)
└**2=Orifice/Grate** (Weir Controls 0.83 cfs @ 0.82 fps)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

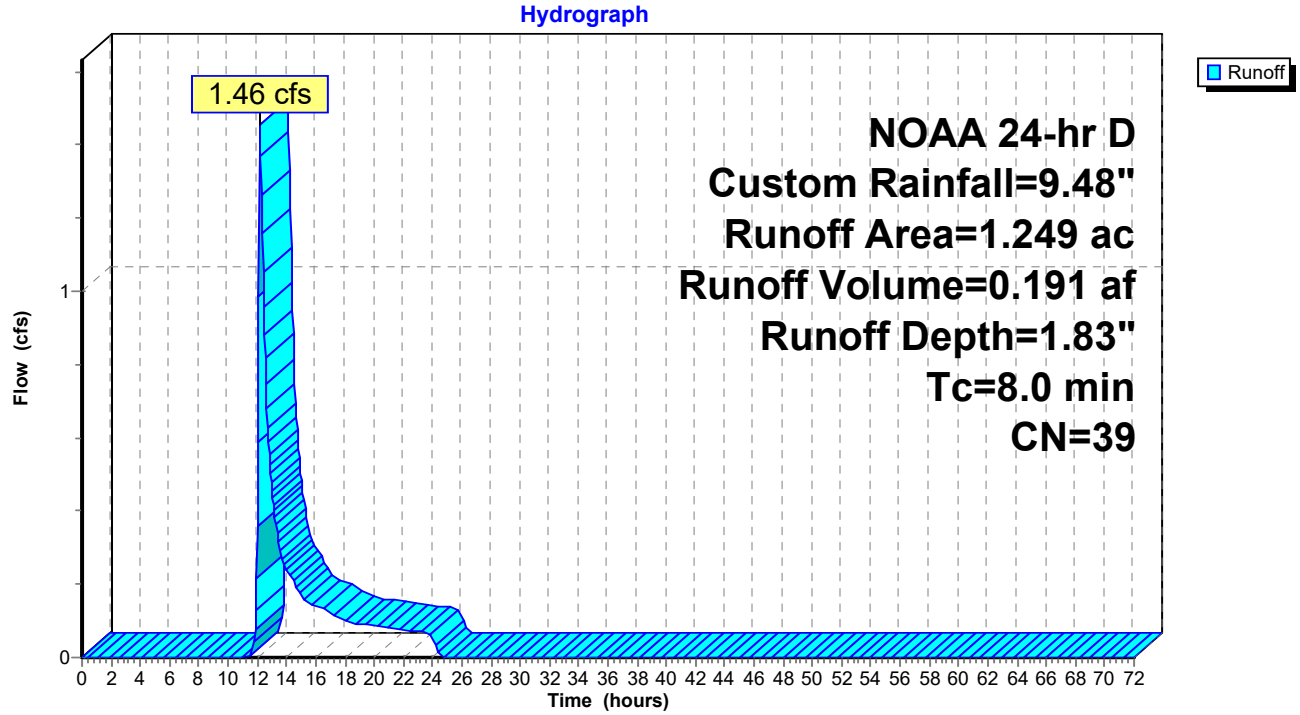
Runoff = 1.46 cfs @ 12.20 hrs, Volume= 0.191 af, Depth= 1.83"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 3.68" for Custom event
Inflow = 4.88 cfs @ 12.10 hrs, Volume= 0.511 af
Outflow = 1.01 cfs @ 12.81 hrs, Volume= 0.475 af, Atten= 79%, Lag= 42.7 min
Primary = 1.01 cfs @ 12.81 hrs, Volume= 0.475 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.05' @ 12.81 hrs Surf.Area= 3,656 sf Storage= 9,820 cf

Plug-Flow detention time= 297.8 min calculated for 0.475 af (93% of inflow)
Center-of-Mass det. time= 257.0 min (1,061.1 - 804.1)

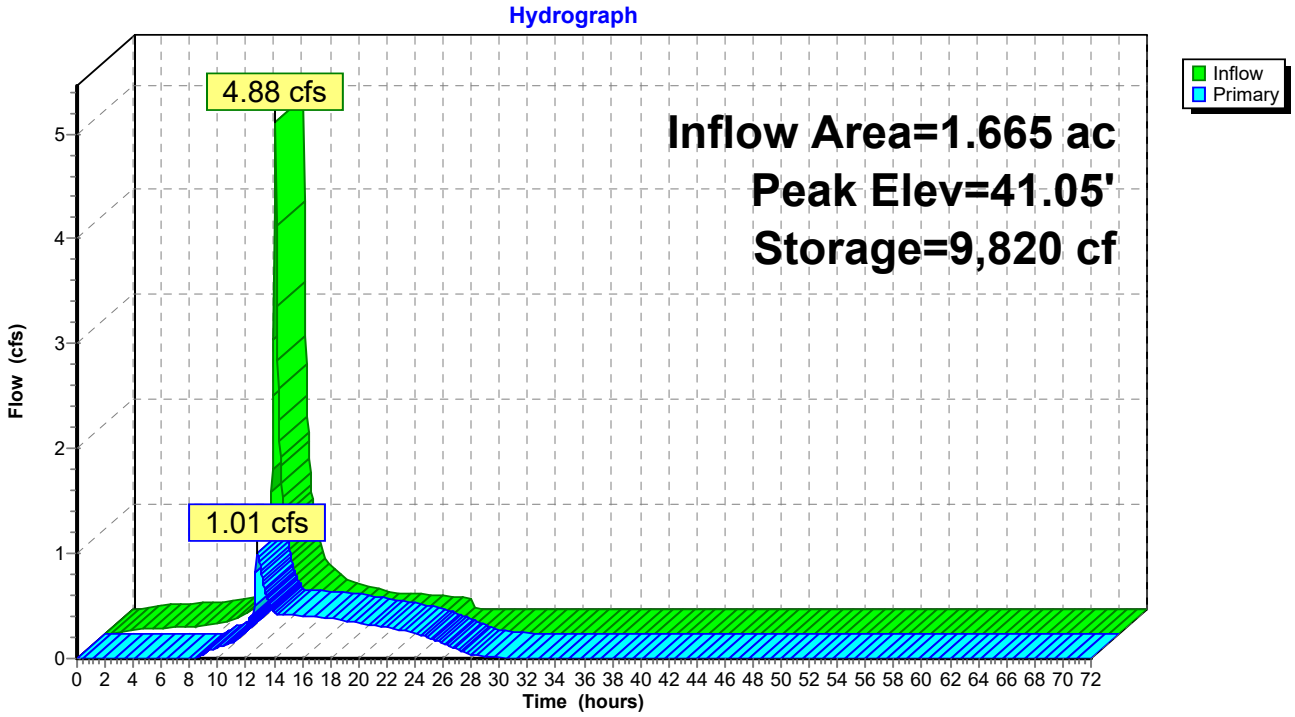
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.95 cfs @ 12.81 hrs HW=41.05' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.43 cfs @ 8.68 fps)
└**2=Orifice/Grate** (Weir Controls 0.53 cfs @ 0.71 fps)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 3.80" for Custom event
Inflow = 8.46 cfs @ 12.05 hrs, Volume= 1.306 af
Outflow = 7.00 cfs @ 12.10 hrs, Volume= 1.241 af, Atten= 17%, Lag= 3.1 min
Primary = 7.00 cfs @ 12.10 hrs, Volume= 1.241 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.25' @ 12.10 hrs Surf.Area= 8,166 sf Storage= 11,319 cf

Plug-Flow detention time= 222.3 min calculated for 1.240 af (95% of inflow)
Center-of-Mass det. time= 190.1 min (1,080.0 - 889.9)

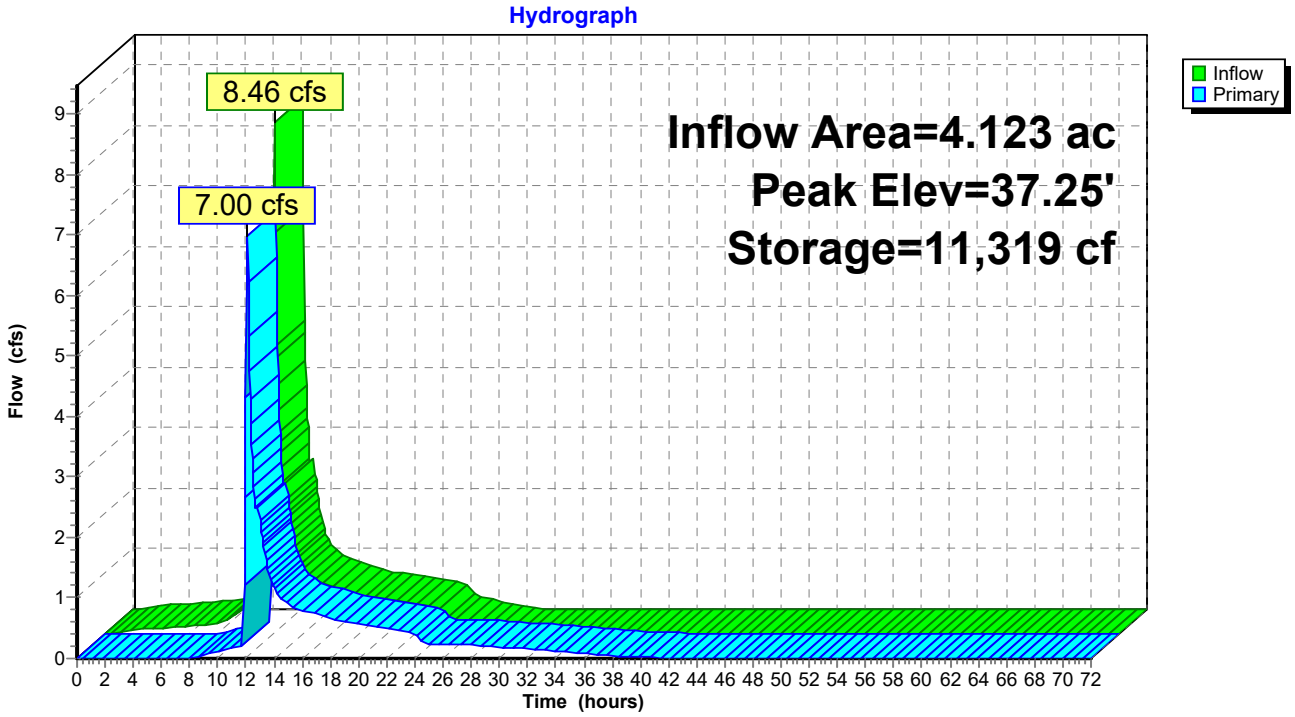
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.98 cfs @ 12.10 hrs HW=37.25' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.27 cfs @ 5.47 fps)
2=Orifice/Grate (Weir Controls 6.71 cfs @ 1.65 fps)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 4.24" for Custom event
Inflow = 9.53 cfs @ 12.09 hrs, Volume= 1.056 af
Outflow = 8.94 cfs @ 12.12 hrs, Volume= 1.004 af, Atten= 6%, Lag= 2.1 min
Primary = 8.94 cfs @ 12.12 hrs, Volume= 1.004 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.77' @ 12.12 hrs Surf.Area= 5,806 sf Storage= 3,958 cf

Plug-Flow detention time= 64.2 min calculated for 1.003 af (95% of inflow)
Center-of-Mass det. time= 34.9 min (824.4 - 789.5)

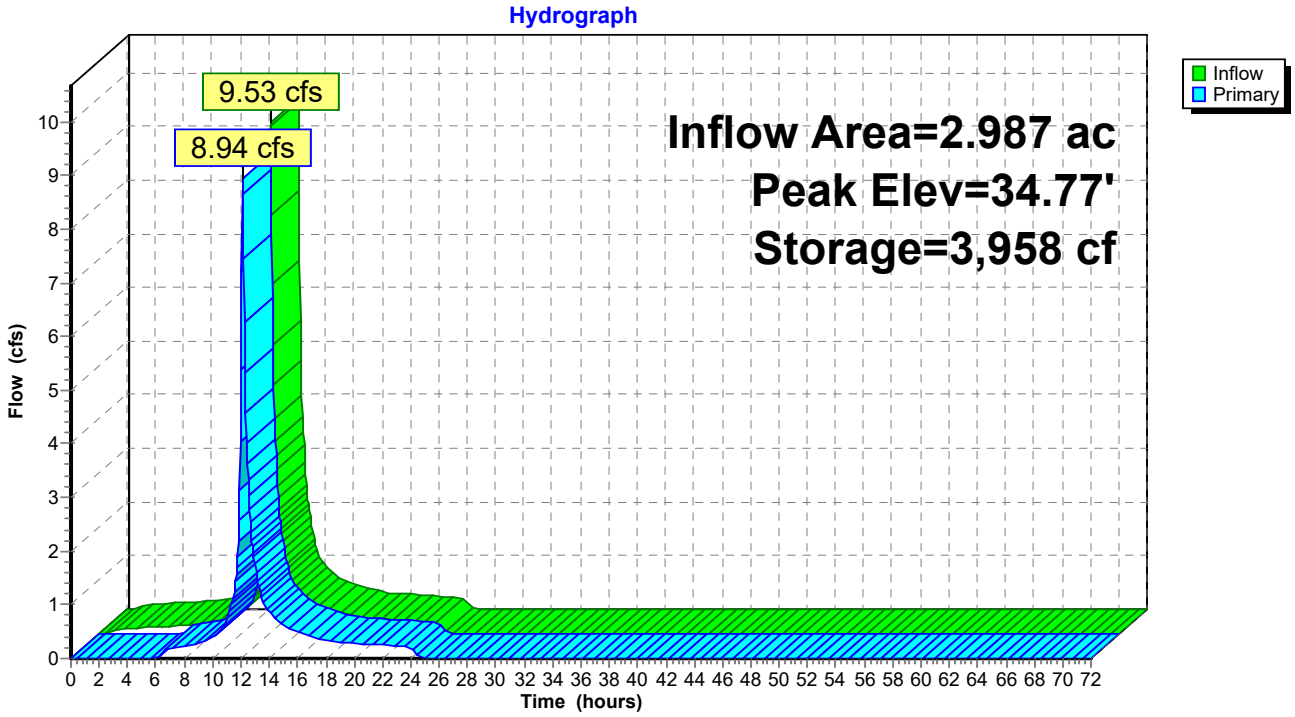
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.73 cfs @ 12.12 hrs HW=34.76' (Free Discharge)
1=Orifice/Grate (Weir Controls 8.73 cfs @ 1.80 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

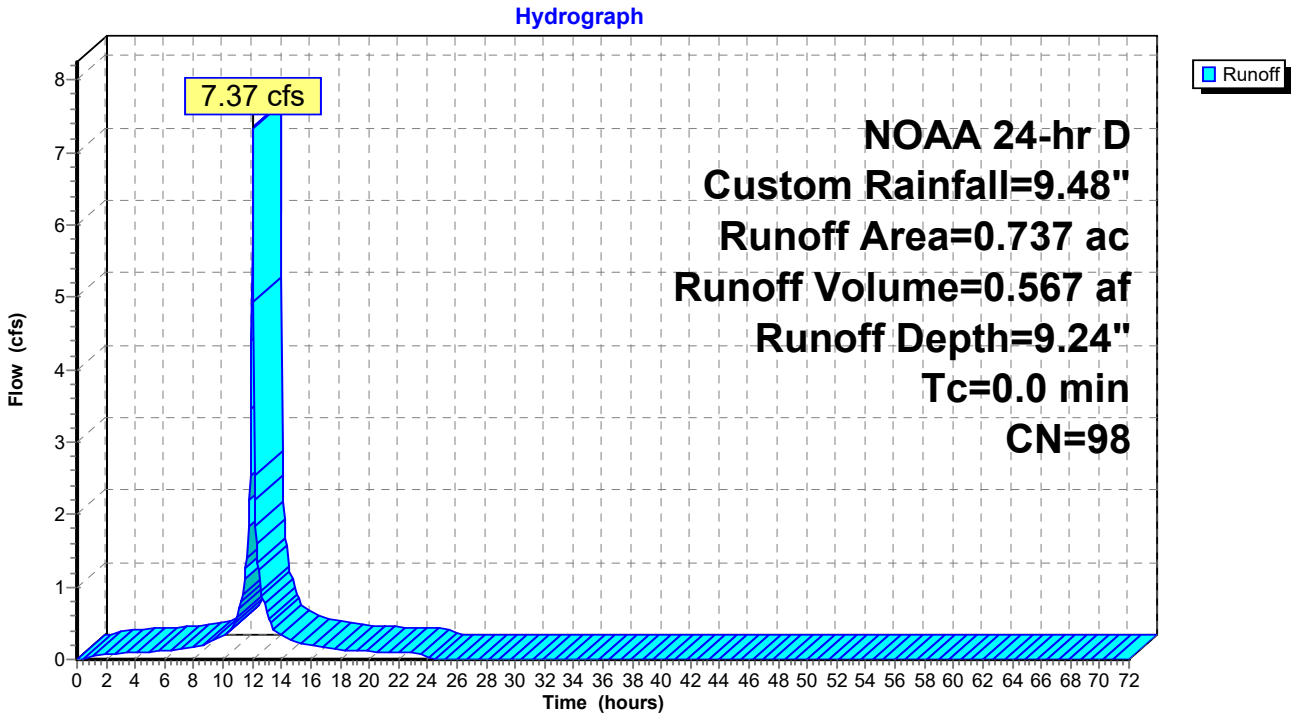
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 7.37 cfs @ 12.04 hrs, Volume= 0.567 af, Depth= 9.24"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

[79] Warning: Submerged Pond 73P Primary device # 1 by 0.75'

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 3.70" for Custom event
Inflow = 8.57 cfs @ 12.11 hrs, Volume= 1.727 af
Outflow = 0.70 cfs @ 16.84 hrs, Volume= 1.648 af, Atten= 92%, Lag= 283.5 min
Primary = 0.70 cfs @ 16.84 hrs, Volume= 1.648 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.02' @ 16.84 hrs Surf.Area= 11,047 sf Storage= 29,710 cf

Plug-Flow detention time= 873.6 min calculated for 1.648 af (95% of inflow)
Center-of-Mass det. time= 785.3 min (2,024.6 - 1,239.3)

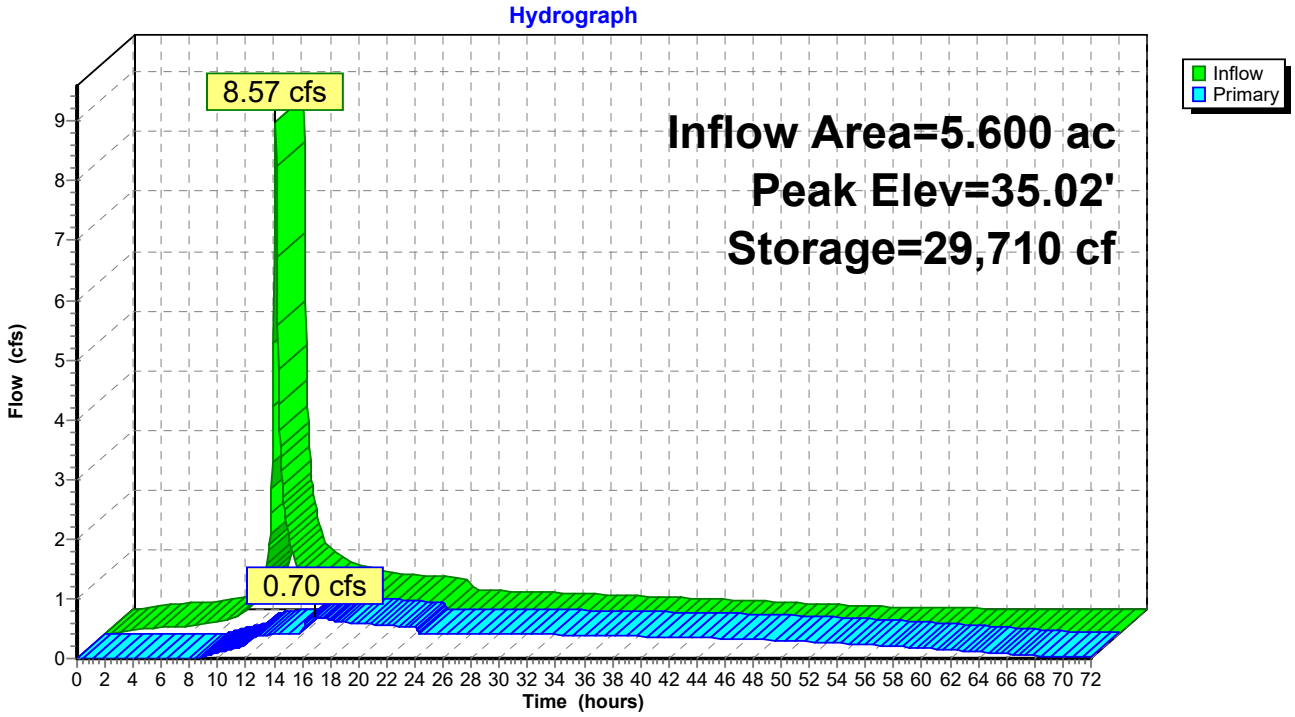
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.61 cfs @ 16.84 hrs HW=35.02' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.65 fps)
└**2=Orifice/Grate** (Weir Controls 0.19 cfs @ 0.50 fps)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

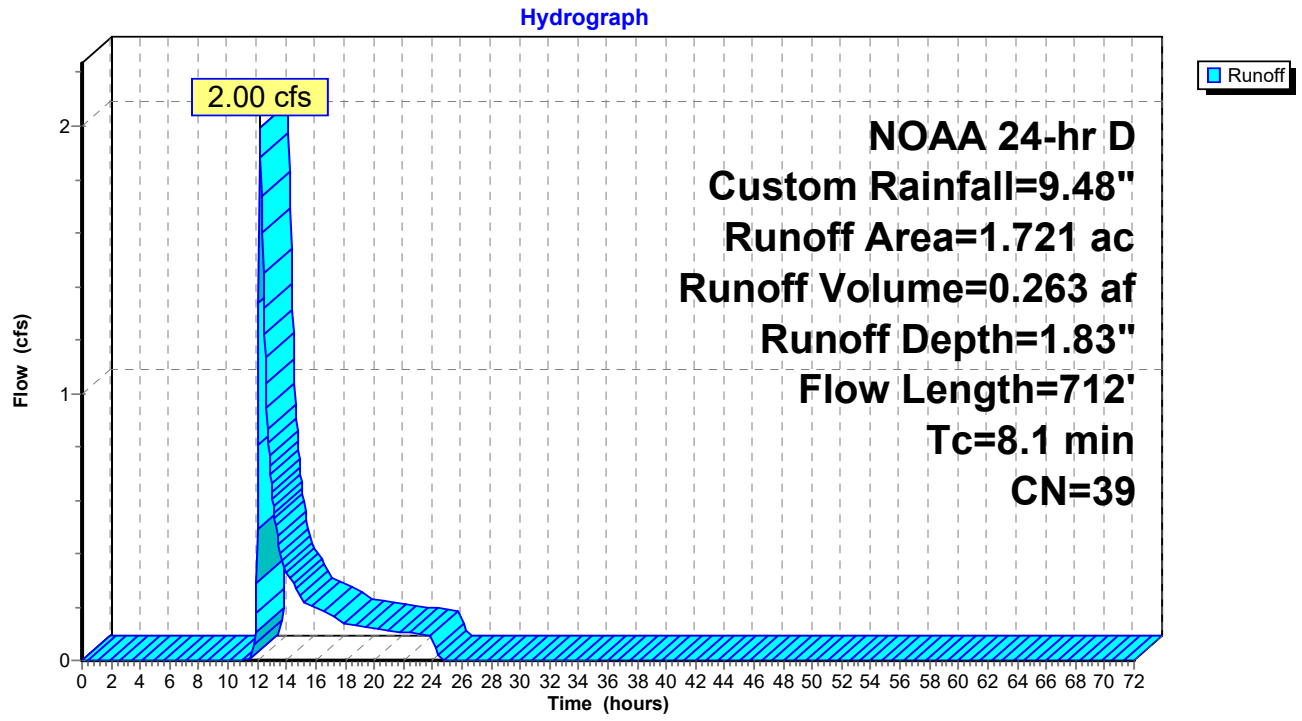
Runoff = 2.00 cfs @ 12.20 hrs, Volume= 0.263 af, Depth= 1.83"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 3.26" for Custom event
Inflow = 6.04 cfs @ 12.13 hrs, Volume= 0.702 af
Outflow = 6.04 cfs @ 12.15 hrs, Volume= 0.658 af, Atten= 0%, Lag= 1.3 min
Primary = 6.04 cfs @ 12.15 hrs, Volume= 0.658 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.10' @ 12.15 hrs Surf.Area= 2,097 sf Storage= 2,349 cf

Plug-Flow detention time= 70.7 min calculated for 0.658 af (94% of inflow)
Center-of-Mass det. time= 35.6 min (855.1 - 819.6)

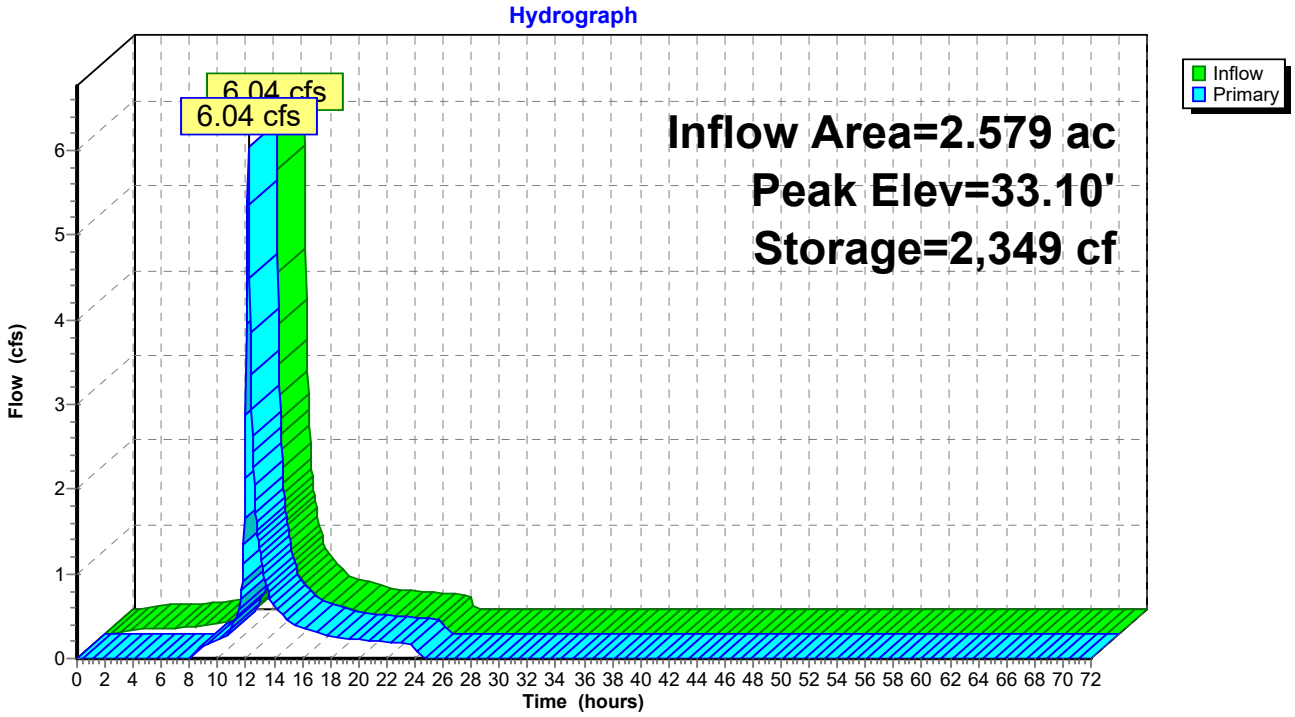
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.02 cfs @ 12.15 hrs HW=33.10' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 6.02 cfs @ 1.59 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 3.63" for Custom event
Inflow = 7.97 cfs @ 12.11 hrs, Volume= 0.907 af
Outflow = 0.34 cfs @ 17.50 hrs, Volume= 0.847 af, Atten= 96%, Lag= 323.4 min
Primary = 0.34 cfs @ 17.50 hrs, Volume= 0.847 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.51' @ 17.50 hrs Surf.Area= 12,773 sf Storage= 25,951 cf

Plug-Flow detention time= 931.1 min calculated for 0.846 af (93% of inflow)
Center-of-Mass det. time= 894.5 min (1,700.8 - 806.3)

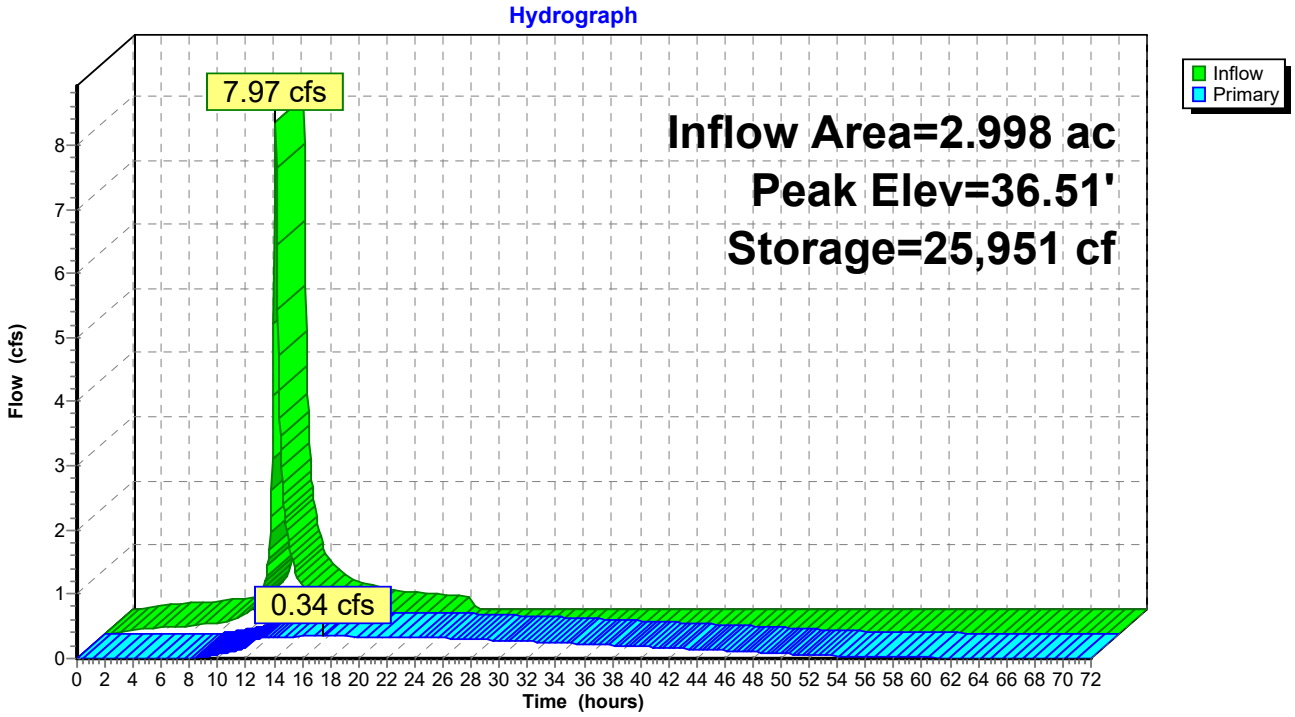
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.34 cfs @ 17.50 hrs HW=36.51' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.34 cfs @ 7.00 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

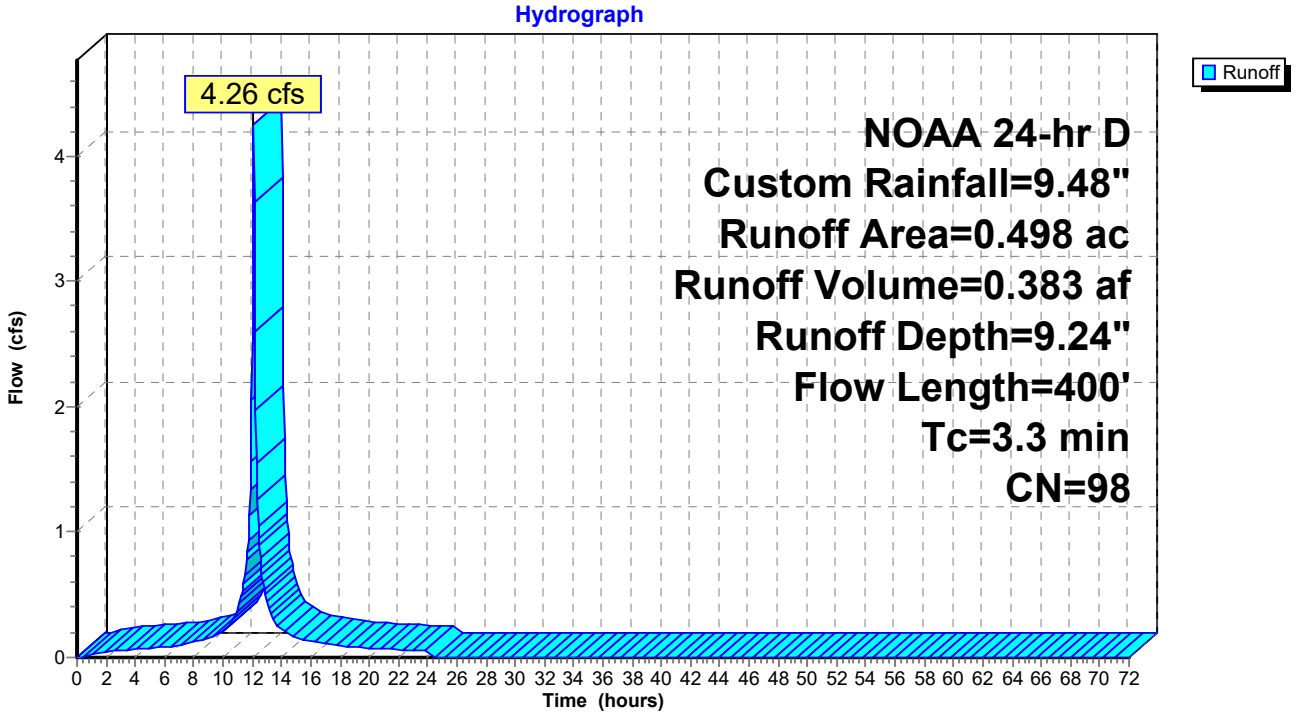
Runoff = 4.26 cfs @ 12.10 hrs, Volume= 0.383 af, Depth= 9.24"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

[93] Warning: Storage range exceeded by 0.29'
[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 2.60" for Custom event
Inflow = 34.94 cfs @ 12.16 hrs, Volume= 4.387 af
Outflow = 37.14 cfs @ 12.19 hrs, Volume= 4.365 af, Atten= 0%, Lag= 1.8 min
Primary = 37.14 cfs @ 12.19 hrs, Volume= 4.365 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.79' @ 12.19 hrs Surf.Area= 9,900 sf Storage= 22,725 cf

Plug-Flow detention time= 132.5 min calculated for 4.365 af (99% of inflow)
Center-of-Mass det. time= 129.4 min (979.5 - 850.1)

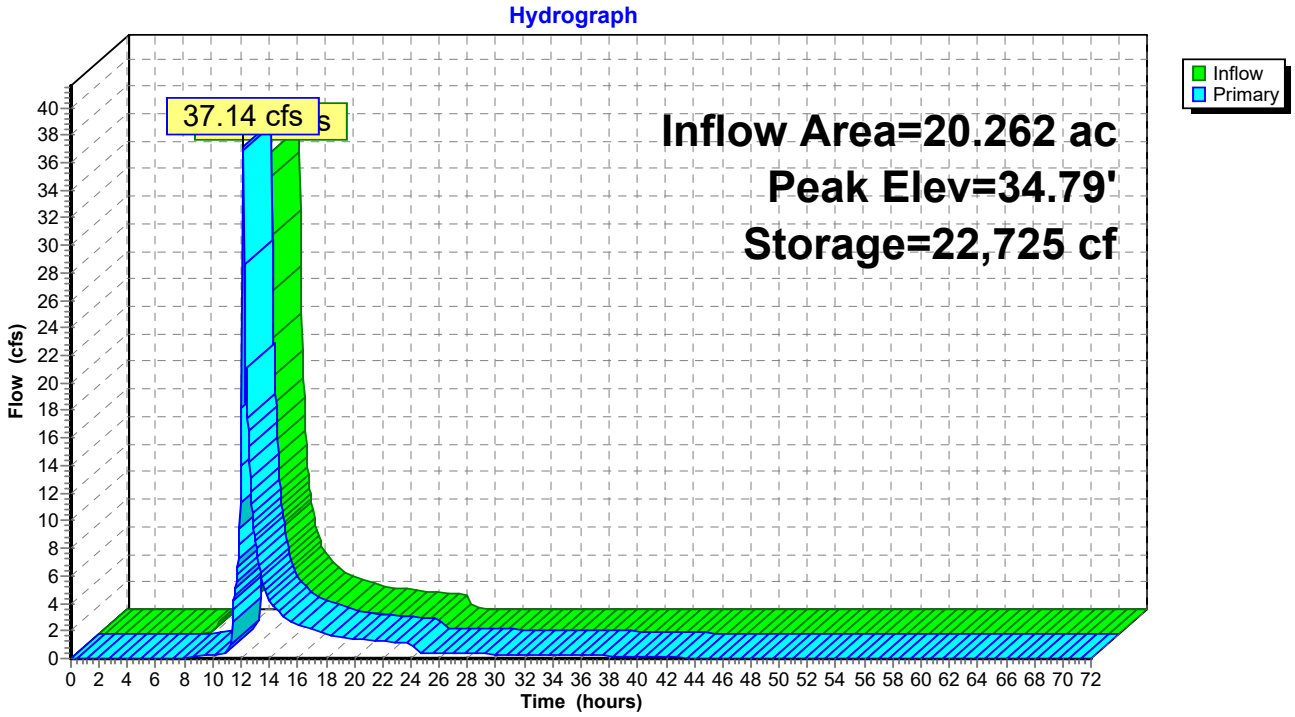
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=35.90 cfs @ 12.19 hrs HW=34.77' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.44 cfs @ 8.87 fps)
2=Orifice/Grate (Weir Controls 35.46 cfs @ 2.87 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

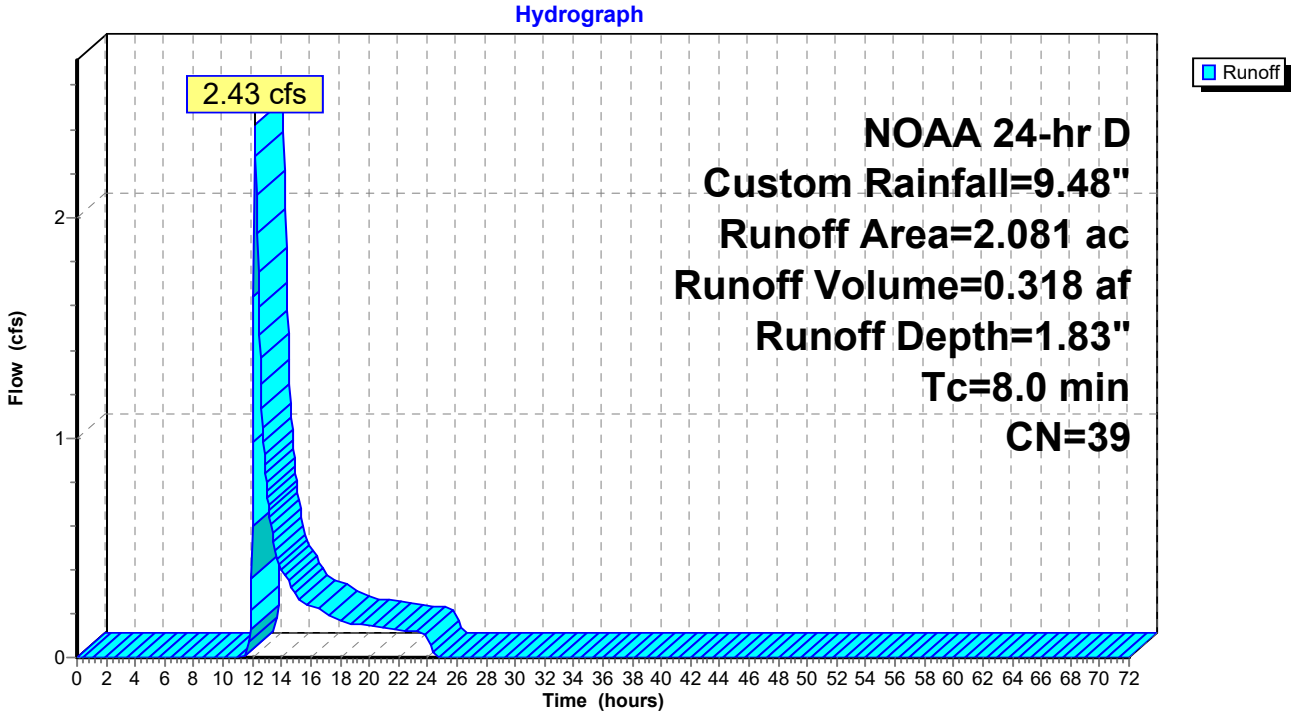
Runoff = 2.43 cfs @ 12.20 hrs, Volume= 0.318 af, Depth= 1.83"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 3.32" for Custom event
Inflow = 113.38 cfs @ 12.14 hrs, Volume= 16.670 af
Outflow = 112.15 cfs @ 12.18 hrs, Volume= 15.651 af, Atten= 1%, Lag= 2.7 min
Primary = 81.53 cfs @ 12.18 hrs, Volume= 14.821 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 30.63 cfs @ 12.18 hrs, Volume= 0.829 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 27.94' @ 12.18 hrs Surf.Area= 27,398 sf Storage= 79,928 cf

Plug-Flow detention time= 215.4 min calculated for 15.651 af (94% of inflow)
Center-of-Mass det. time= 102.6 min (1,183.0 - 1,080.4)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) x 2

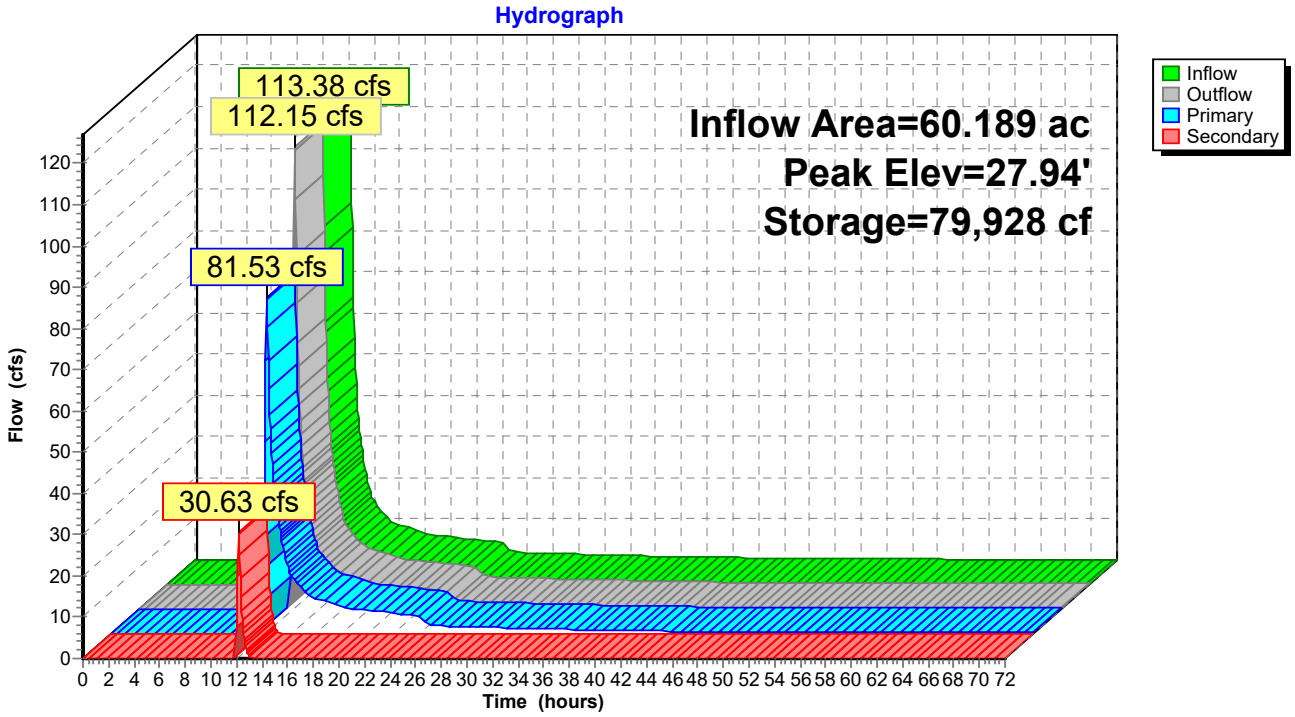
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=80.62 cfs @ 12.18 hrs HW=27.94' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.42 cfs @ 8.63 fps)
└**2=Orifice/Grate** (Weir Controls 80.19 cfs @ 2.99 fps)

Secondary OutFlow Max=29.93 cfs @ 12.18 hrs HW=27.94' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 29.93 cfs @ 1.71 fps)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 3.92" for Custom event
Inflow = 5.66 cfs @ 12.10 hrs, Volume= 0.587 af
Outflow = 1.55 cfs @ 12.57 hrs, Volume= 0.542 af, Atten= 73%, Lag= 28.3 min
Primary = 1.55 cfs @ 12.57 hrs, Volume= 0.542 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.78' @ 12.57 hrs Surf.Area= 8,503 sf Storage= 11,759 cf

Plug-Flow detention time= 470.0 min calculated for 0.542 af (92% of inflow)
Center-of-Mass det. time= 426.0 min (1,223.8 - 797.8)

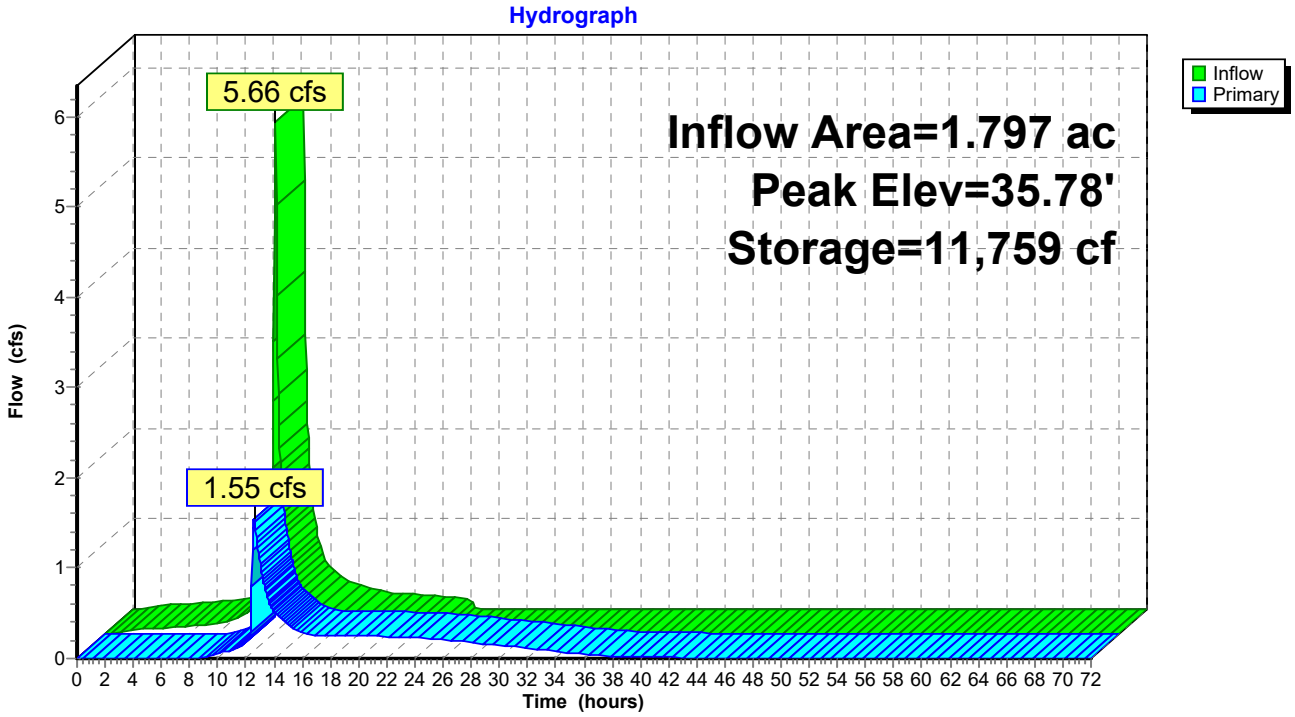
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.53 cfs @ 12.57 hrs HW=35.78' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.27 cfs @ 5.49 fps)
└**2=Orifice/Grate** (Weir Controls 1.26 cfs @ 0.94 fps)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

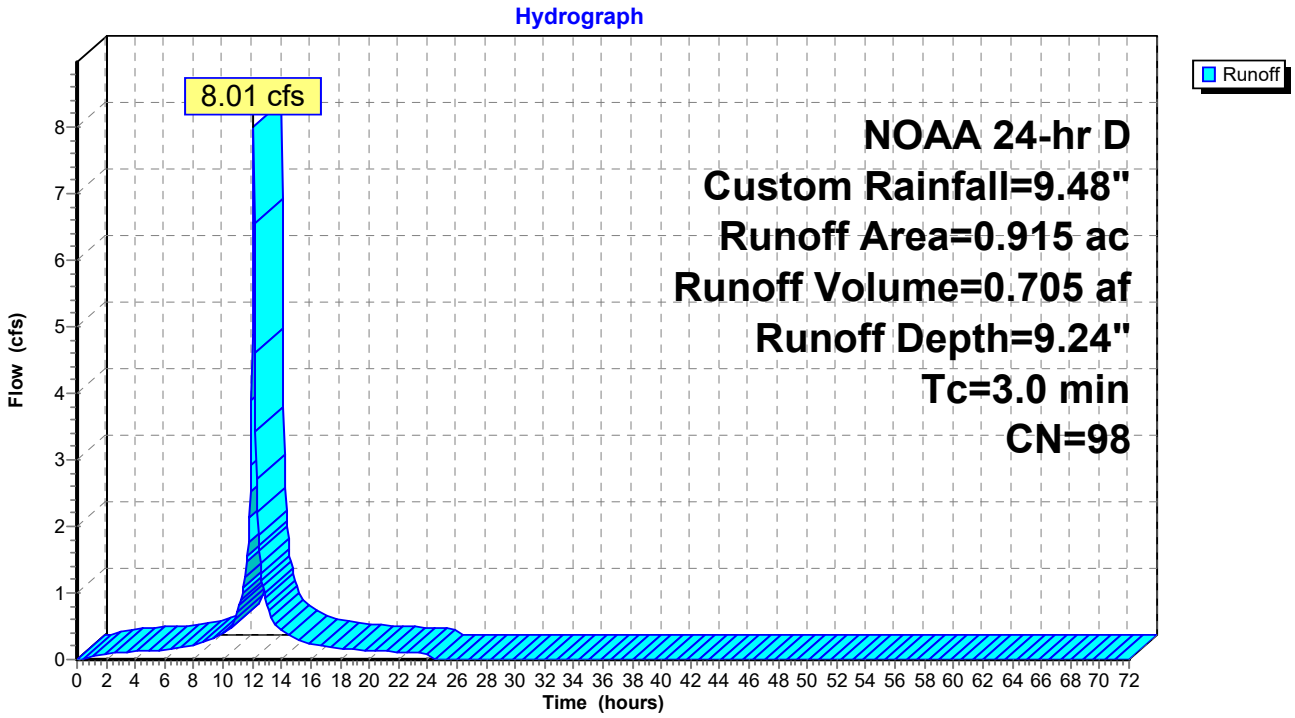
Runoff = 8.01 cfs @ 12.10 hrs, Volume= 0.705 af, Depth= 9.24"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

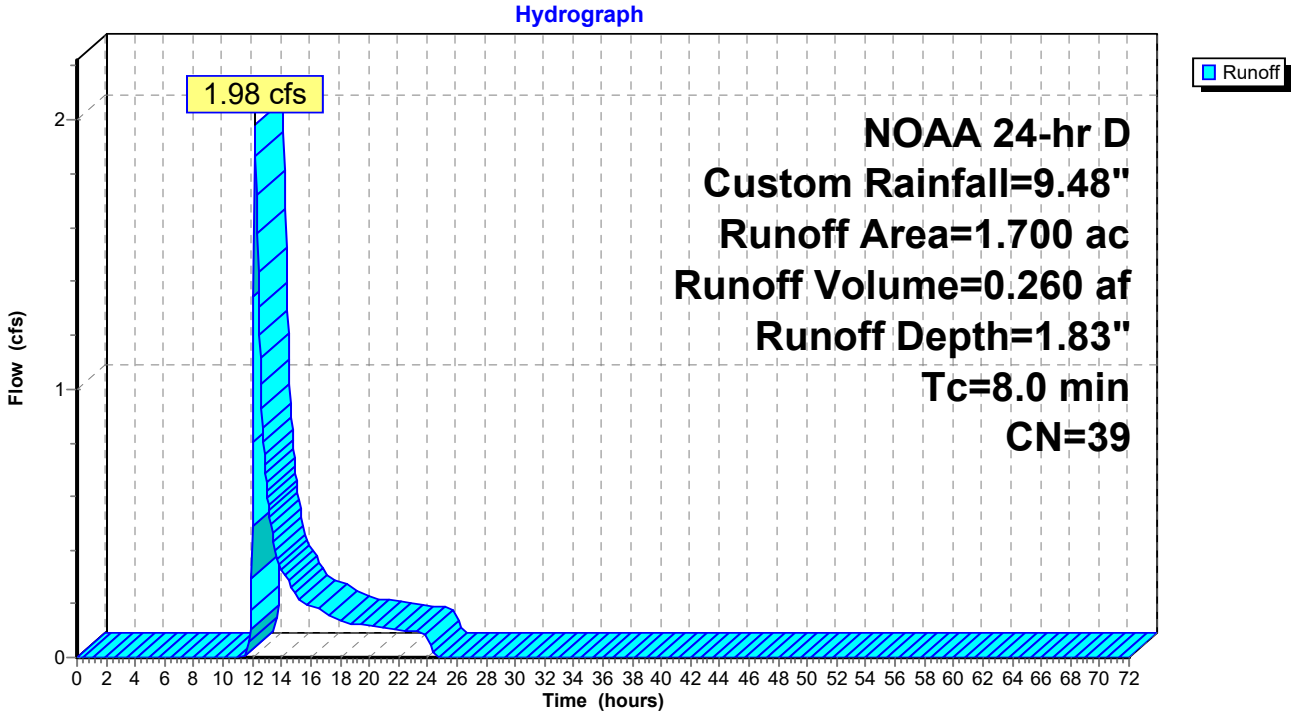
Runoff = 1.98 cfs @ 12.20 hrs, Volume= 0.260 af, Depth= 1.83"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 4.43" for Custom event
Inflow = 9.13 cfs @ 12.11 hrs, Volume= 0.937 af
Outflow = 8.38 cfs @ 12.15 hrs, Volume= 0.859 af, Atten= 8%, Lag= 2.5 min
Primary = 8.38 cfs @ 12.15 hrs, Volume= 0.859 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.01' @ 12.15 hrs Surf.Area= 5,931 sf Storage= 5,038 cf

Plug-Flow detention time= 95.8 min calculated for 0.859 af (92% of inflow)
Center-of-Mass det. time= 49.0 min (835.7 - 786.7)

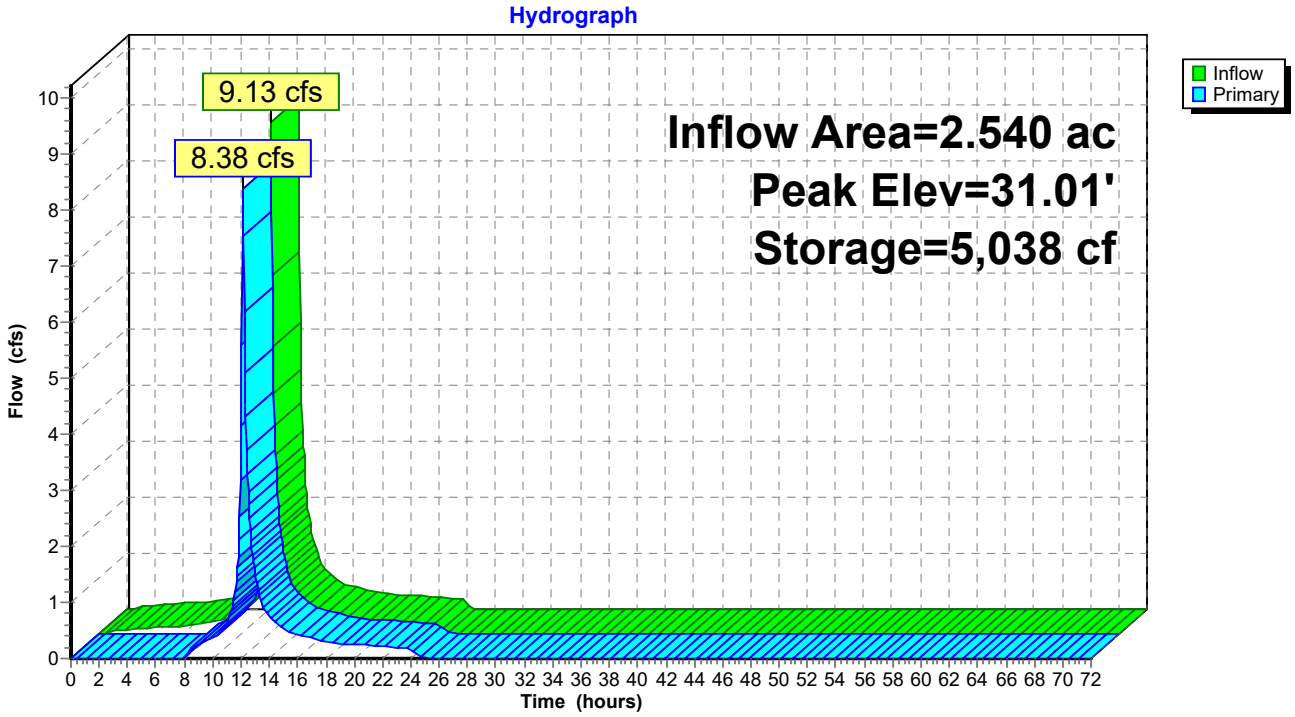
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.37 cfs @ 12.15 hrs HW=31.01' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 8.37 cfs @ 1.78 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 3.98" for Custom event
Inflow = 8.13 cfs @ 12.11 hrs, Volume= 0.862 af
Outflow = 7.25 cfs @ 12.16 hrs, Volume= 0.797 af, Atten= 11%, Lag= 3.0 min
Primary = 7.25 cfs @ 12.16 hrs, Volume= 0.797 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.73' @ 12.16 hrs Surf.Area= 7,374 sf Storage= 4,757 cf

Plug-Flow detention time= 91.7 min calculated for 0.796 af (92% of inflow)
Center-of-Mass det. time= 48.3 min (845.1 - 796.9)

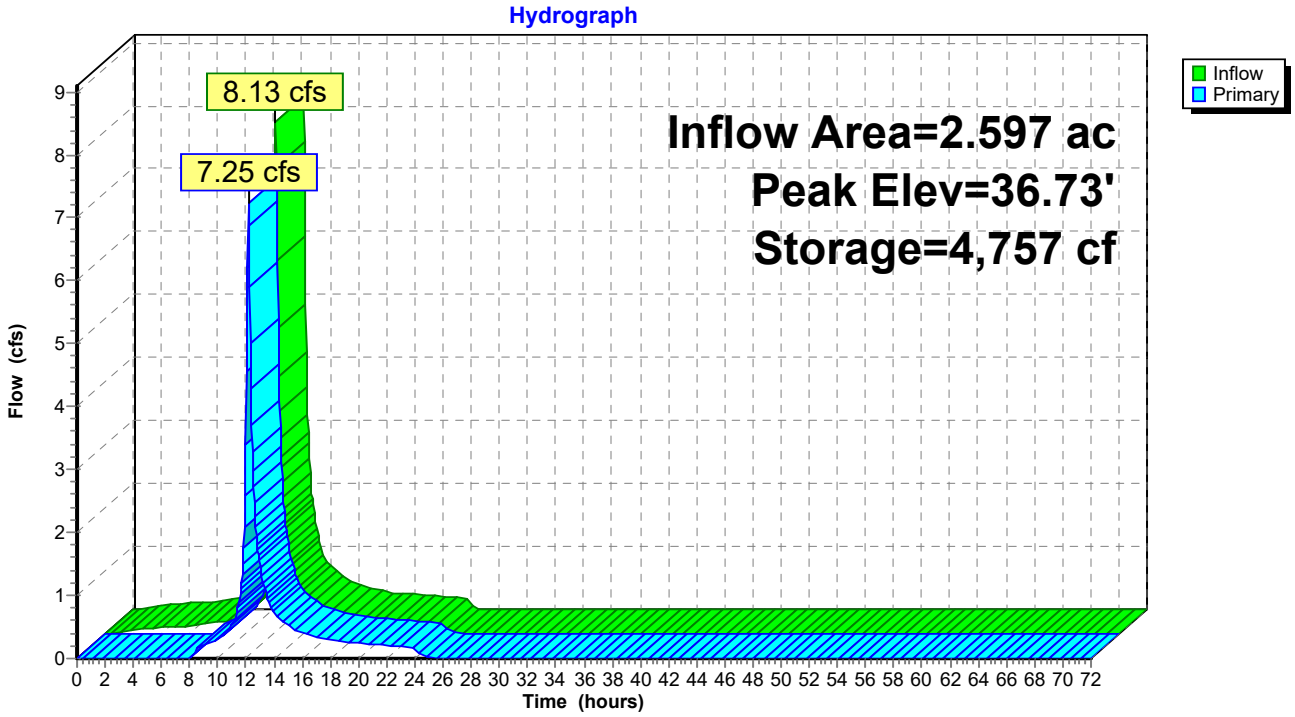
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.12 cfs @ 12.16 hrs HW=36.72' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 7.12 cfs @ 1.68 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

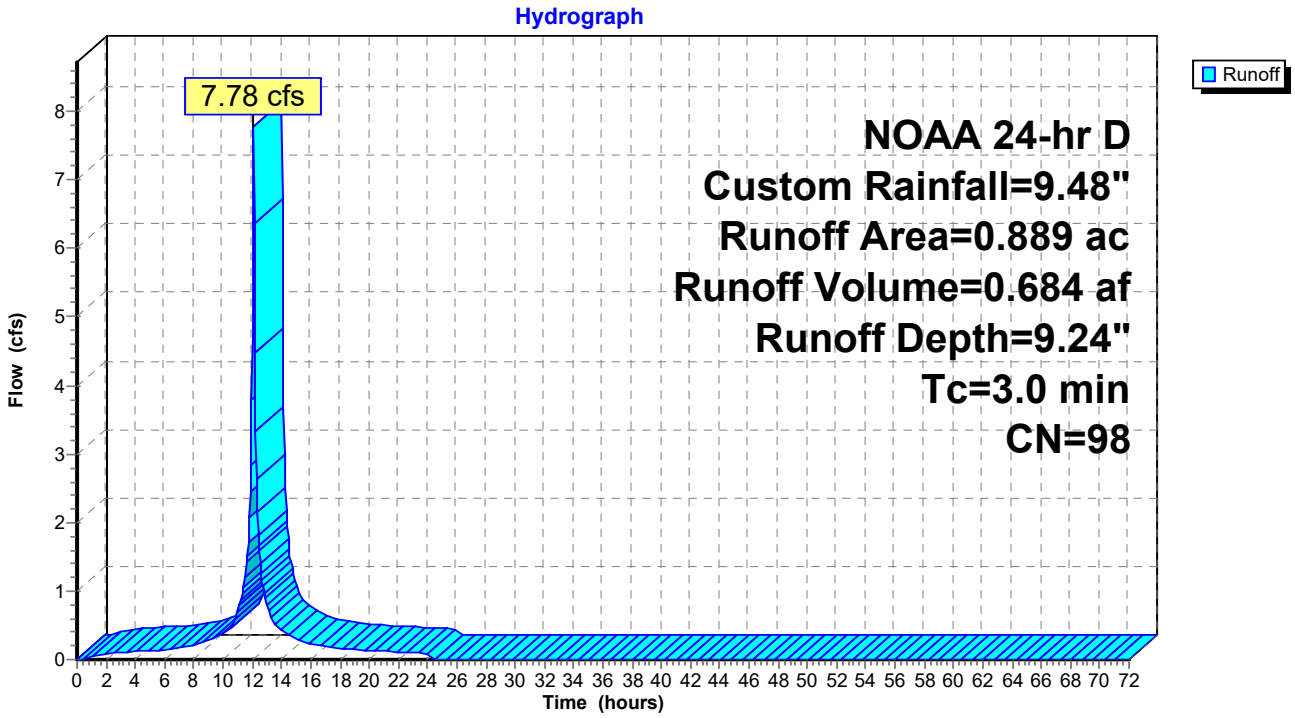
Runoff = 7.78 cfs @ 12.10 hrs, Volume= 0.684 af, Depth= 9.24"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 1.81" for Custom event
Inflow = 14.74 cfs @ 12.14 hrs, Volume= 2.254 af
Outflow = 13.53 cfs @ 12.19 hrs, Volume= 2.117 af, Atten= 8%, Lag= 3.0 min
Primary = 13.53 cfs @ 12.19 hrs, Volume= 2.117 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.29' @ 12.19 hrs Surf.Area= 8,500 sf Storage= 9,244 cf

Plug-Flow detention time= 75.8 min calculated for 2.116 af (94% of inflow)
Center-of-Mass det. time= 41.5 min (884.7 - 843.2)

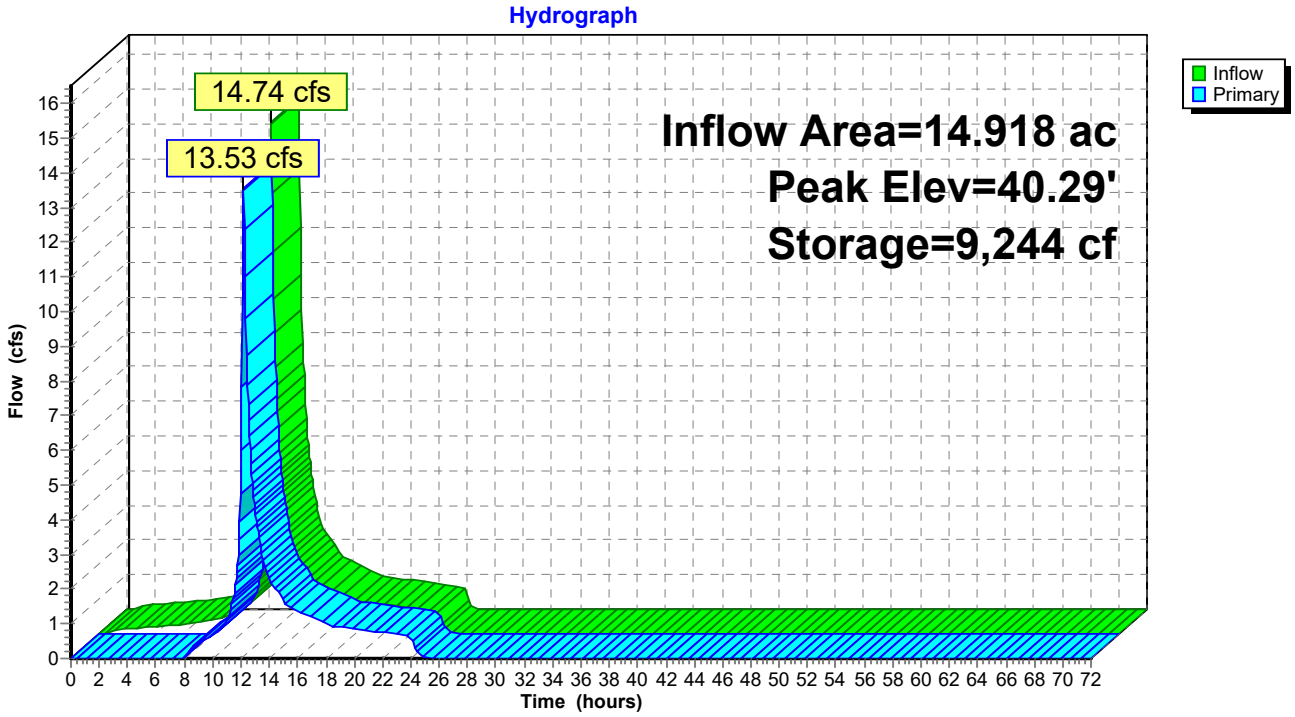
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.39 cfs @ 12.19 hrs HW=40.28' (Free Discharge)
1=Orifice/Grate (Weir Controls 13.39 cfs @ 2.08 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

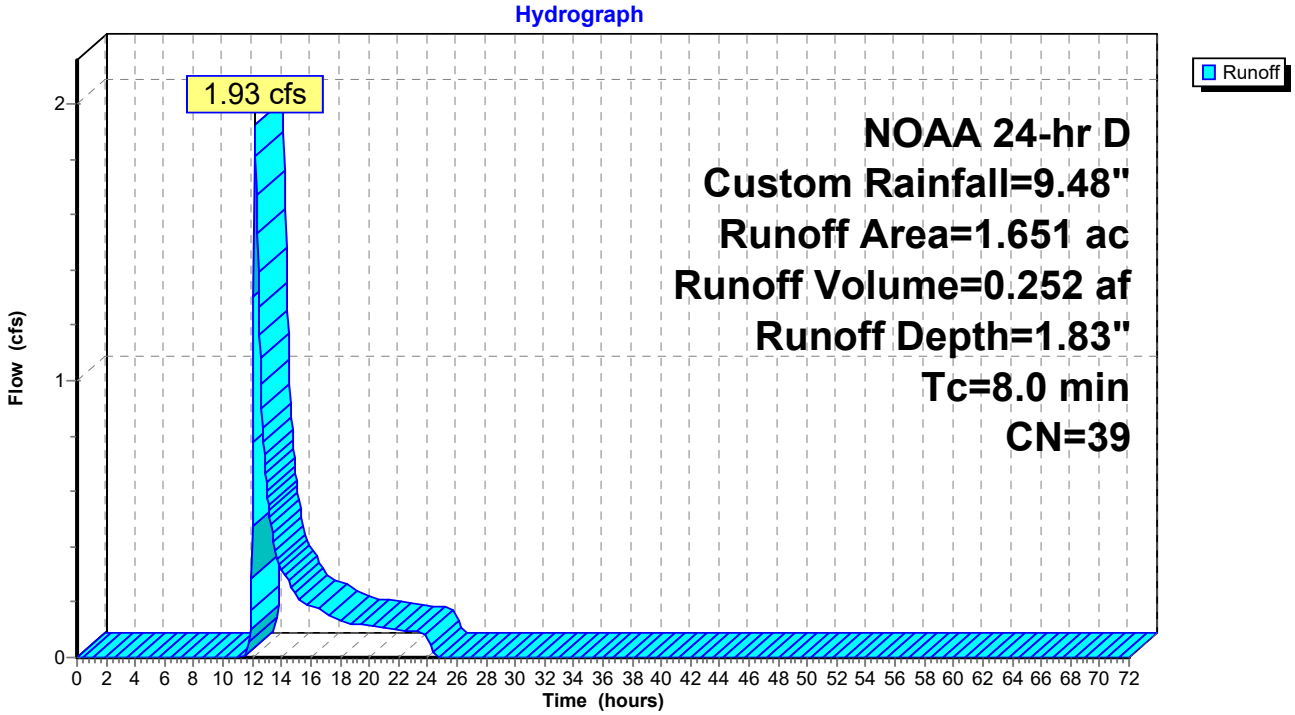
Runoff = 1.93 cfs @ 12.20 hrs, Volume= 0.252 af, Depth= 1.83"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 3.69" for Custom event
Inflow = 7.82 cfs @ 12.08 hrs, Volume= 0.925 af
Outflow = 7.57 cfs @ 12.11 hrs, Volume= 0.892 af, Atten= 3%, Lag= 1.8 min
Primary = 7.57 cfs @ 12.11 hrs, Volume= 0.892 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.18' @ 12.11 hrs Surf.Area= 4,234 sf Storage= 2,539 cf

Plug-Flow detention time= 48.5 min calculated for 0.892 af (96% of inflow)
Center-of-Mass det. time= 26.8 min (830.5 - 803.7)

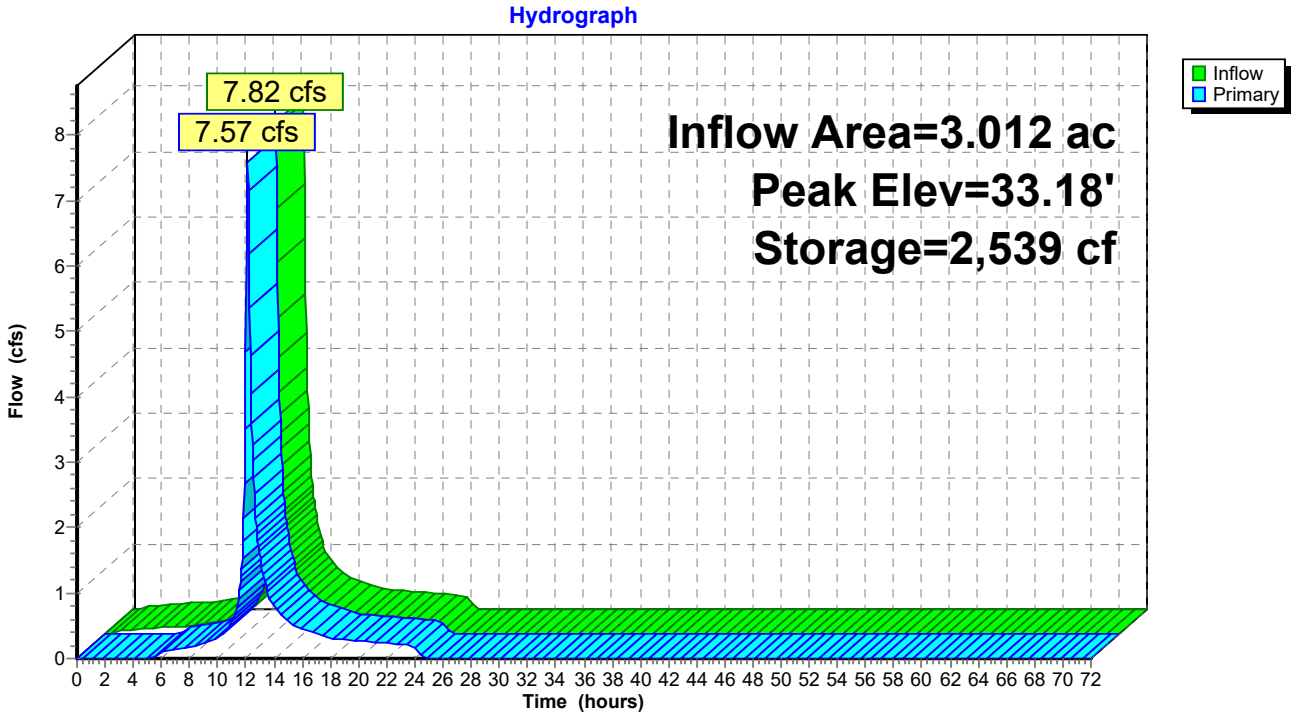
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.42 cfs @ 12.11 hrs HW=33.17' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 7.42 cfs @ 1.71 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 9.24" for Custom event
Inflow = 12.47 cfs @ 12.11 hrs, Volume= 1.307 af
Outflow = 11.64 cfs @ 12.16 hrs, Volume= 1.160 af, Atten= 7%, Lag= 2.5 min
Primary = 11.64 cfs @ 12.16 hrs, Volume= 1.160 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.64' @ 12.16 hrs Surf.Area= 6,683 sf Storage= 8,712 cf

Plug-Flow detention time= 119.2 min calculated for 1.160 af (89% of inflow)
Center-of-Mass det. time= 60.2 min (802.7 - 742.5)

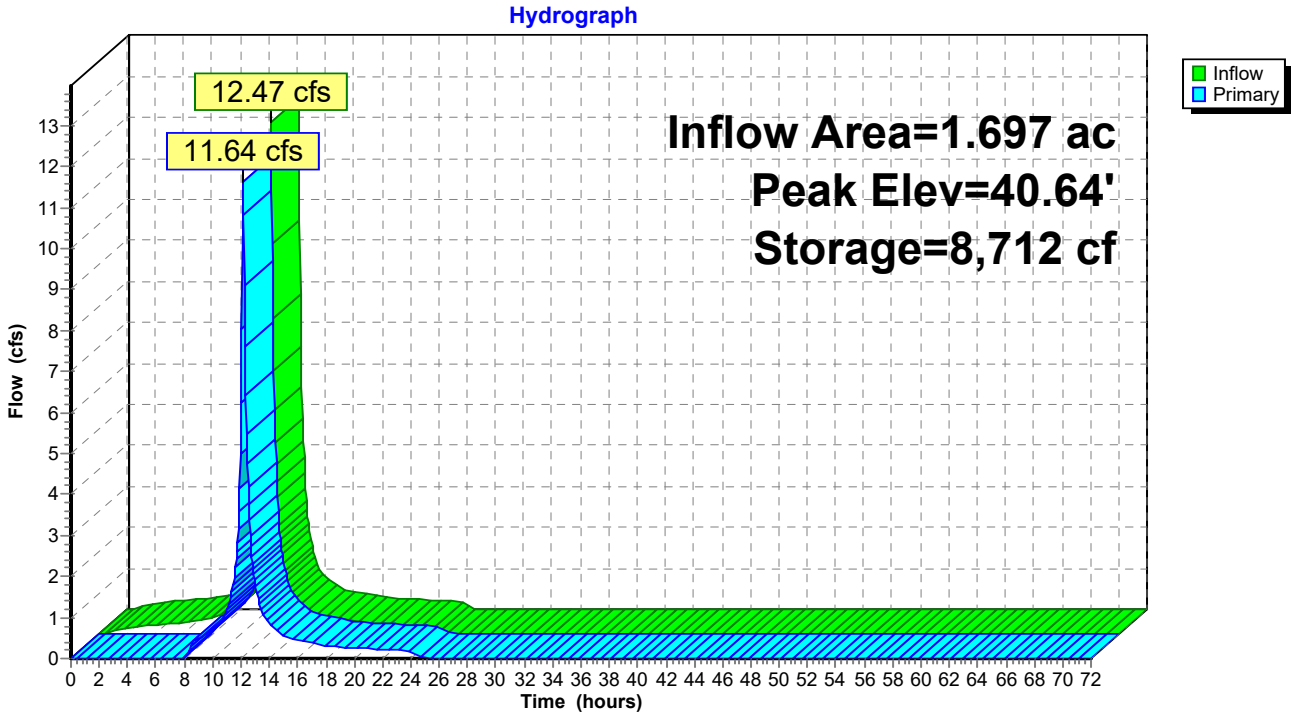
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=11.53 cfs @ 12.16 hrs HW=40.63' (Free Discharge)
1=Orifice/Grate (Weir Controls 11.53 cfs @ 1.98 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

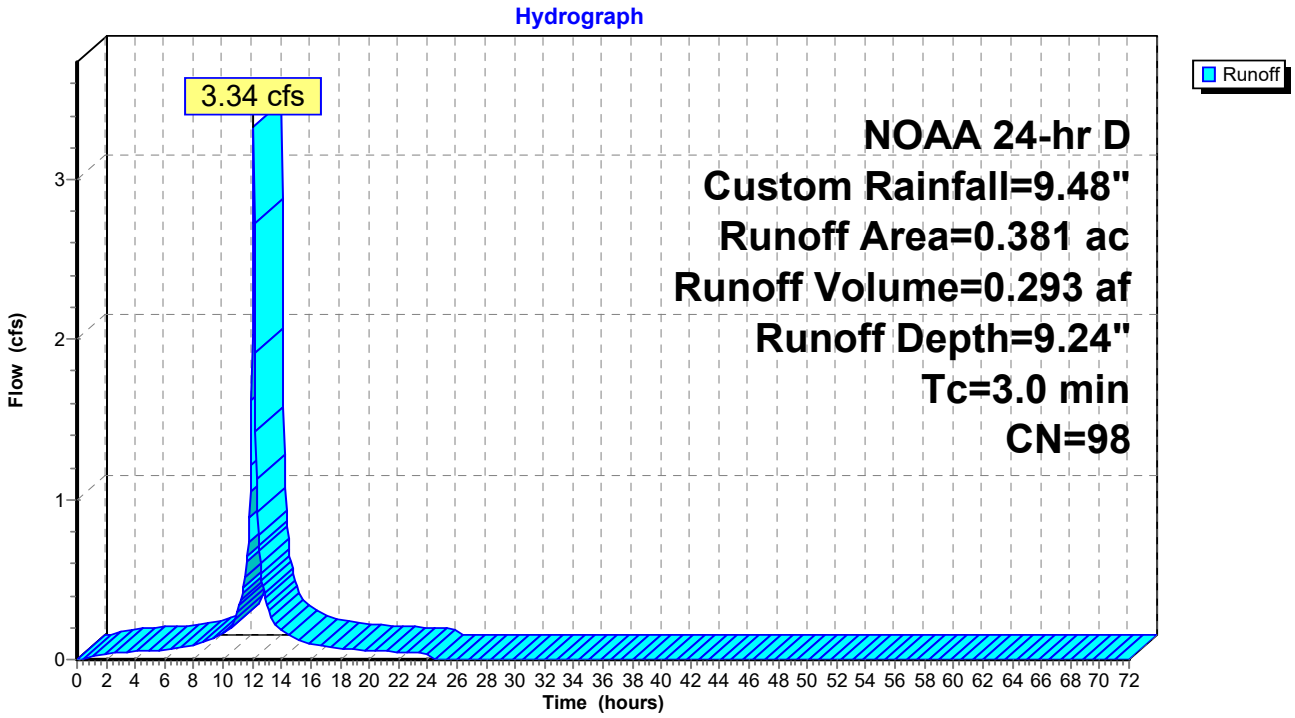
Runoff = 3.34 cfs @ 12.10 hrs, Volume= 0.293 af, Depth= 9.24"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

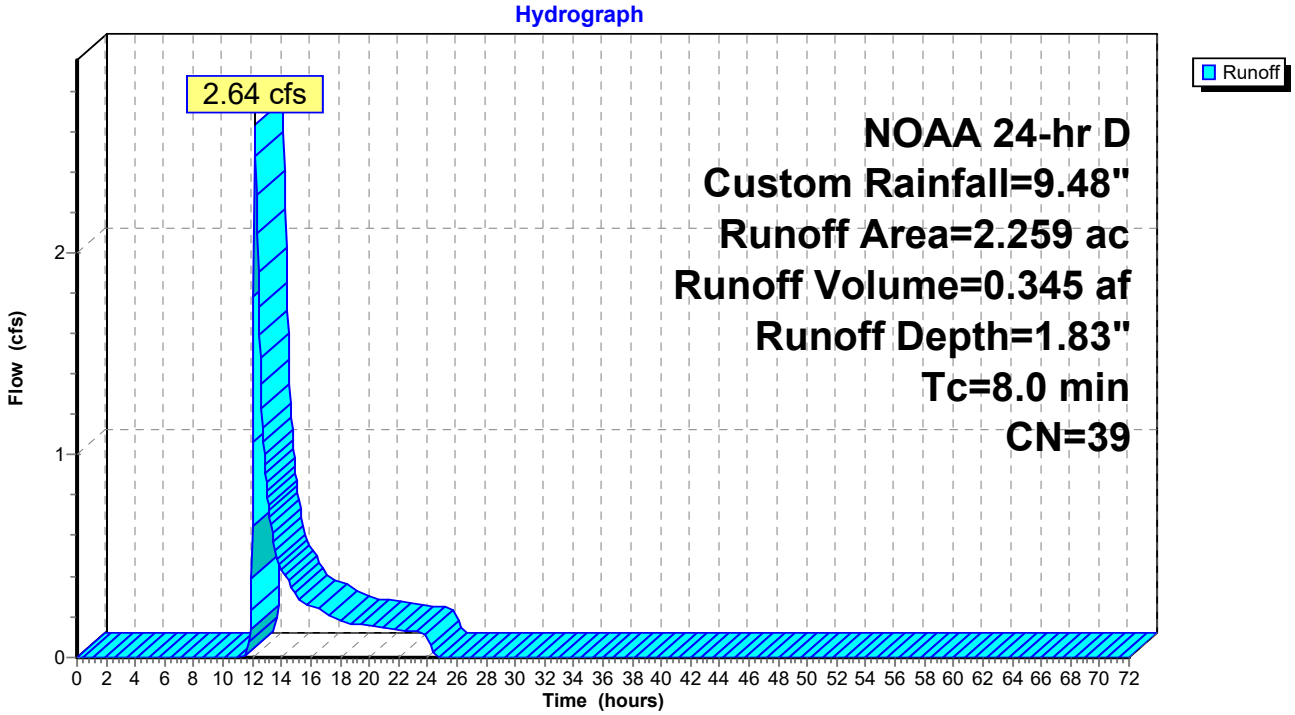
Runoff = 2.64 cfs @ 12.20 hrs, Volume= 0.345 af, Depth= 1.83"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

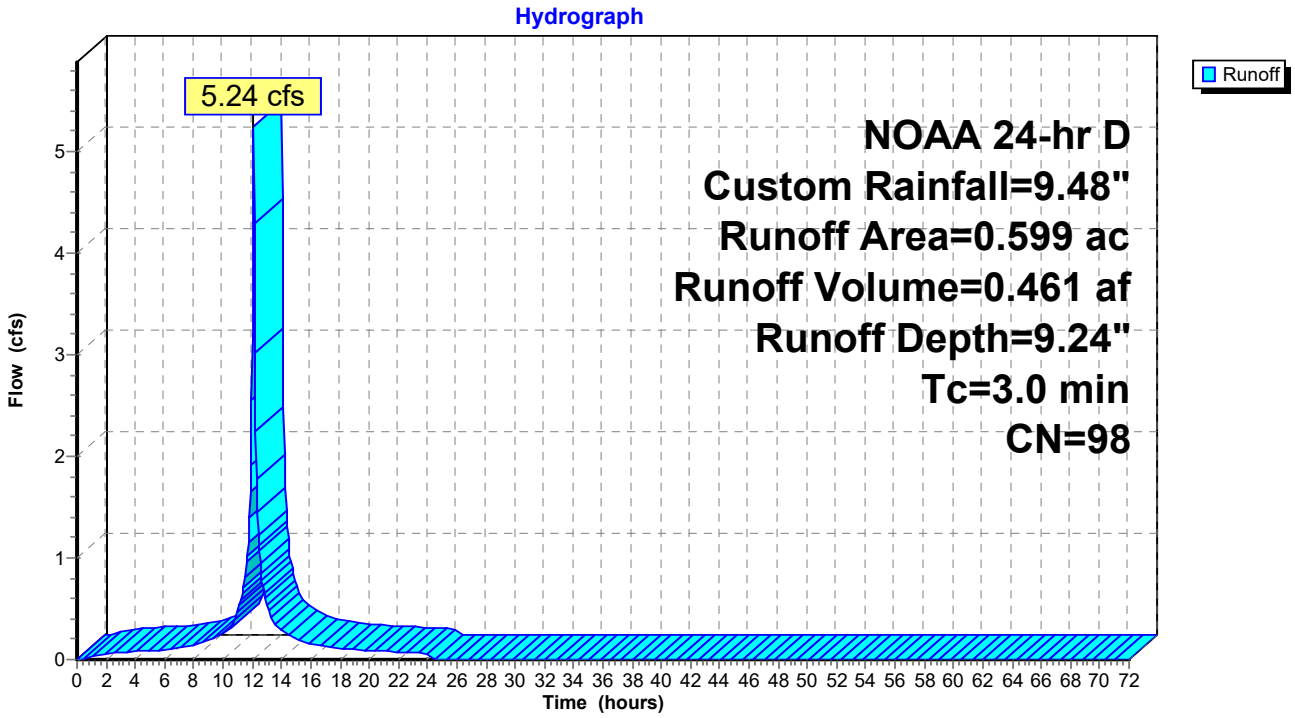
Runoff = 5.24 cfs @ 12.10 hrs, Volume= 0.461 af, Depth= 9.24"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 4.43" for Custom event
Inflow = 6.40 cfs @ 12.11 hrs, Volume= 0.644 af
Outflow = 6.12 cfs @ 12.14 hrs, Volume= 0.591 af, Atten= 4%, Lag= 1.8 min
Primary = 6.12 cfs @ 12.14 hrs, Volume= 0.591 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.64' @ 12.14 hrs Surf.Area= 3,367 sf Storage= 3,057 cf

Plug-Flow detention time= 93.1 min calculated for 0.591 af (92% of inflow)
Center-of-Mass det. time= 46.2 min (832.6 - 786.3)

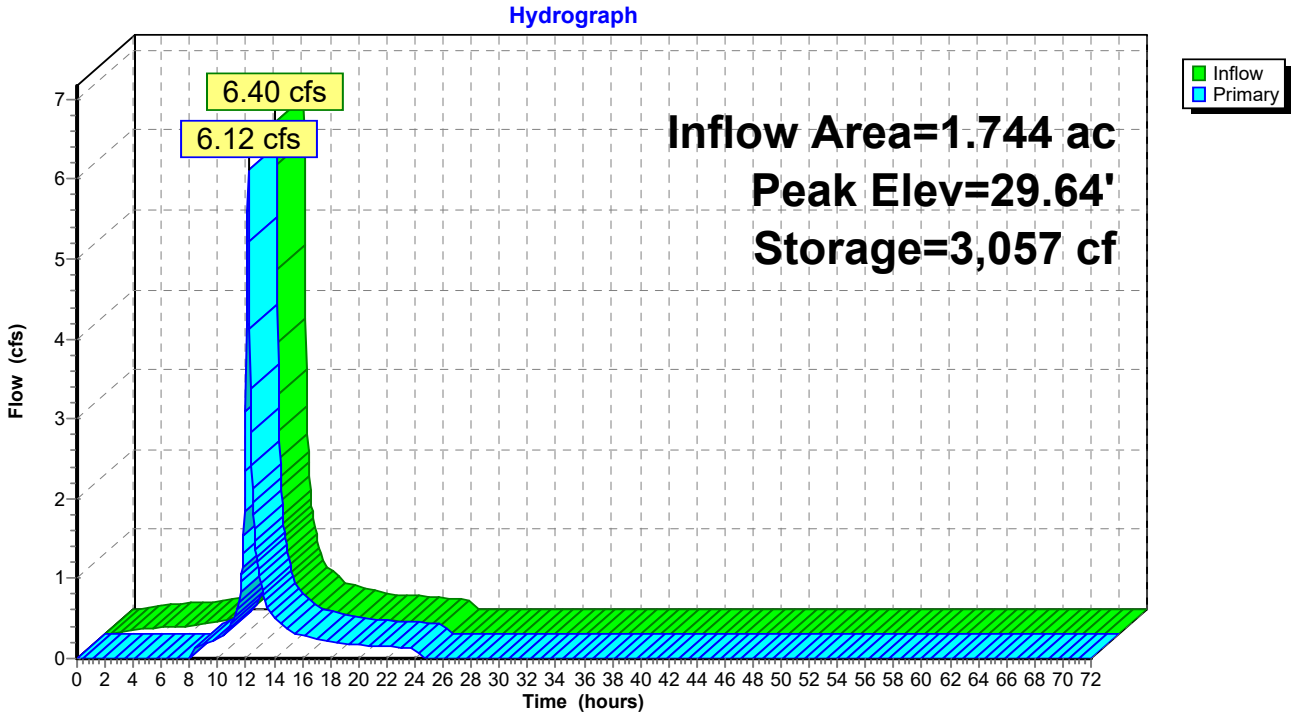
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.04 cfs @ 12.14 hrs HW=29.64' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 6.04 cfs @ 1.59 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

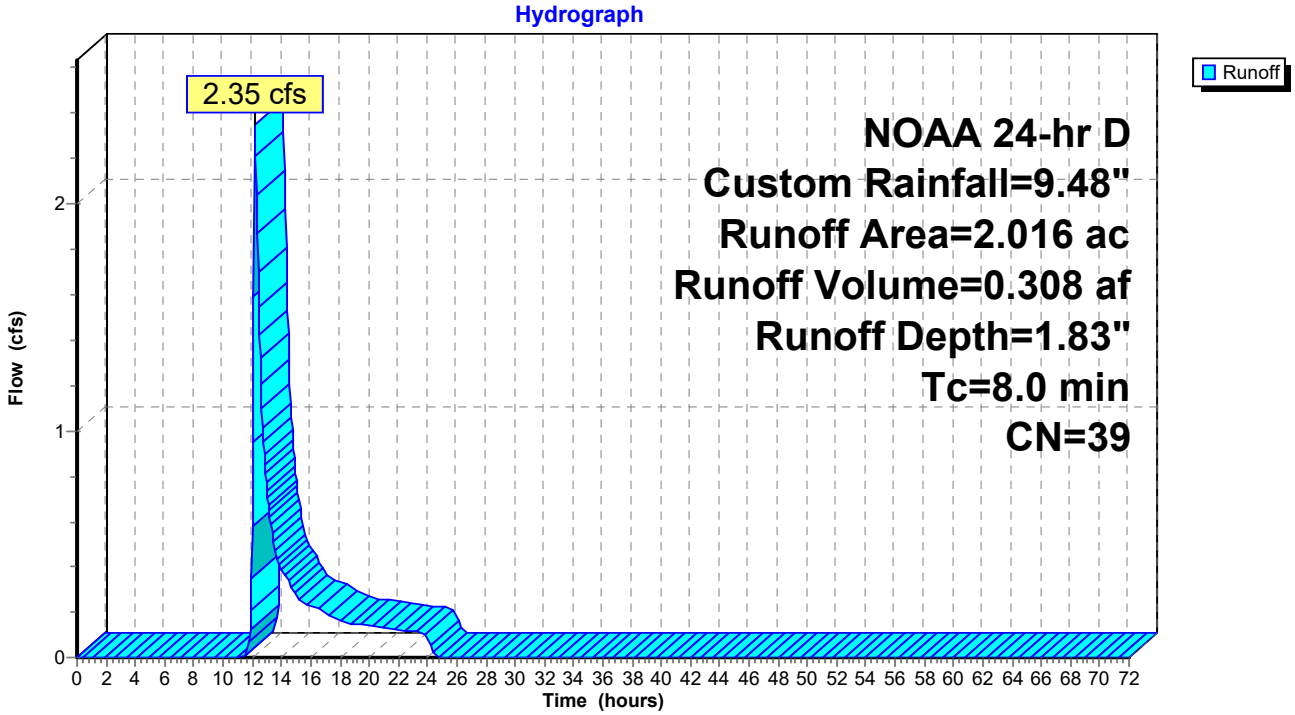
Runoff = 2.35 cfs @ 12.20 hrs, Volume= 0.308 af, Depth= 1.83"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

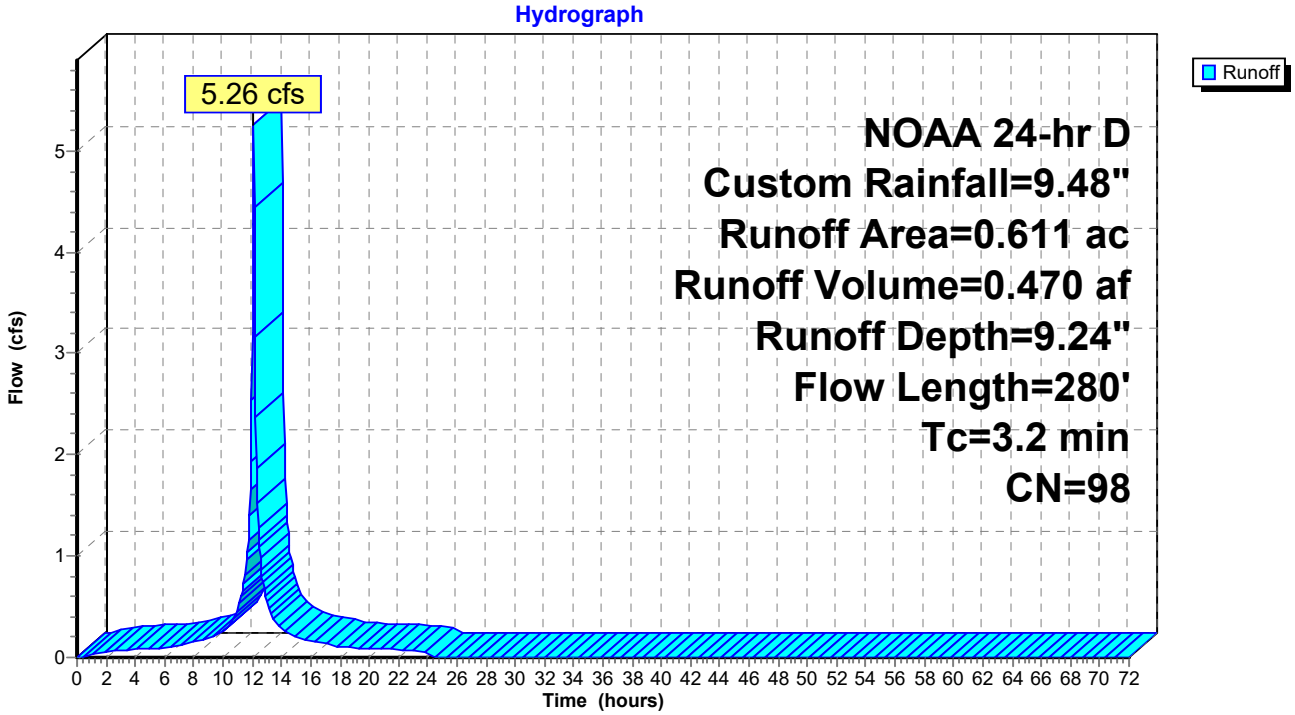
Runoff = 5.26 cfs @ 12.10 hrs, Volume= 0.470 af, Depth= 9.24"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 5.02" for Custom event
Inflow = 10.97 cfs @ 12.11 hrs, Volume= 1.086 af
Outflow = 10.19 cfs @ 12.14 hrs, Volume= 0.928 af, Atten= 7%, Lag= 2.1 min
Primary = 10.19 cfs @ 12.14 hrs, Volume= 0.928 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.32' @ 12.14 hrs Surf.Area= 5,248 sf Storage= 8,563 cf

Plug-Flow detention time= 141.3 min calculated for 0.928 af (85% of inflow)
Center-of-Mass det. time= 67.9 min (843.8 - 775.9)

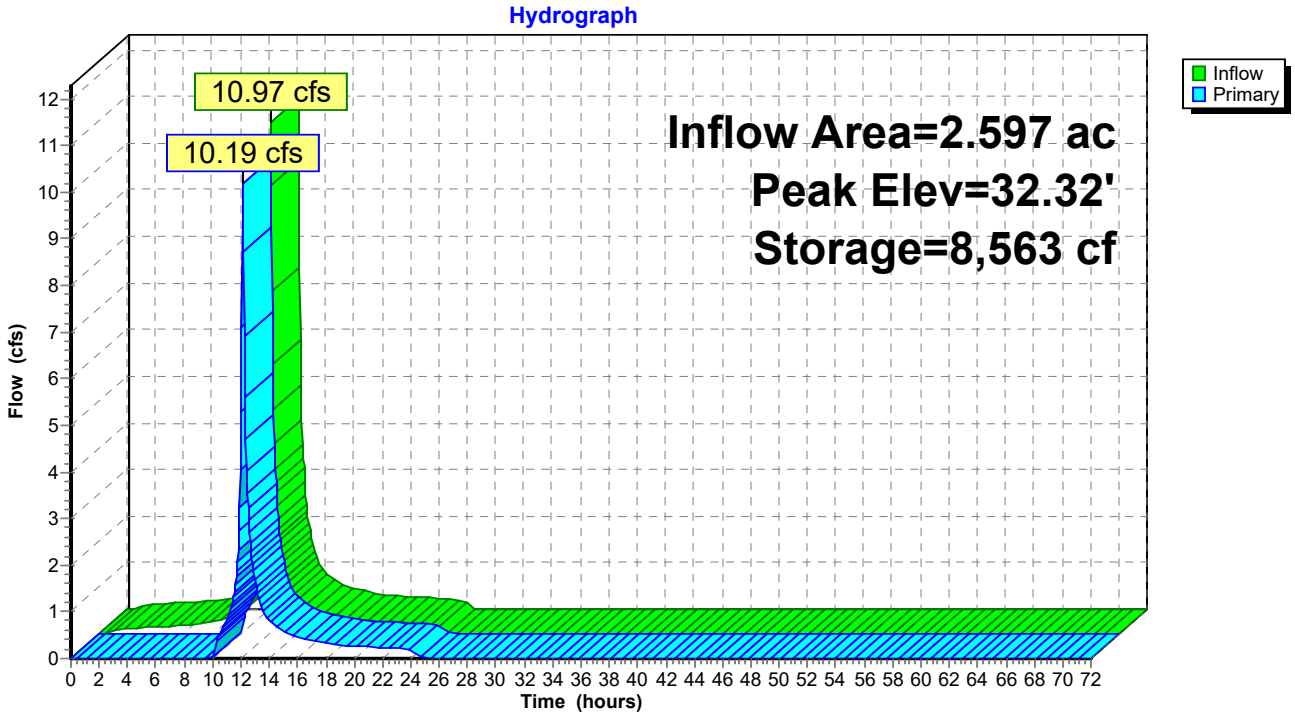
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.04 cfs @ 12.14 hrs HW=32.31' (Free Discharge)
1=Orifice/Grate (Weir Controls 10.04 cfs @ 1.89 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

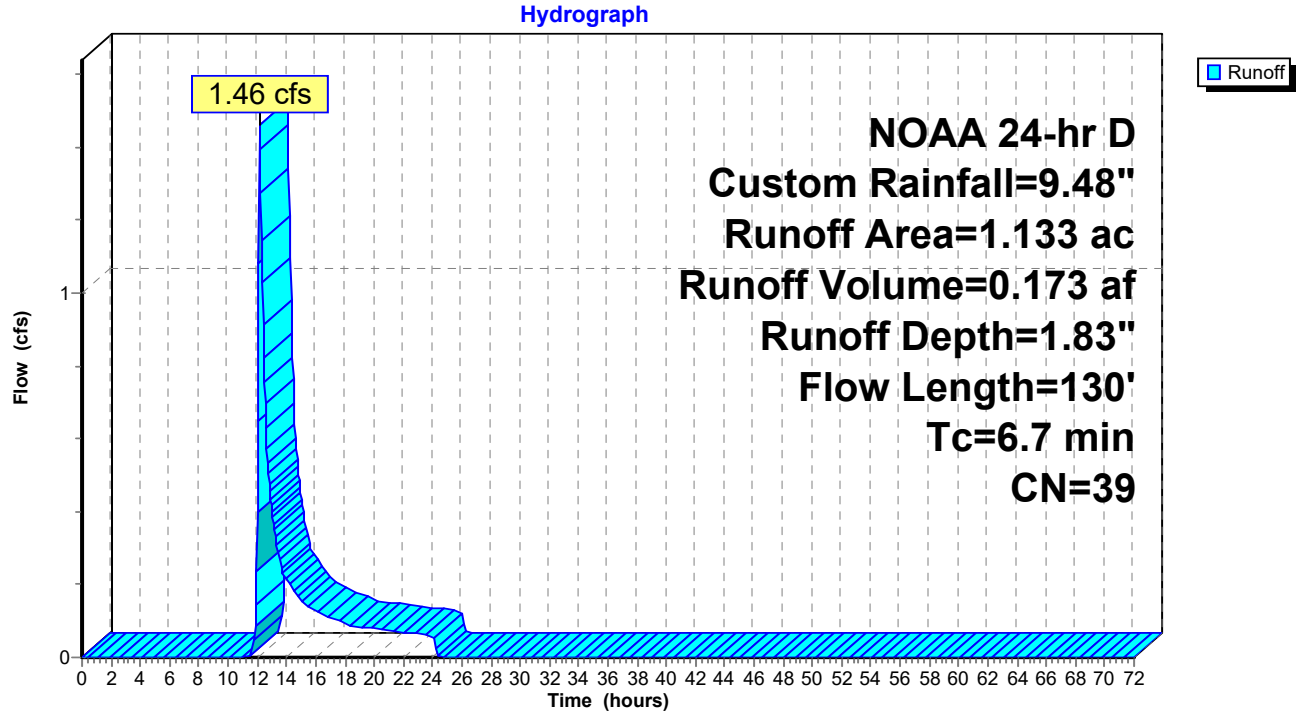
Runoff = 1.46 cfs @ 12.17 hrs, Volume= 0.173 af, Depth= 1.83"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 4.06" for Custom event
Inflow = 8.13 cfs @ 12.11 hrs, Volume= 0.842 af
Outflow = 7.37 cfs @ 12.16 hrs, Volume= 0.777 af, Atten= 9%, Lag= 2.7 min
Primary = 7.37 cfs @ 12.16 hrs, Volume= 0.777 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.97' @ 12.16 hrs Surf.Area= 6,495 sf Storage= 7,871 cf

Plug-Flow detention time= 196.5 min calculated for 0.776 af (92% of inflow)
Center-of-Mass det. time= 153.9 min (948.7 - 794.7)

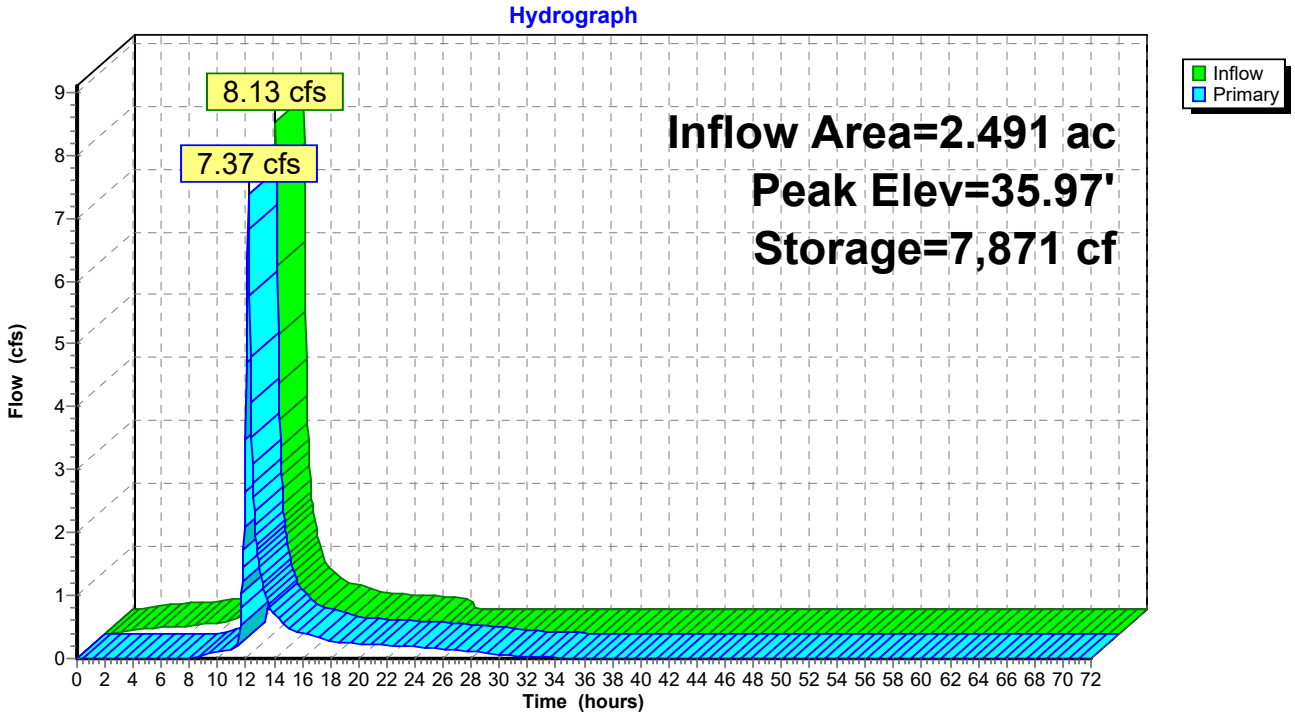
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.27 cfs @ 12.16 hrs HW=35.96' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.22 cfs @ 4.54 fps)
└**2=Orifice/Grate** (Weir Controls 7.05 cfs @ 1.68 fps)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

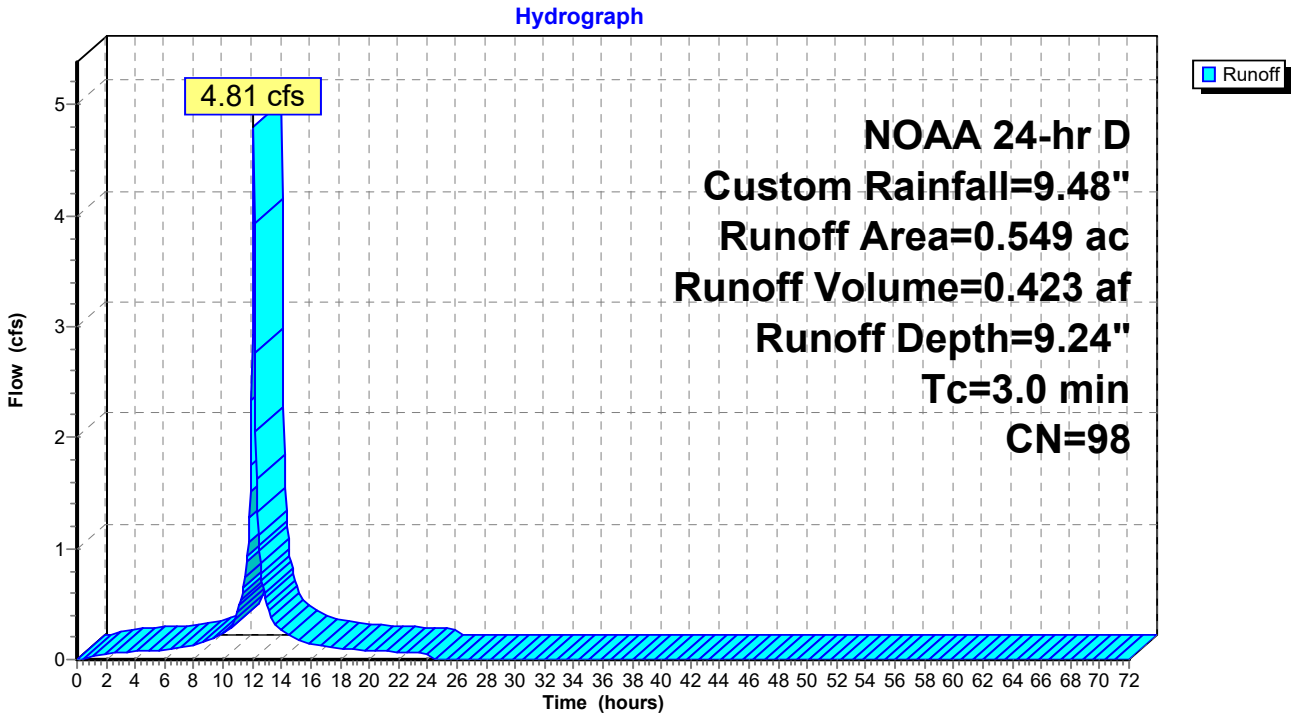
Runoff = 4.81 cfs @ 12.10 hrs, Volume= 0.423 af, Depth= 9.24"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

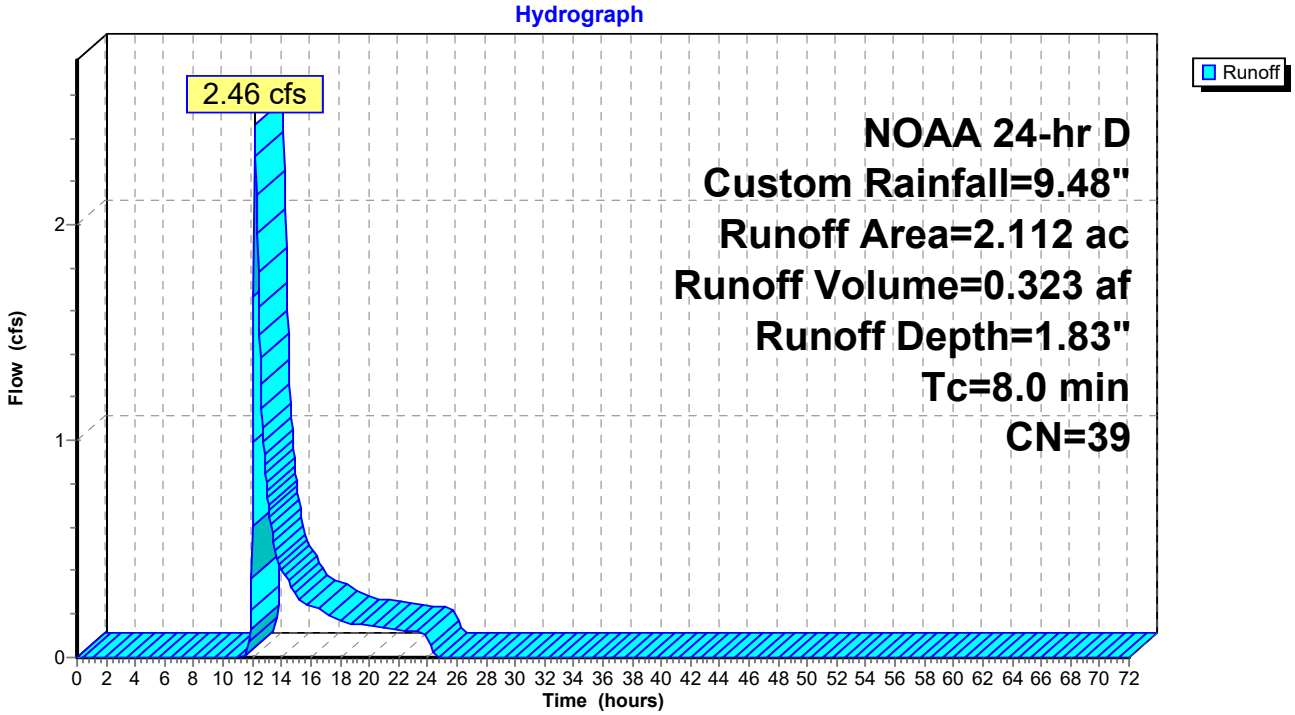
Runoff = 2.46 cfs @ 12.20 hrs, Volume= 0.323 af, Depth= 1.83"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

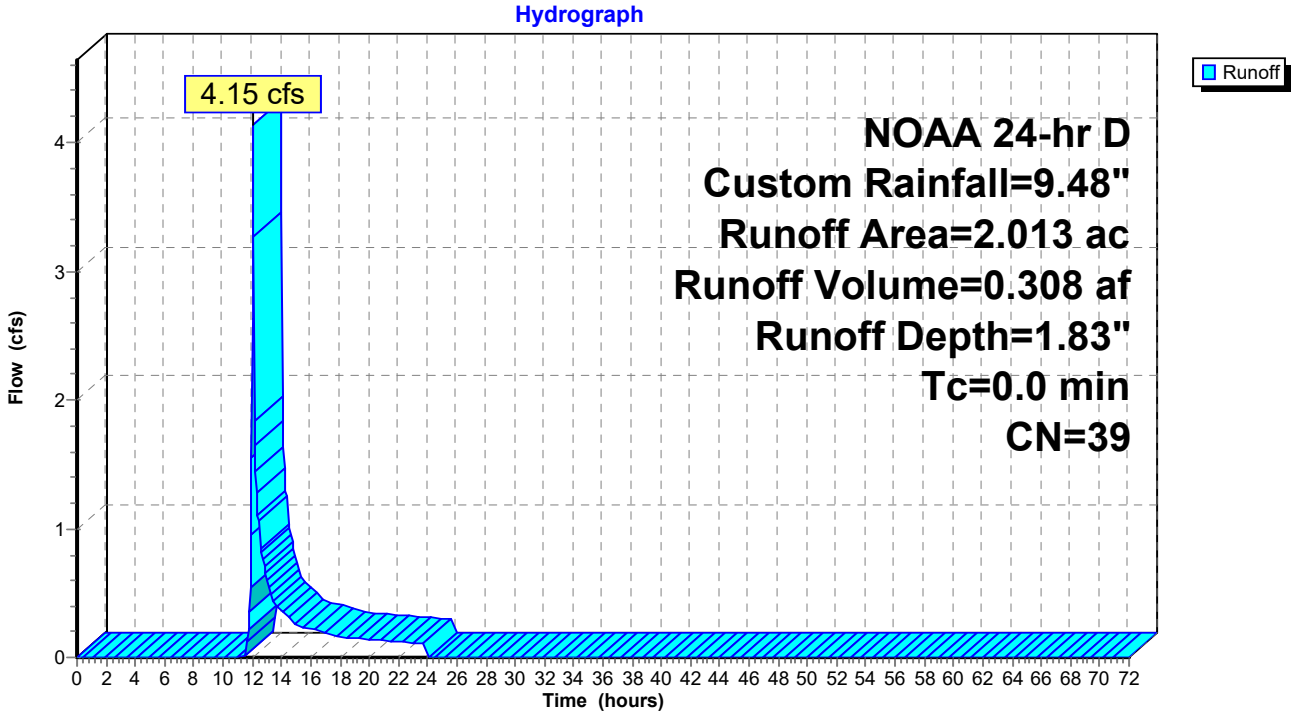
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 4.15 cfs @ 12.06 hrs, Volume= 0.308 af, Depth= 1.83"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

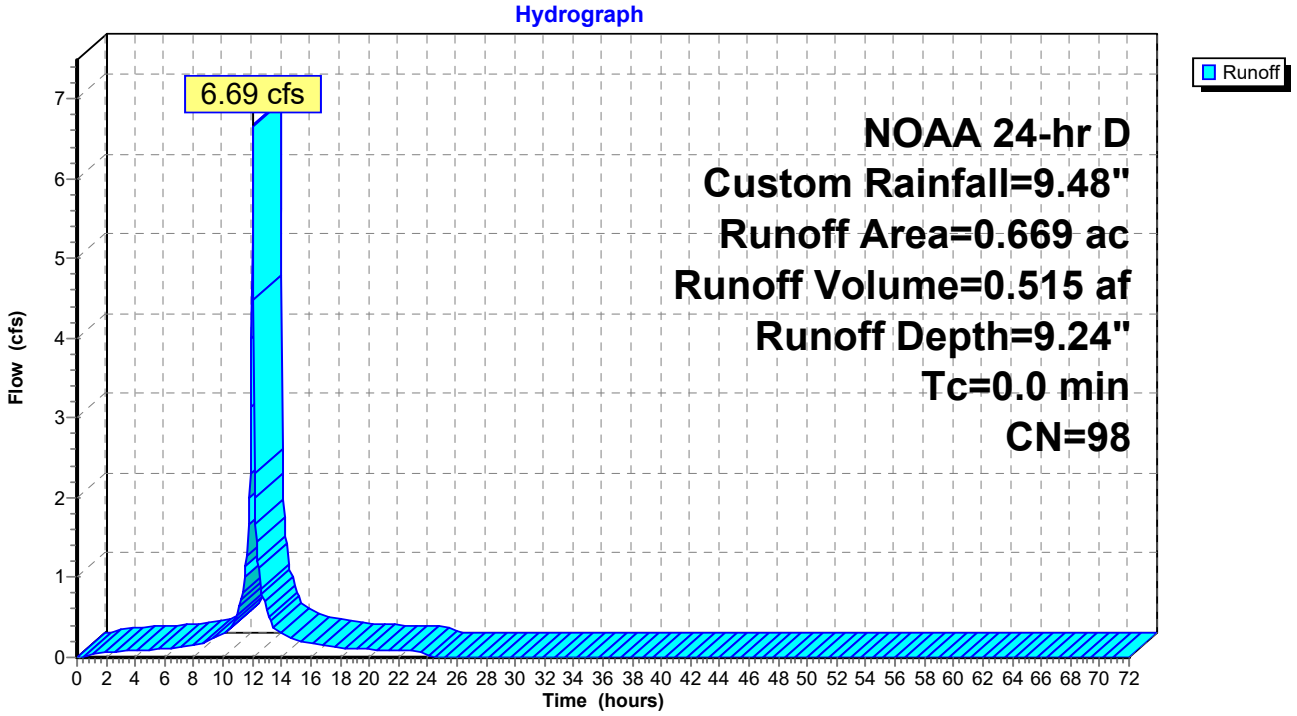
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 6.69 cfs @ 12.04 hrs, Volume= 0.515 af, Depth= 9.24"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

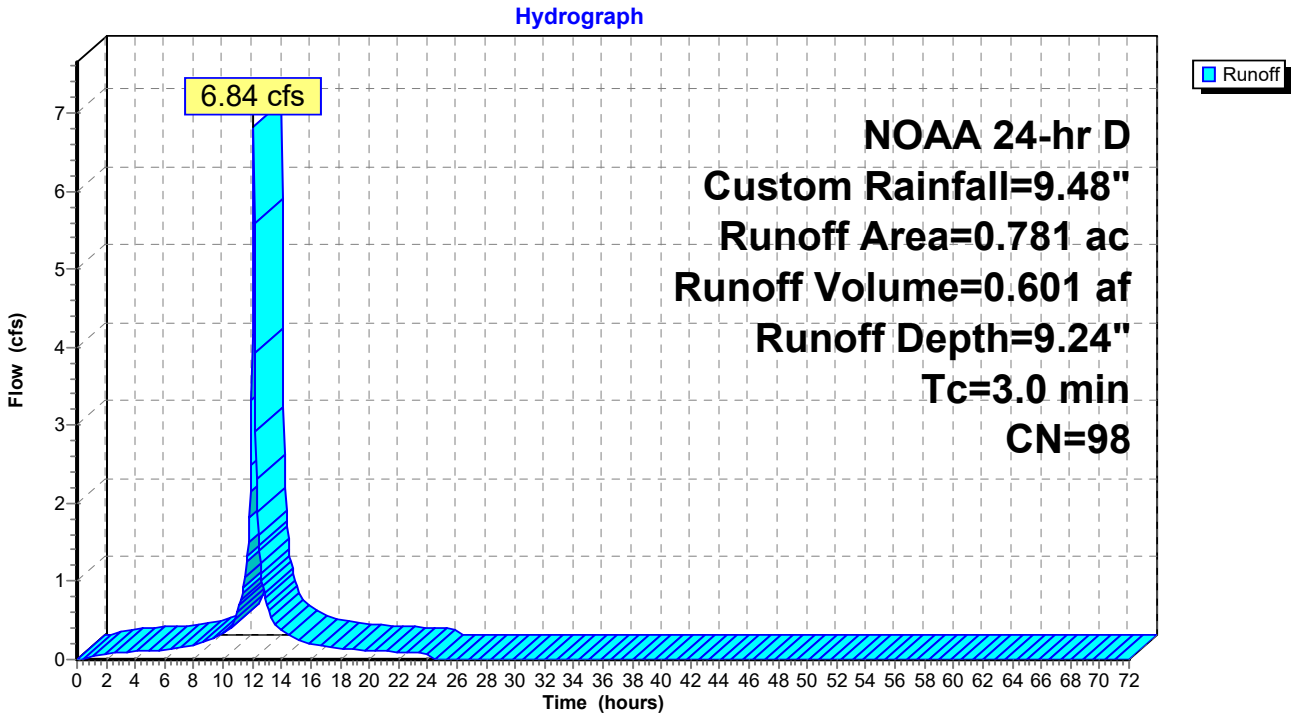
Runoff = 6.84 cfs @ 12.10 hrs, Volume= 0.601 af, Depth= 9.24"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

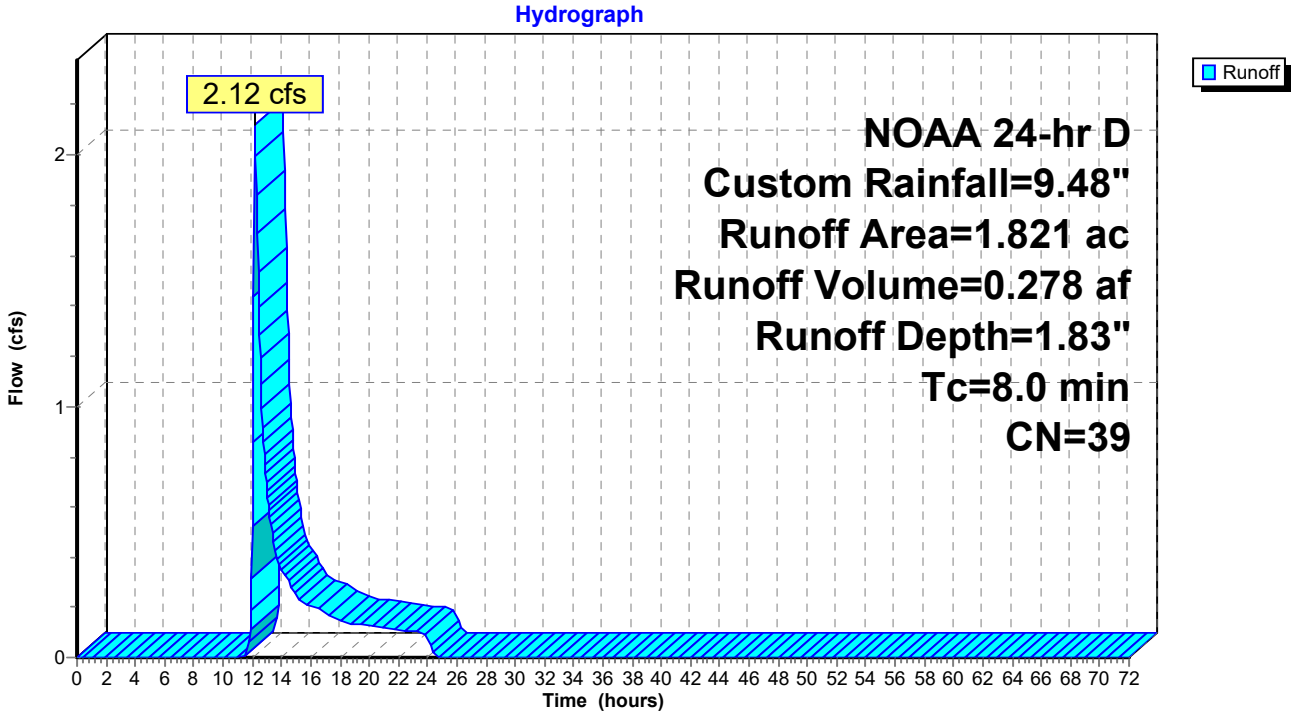
Runoff = 2.12 cfs @ 12.20 hrs, Volume= 0.278 af, Depth= 1.83"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

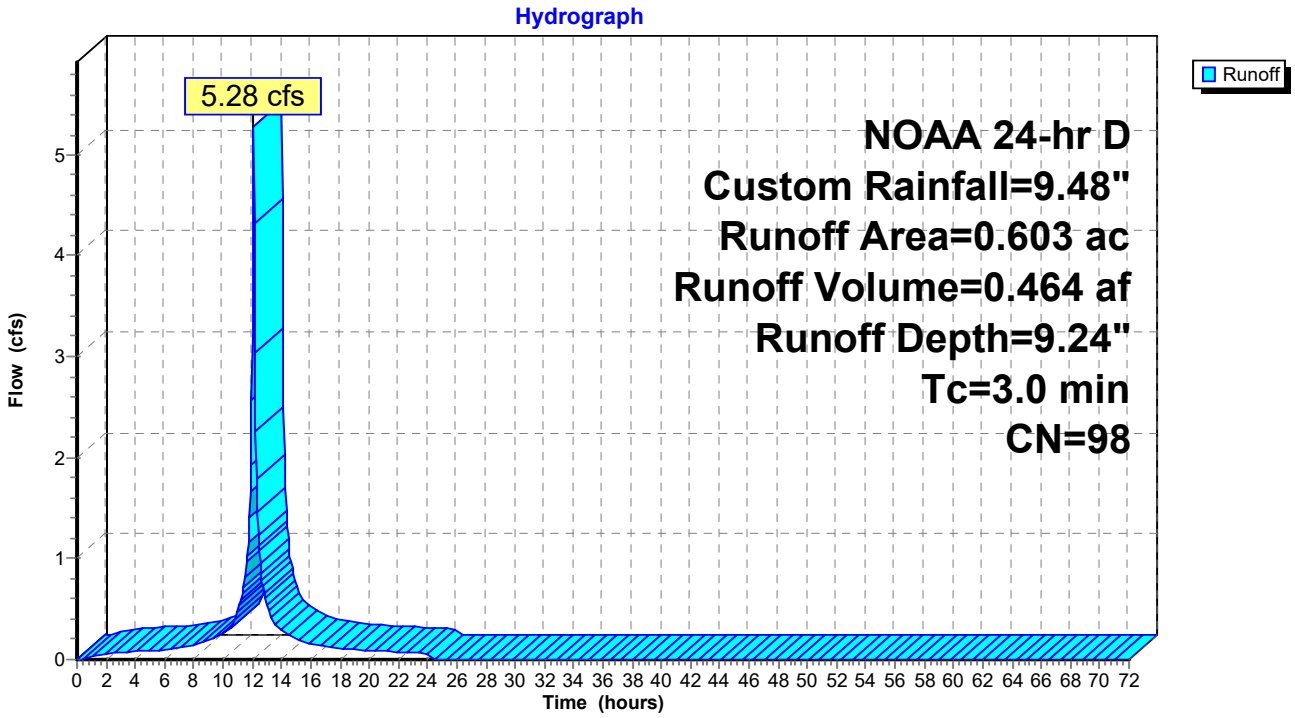
Runoff = 5.28 cfs @ 12.10 hrs, Volume= 0.464 af, Depth= 9.24"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

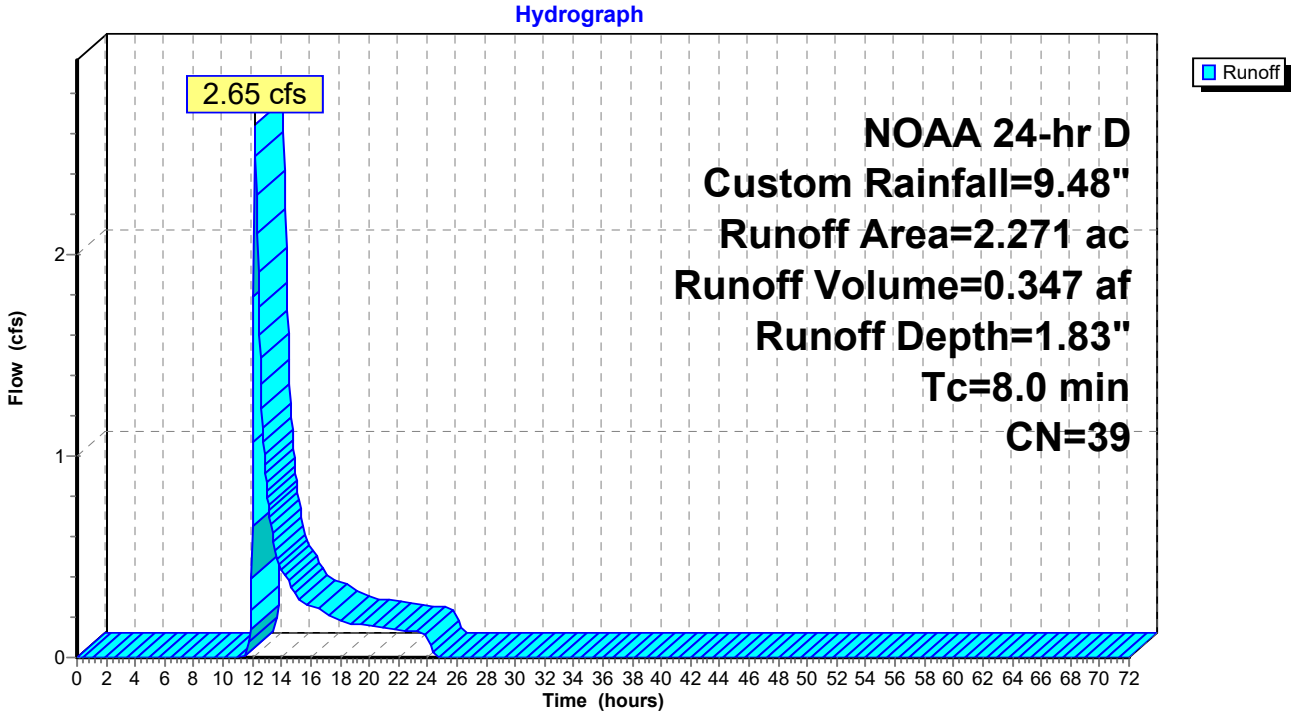
Runoff = 2.65 cfs @ 12.20 hrs, Volume= 0.347 af, Depth= 1.83"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

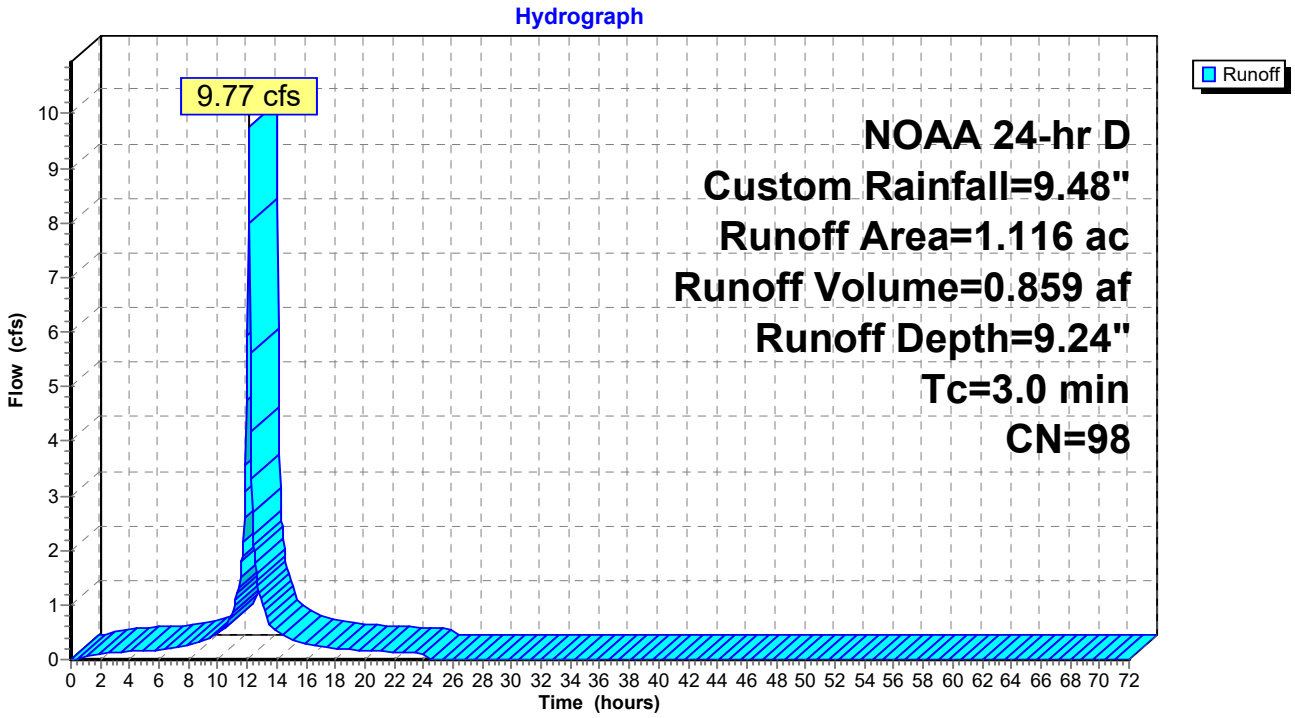
Runoff = 9.77 cfs @ 12.10 hrs, Volume= 0.859 af, Depth= 9.24"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

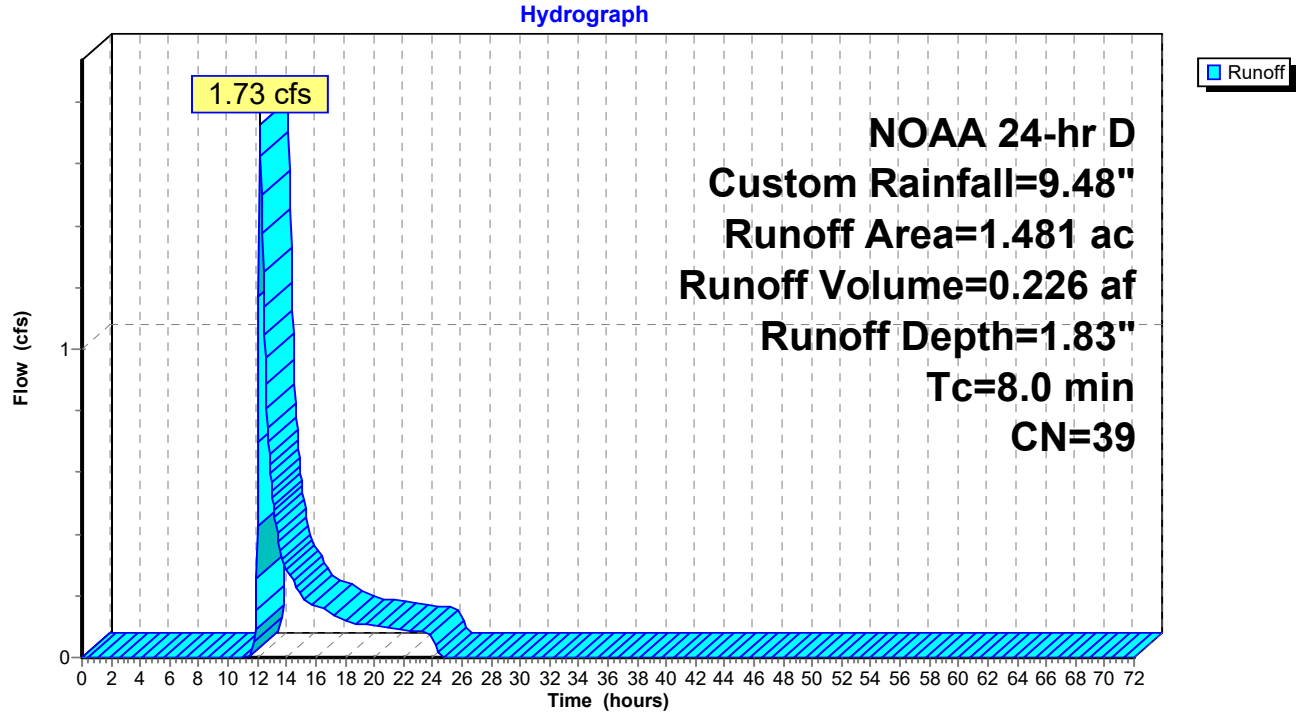
Runoff = 1.73 cfs @ 12.20 hrs, Volume= 0.226 af, Depth= 1.83"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

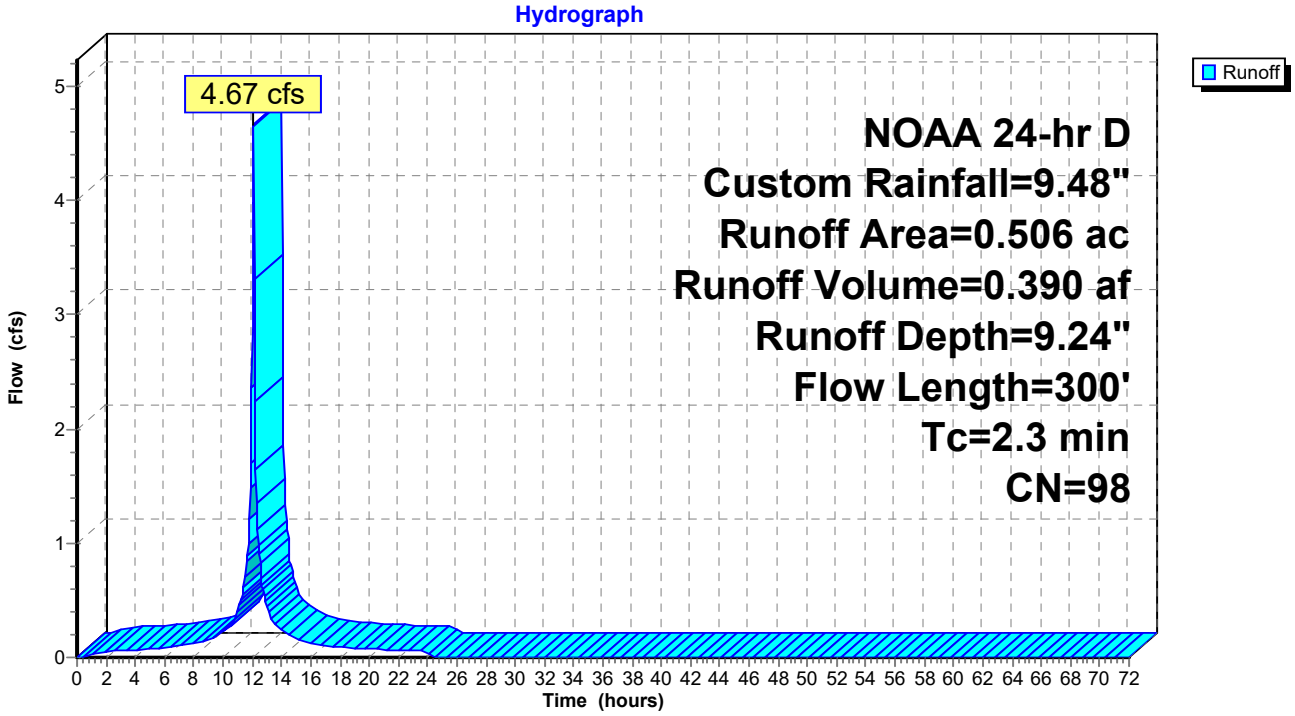
Runoff = 4.67 cfs @ 12.09 hrs, Volume= 0.390 af, Depth= 9.24"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

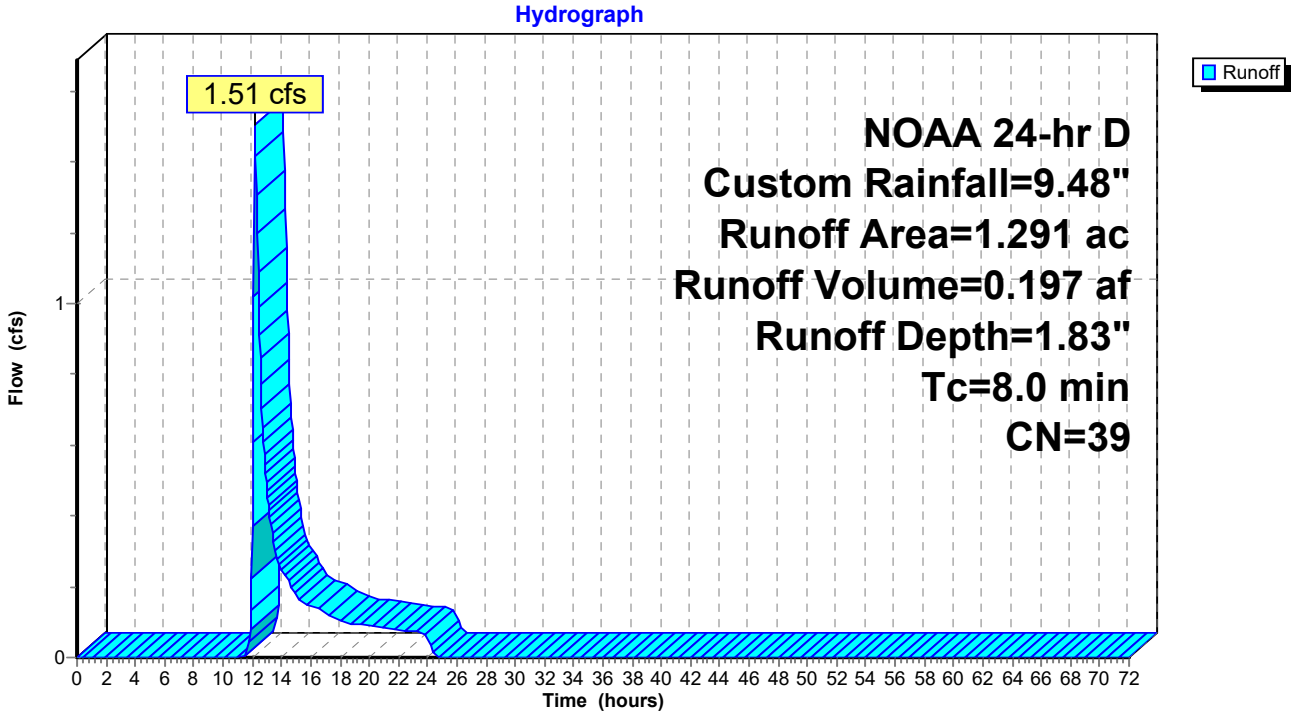
Runoff = 1.51 cfs @ 12.20 hrs, Volume= 0.197 af, Depth= 1.83"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

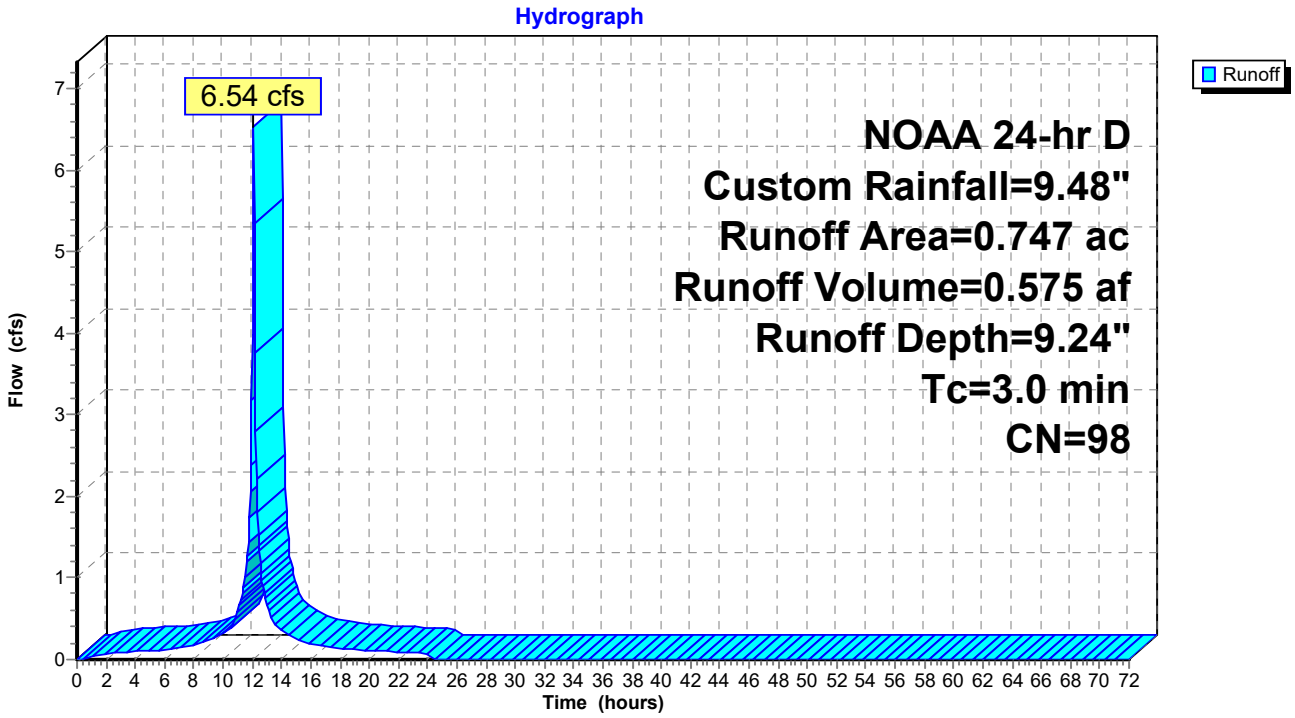
Runoff = 6.54 cfs @ 12.10 hrs, Volume= 0.575 af, Depth= 9.24"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

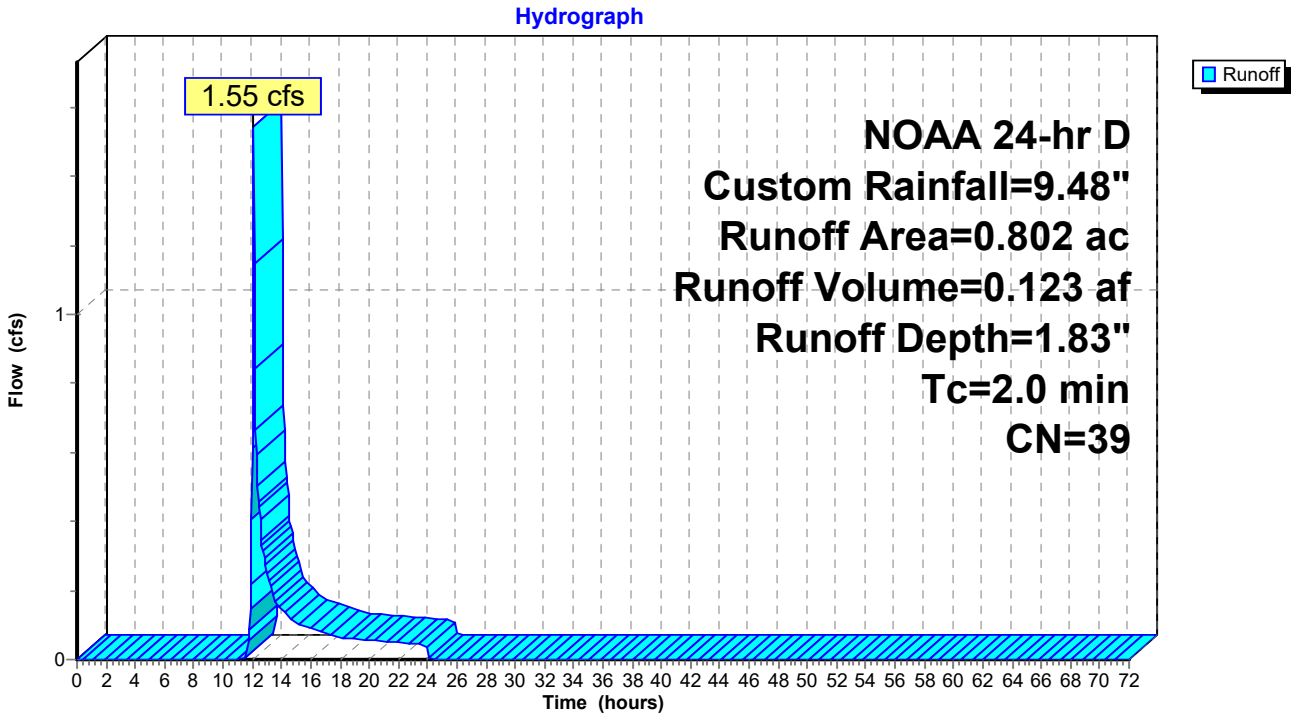
Runoff = 1.55 cfs @ 12.10 hrs, Volume= 0.123 af, Depth= 1.83"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

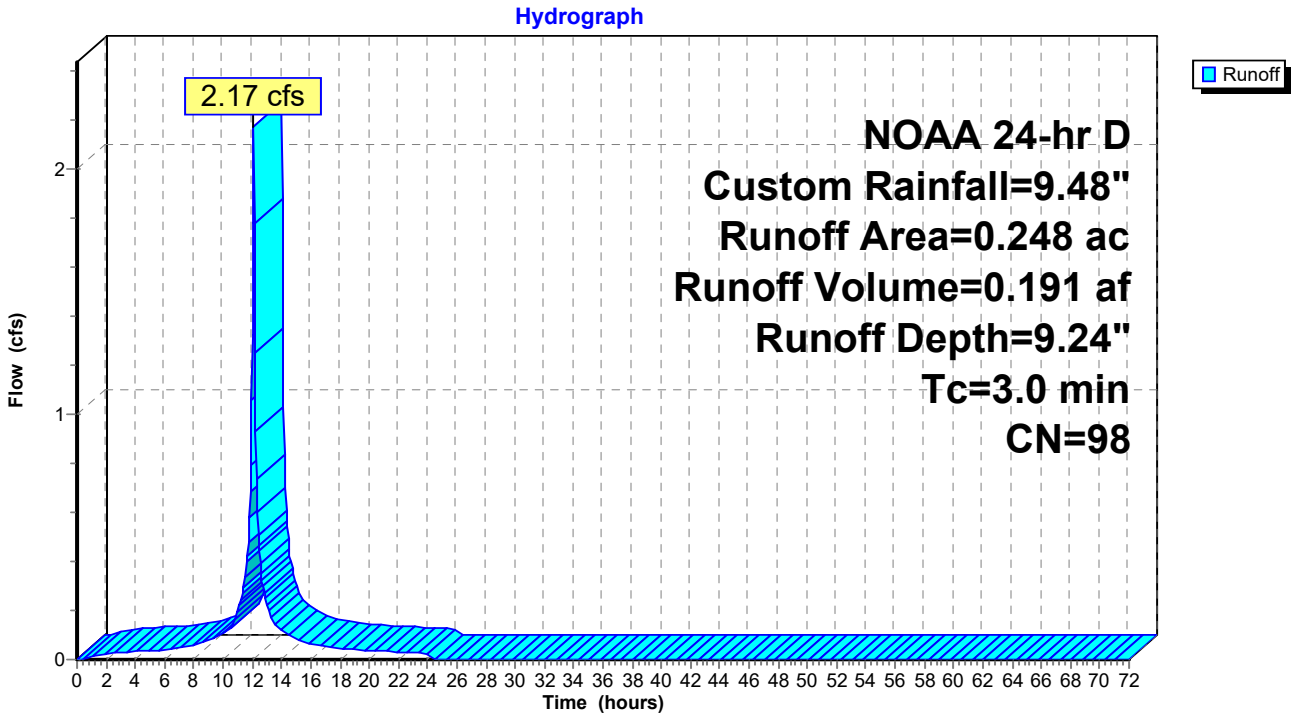
Runoff = 2.17 cfs @ 12.10 hrs, Volume= 0.191 af, Depth= 9.24"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

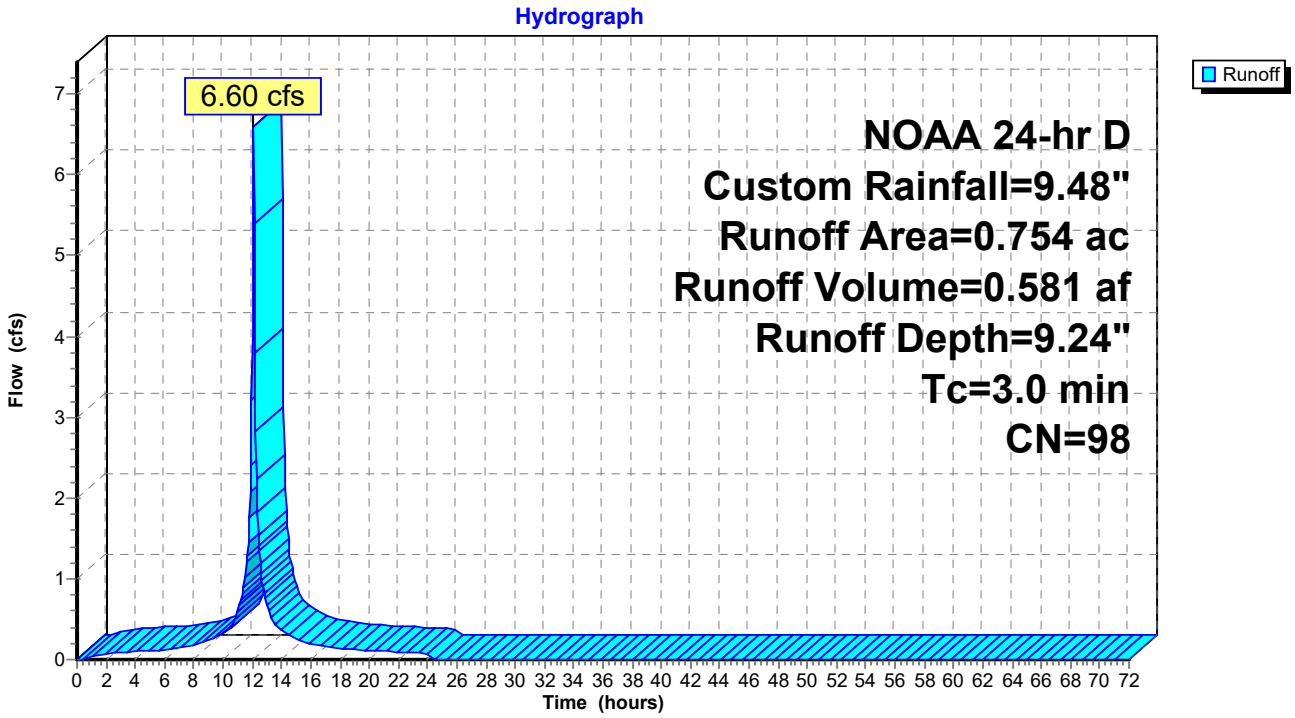
Runoff = 6.60 cfs @ 12.10 hrs, Volume= 0.581 af, Depth= 9.24"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

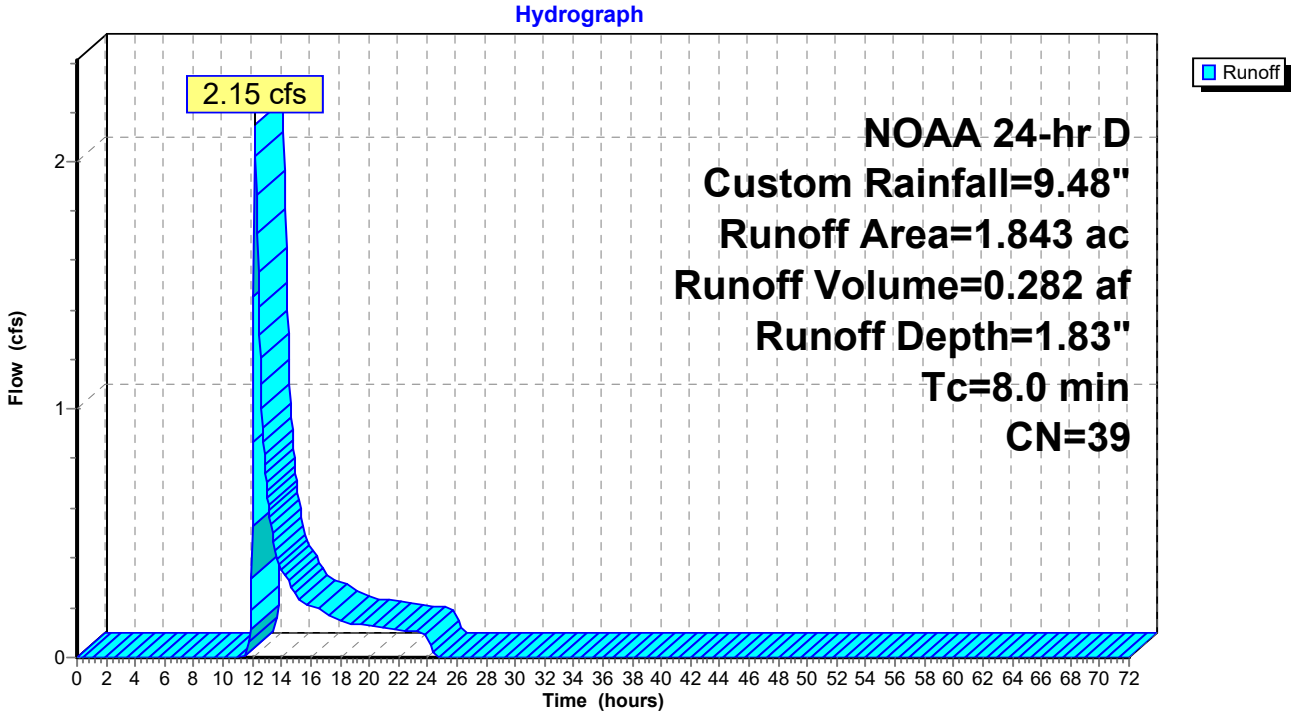
Runoff = 2.15 cfs @ 12.20 hrs, Volume= 0.282 af, Depth= 1.83"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

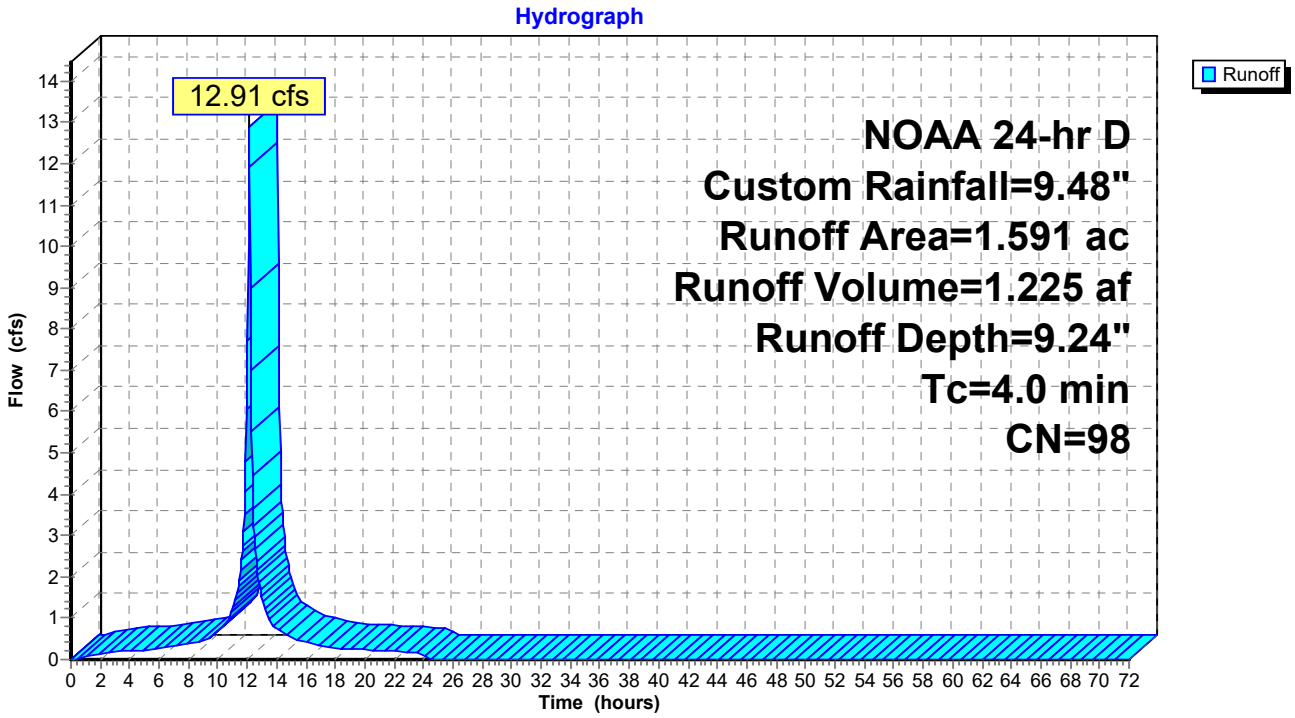
Runoff = 12.91 cfs @ 12.11 hrs, Volume= 1.225 af, Depth= 9.24"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

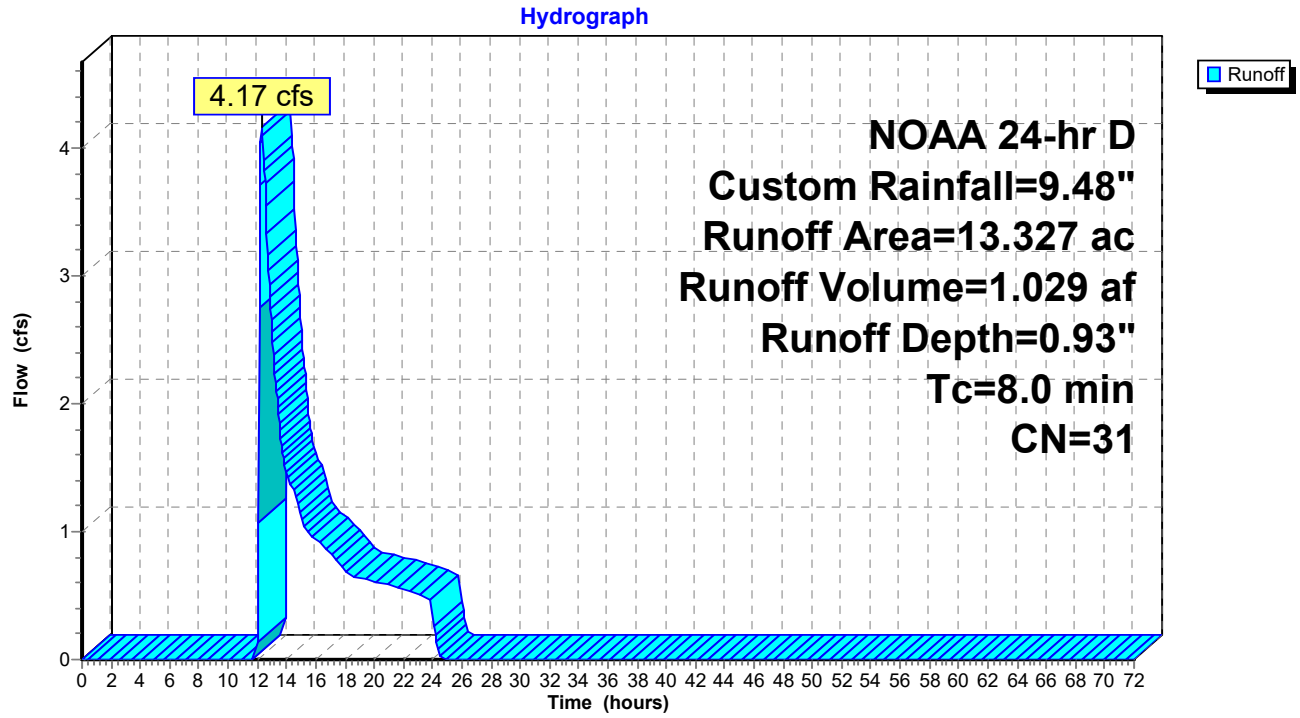
Runoff = 4.17 cfs @ 12.33 hrs, Volume= 1.029 af, Depth= 0.93"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

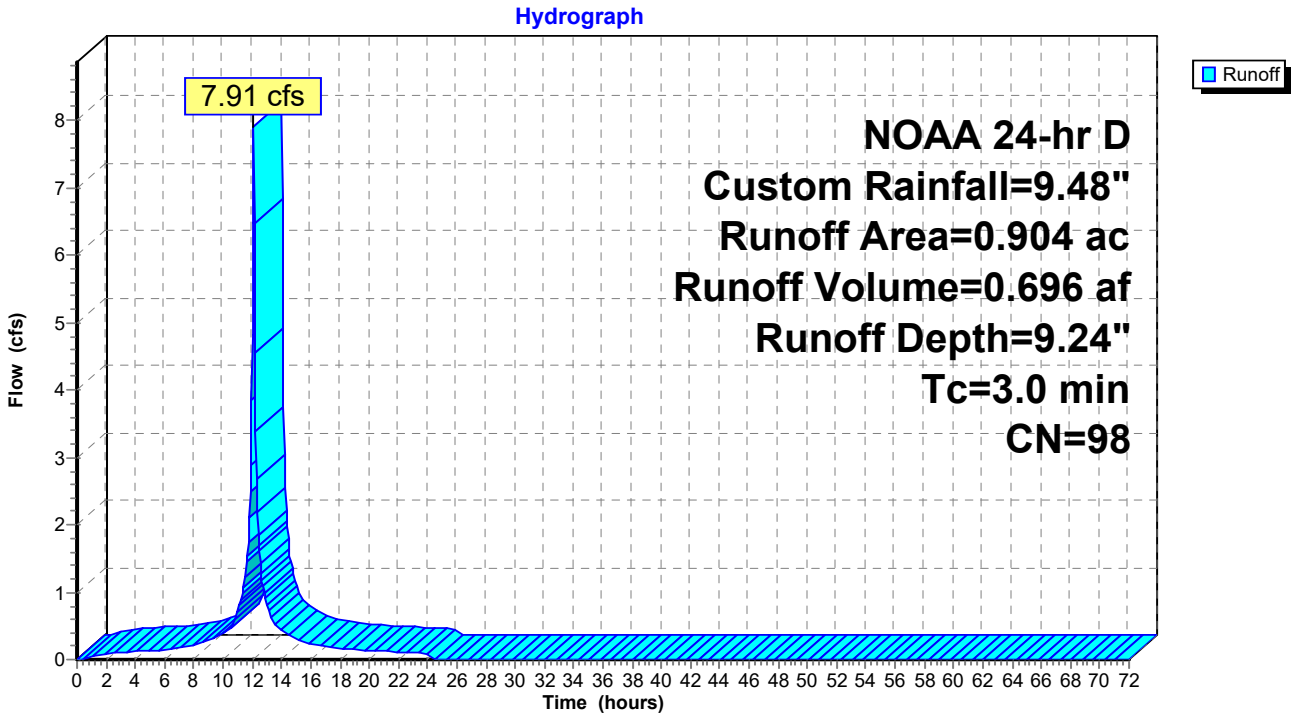
Runoff = 7.91 cfs @ 12.10 hrs, Volume= 0.696 af, Depth= 9.24"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

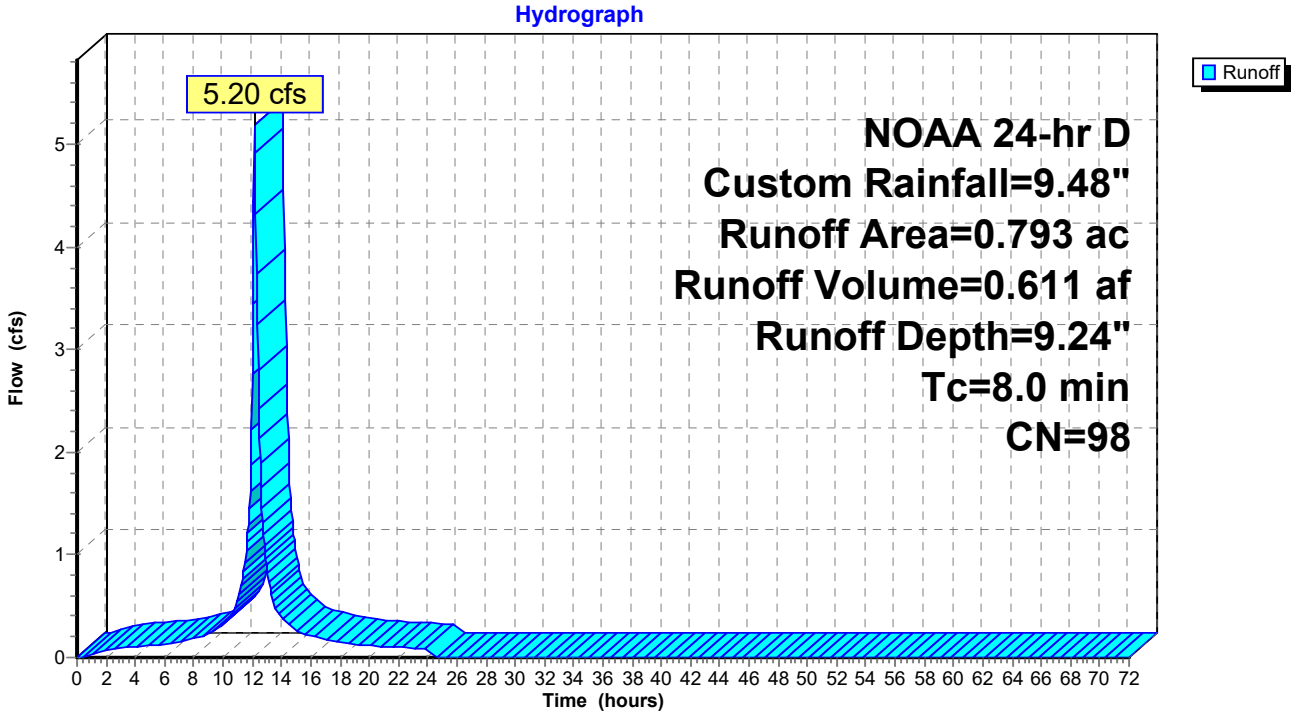
Runoff = 5.20 cfs @ 12.16 hrs, Volume= 0.611 af, Depth= 9.24"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

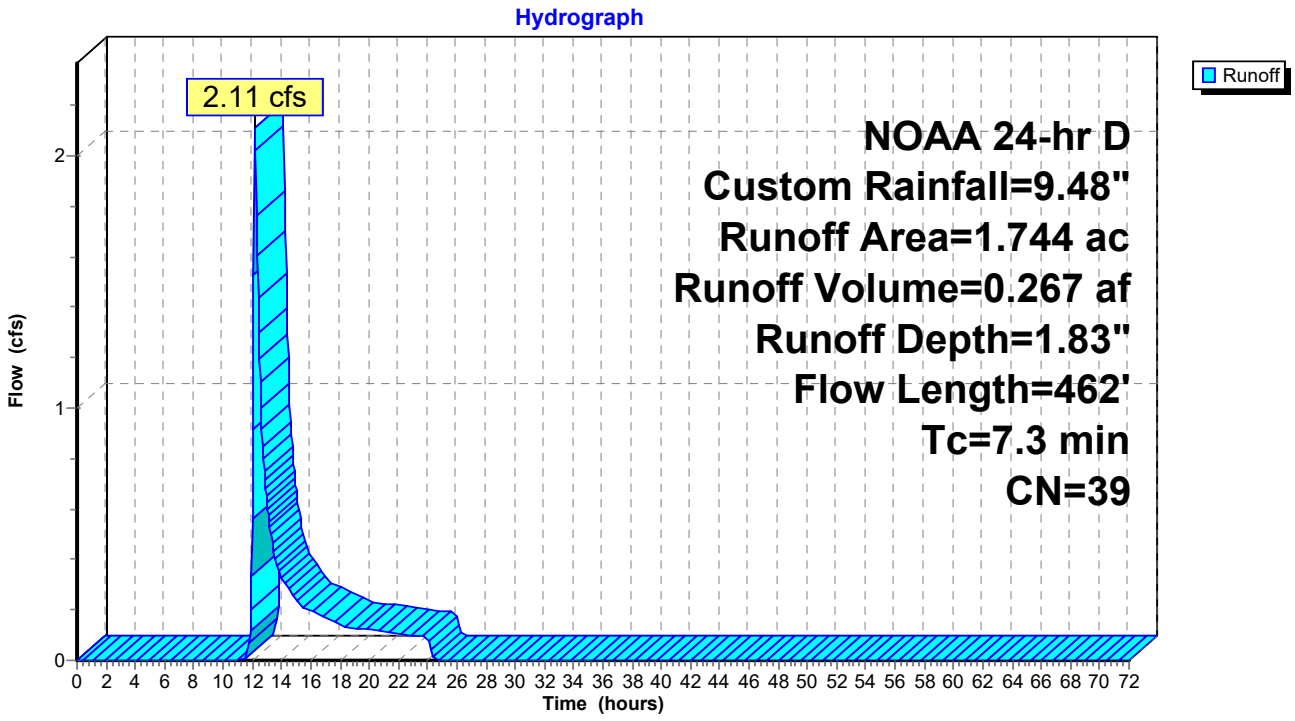
Runoff = 2.11 cfs @ 12.18 hrs, Volume= 0.267 af, Depth= 1.83"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[79] Warning: Submerged Pond 69P Primary device # 1 by 0.88'
[81] Warning: Exceeded Pond 88P by 1.08' @ 31.35 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth = 3.87" for Custom event
Inflow = 22.66 cfs @ 12.12 hrs, Volume= 2.940 af
Outflow = 20.01 cfs @ 12.18 hrs, Volume= 2.757 af, Atten= 12%, Lag= 3.9 min
Primary = 20.01 cfs @ 12.18 hrs, Volume= 2.757 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.72' @ 12.18 hrs Surf.Area= 9,919 sf Storage= 22,973 cf

Plug-Flow detention time= 251.2 min calculated for 2.755 af (94% of inflow)
Center-of-Mass det. time= 187.6 min (1,140.9 - 953.3)

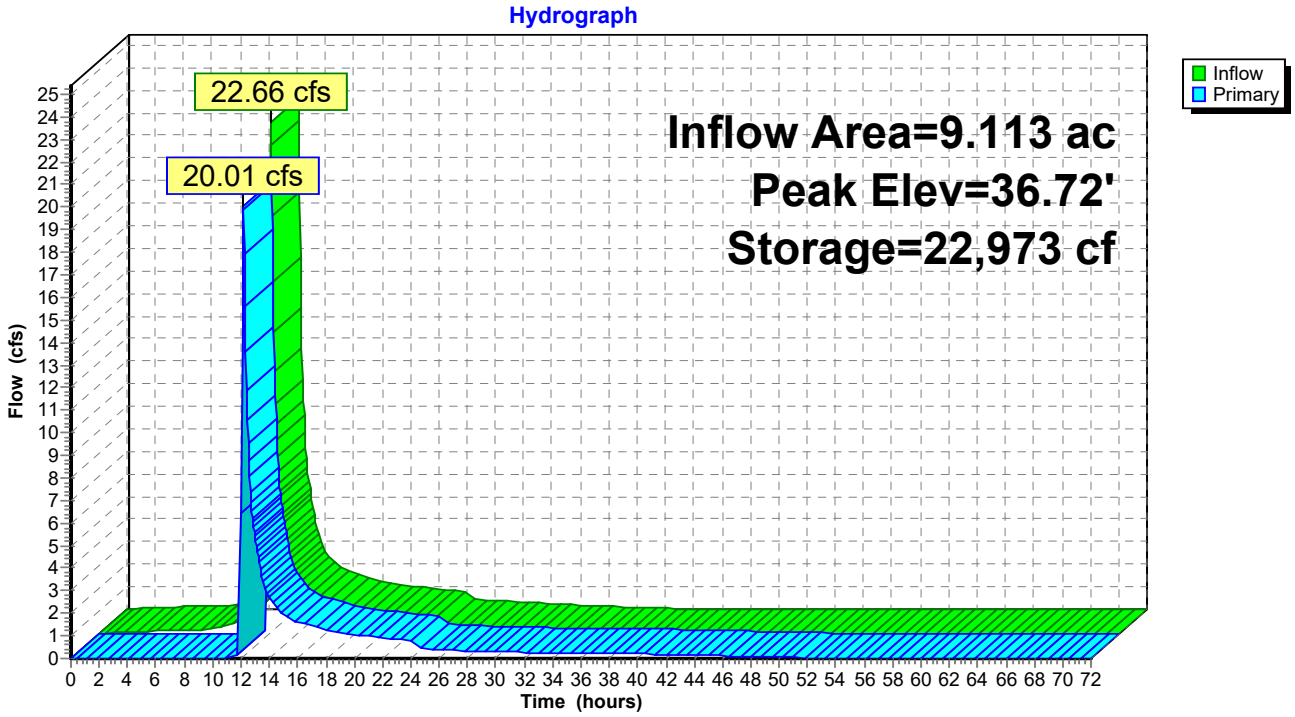
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=19.73 cfs @ 12.18 hrs HW=36.72' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.33 cfs @ 6.64 fps)
2=Orifice/Grate (Weir Controls 19.41 cfs @ 2.35 fps)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

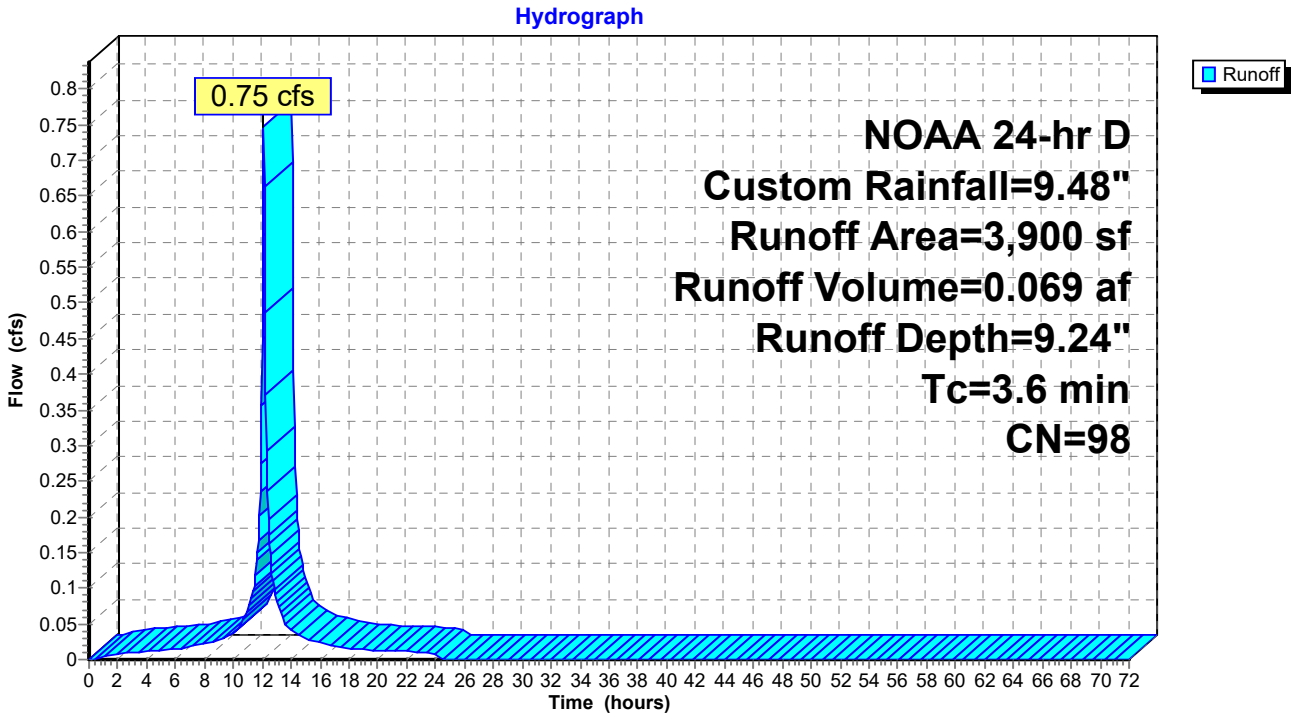
Runoff = 0.75 cfs @ 12.11 hrs, Volume= 0.069 af, Depth= 9.24"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

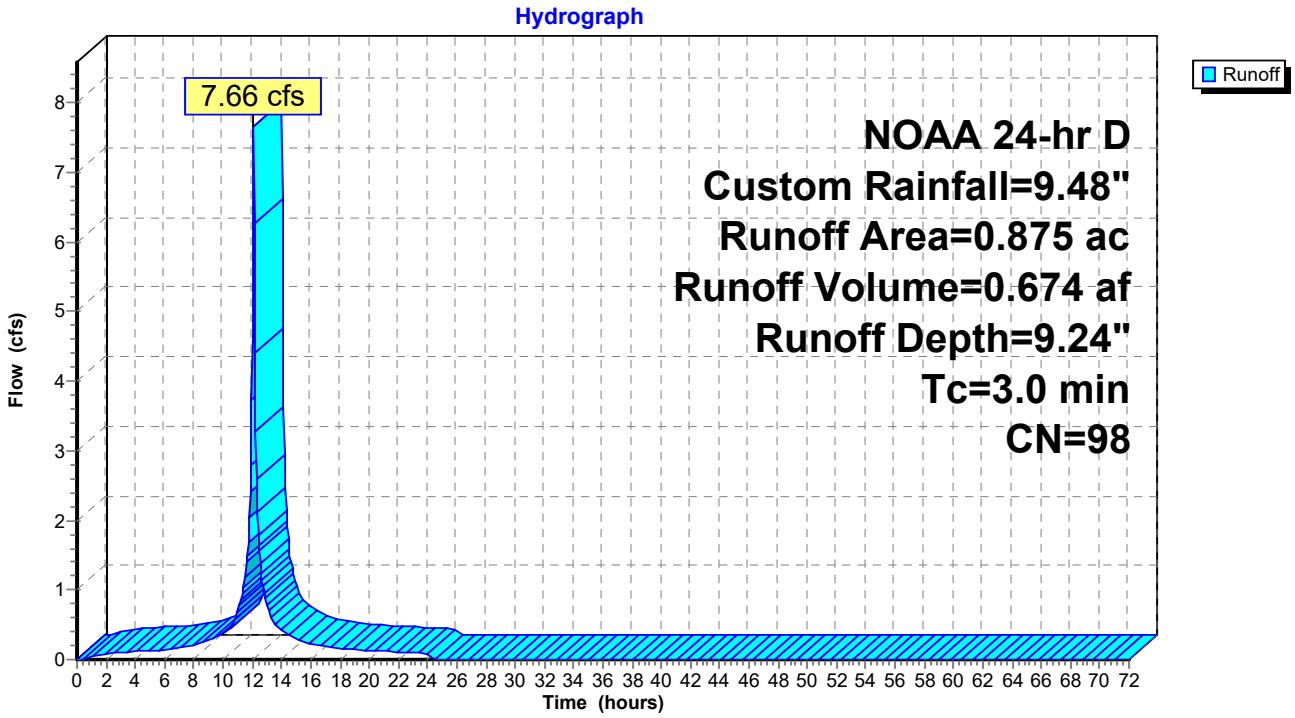
Runoff = 7.66 cfs @ 12.10 hrs, Volume= 0.674 af, Depth= 9.24"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

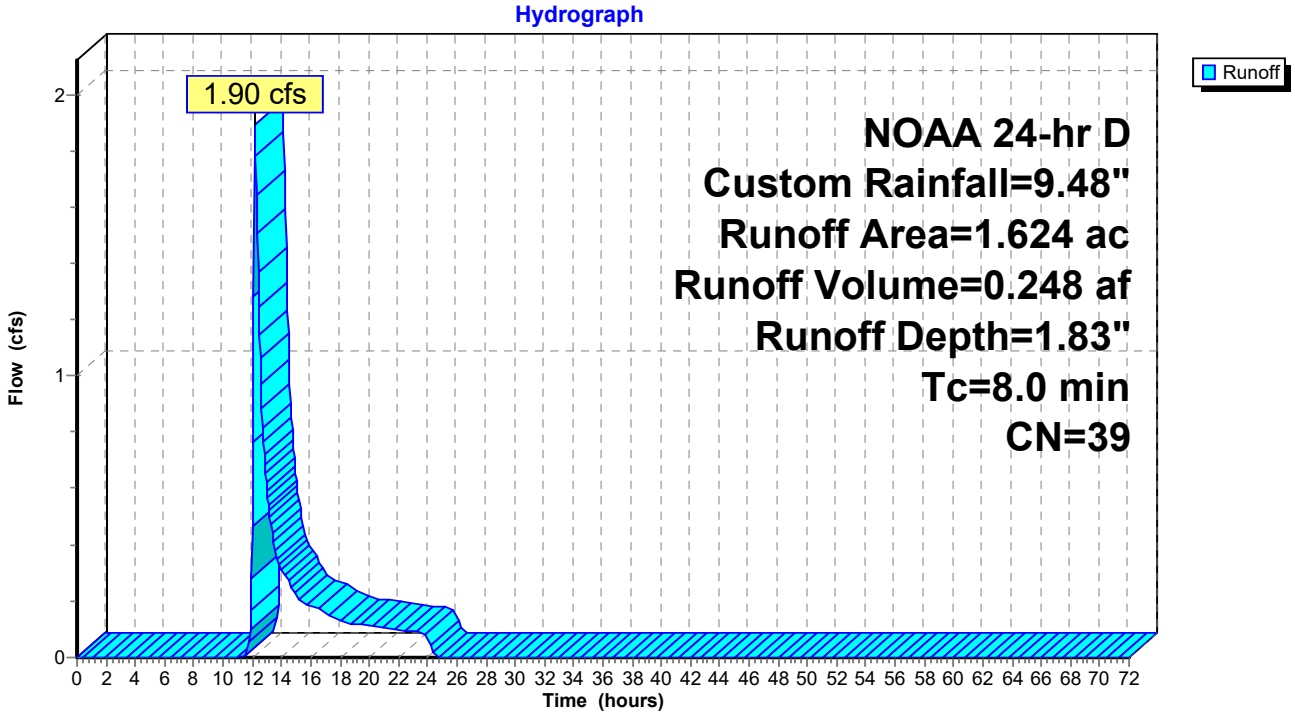
Runoff = 1.90 cfs @ 12.20 hrs, Volume= 0.248 af, Depth= 1.83"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

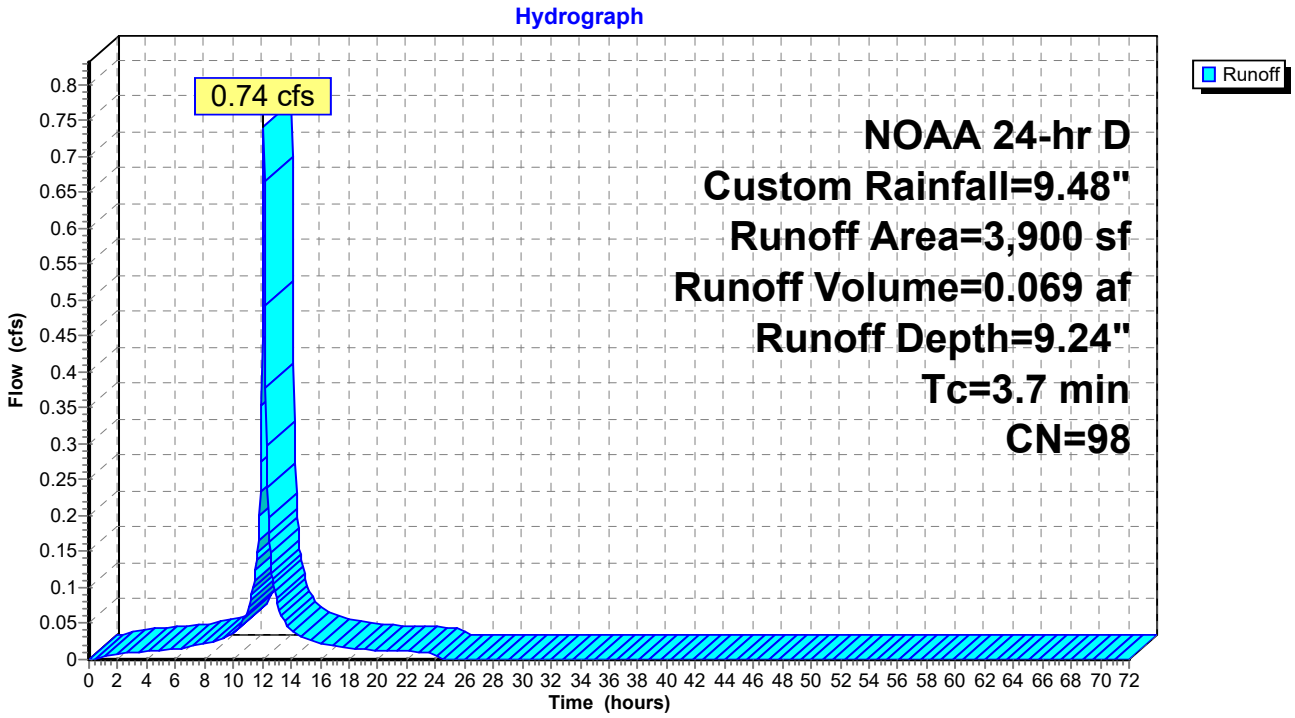
Runoff = 0.74 cfs @ 12.11 hrs, Volume= 0.069 af, Depth= 9.24"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

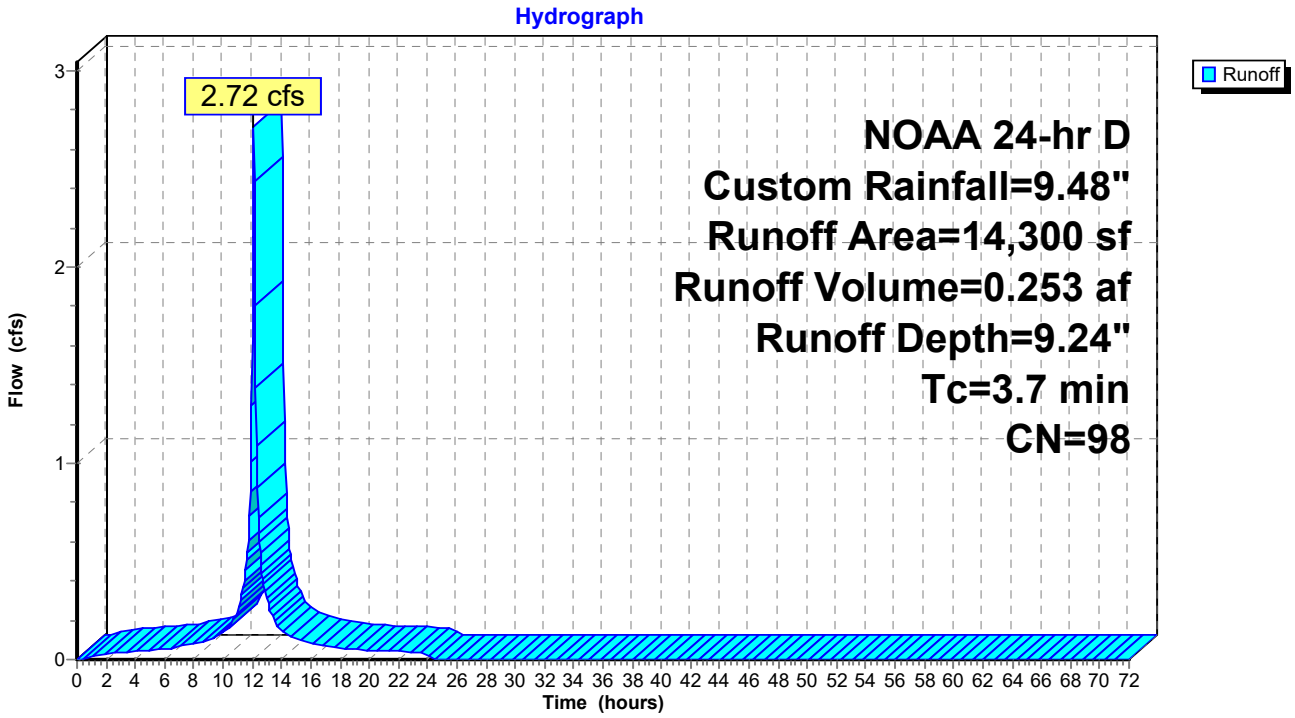
Runoff = 2.72 cfs @ 12.11 hrs, Volume= 0.253 af, Depth= 9.24"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 236% of capacity of segment #1

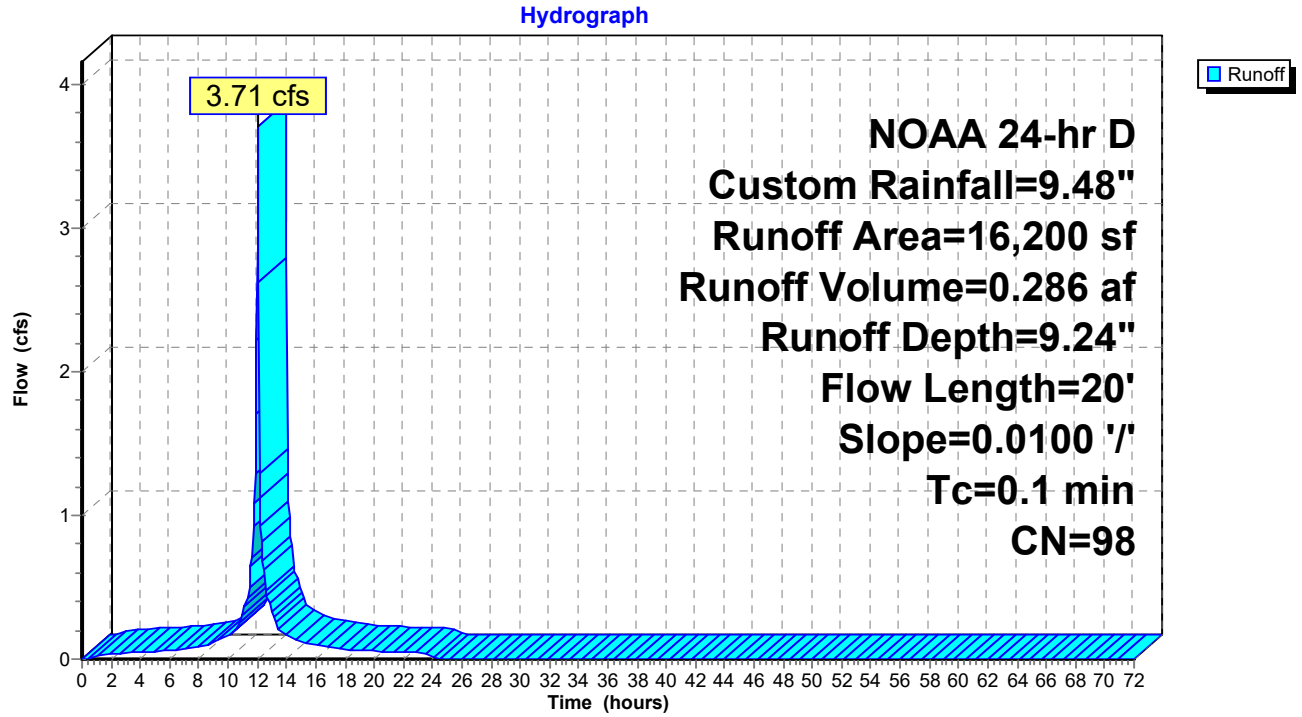
Runoff = 3.71 cfs @ 12.05 hrs, Volume= 0.286 af, Depth= 9.24"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 236% of capacity of segment #1

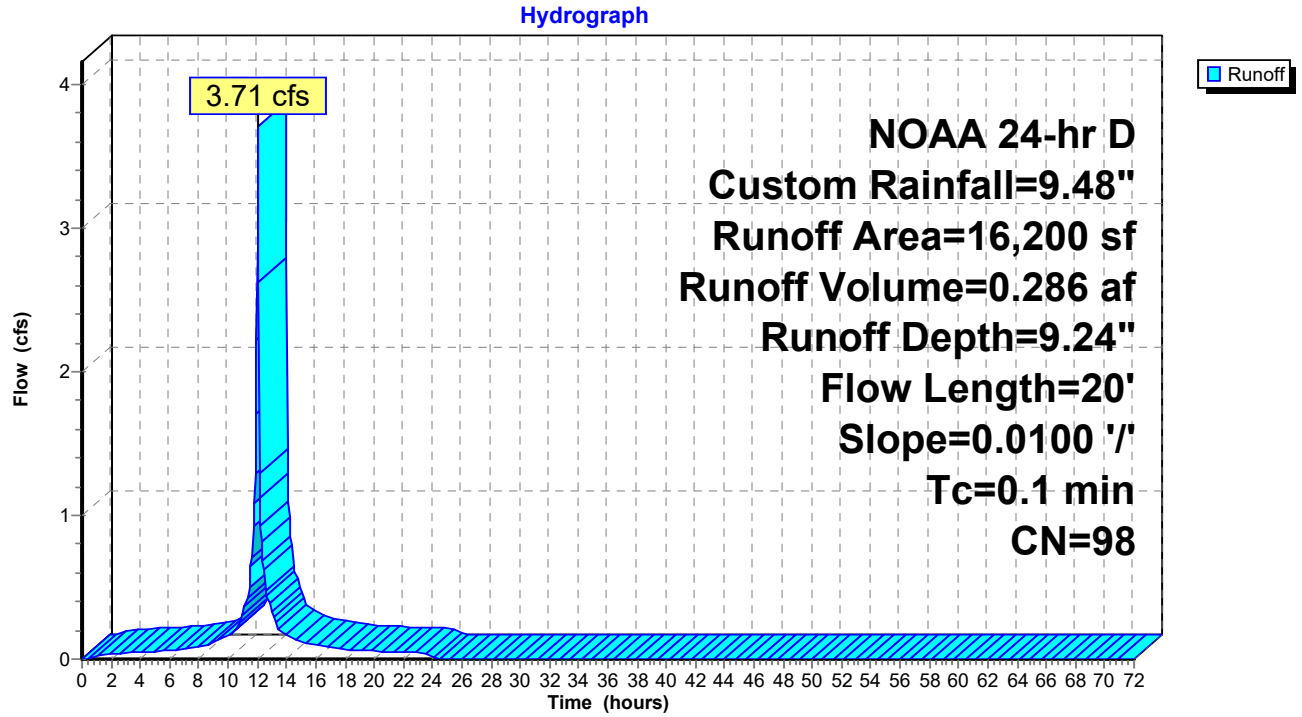
Runoff = 3.71 cfs @ 12.05 hrs, Volume= 0.286 af, Depth= 9.24"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

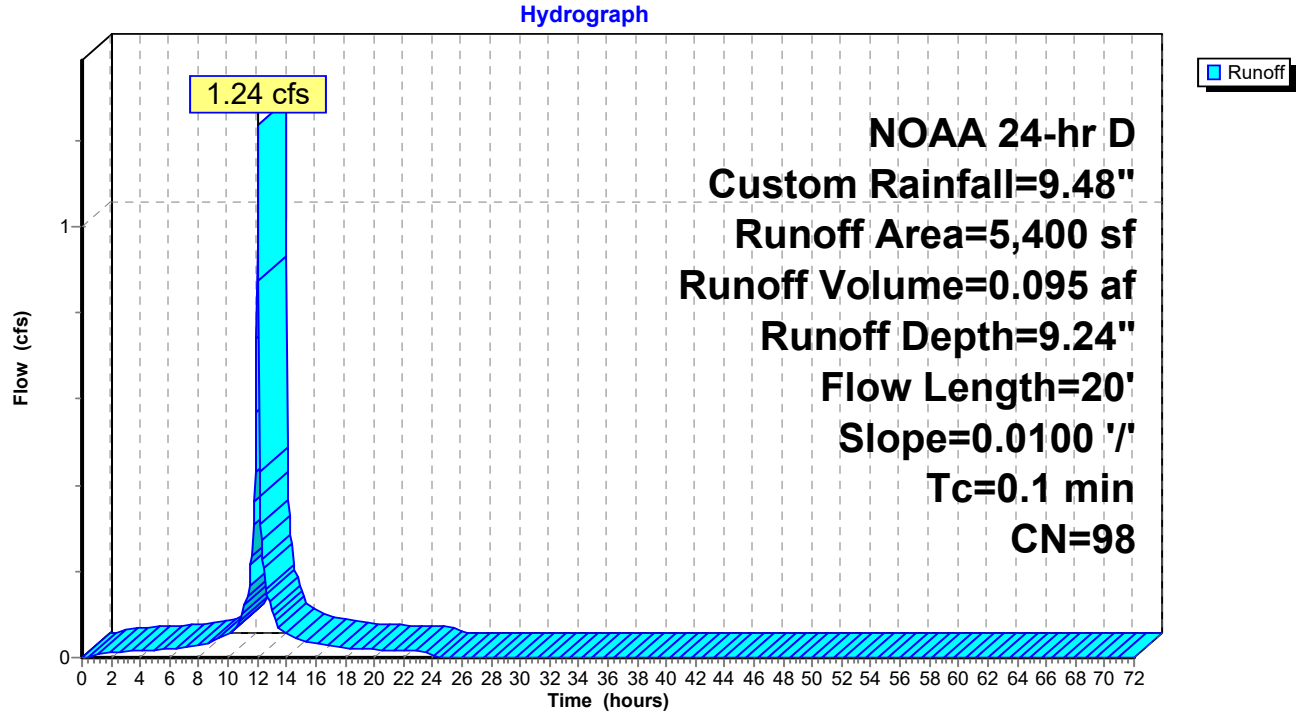
Runoff = 1.24 cfs @ 12.05 hrs, Volume= 0.095 af, Depth= 9.24"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

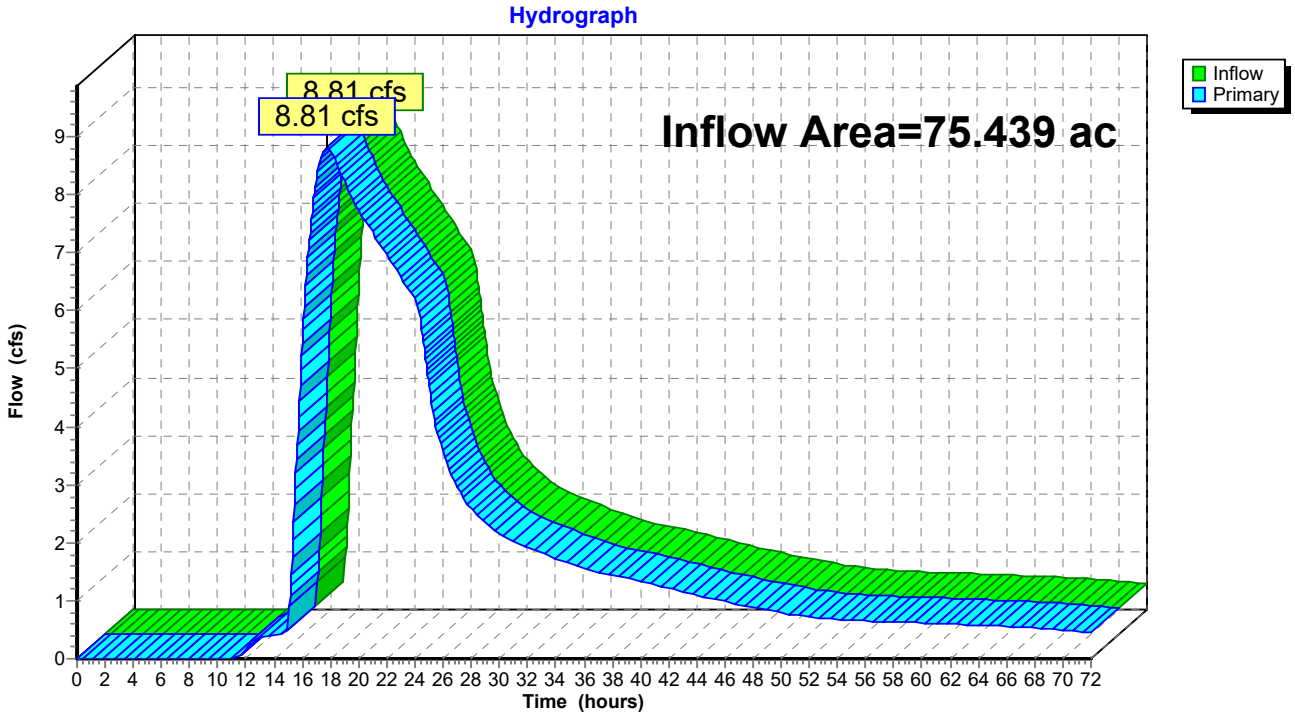


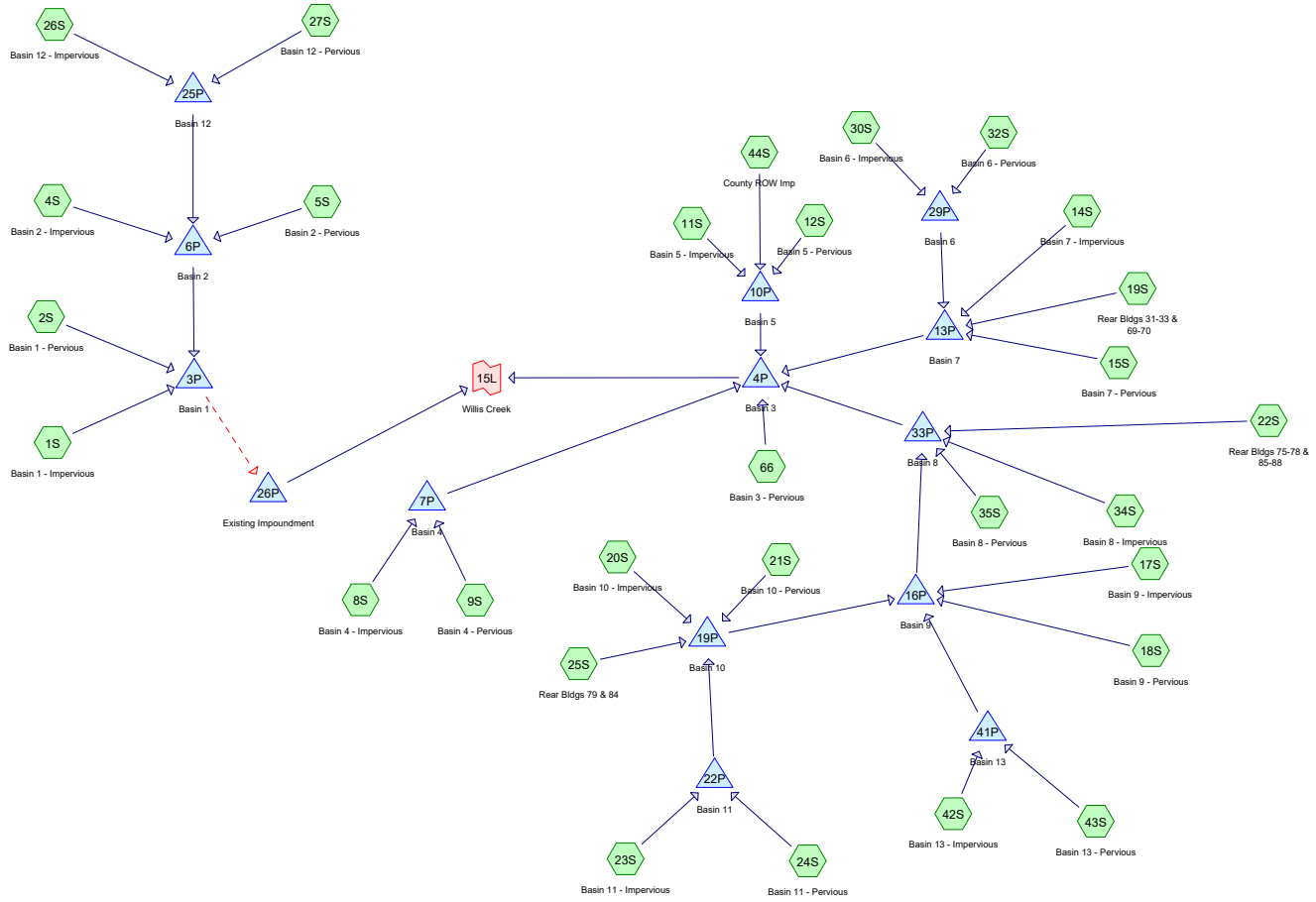
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 1.64" for Custom event
Inflow = 8.81 cfs @ 17.76 hrs, Volume= 10.328 af
Primary = 8.81 cfs @ 17.76 hrs, Volume= 10.328 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	9.48	2

Summary for Subcatchment 1S: Basin 1 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 153% of capacity of segment #3

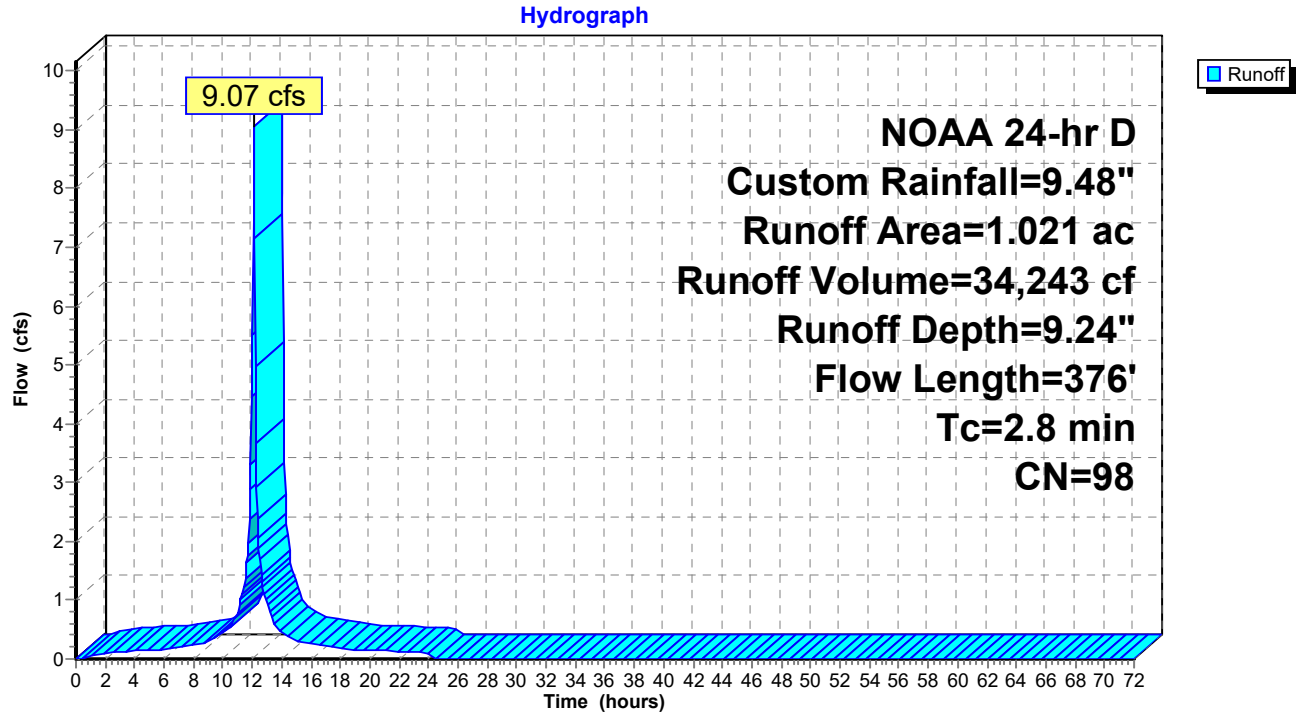
Runoff = 9.07 cfs @ 12.10 hrs, Volume= 34,243 cf, Depth= 9.24"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

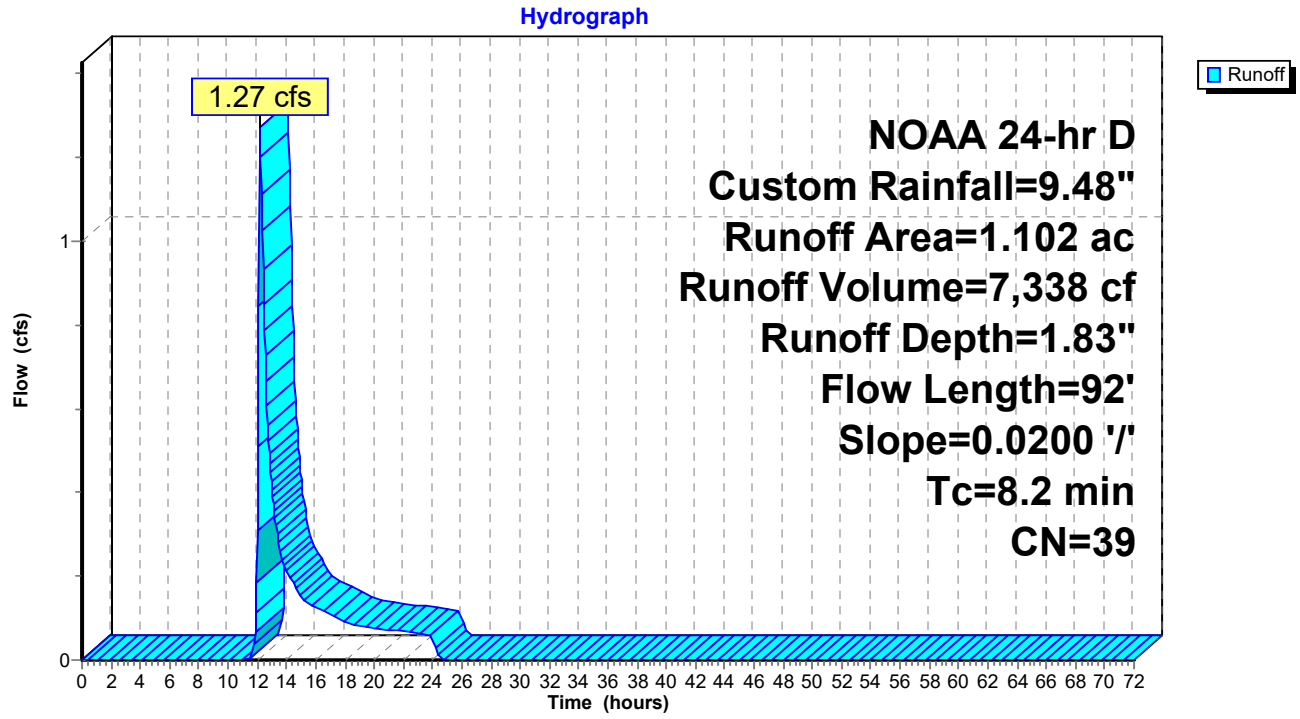
Runoff = 1.27 cfs @ 12.20 hrs, Volume= 7,338 cf, Depth= 1.83"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 4.30" for Custom event
Inflow = 10.21 cfs @ 12.10 hrs, Volume= 101,331 cf
Outflow = 8.90 cfs @ 12.15 hrs, Volume= 97,153 cf, Atten= 13%, Lag= 2.9 min
Primary = 0.23 cfs @ 12.15 hrs, Volume= 32,222 cf
Secondary = 8.67 cfs @ 12.15 hrs, Volume= 64,930 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.87' @ 12.15 hrs Surf.Area= 6,982 sf Storage= 10,291 cf

Plug-Flow detention time= 229.7 min calculated for 97,153 cf (96% of inflow)
Center-of-Mass det. time= 148.2 min (1,364.0 - 1,215.8)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

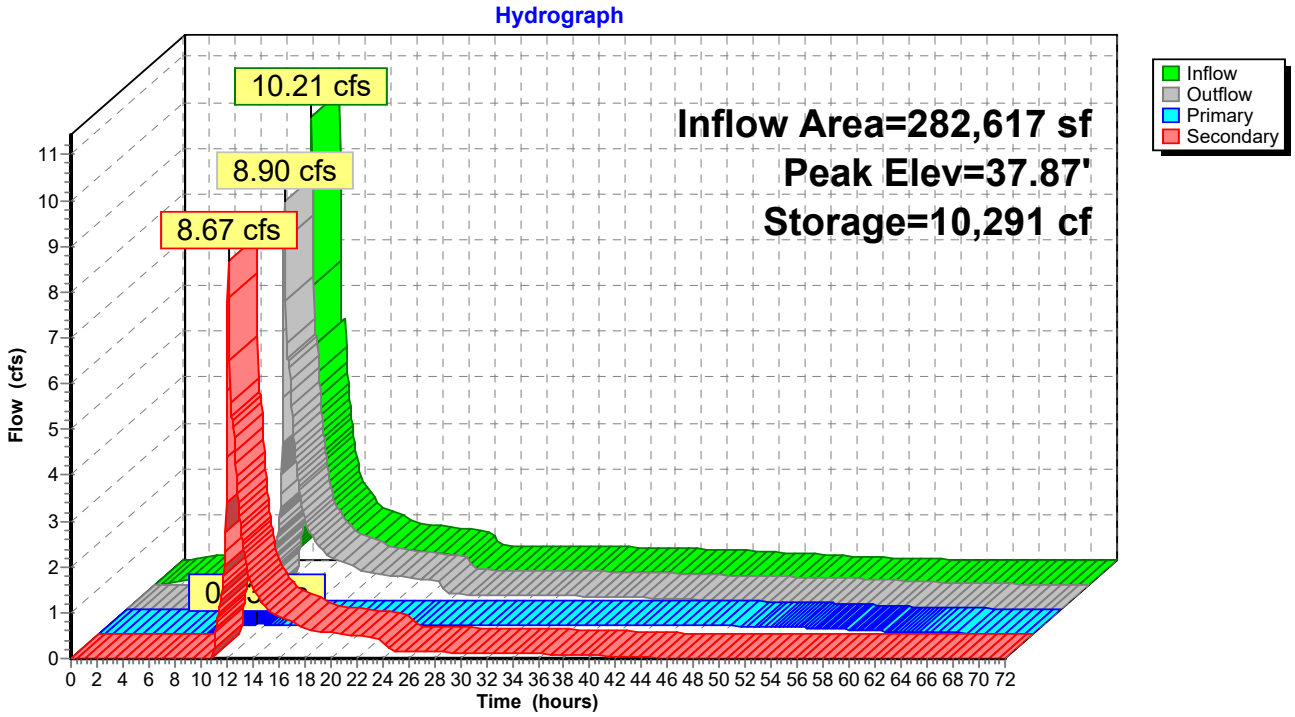
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.23 cfs @ 12.15 hrs HW=37.87' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.66 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=8.65 cfs @ 12.15 hrs HW=37.87' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 8.65 cfs @ 1.55 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth = 5.65" for Custom event
Inflow = 89.62 cfs @ 12.17 hrs, Volume= 445,913 cf
Outflow = 6.15 cfs @ 14.91 hrs, Volume= 148,363 cf, Atten= 93%, Lag= 164.2 min
Primary = 6.15 cfs @ 14.91 hrs, Volume= 148,363 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.50' @ 14.91 hrs Surf.Area= 51,289 sf Storage= 307,508 cf

Plug-Flow detention time= 532.6 min calculated for 148,363 cf (33% of inflow)
Center-of-Mass det. time= 342.6 min (1,225.8 - 883.2)

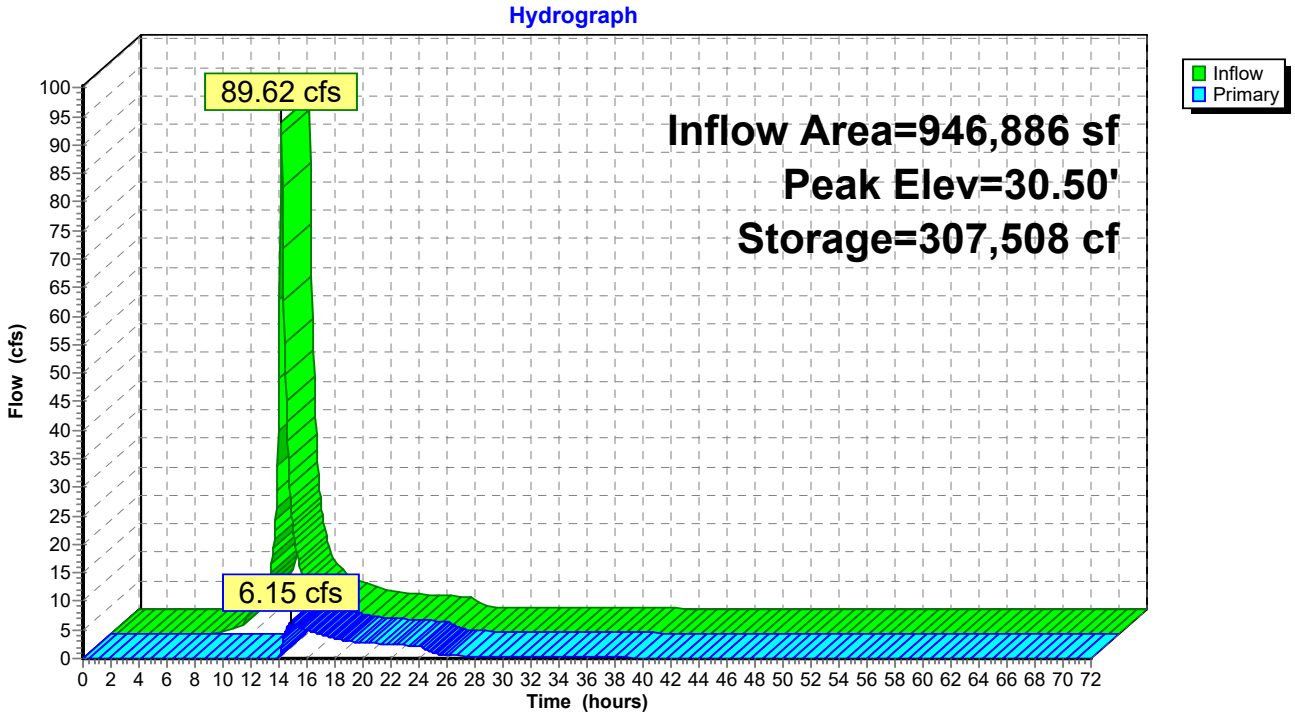
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=6.06 cfs @ 14.91 hrs HW=30.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 6.06 cfs @ 1.03 fps)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 138% of capacity of segment #3

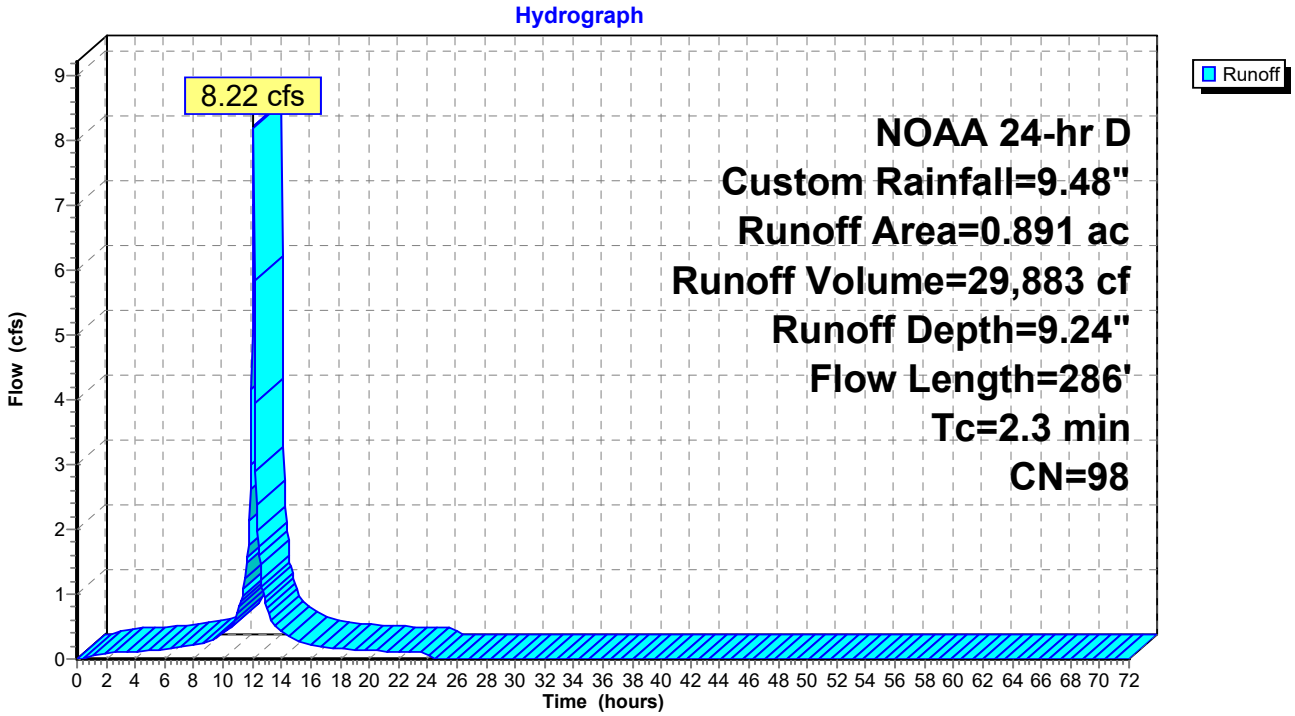
Runoff = 8.22 cfs @ 12.09 hrs, Volume= 29,883 cf, Depth= 9.24"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

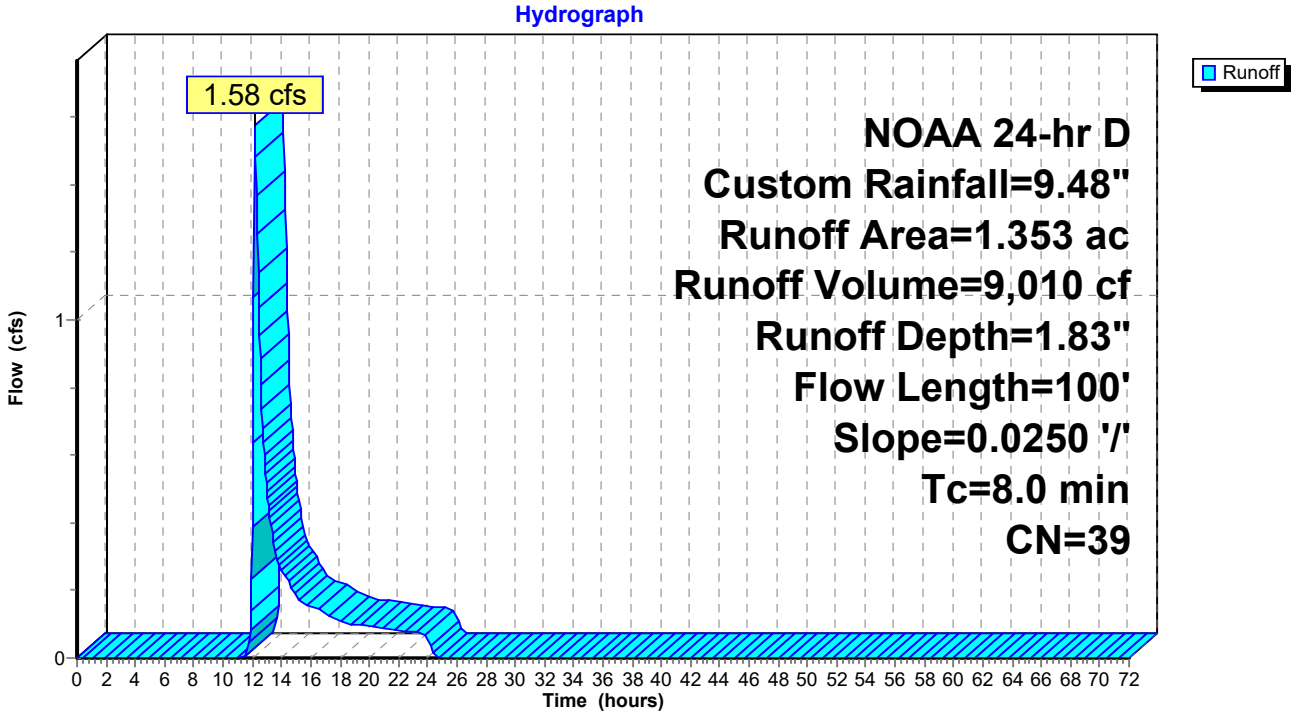
Runoff = 1.58 cfs @ 12.20 hrs, Volume= 9,010 cf, Depth= 1.83"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[81] Warning: Exceeded Pond 25P by 0.57' @ 35.45 hrs

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 4.00" for Custom event
Inflow = 9.44 cfs @ 12.10 hrs, Volume= 63,305 cf
Outflow = 2.74 cfs @ 12.50 hrs, Volume= 59,749 cf, Atten= 71%, Lag= 24.4 min
Primary = 2.74 cfs @ 12.50 hrs, Volume= 59,749 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.85' @ 12.50 hrs Surf.Area= 9,950 sf Storage= 19,707 cf

Plug-Flow detention time= 564.3 min calculated for 59,708 cf (94% of inflow)
Center-of-Mass det. time= 484.7 min (1,526.0 - 1,041.3)

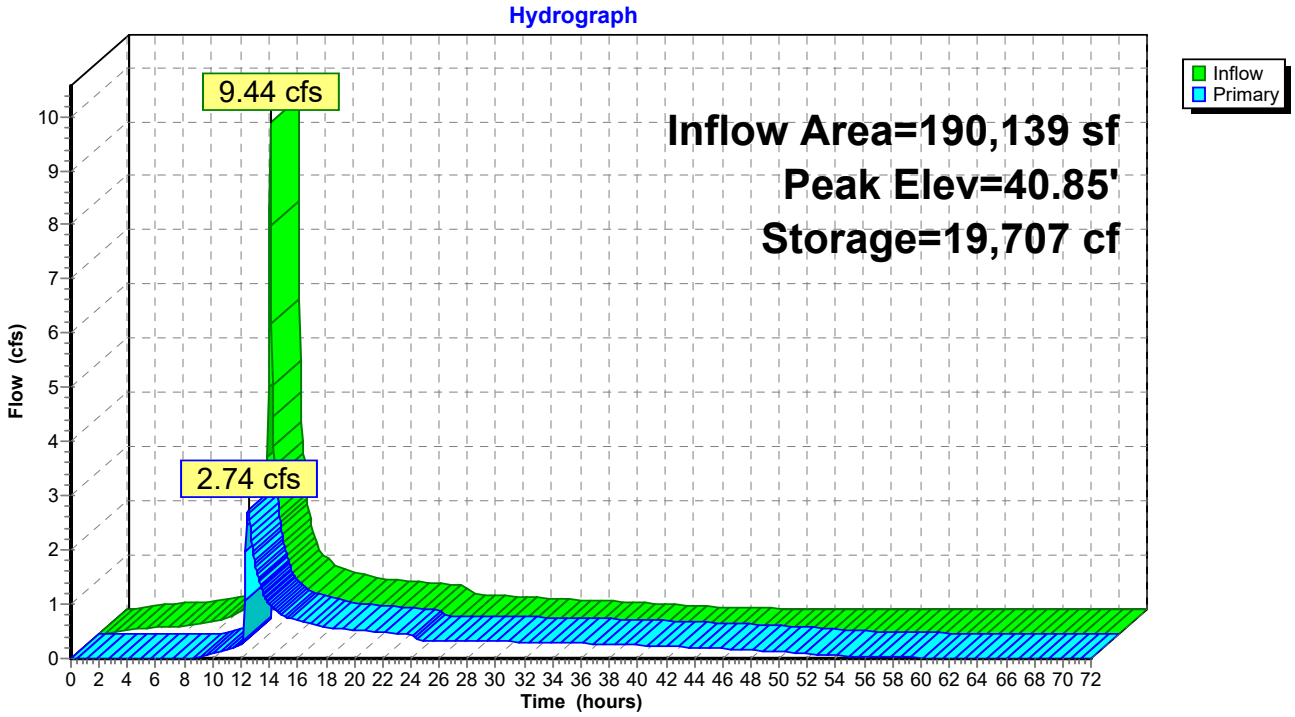
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.72 cfs @ 12.50 hrs HW=40.85' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.34 cfs @ 6.86 fps)
└**2=Orifice/Grate** (Weir Controls 2.38 cfs @ 1.17 fps)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 5.27" for Custom event
Inflow = 11.07 cfs @ 12.11 hrs, Volume= 48,297 cf
Outflow = 10.06 cfs @ 12.16 hrs, Volume= 43,840 cf, Atten= 9%, Lag= 2.6 min
Primary = 10.06 cfs @ 12.16 hrs, Volume= 43,840 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.33' @ 12.16 hrs Surf.Area= 7,183 sf Storage= 11,792 cf

Plug-Flow detention time= 236.3 min calculated for 43,810 cf (91% of inflow)
Center-of-Mass det. time= 186.4 min (958.9 - 772.6)

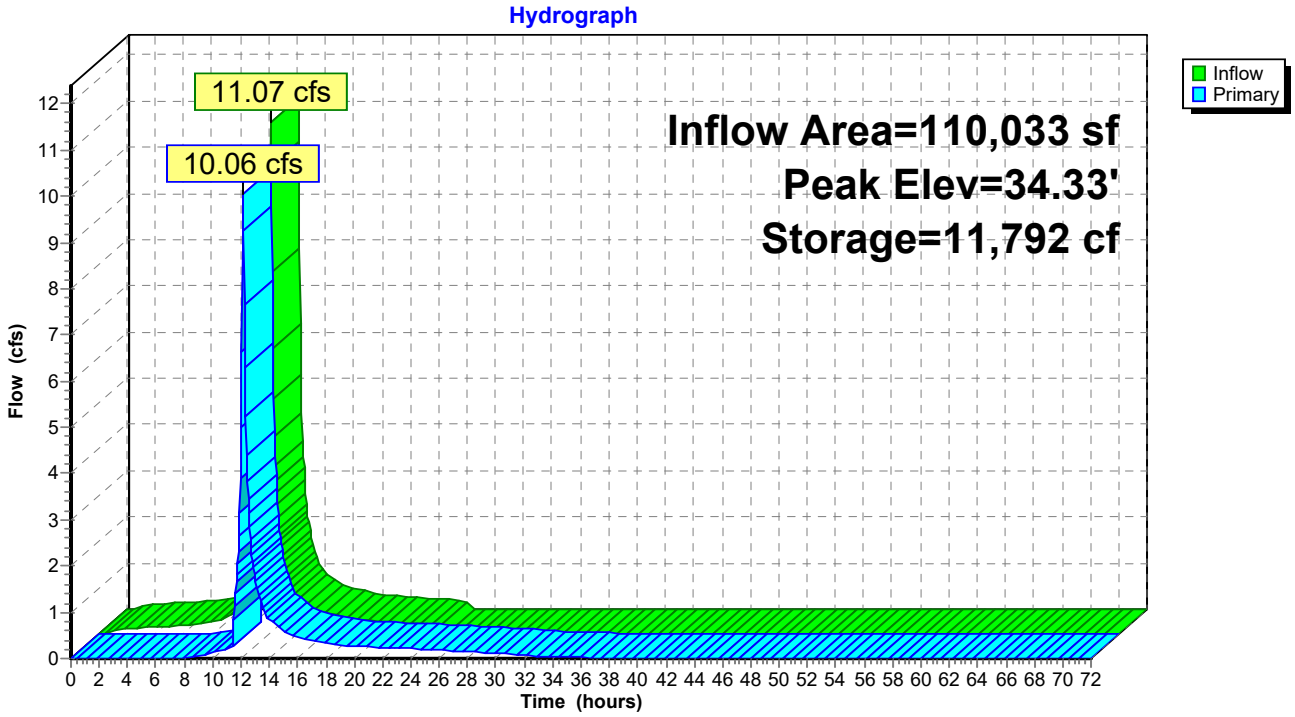
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.96 cfs @ 12.16 hrs HW=34.33' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.14 fps)
2=Orifice/Grate (Weir Controls 9.71 cfs @ 1.87 fps)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 167% of capacity of segment #3

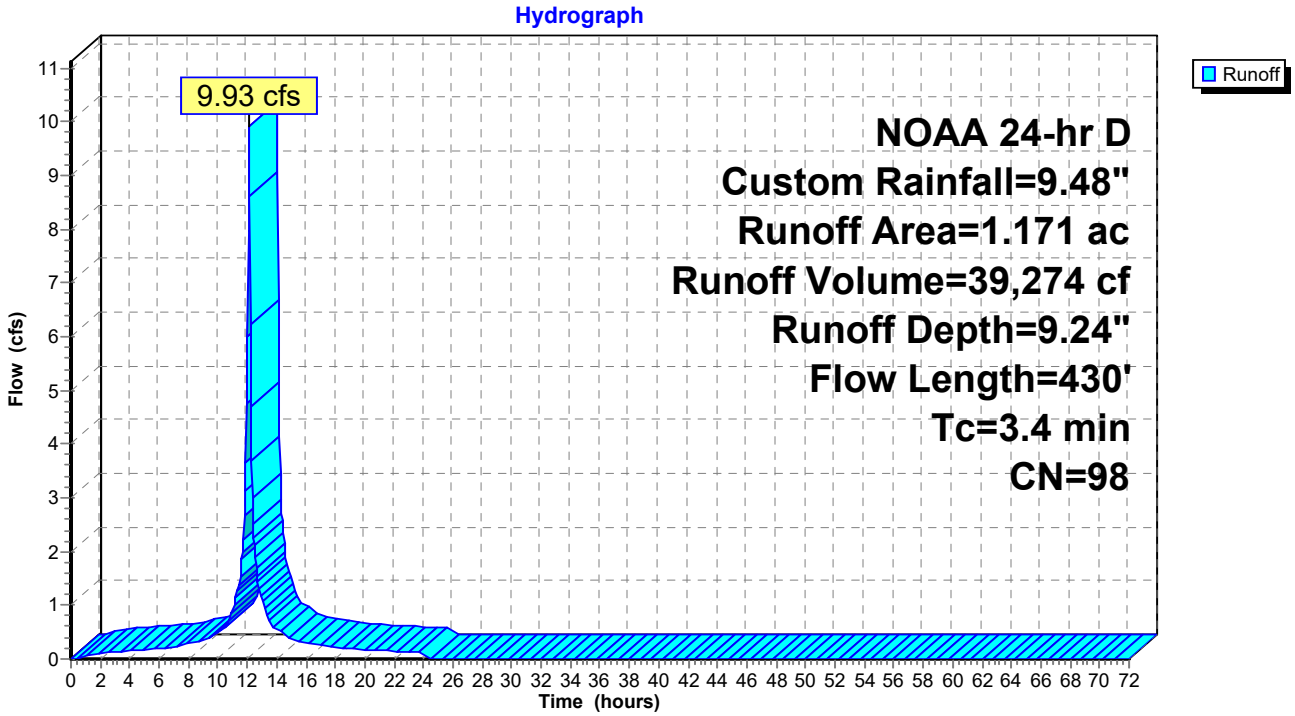
Runoff = 9.93 cfs @ 12.10 hrs, Volume= 39,274 cf, Depth= 9.24"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

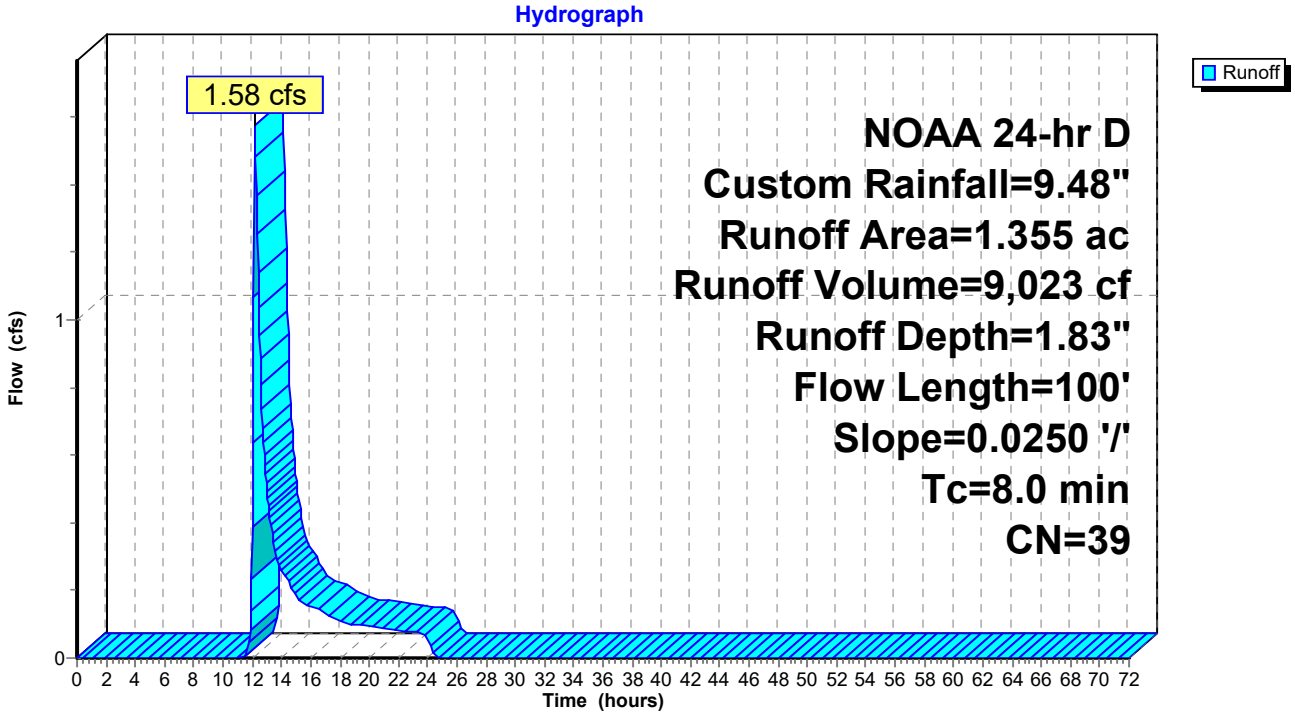
Runoff = 1.58 cfs @ 12.20 hrs, Volume= 9,023 cf, Depth= 1.83"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 6.62" for Custom event
Inflow = 13.52 cfs @ 12.09 hrs, Volume= 48,045 cf
Outflow = 12.57 cfs @ 12.11 hrs, Volume= 43,042 cf, Atten= 7%, Lag= 1.2 min
Primary = 12.57 cfs @ 12.11 hrs, Volume= 43,042 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.95' @ 12.12 hrs Surf.Area= 4,131 sf Storage= 6,502 cf

Plug-Flow detention time= 108.8 min calculated for 43,012 cf (90% of inflow)
Center-of-Mass det. time= 53.0 min (820.2 - 767.2)

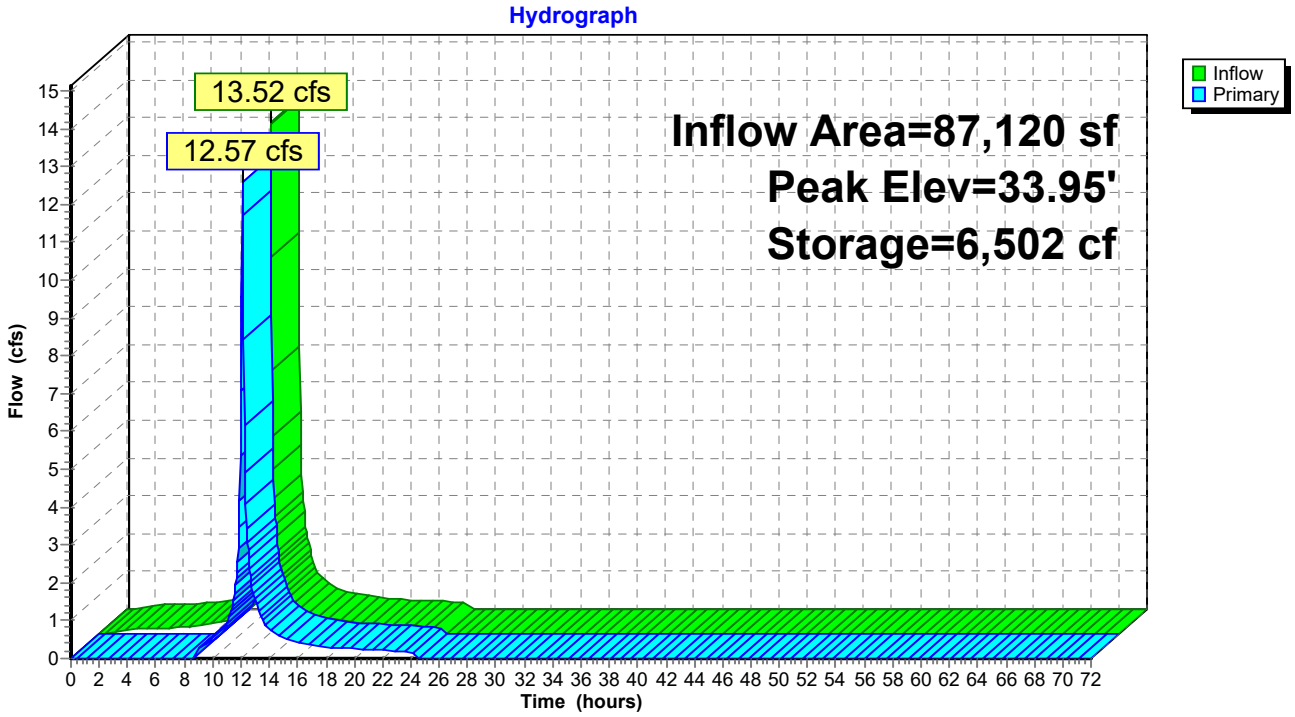
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.19 cfs @ 12.11 hrs HW=33.94' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 12.19 cfs @ 2.01 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

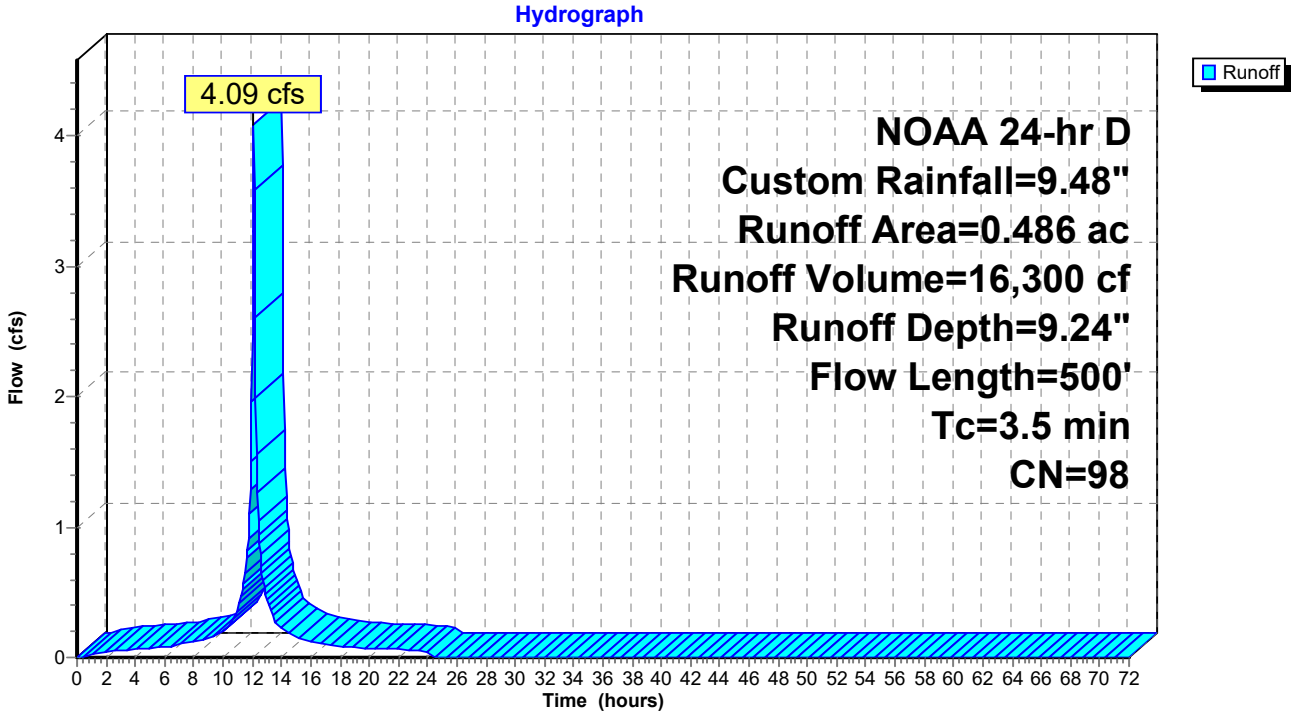
Runoff = 4.09 cfs @ 12.11 hrs, Volume= 16,300 cf, Depth= 9.24"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

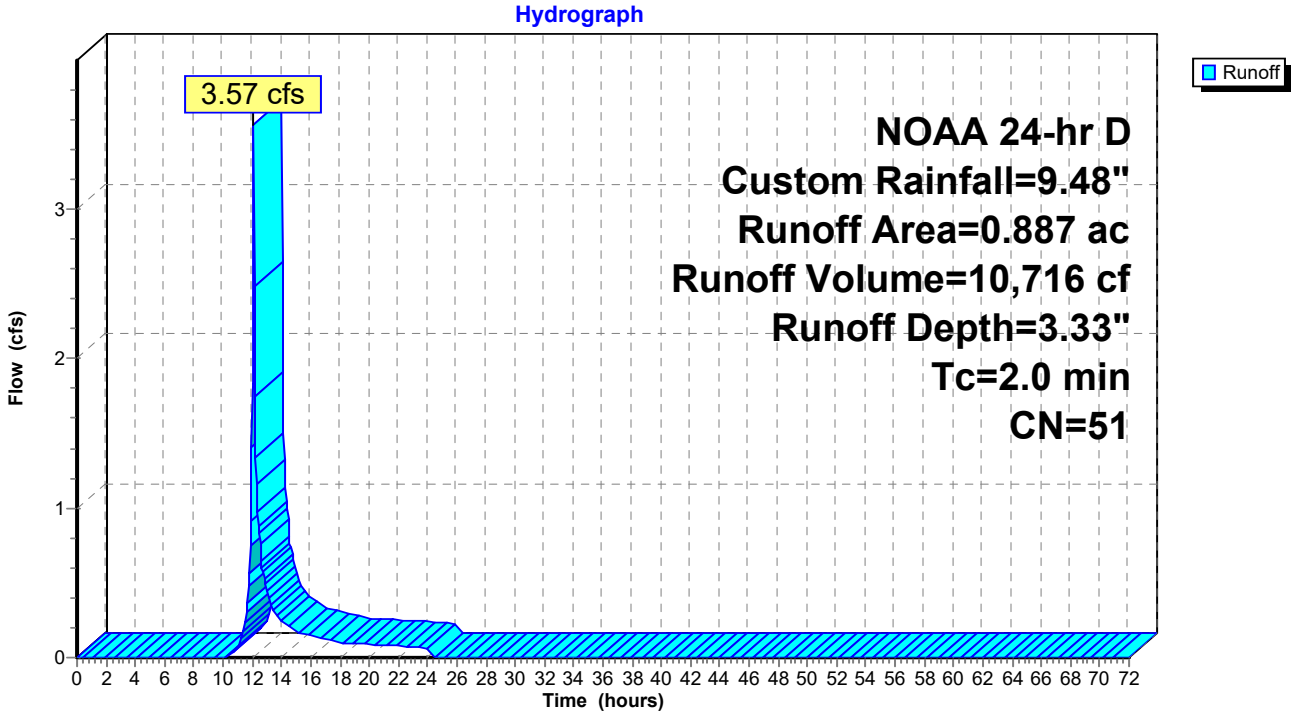
Runoff = 3.57 cfs @ 12.09 hrs, Volume= 10,716 cf, Depth= 3.33"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 7.47" for Custom event
Inflow = 23.21 cfs @ 12.17 hrs, Volume= 111,426 cf
Outflow = 22.62 cfs @ 12.20 hrs, Volume= 106,383 cf, Atten= 3%, Lag= 2.0 min
Primary = 22.62 cfs @ 12.20 hrs, Volume= 106,383 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.63' @ 12.20 hrs Surf.Area= 5,600 sf Storage= 7,934 cf

Plug-Flow detention time= 53.2 min calculated for 106,310 cf (95% of inflow)
Center-of-Mass det. time= 26.4 min (816.6 - 790.3)

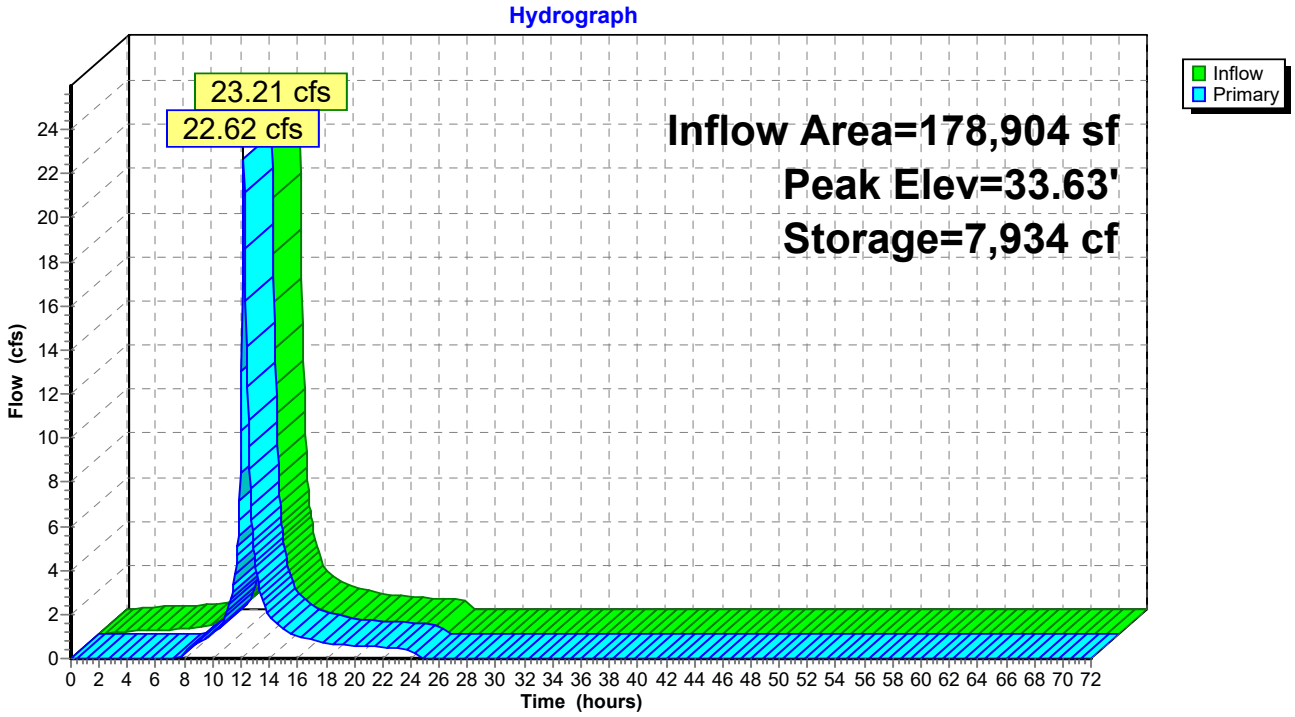
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=22.58 cfs @ 12.20 hrs HW=33.63' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 22.58 cfs @ 2.47 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

[47] Hint: Peak is 130% of capacity of segment #3

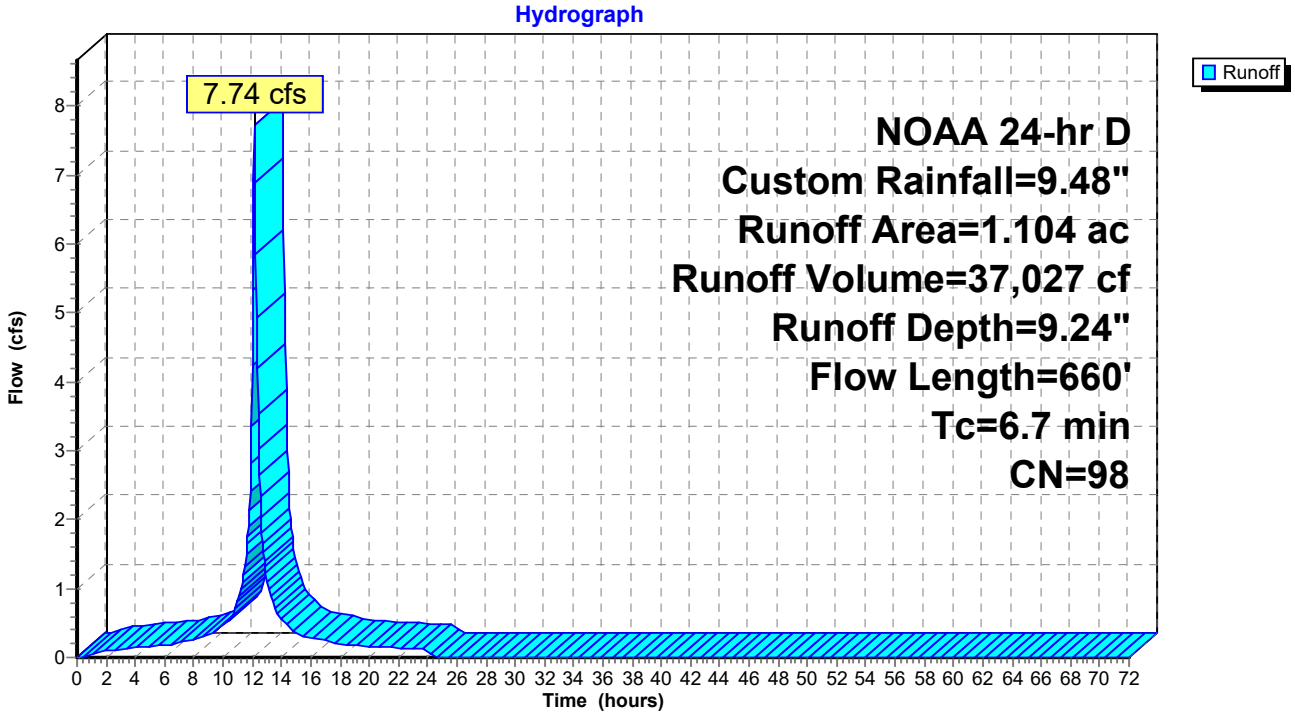
Runoff = 7.74 cfs @ 12.15 hrs, Volume= 37,027 cf, Depth= 9.24"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

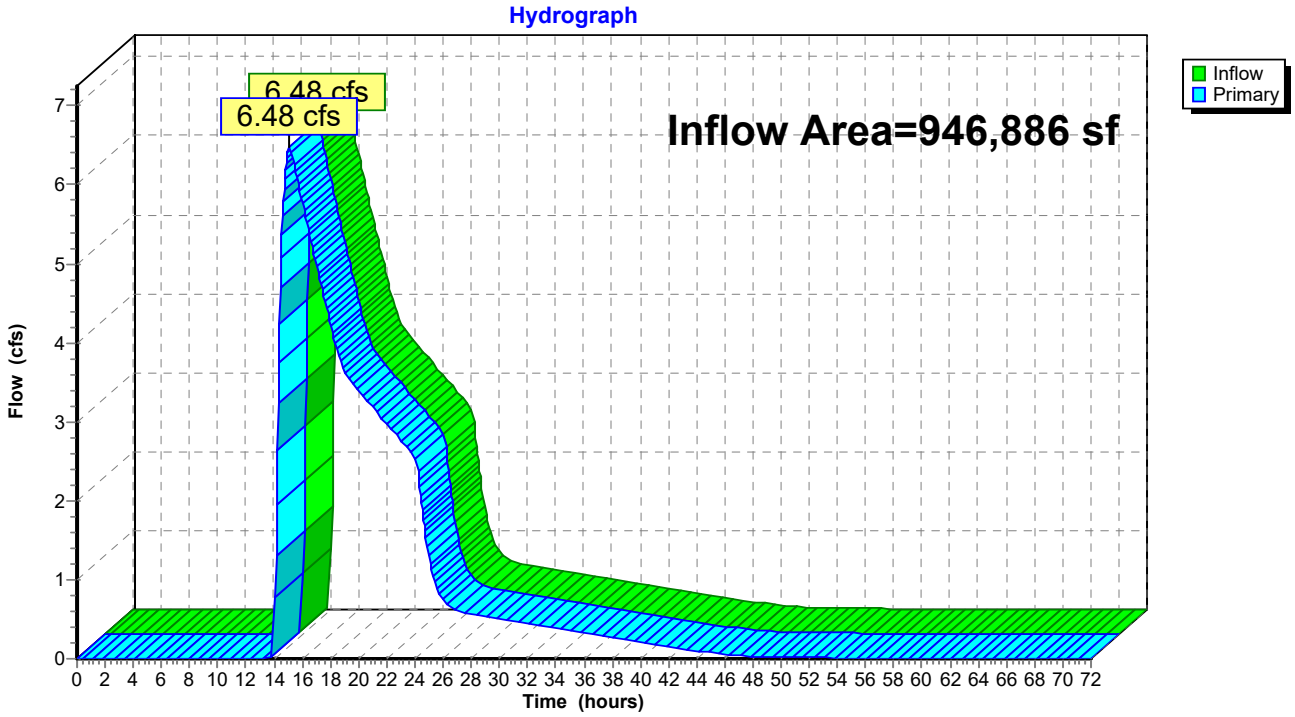


Summary for Link 15L: Willis Creek

Inflow Area = 946,886 sf, 39.68% Impervious, Inflow Depth > 2.26" for Custom event
Inflow = 6.48 cfs @ 15.08 hrs, Volume= 178,419 cf
Primary = 6.48 cfs @ 15.08 hrs, Volume= 178,419 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

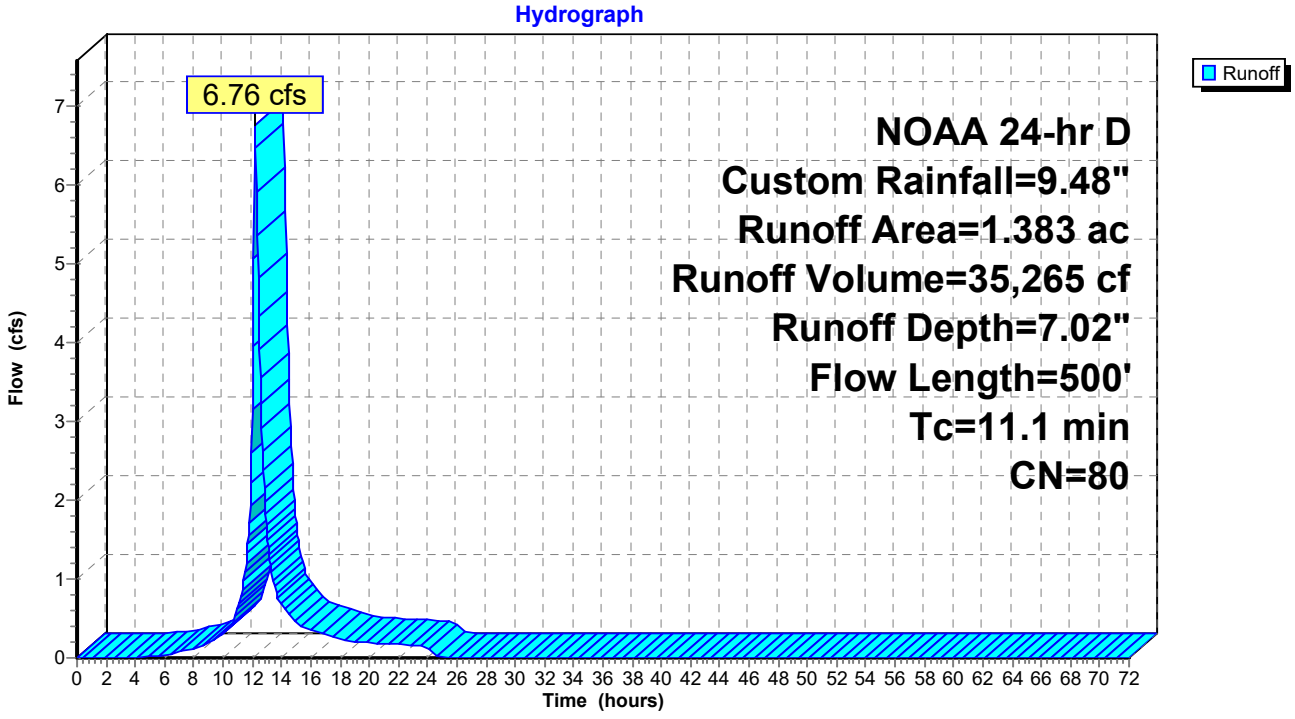
Runoff = 6.76 cfs @ 12.21 hrs, Volume= 35,265 cf, Depth= 7.02"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.44' @ 8.30 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 5.19" for Custom event
Inflow = 32.12 cfs @ 12.14 hrs, Volume= 172,750 cf
Outflow = 31.51 cfs @ 12.17 hrs, Volume= 168,517 cf, Atten= 2%, Lag= 1.6 min
Primary = 31.51 cfs @ 12.17 hrs, Volume= 168,517 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.64' @ 12.17 hrs Surf.Area= 6,072 sf Storage= 8,257 cf

Plug-Flow detention time= 49.6 min calculated for 168,517 cf (98% of inflow)
Center-of-Mass det. time= 18.5 min (899.9 - 881.5)

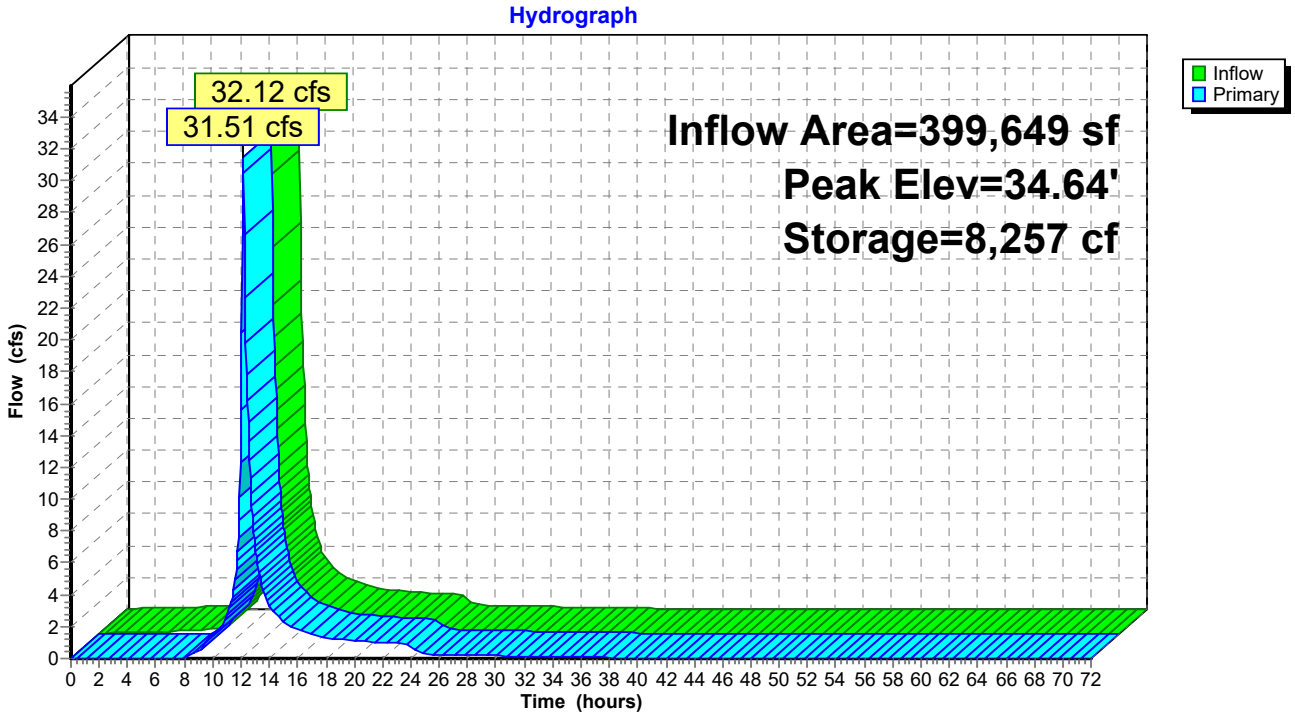
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=30.92 cfs @ 12.17 hrs HW=34.63' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 30.92 cfs @ 2.74 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 162% of capacity of segment #3

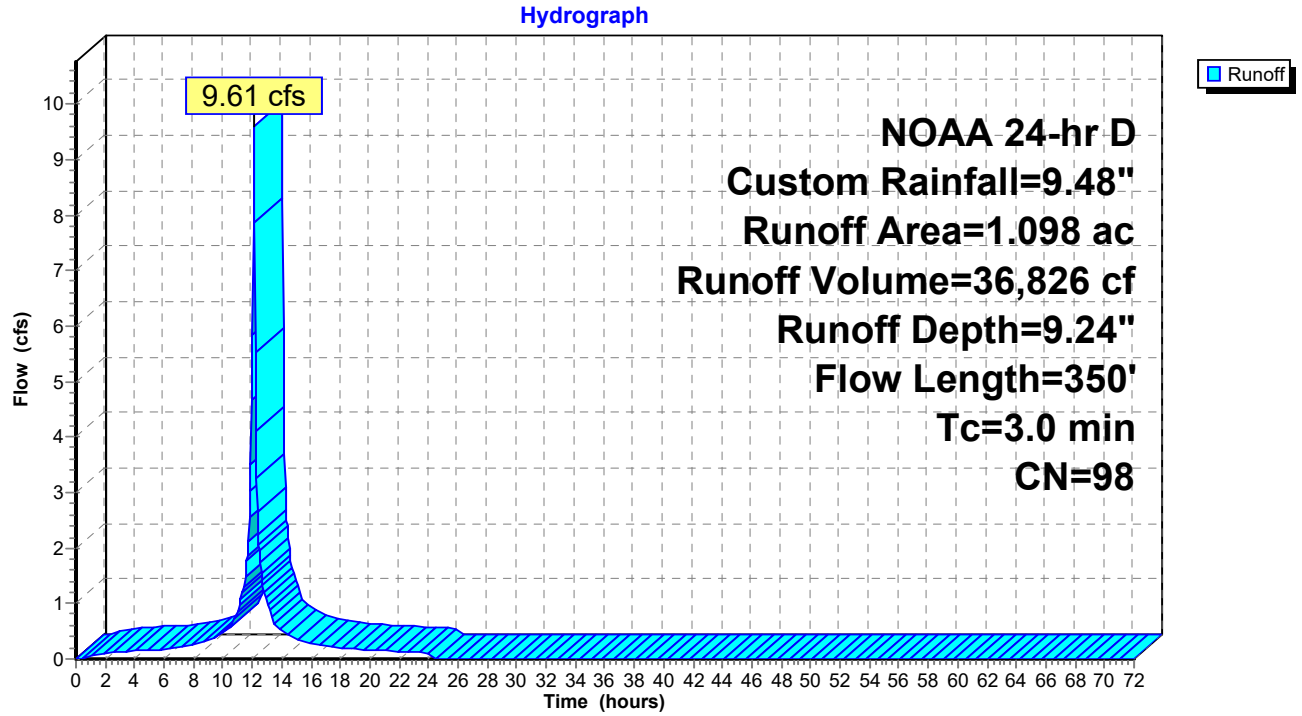
Runoff = 9.61 cfs @ 12.10 hrs, Volume= 36,826 cf, Depth= 9.24"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

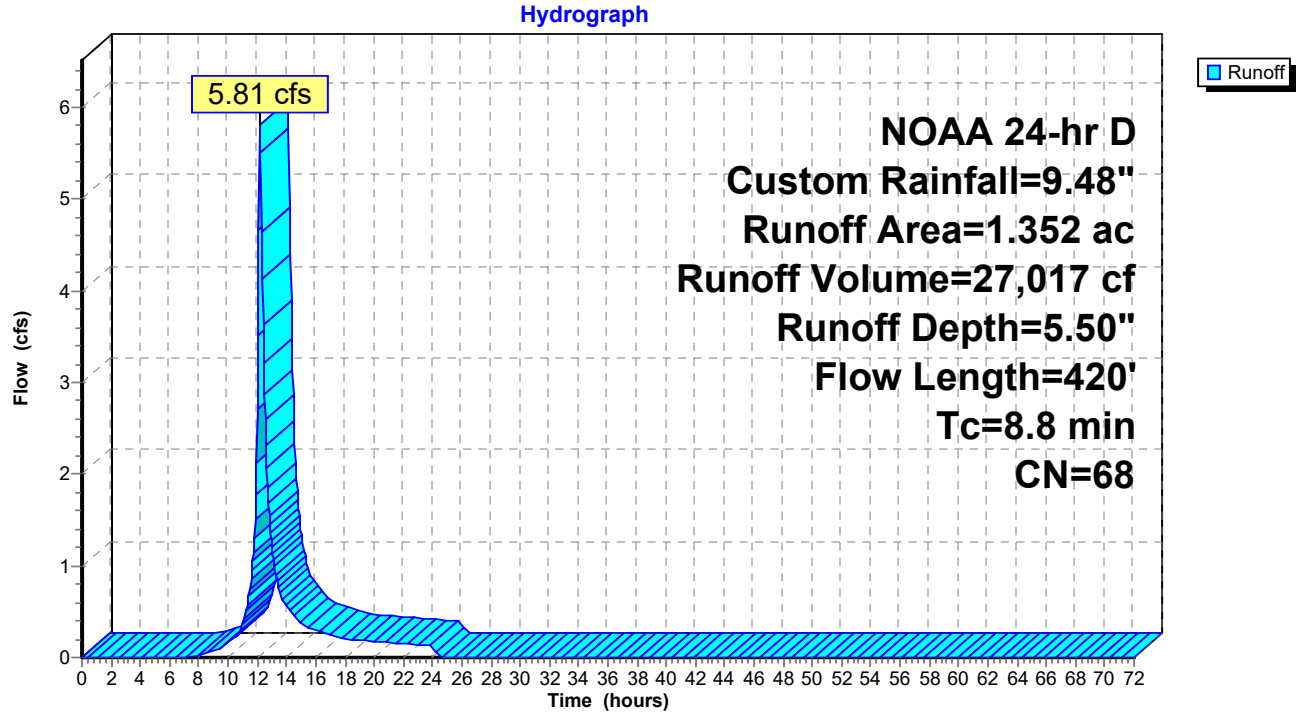
Runoff = 5.81 cfs @ 12.18 hrs, Volume= 27,017 cf, Depth= 5.50"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 5.02" for Custom event
Inflow = 18.68 cfs @ 12.13 hrs, Volume= 85,401 cf
Outflow = 18.29 cfs @ 12.16 hrs, Volume= 80,183 cf, Atten= 2%, Lag= 1.9 min
Primary = 18.29 cfs @ 12.16 hrs, Volume= 80,183 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.47' @ 12.16 hrs Surf.Area= 5,425 sf Storage= 7,640 cf

Plug-Flow detention time= 66.6 min calculated for 80,183 cf (94% of inflow)
Center-of-Mass det. time= 31.5 min (838.2 - 806.6)

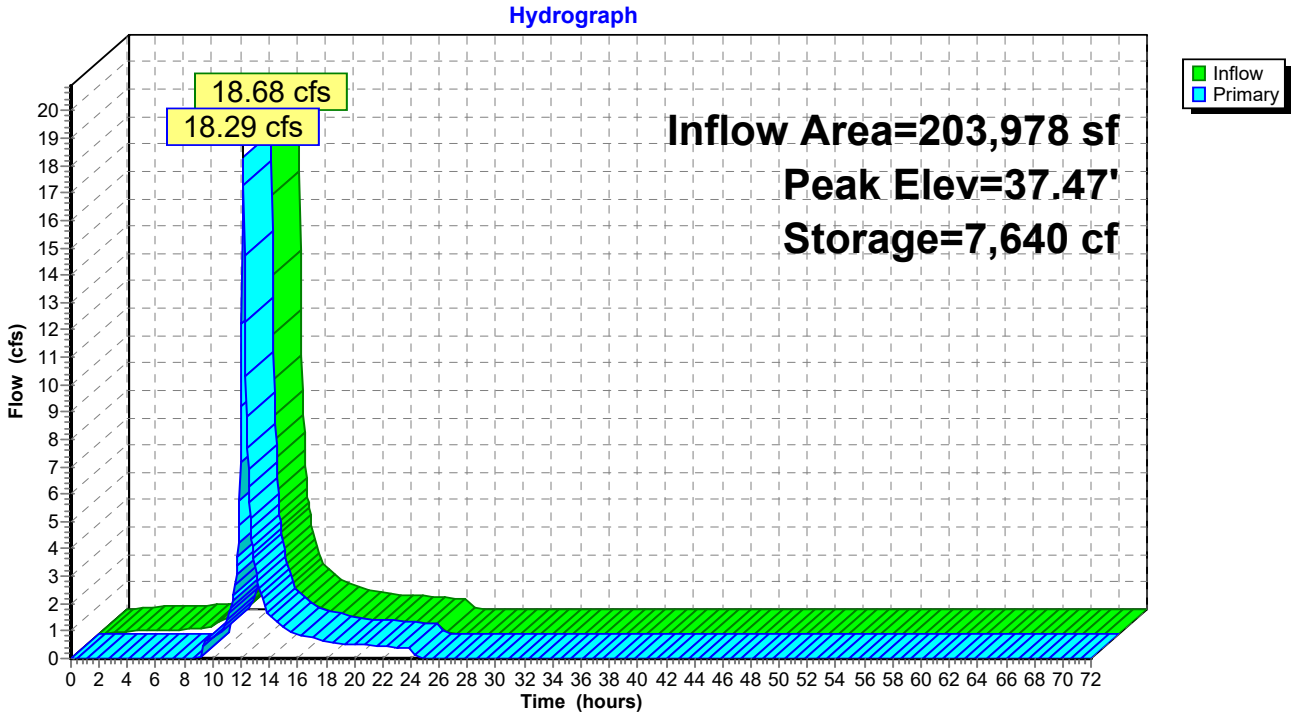
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=18.03 cfs @ 12.16 hrs HW=37.46' (Free Discharge)
1=Orifice/Grate (Weir Controls 18.03 cfs @ 2.29 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

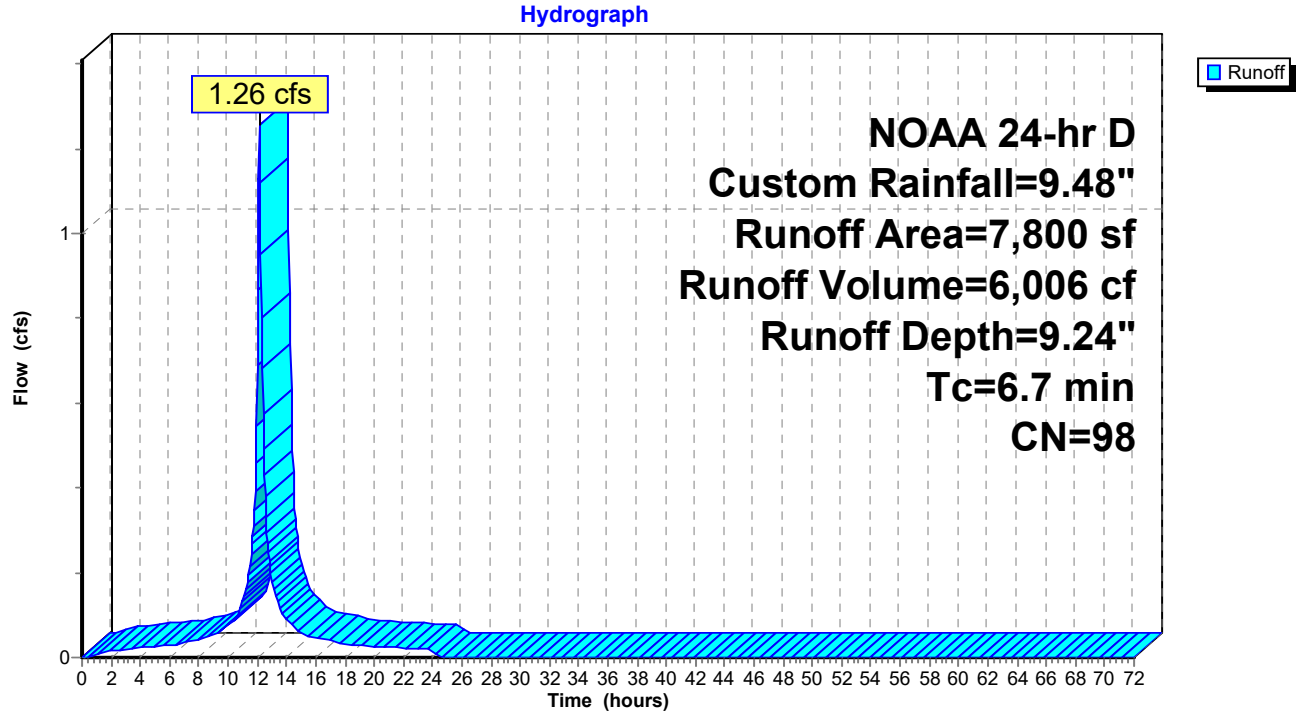
Runoff = 1.26 cfs @ 12.15 hrs, Volume= 6,006 cf, Depth= 9.24"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 127% of capacity of segment #3

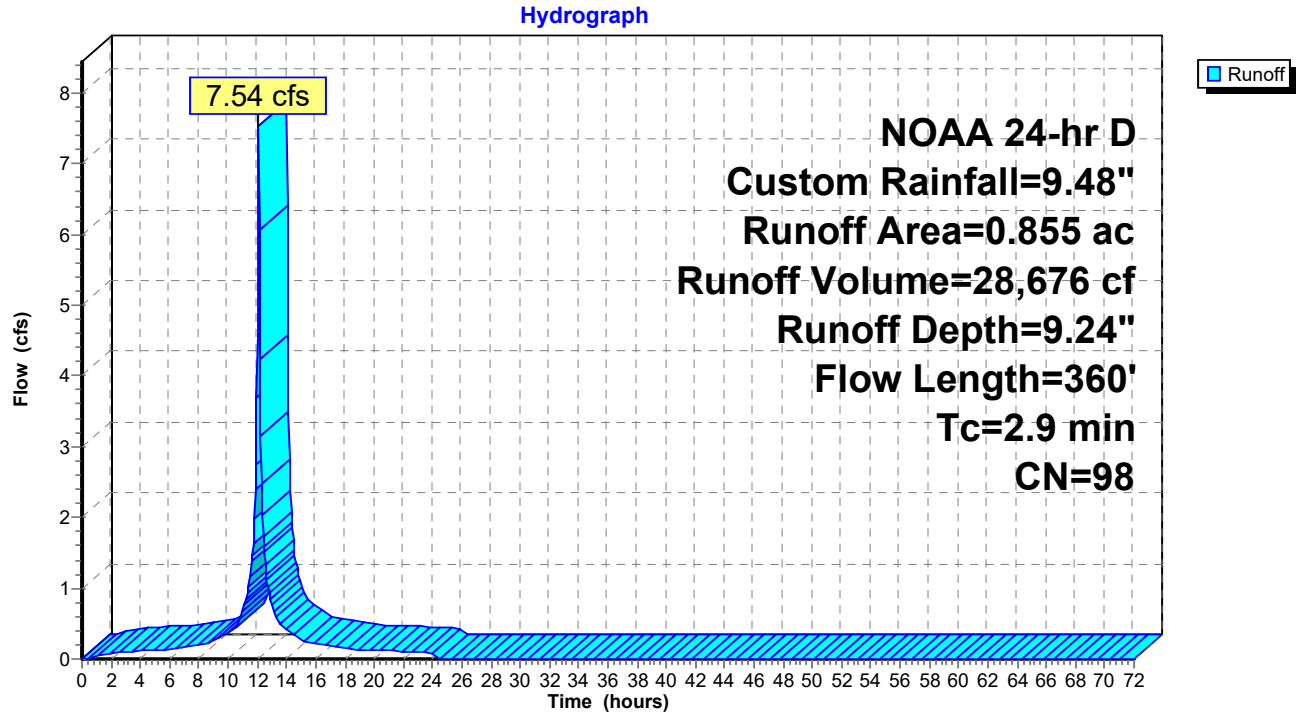
Runoff = 7.54 cfs @ 12.10 hrs, Volume= 28,676 cf, Depth= 9.24"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

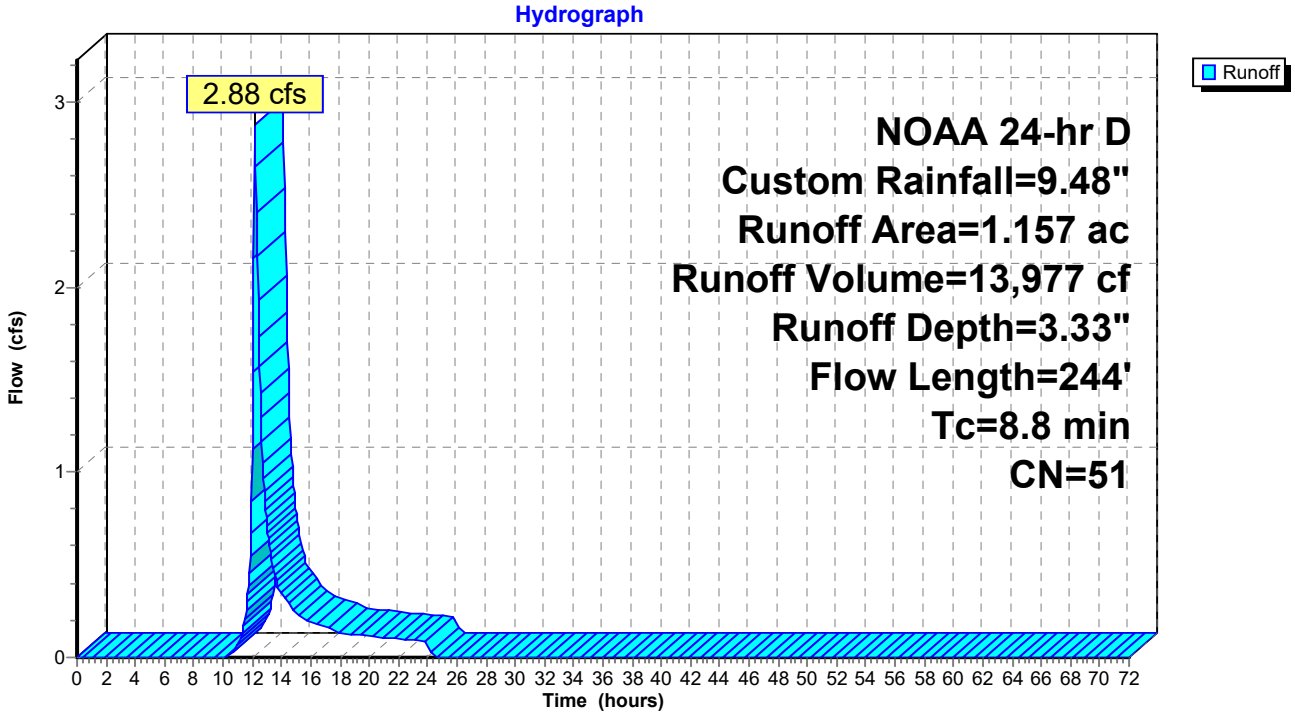
Runoff = 2.88 cfs @ 12.19 hrs, Volume= 13,977 cf, Depth= 3.33"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 4.67" for Custom event
Inflow = 9.90 cfs @ 12.12 hrs, Volume= 44,303 cf
Outflow = 9.43 cfs @ 12.16 hrs, Volume= 40,746 cf, Atten= 5%, Lag= 2.1 min
Primary = 9.43 cfs @ 12.16 hrs, Volume= 40,746 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.31' @ 12.16 hrs Surf.Area= 5,103 sf Storage= 5,053 cf

Plug-Flow detention time= 91.8 min calculated for 40,718 cf (92% of inflow)
Center-of-Mass det. time= 46.3 min (833.6 - 787.2)

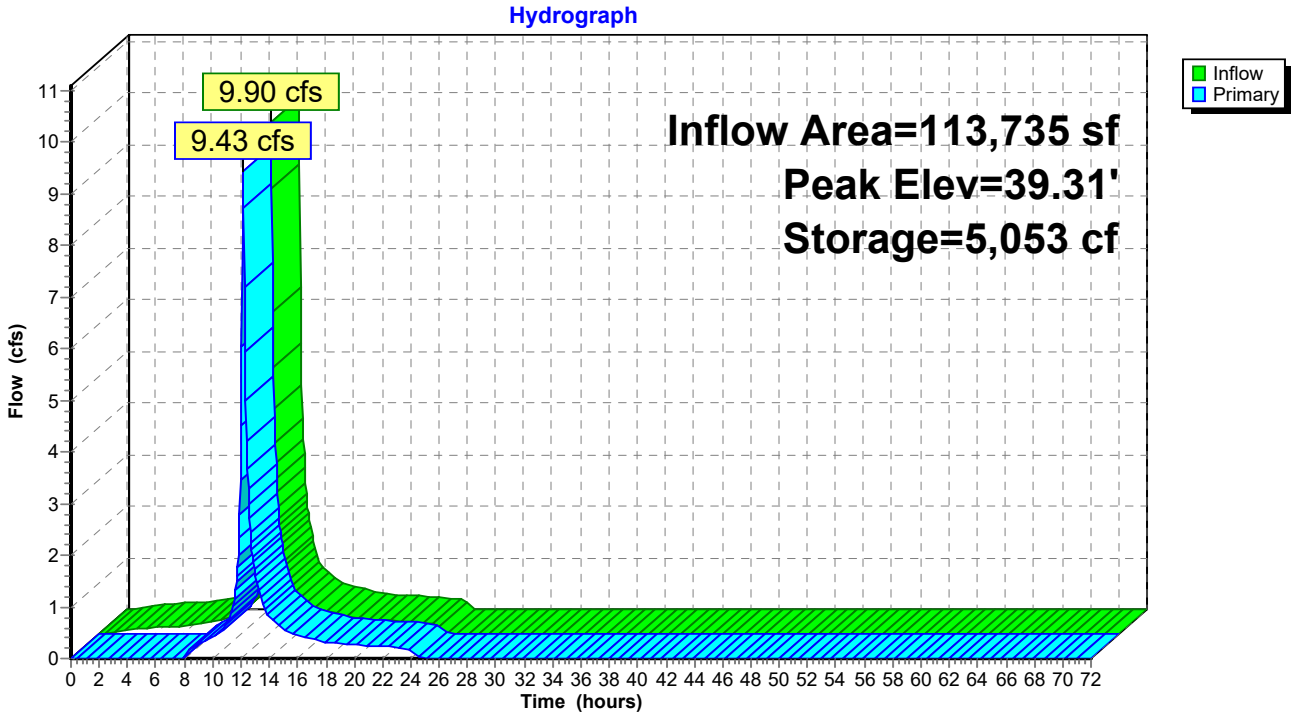
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.29 cfs @ 12.16 hrs HW=39.31' (Free Discharge)
1=Orifice/Grate (Weir Controls 9.29 cfs @ 1.84 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

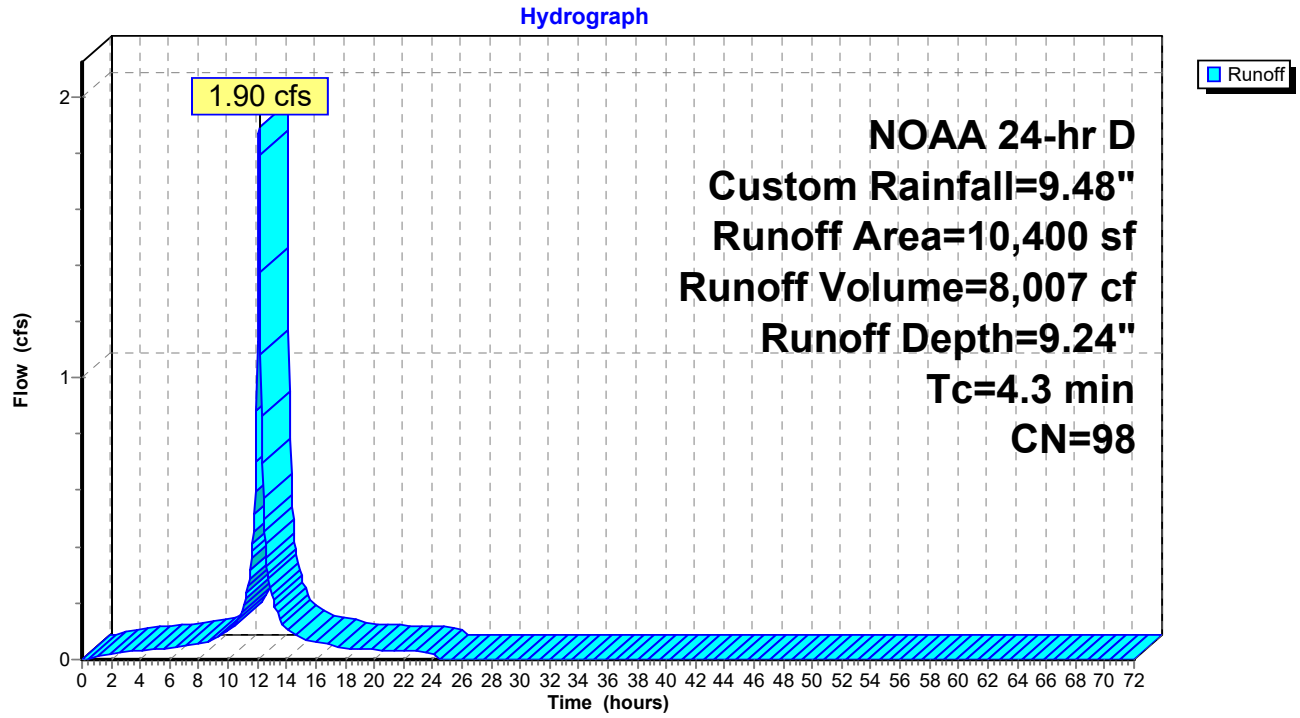
Runoff = 1.90 cfs @ 12.12 hrs, Volume= 8,007 cf, Depth= 9.24"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 131% of capacity of segment #3

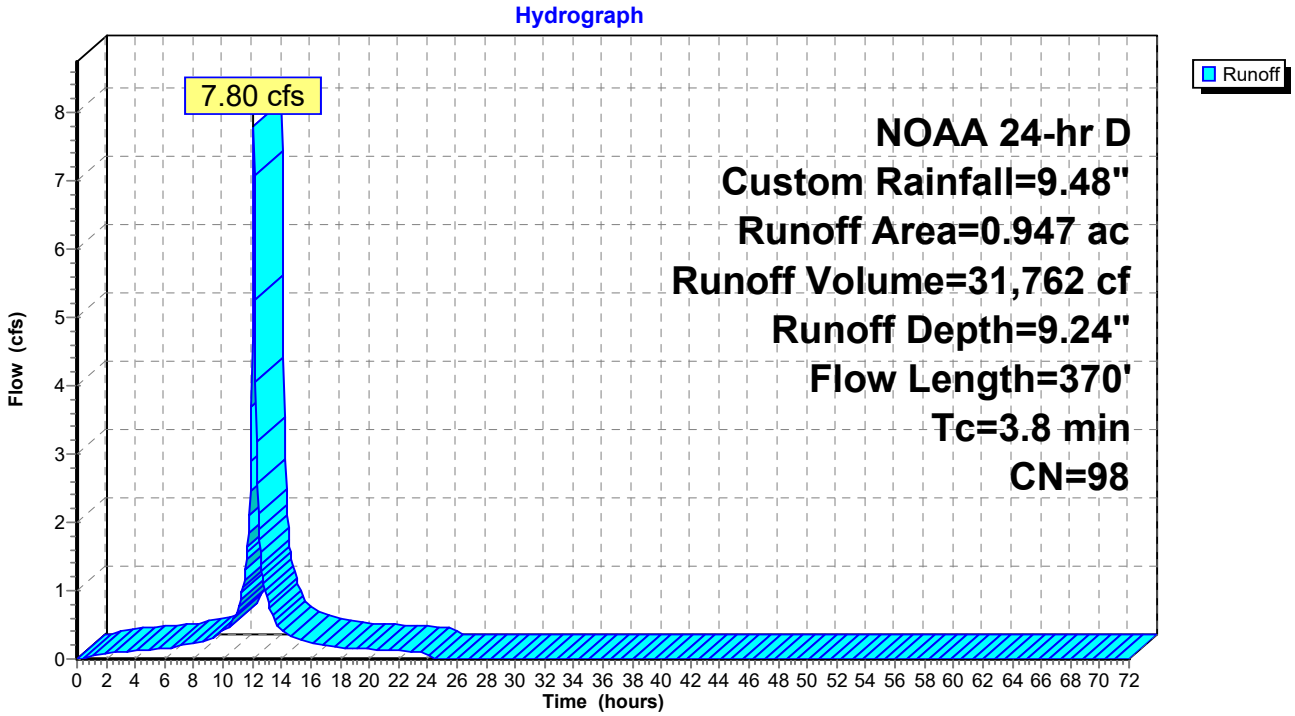
Runoff = 7.80 cfs @ 12.11 hrs, Volume= 31,762 cf, Depth= 9.24"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

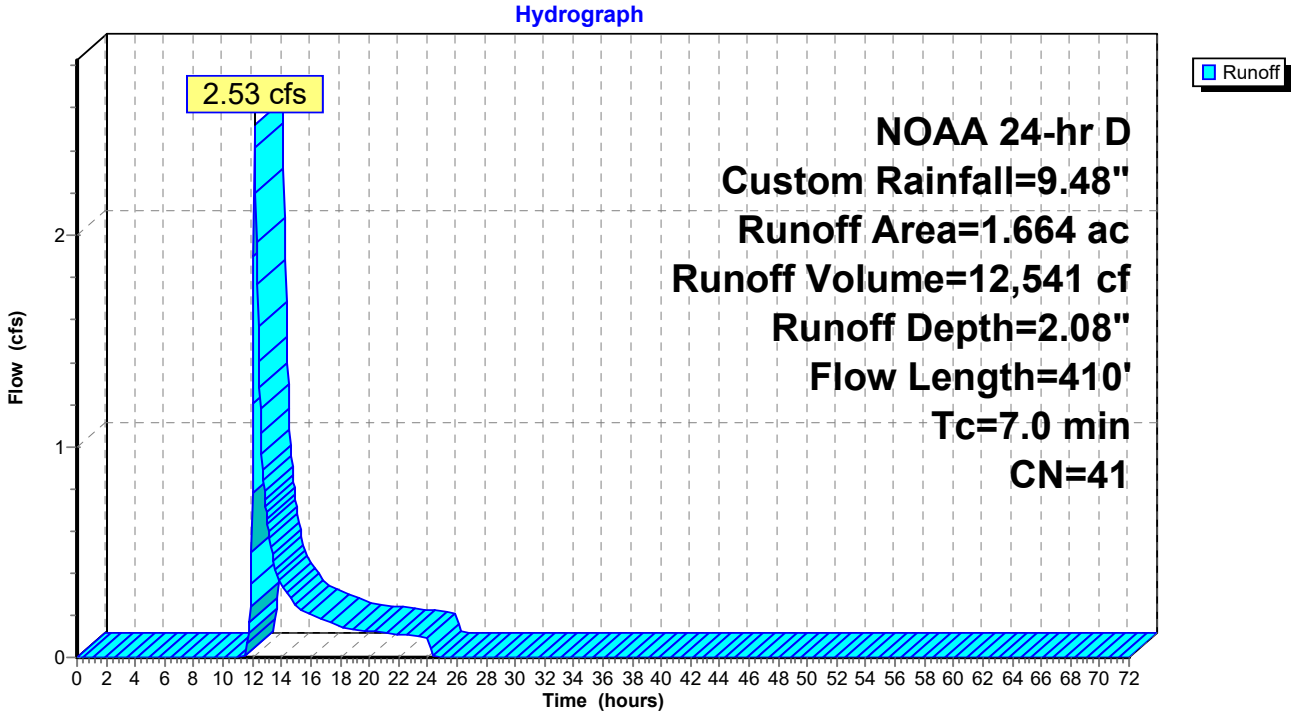
Runoff = 2.53 cfs @ 12.17 hrs, Volume= 12,541 cf, Depth= 2.08"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 3.41" for Custom event
Inflow = 5.20 cfs @ 12.12 hrs, Volume= 26,220 cf
Outflow = 0.30 cfs @ 16.05 hrs, Volume= 24,412 cf, Atten= 94%, Lag= 236.1 min
Primary = 0.30 cfs @ 16.05 hrs, Volume= 24,412 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.04' @ 16.05 hrs Surf.Area= 9,363 sf Storage= 15,779 cf

Plug-Flow detention time= 683.5 min calculated for 24,412 cf (93% of inflow)
Center-of-Mass det. time= 644.2 min (1,458.8 - 814.7)

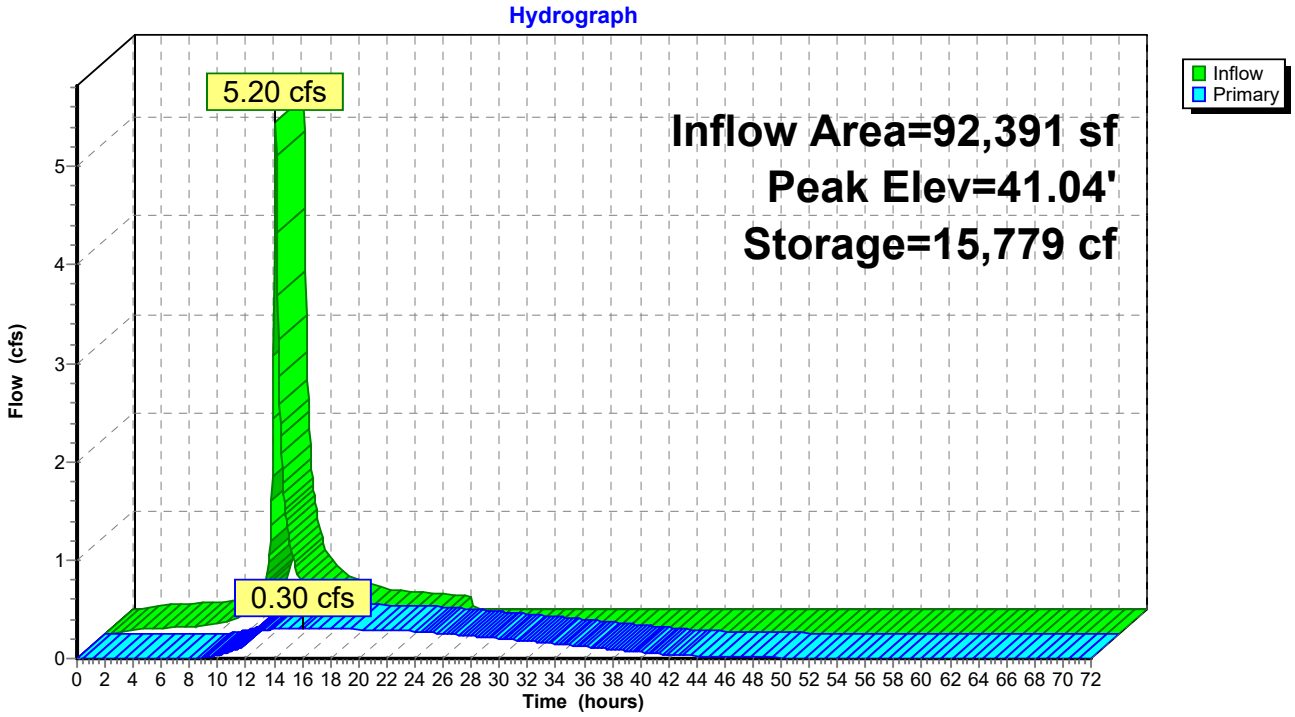
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.30 cfs @ 16.05 hrs HW=41.04' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.30 cfs @ 6.19 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

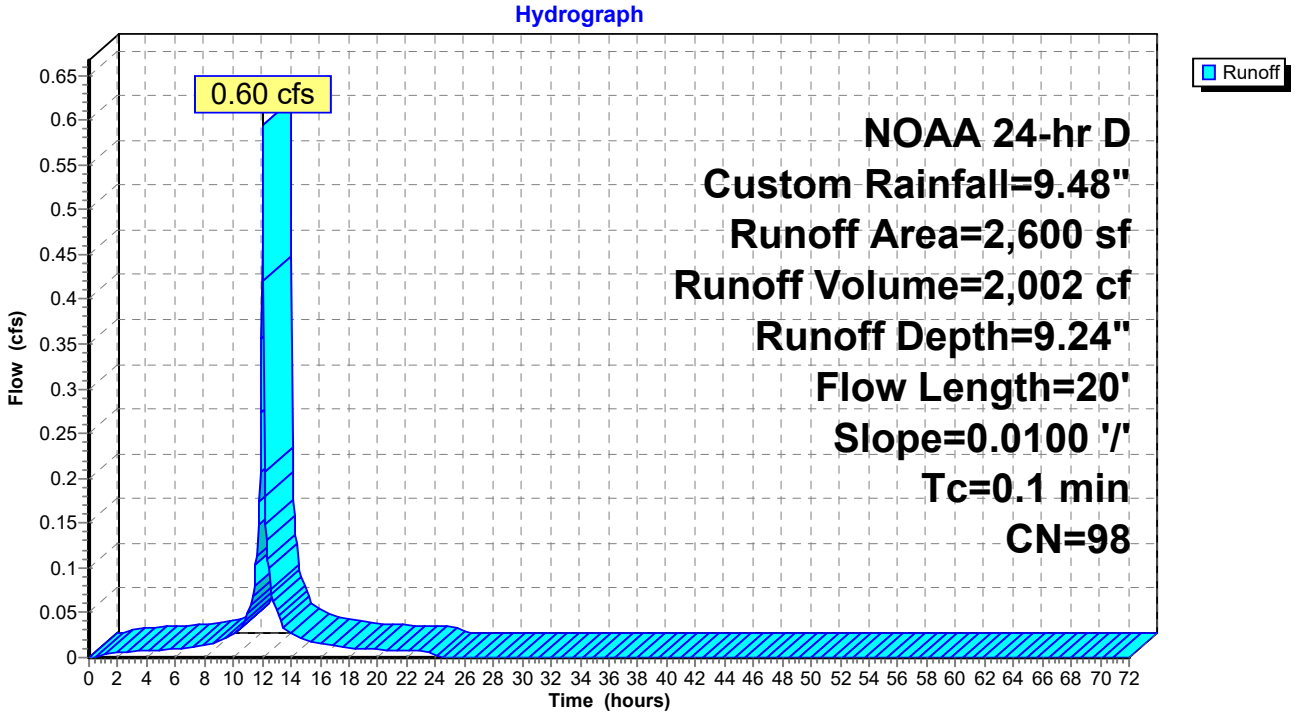
Runoff = 0.60 cfs @ 12.05 hrs, Volume= 2,002 cf, Depth= 9.24"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

[81] Warning: Exceeded Pond 3P by 1.62' @ 71.95 hrs

Inflow = 8.67 cfs @ 12.15 hrs, Volume= 64,930 cf
Outflow = 0.88 cfs @ 16.25 hrs, Volume= 30,055 cf, Atten= 90%, Lag= 245.7 min
Primary = 0.88 cfs @ 16.25 hrs, Volume= 30,055 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.56' @ 16.25 hrs Surf.Area= 34,583 sf Storage= 37,044 cf

Plug-Flow detention time= 634.1 min calculated for 30,035 cf (46% of inflow)
Center-of-Mass det. time= 358.2 min (1,385.0 - 1,026.8)

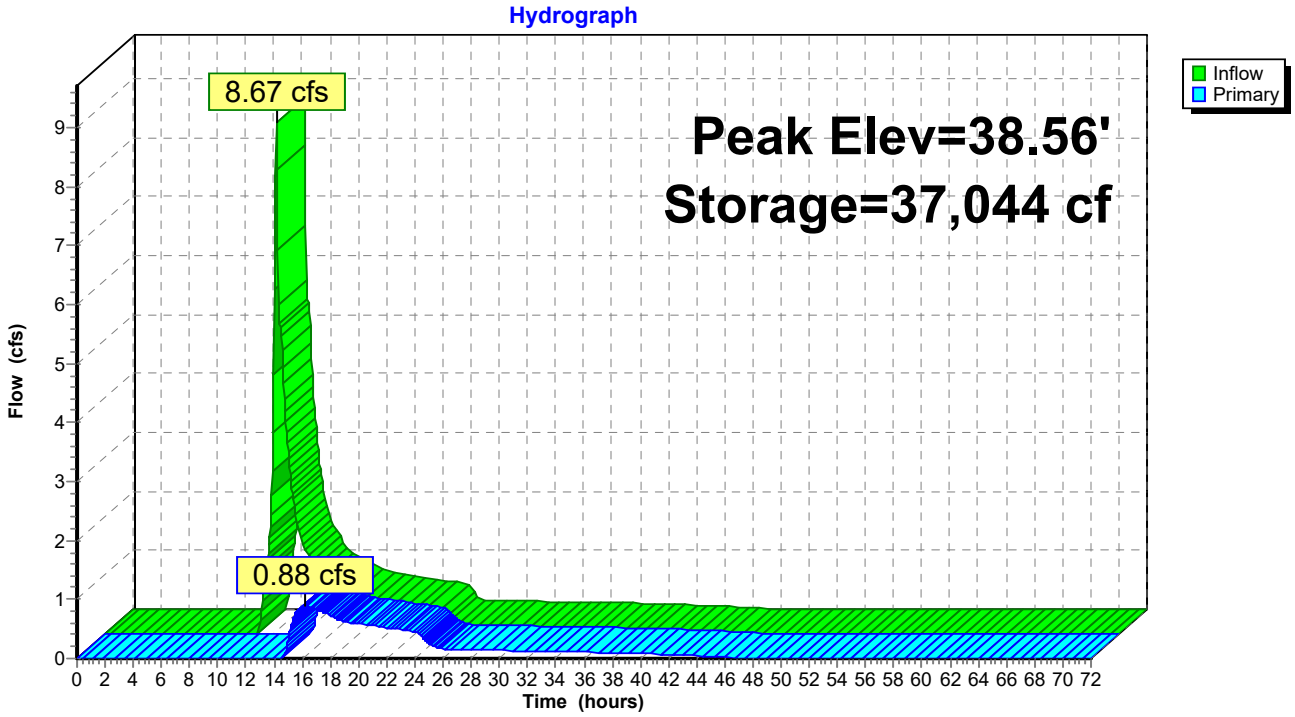
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.86 cfs @ 16.25 hrs HW=38.56' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.86 cfs @ 0.68 fps)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

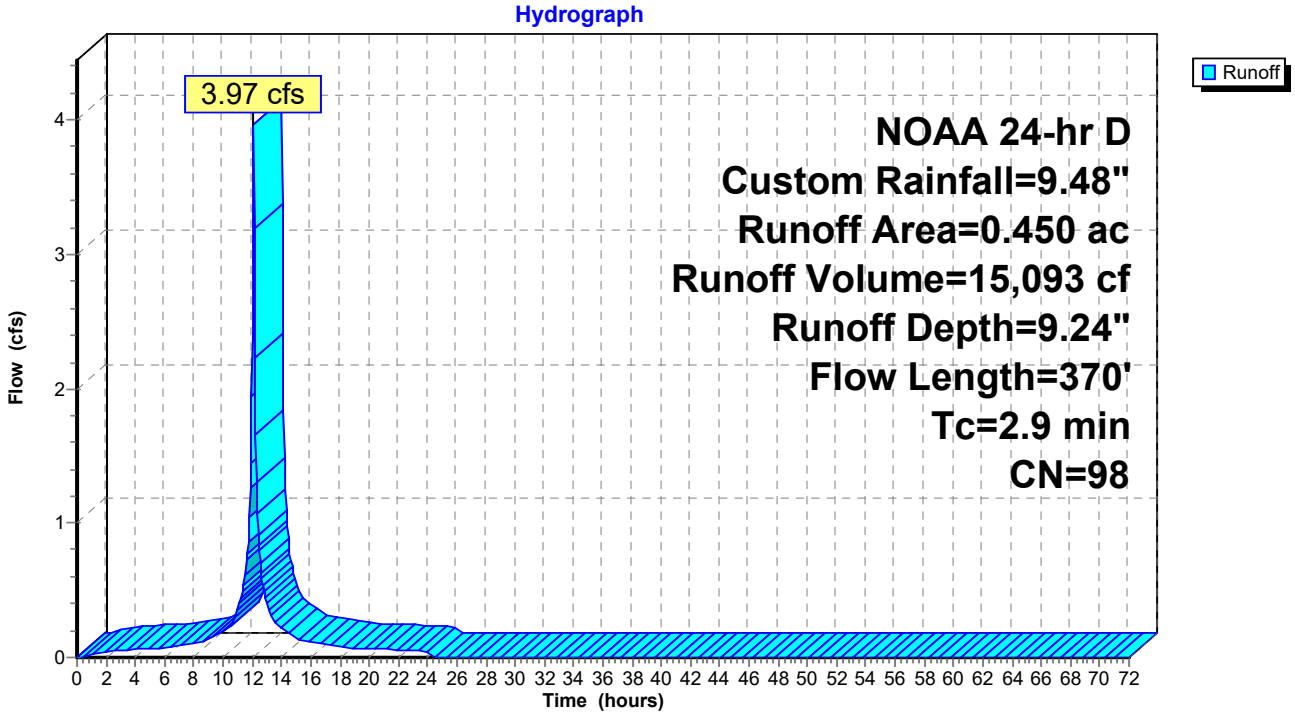
Runoff = 3.97 cfs @ 12.10 hrs, Volume= 15,093 cf, Depth= 9.24"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

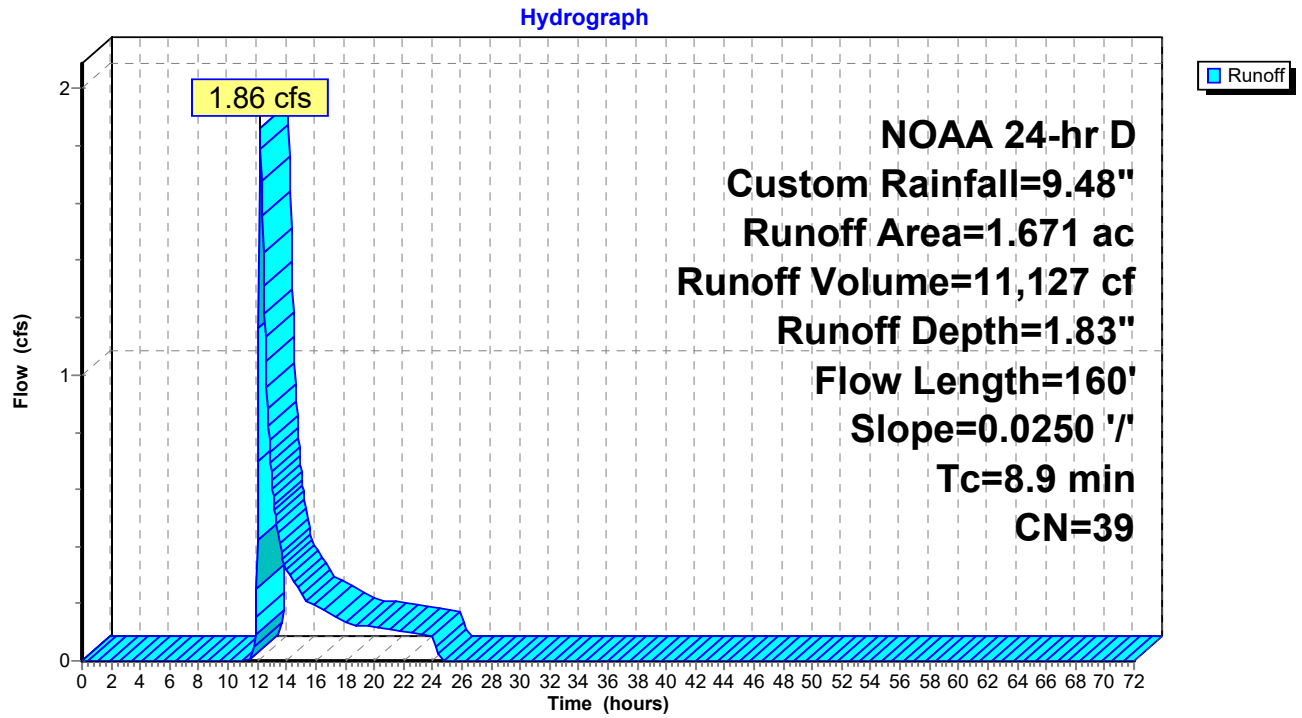
Runoff = 1.86 cfs @ 12.21 hrs, Volume= 11,127 cf, Depth= 1.83"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 6.70" for Custom event
Inflow = 8.05 cfs @ 12.15 hrs, Volume= 35,025 cf
Outflow = 7.83 cfs @ 12.17 hrs, Volume= 33,128 cf, Atten= 3%, Lag= 1.3 min
Primary = 7.83 cfs @ 12.17 hrs, Volume= 33,128 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.14' @ 12.17 hrs Surf.Area= 3,156 sf Storage= 2,725 cf

Plug-Flow detention time= 61.8 min calculated for 33,105 cf (95% of inflow)
Center-of-Mass det. time= 30.4 min (823.8 - 793.4)

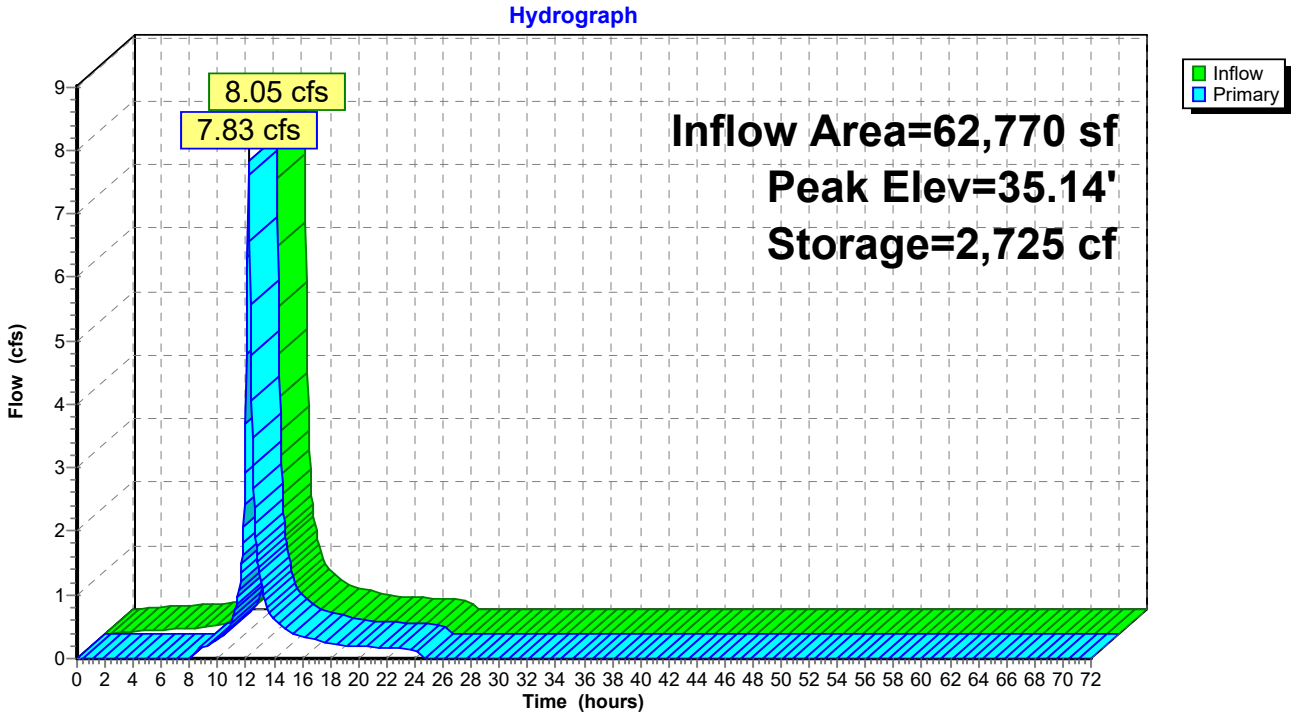
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.65 cfs @ 12.17 hrs HW=35.14' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 7.65 cfs @ 1.72 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

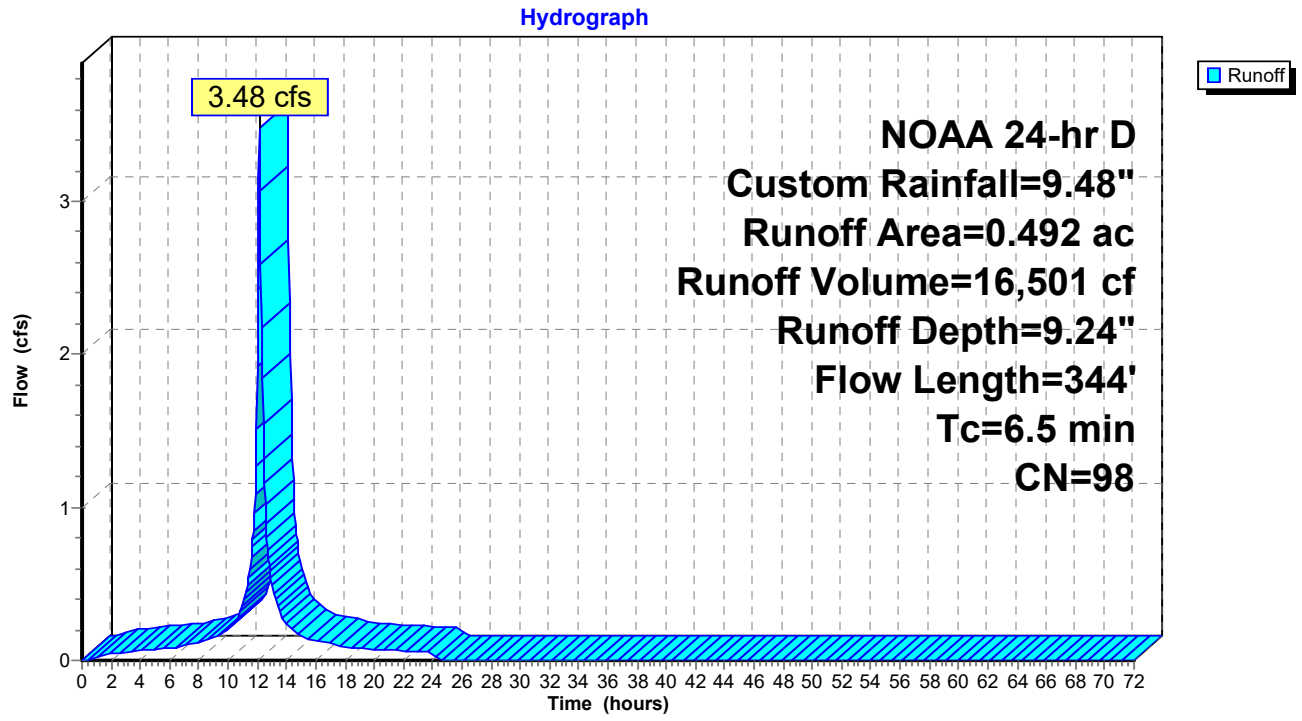
Runoff = 3.48 cfs @ 12.15 hrs, Volume= 16,501 cf, Depth= 9.24"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

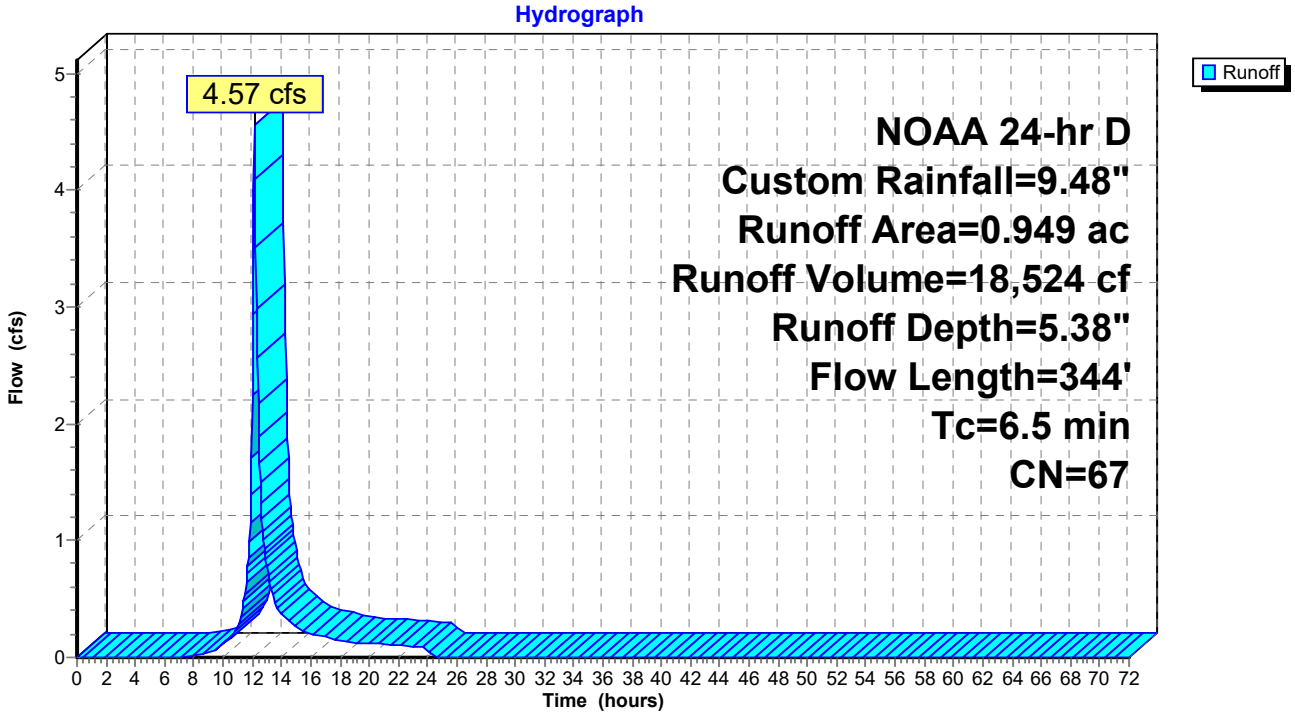
Runoff = 4.57 cfs @ 12.15 hrs, Volume= 18,524 cf, Depth= 5.38"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.40' @ 12.25 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 5.70" for Custom event
Inflow = 47.12 cfs @ 12.16 hrs, Volume= 249,618 cf
Outflow = 46.16 cfs @ 12.19 hrs, Volume= 245,669 cf, Atten= 2%, Lag= 1.7 min
Primary = 46.16 cfs @ 12.19 hrs, Volume= 245,669 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.02' @ 12.19 hrs Surf.Area= 6,230 sf Storage= 14,144 cf

Plug-Flow detention time= 66.8 min calculated for 245,669 cf (98% of inflow)
Center-of-Mass det. time= 46.0 min (908.9 - 862.9)

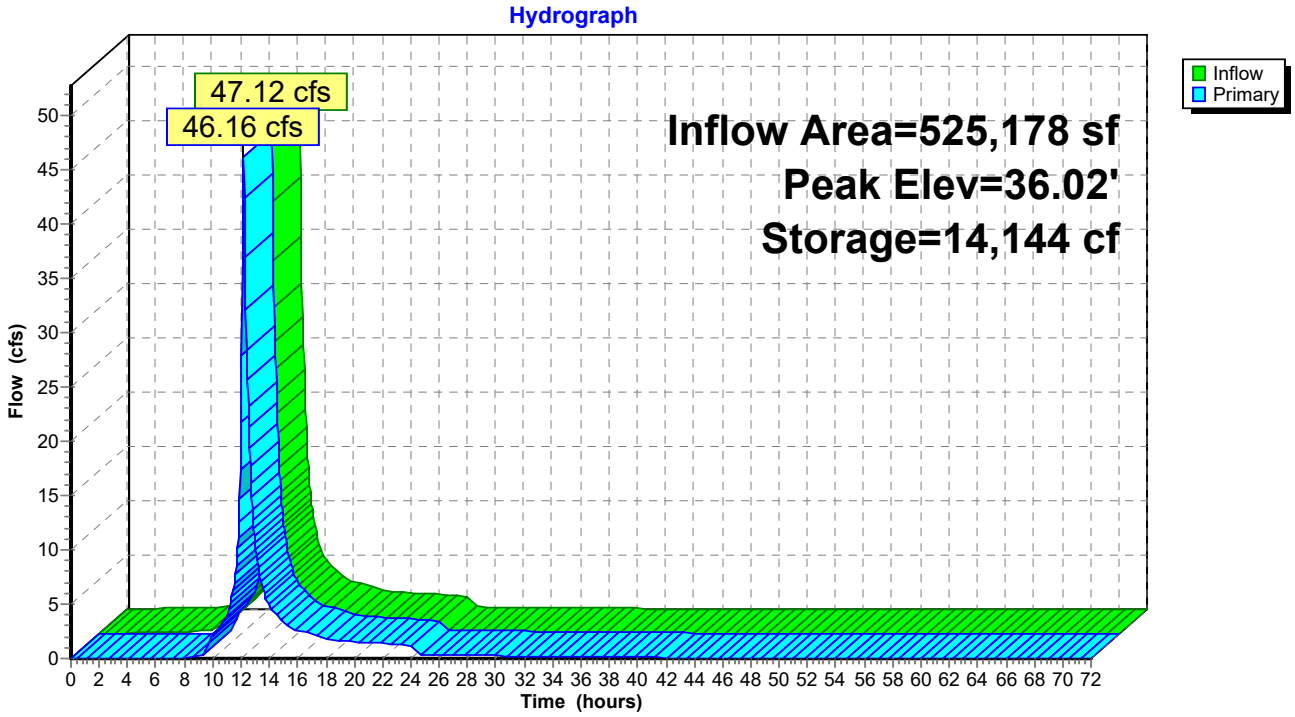
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=45.78 cfs @ 12.19 hrs HW=36.01' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.07 fps)
└**2=Orifice/Grate** (Weir Controls 45.43 cfs @ 3.12 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

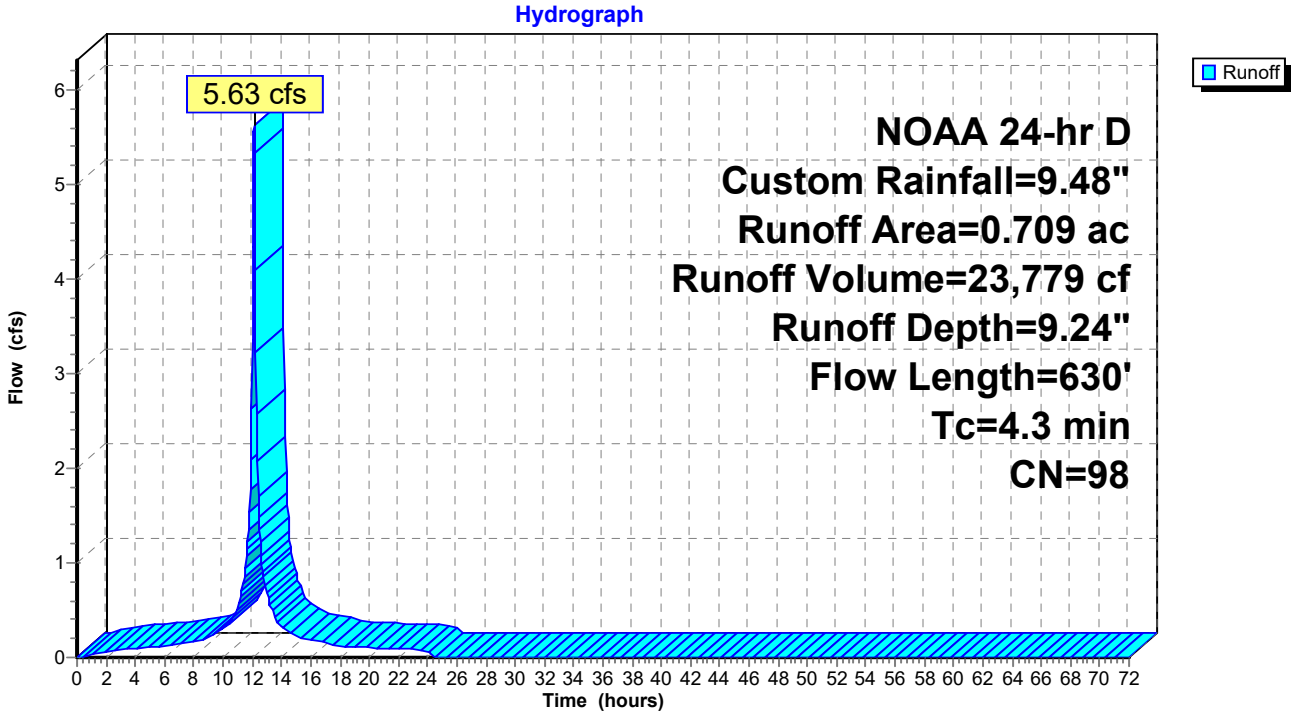
Runoff = 5.63 cfs @ 12.12 hrs, Volume= 23,779 cf, Depth= 9.24"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

[47] Hint: Peak is 157% of capacity of segment #3

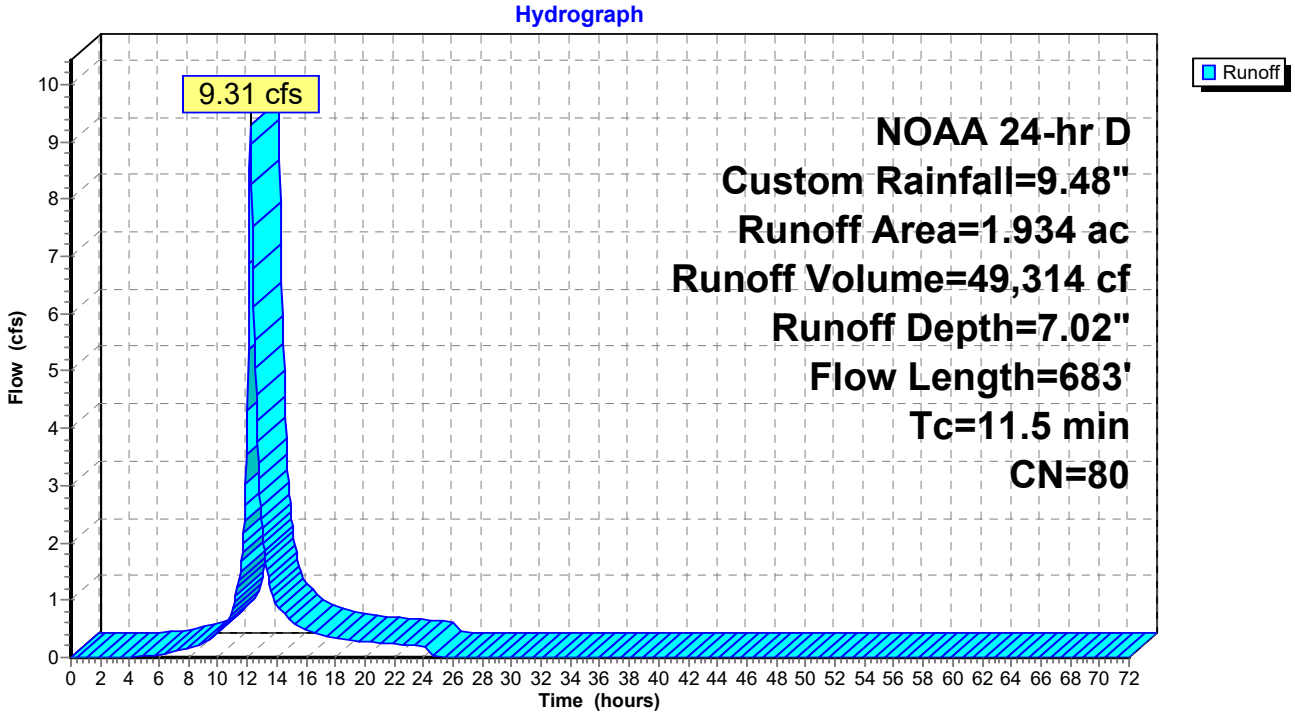
Runoff = 9.31 cfs @ 12.21 hrs, Volume= 49,314 cf, Depth= 7.02"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 4.22" for Custom event
Inflow = 6.61 cfs @ 12.14 hrs, Volume= 31,312 cf
Outflow = 2.35 cfs @ 12.48 hrs, Volume= 28,724 cf, Atten= 64%, Lag= 20.6 min
Primary = 2.35 cfs @ 12.48 hrs, Volume= 28,724 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.12' @ 12.48 hrs Surf.Area= 9,000 sf Storage= 14,120 cf

Plug-Flow detention time= 477.8 min calculated for 28,704 cf (92% of inflow)
Center-of-Mass det. time= 432.8 min (1,225.5 - 792.7)

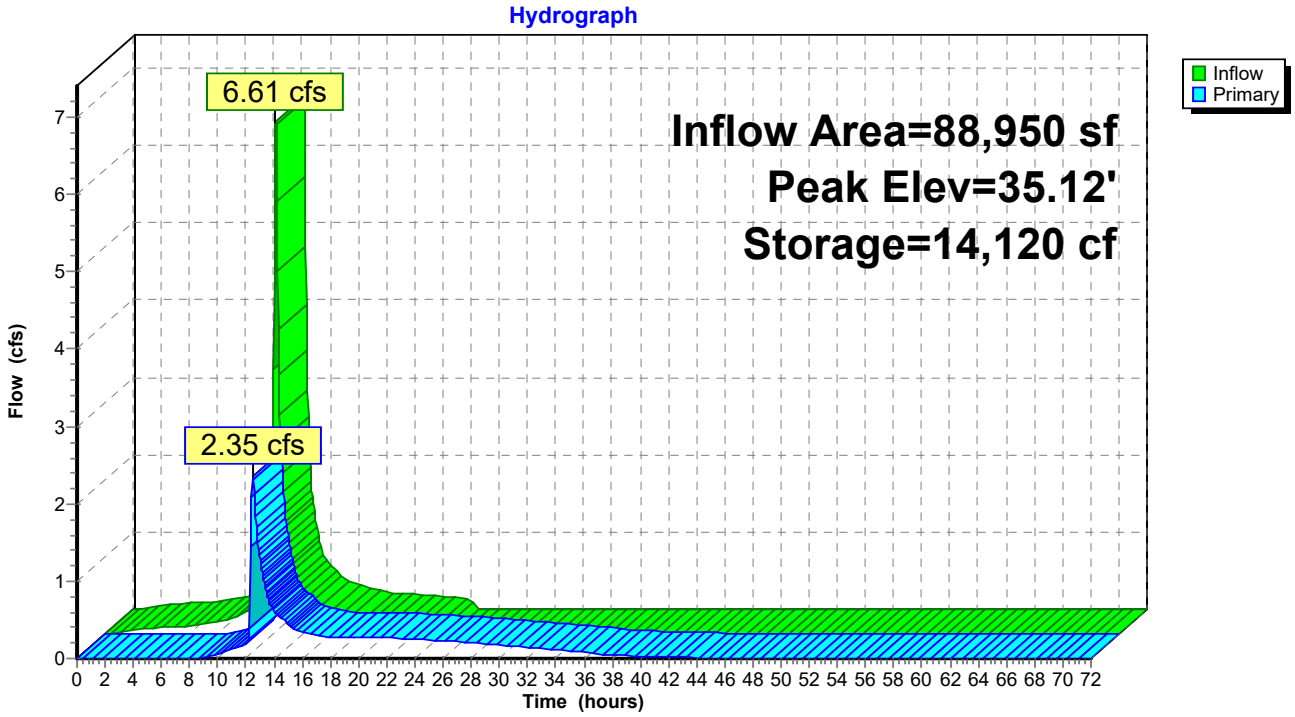
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.33 cfs @ 12.48 hrs HW=35.11' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.29 cfs @ 5.88 fps)
2=Orifice/Grate (Weir Controls 2.04 cfs @ 1.11 fps)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

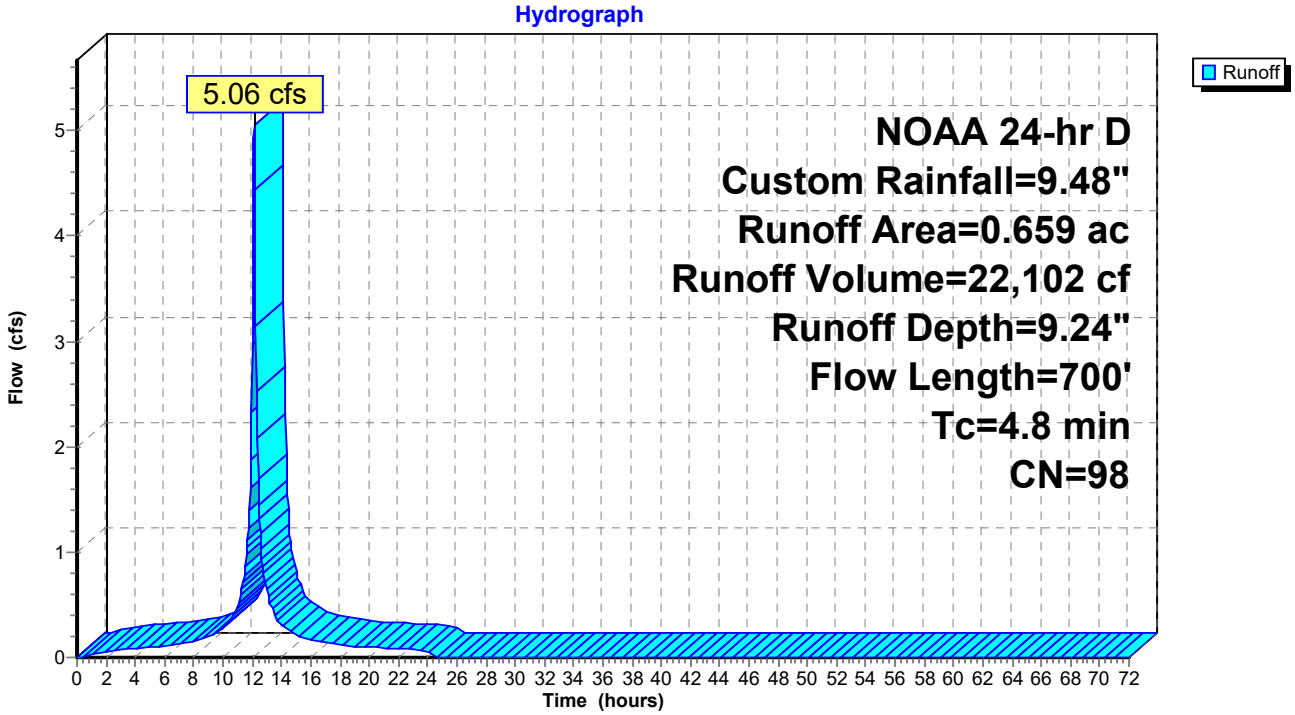
Runoff = 5.06 cfs @ 12.13 hrs, Volume= 22,102 cf, Depth= 9.24"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

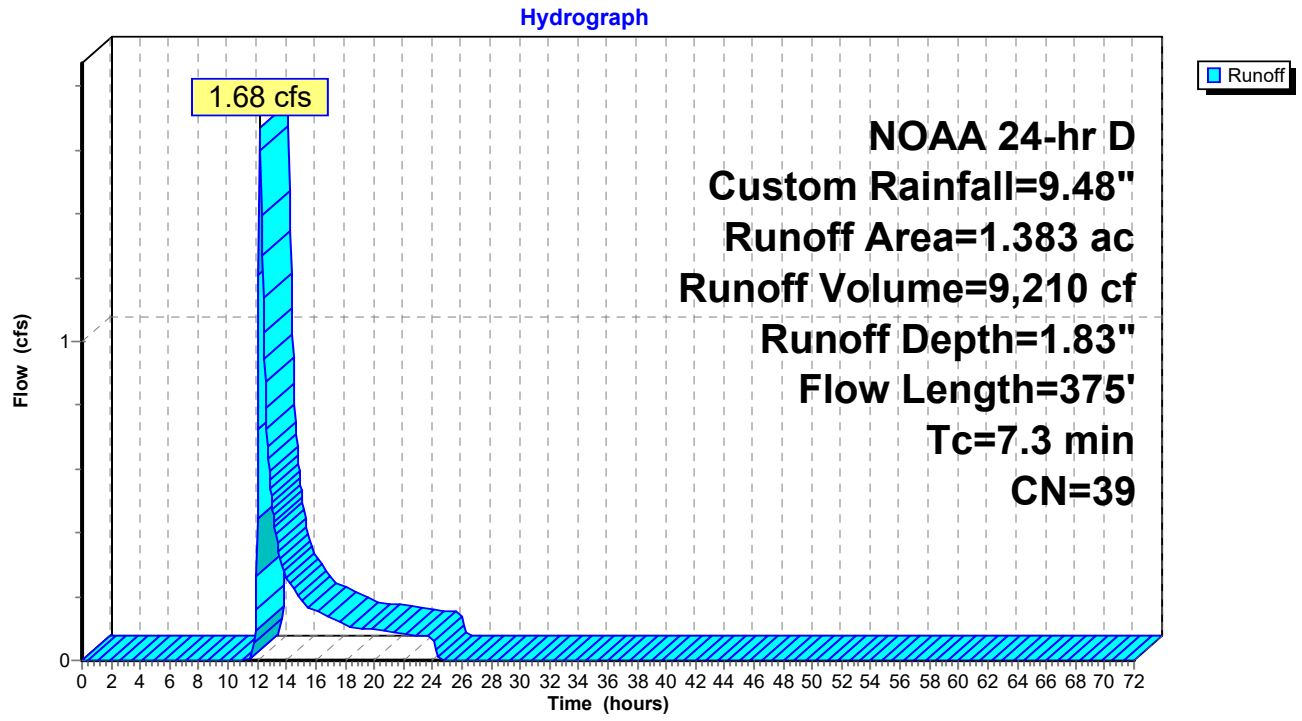
Runoff = 1.68 cfs @ 12.18 hrs, Volume= 9,210 cf, Depth= 1.83"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

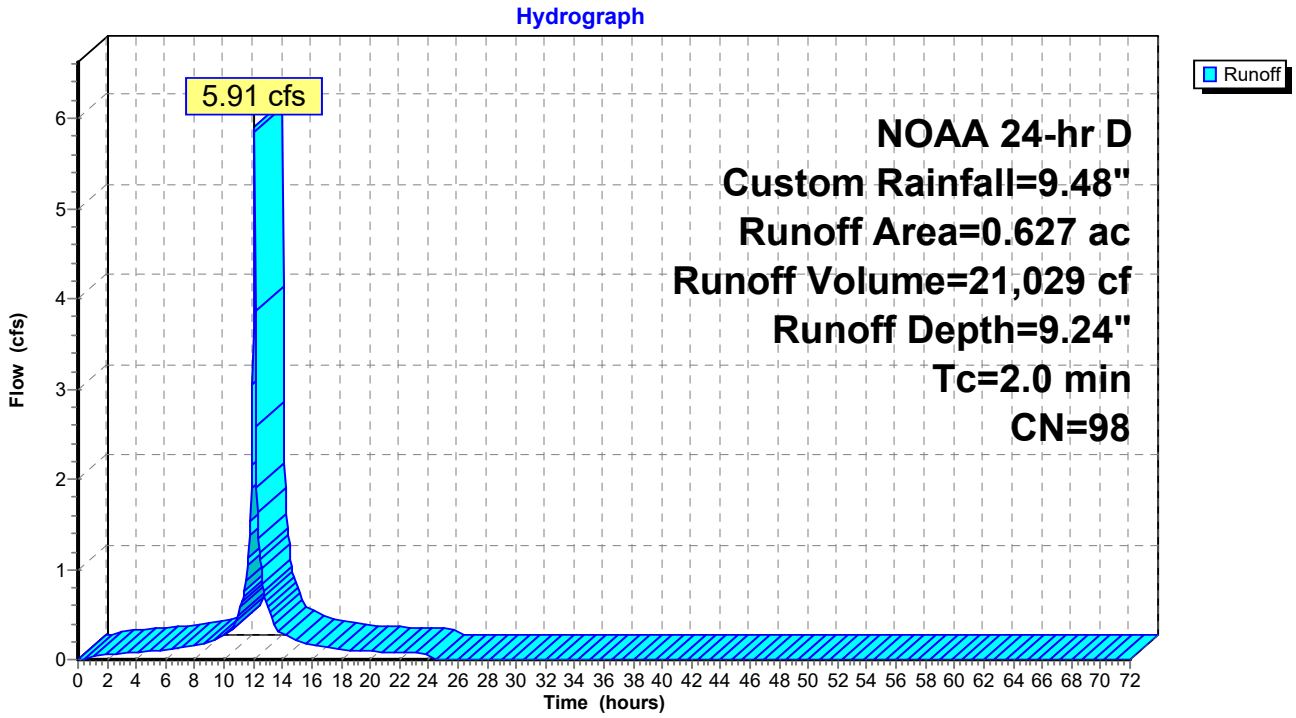
Runoff = 5.91 cfs @ 12.09 hrs, Volume= 21,029 cf, Depth= 9.24"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

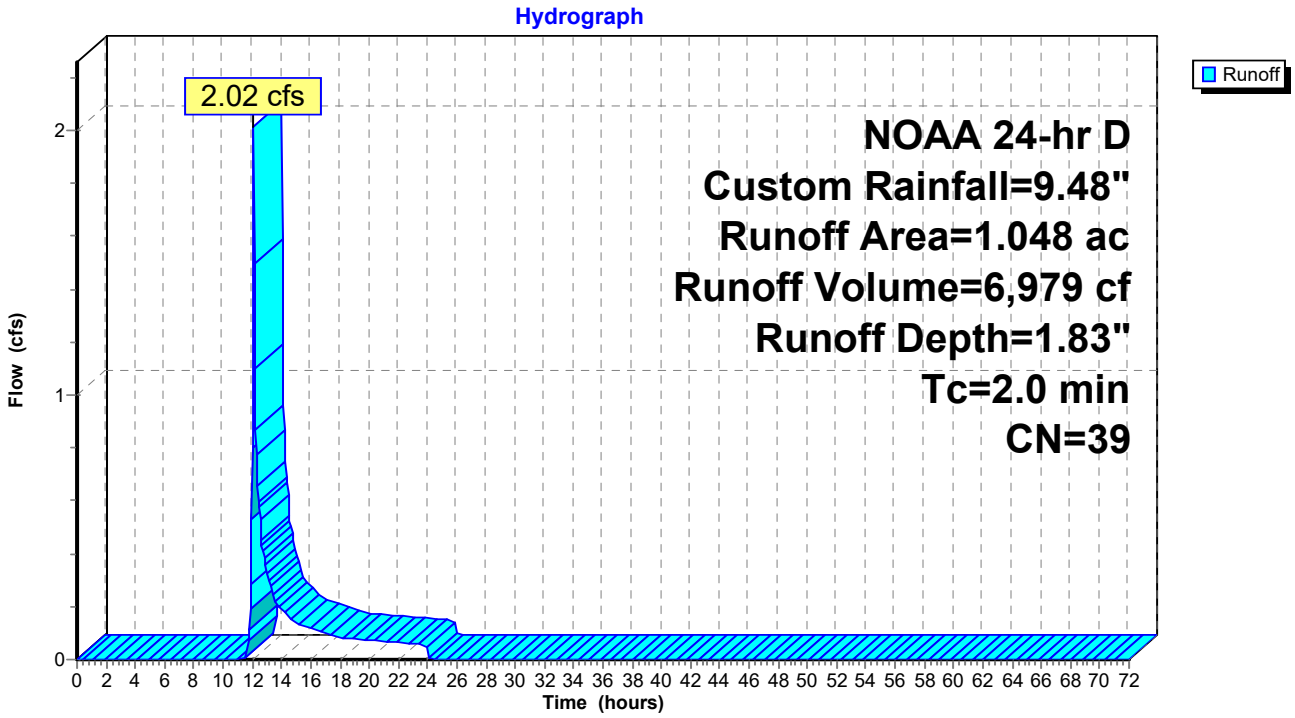
Runoff = 2.02 cfs @ 12.10 hrs, Volume= 6,979 cf, Depth= 1.83"
Routed to Pond 4P : Basin 3

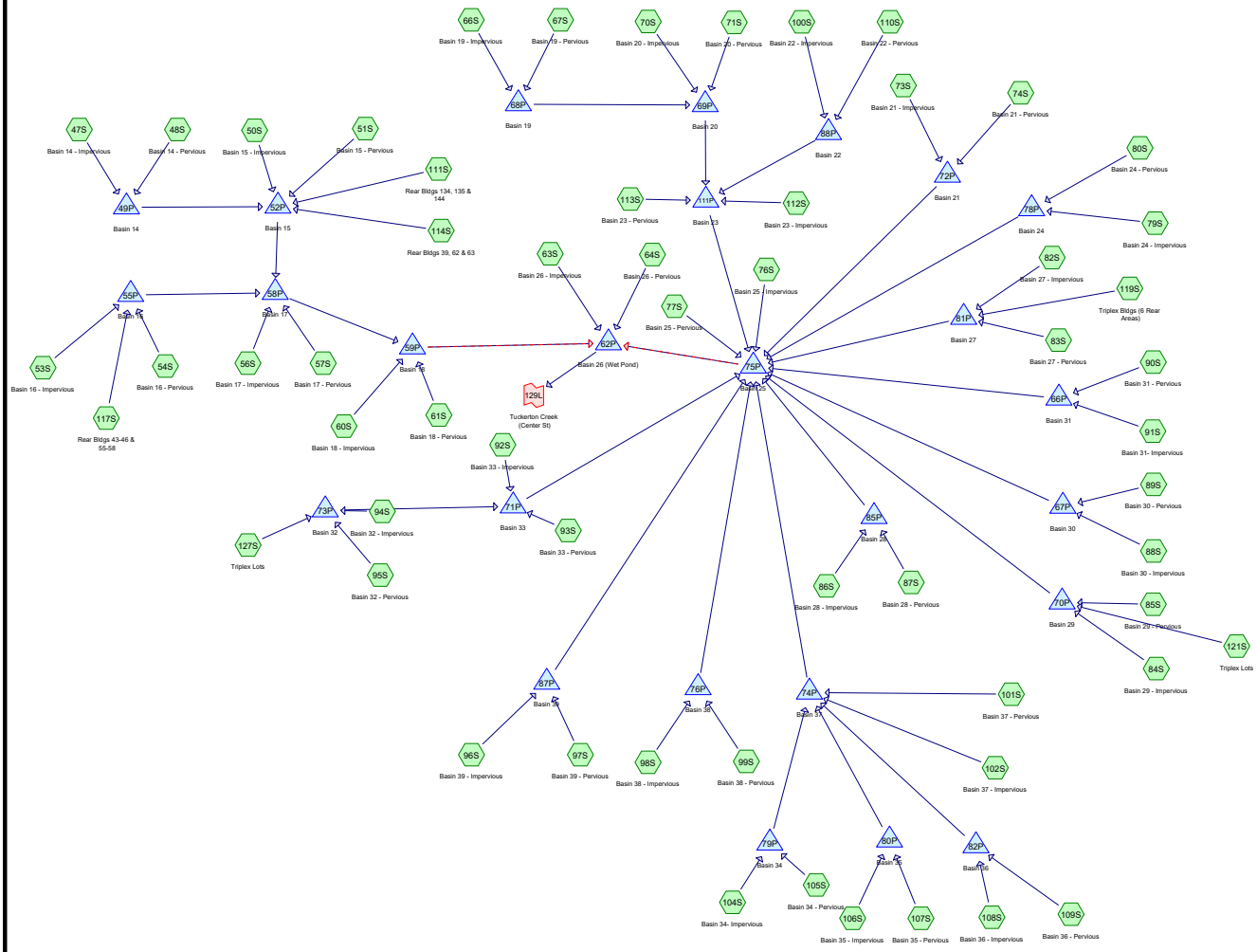
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=9.48"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- TUCKERTON CREEK

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	11.41	2

Summary for Subcatchment 47S: Basin 14 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 161% of capacity of segment #2

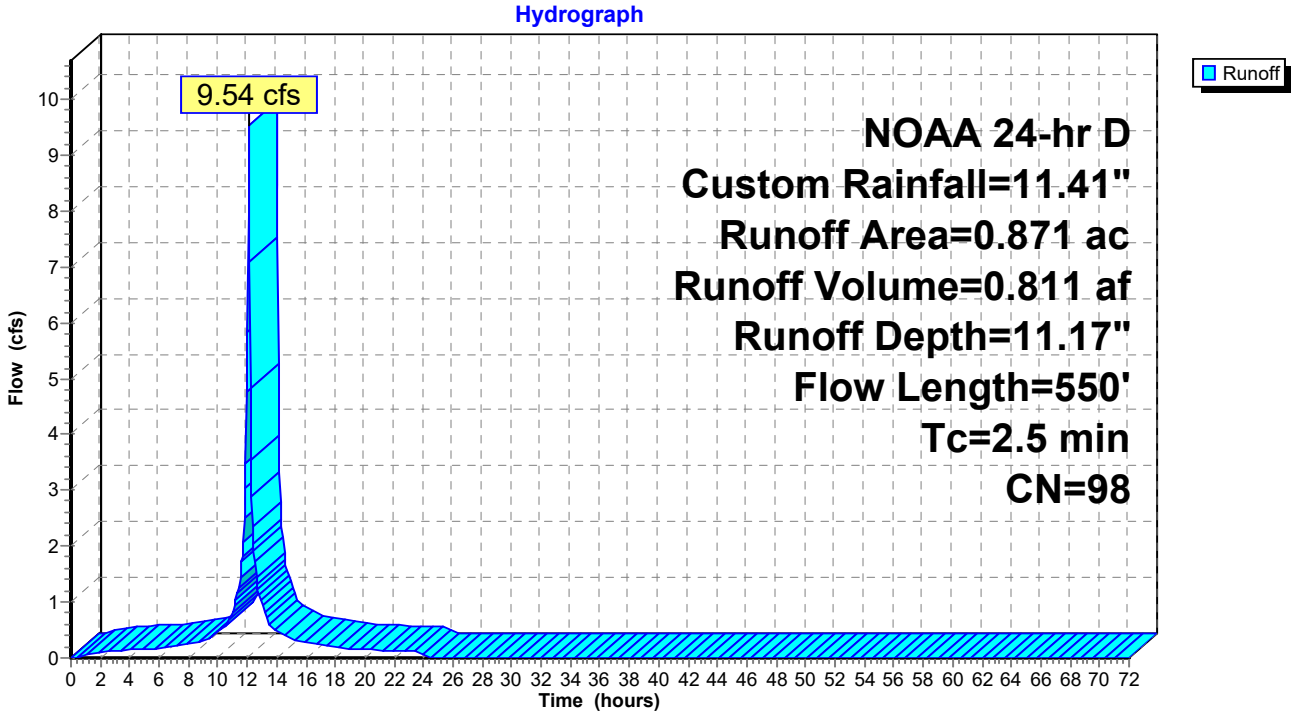
Runoff = 9.54 cfs @ 12.09 hrs, Volume= 0.811 af, Depth=11.17"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

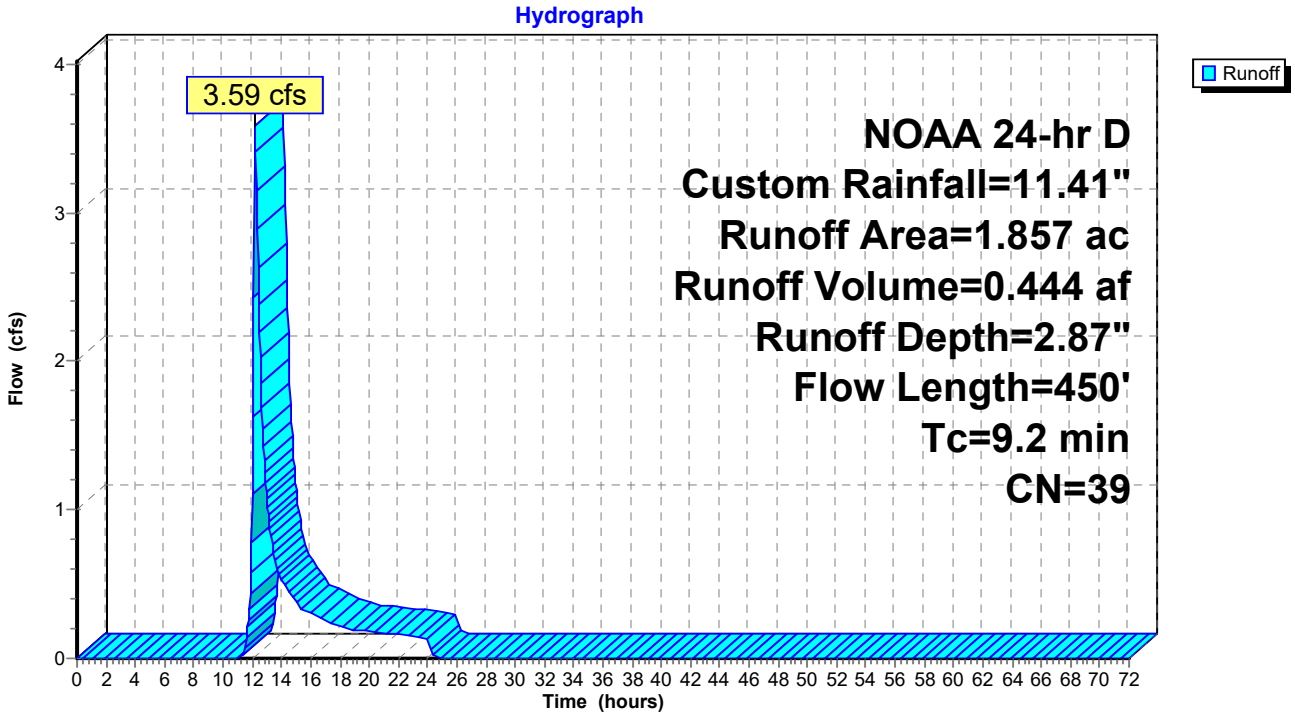
Runoff = 3.59 cfs @ 12.21 hrs, Volume= 0.444 af, Depth= 2.87"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 5.52" for Custom event
Inflow = 11.97 cfs @ 12.10 hrs, Volume= 1.254 af
Outflow = 0.40 cfs @ 17.95 hrs, Volume= 1.167 af, Atten= 97%, Lag= 350.5 min
Primary = 0.40 cfs @ 17.95 hrs, Volume= 1.167 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.15' @ 17.95 hrs Surf.Area= 14,824 sf Storage= 37,966 cf

Plug-Flow detention time= 1,116.0 min calculated for 1.167 af (93% of inflow)
Center-of-Mass det. time= 1,075.9 min (1,870.3 - 794.3)

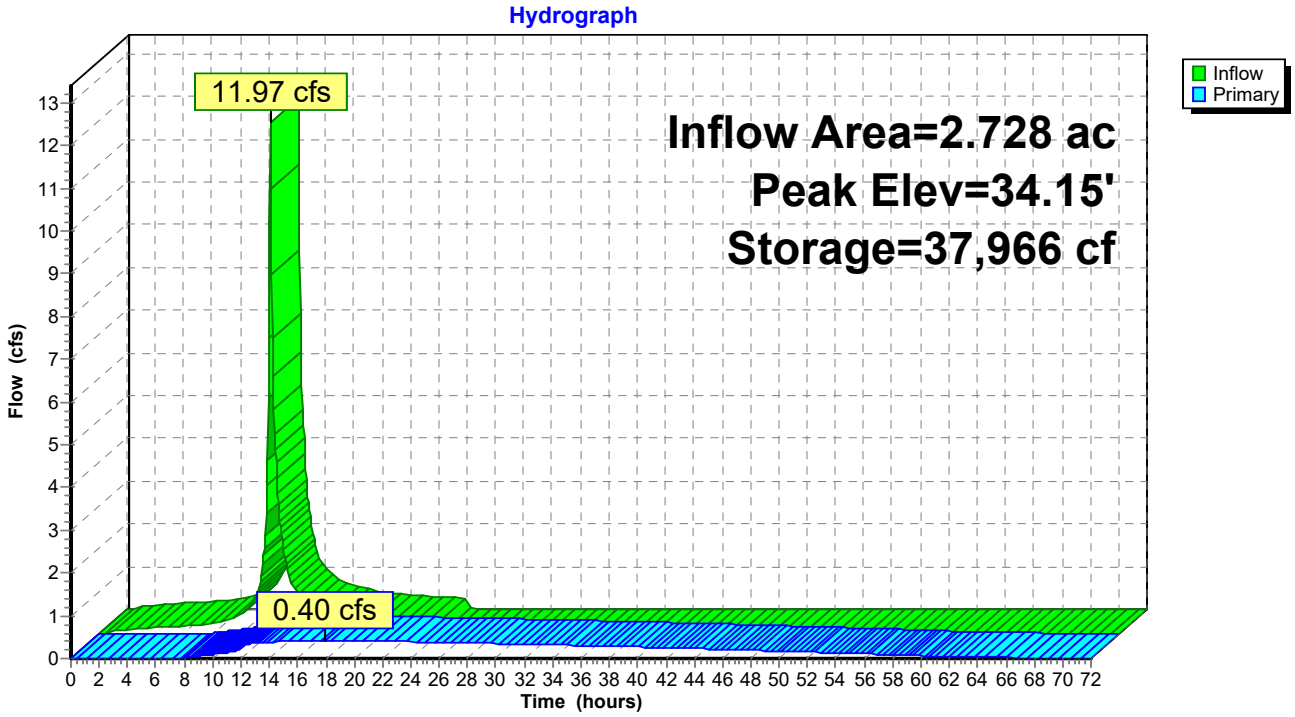
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.40 cfs @ 17.95 hrs HW=34.15' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.40 cfs @ 8.15 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 126% of capacity of segment #3

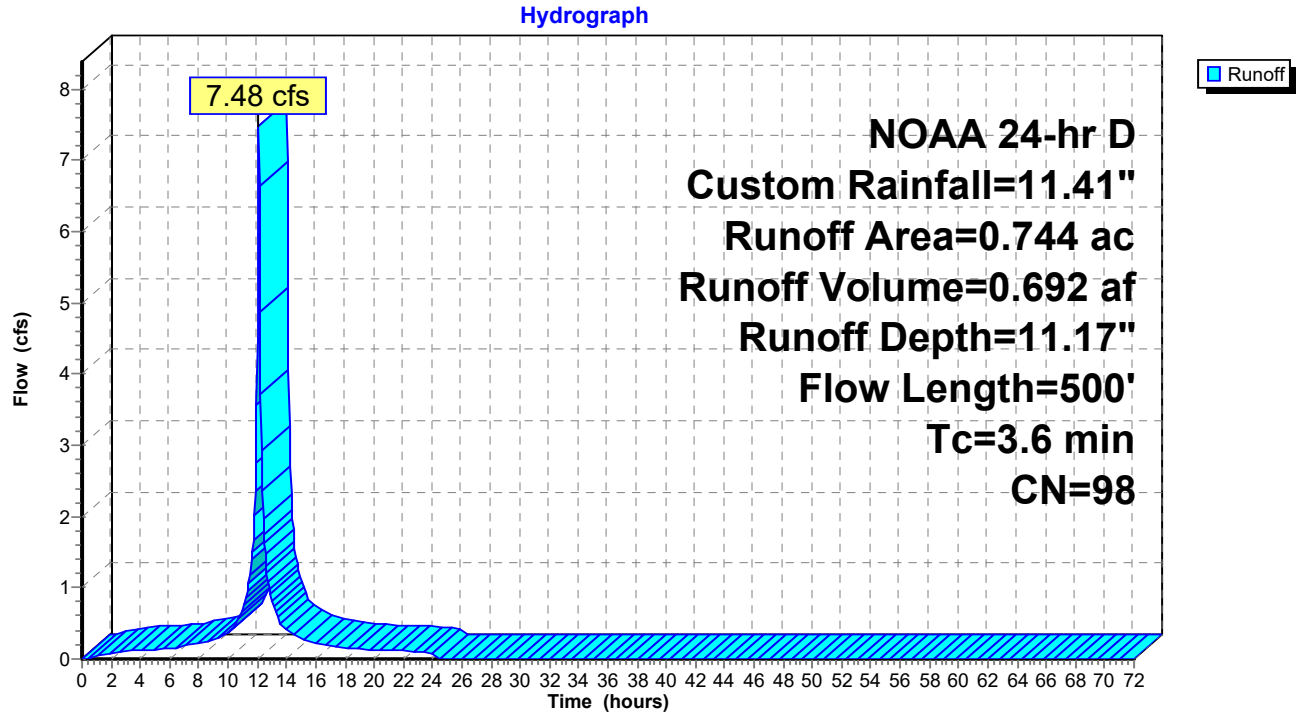
Runoff = 7.48 cfs @ 12.11 hrs, Volume= 0.692 af, Depth=11.17"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

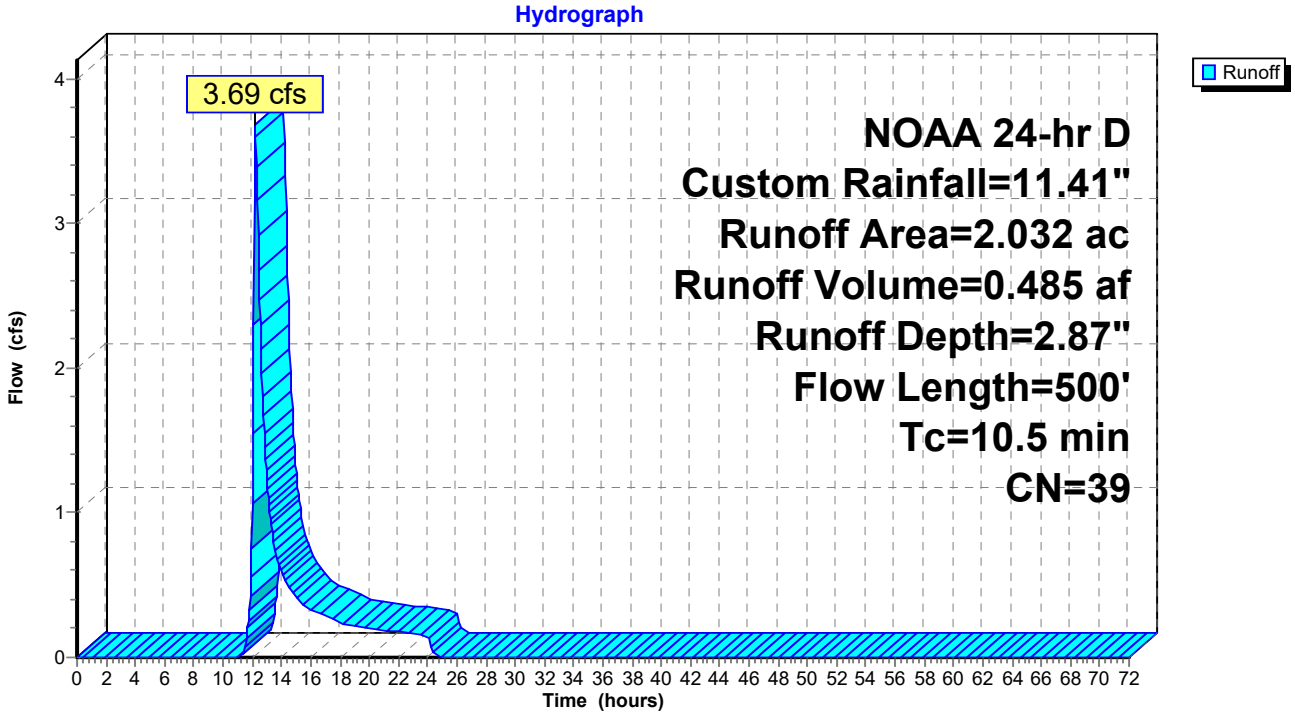
Runoff = 3.69 cfs @ 12.22 hrs, Volume= 0.485 af, Depth= 2.87"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

[81] Warning: Exceeded Pond 49P by 1.11' @ 47.05 hrs

Inflow Area = 5.683 ac, 31.57% Impervious, Inflow Depth > 5.30" for Custom event
Inflow = 12.11 cfs @ 12.12 hrs, Volume= 2.512 af
Outflow = 6.02 cfs @ 12.38 hrs, Volume= 2.436 af, Atten= 50%, Lag= 15.6 min
Primary = 6.02 cfs @ 12.38 hrs, Volume= 2.436 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.22' @ 12.38 hrs Surf.Area= 9,249 sf Storage= 24,377 cf

Plug-Flow detention time= 528.0 min calculated for 2.434 af (97% of inflow)
Center-of-Mass det. time= 458.4 min (1,754.3 - 1,295.9)

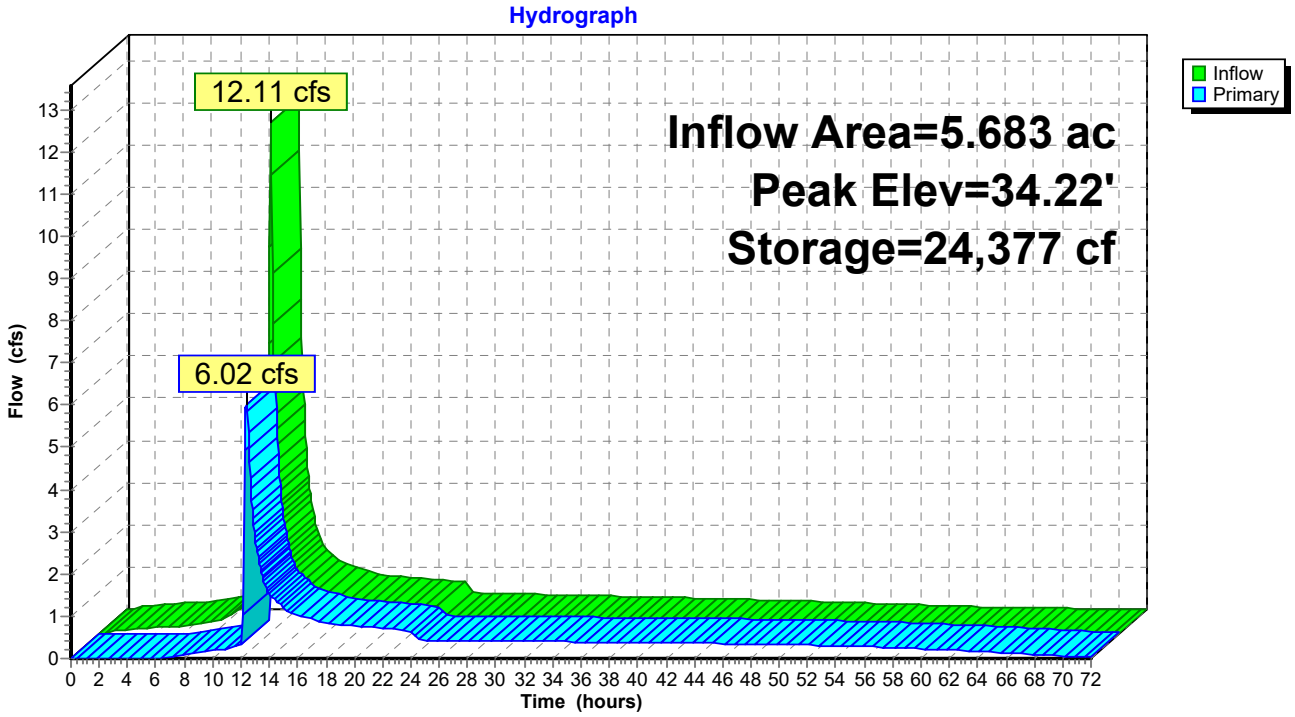
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.96 cfs @ 12.38 hrs HW=34.22' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.43 cfs @ 8.67 fps)
└—**2=Orifice/Grate** (Weir Controls 5.53 cfs @ 1.55 fps)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 128% of capacity of segment #3

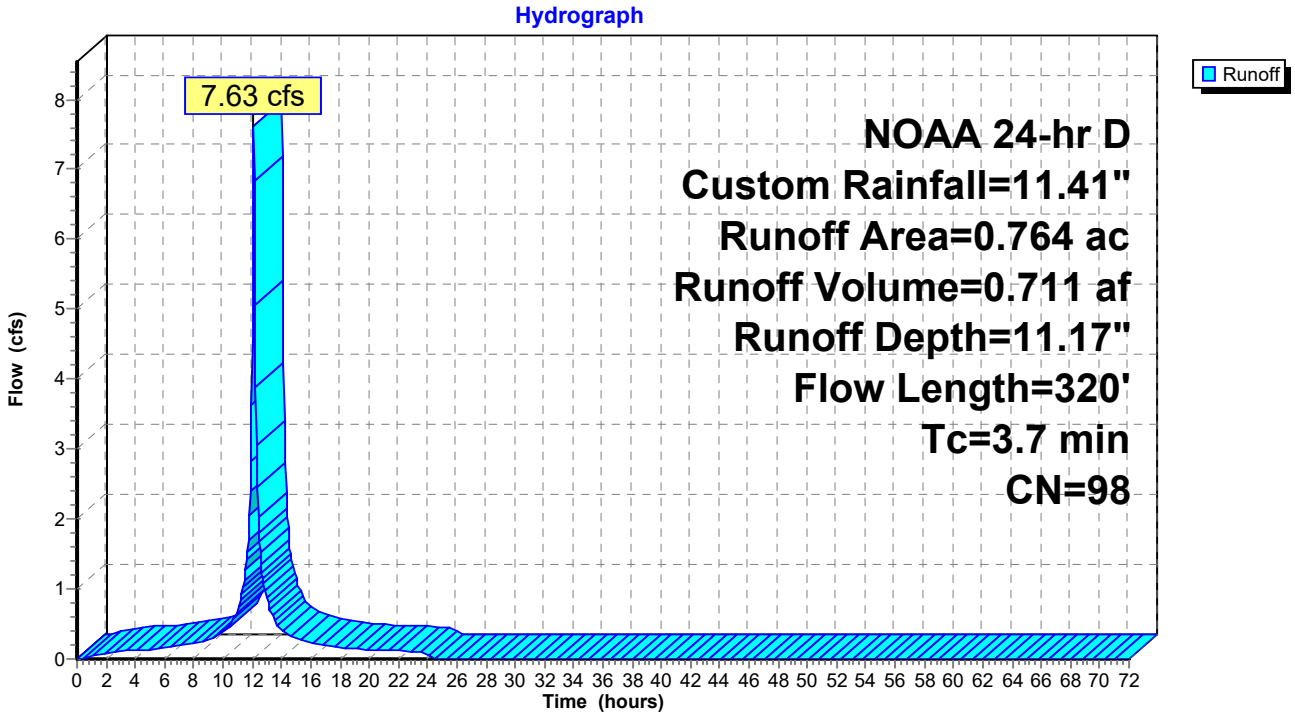
Runoff = 7.63 cfs @ 12.11 hrs, Volume= 0.711 af, Depth=11.17"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

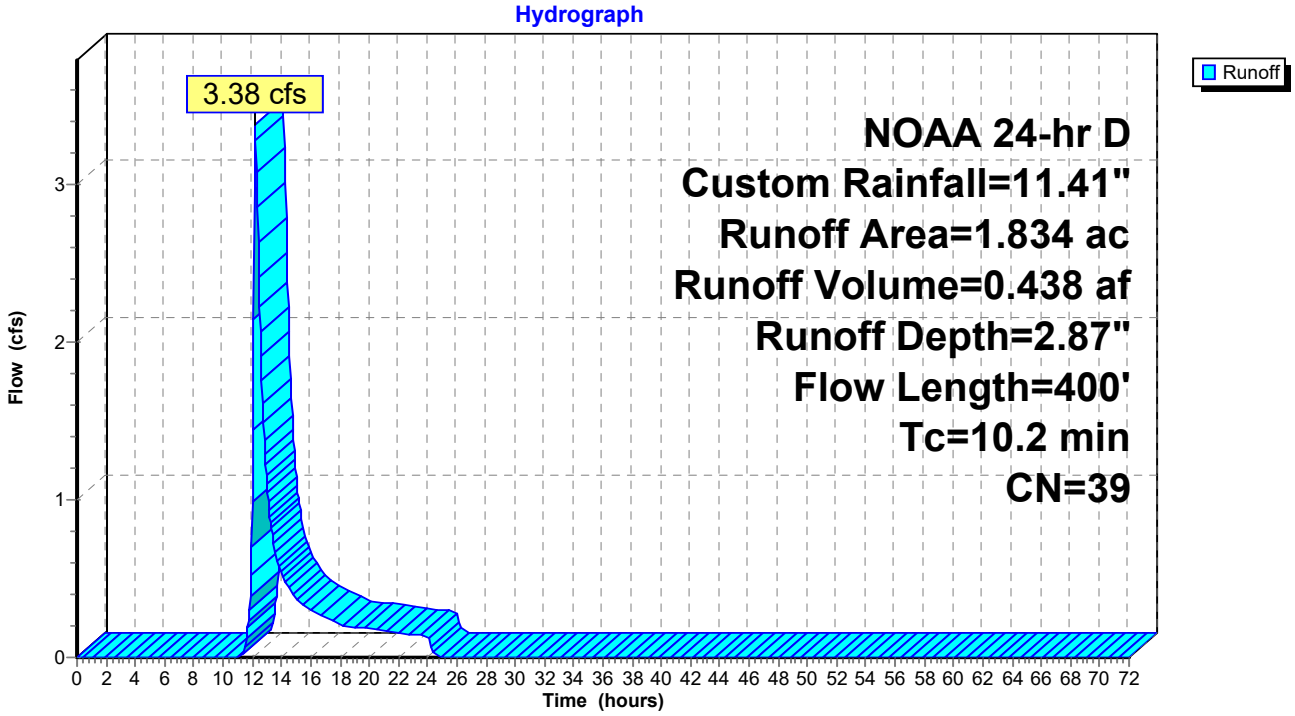
Runoff = 3.38 cfs @ 12.22 hrs, Volume= 0.438 af, Depth= 2.87"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.926 ac, 37.33% Impervious, Inflow Depth = 5.97" for Custom event
Inflow = 13.28 cfs @ 12.12 hrs, Volume= 1.455 af
Outflow = 12.99 cfs @ 12.15 hrs, Volume= 1.389 af, Atten= 2%, Lag= 1.6 min
Primary = 12.99 cfs @ 12.15 hrs, Volume= 1.389 af
Routed to Pond 58P : Basin 17

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.59' @ 12.15 hrs Surf.Area= 3,602 sf Storage= 4,197 cf

Plug-Flow detention time= 57.8 min calculated for 1.389 af (95% of inflow)
Center-of-Mass det. time= 30.3 min (817.7 - 787.4)

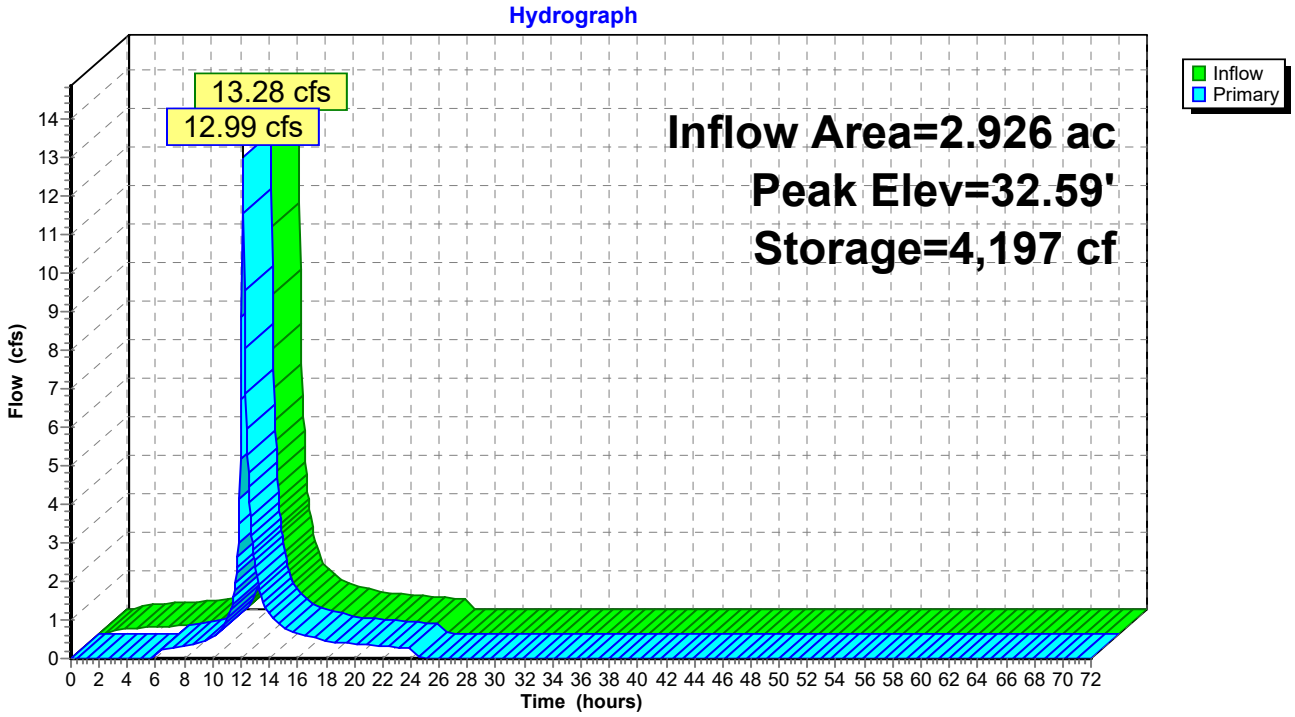
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.94 cfs @ 12.15 hrs HW=32.58' (Free Discharge)
1=Orifice/Grate (Weir Controls 12.94 cfs @ 2.05 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 101% of capacity of segment #3

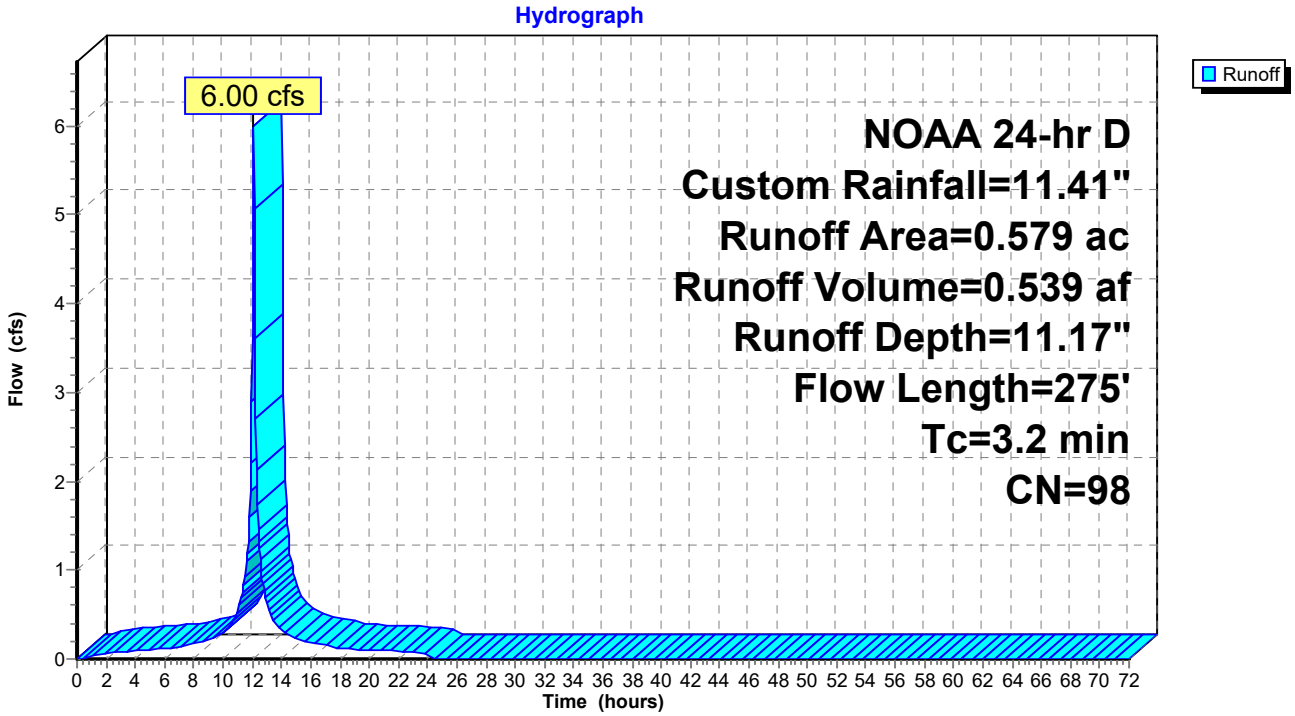
Runoff = 6.00 cfs @ 12.10 hrs, Volume= 0.539 af, Depth=11.17"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

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

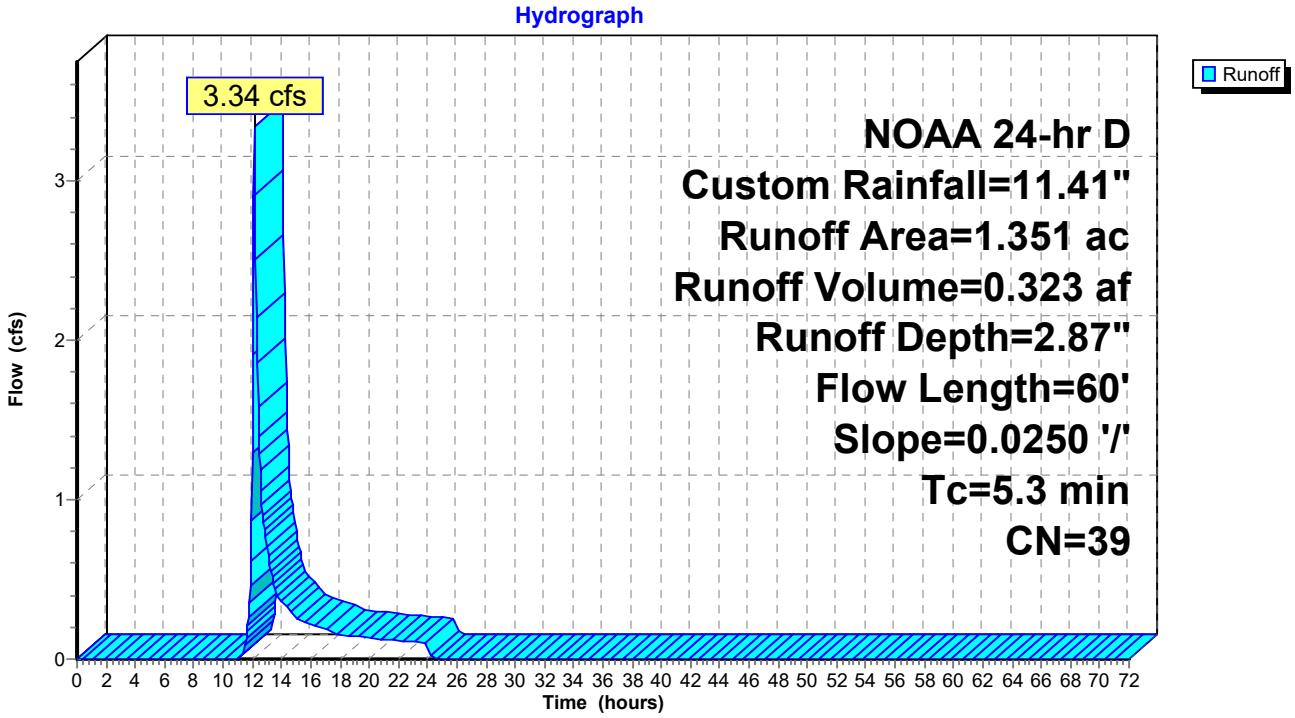
Runoff = 3.34 cfs @ 12.15 hrs, Volume= 0.323 af, Depth= 2.87"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 10.539 ac, 32.88% Impervious, Inflow Depth > 5.34" for Custom event
Inflow = 21.98 cfs @ 12.13 hrs, Volume= 4.687 af
Outflow = 21.71 cfs @ 12.16 hrs, Volume= 4.636 af, Atten= 1%, Lag= 1.3 min
Primary = 21.71 cfs @ 12.16 hrs, Volume= 4.636 af
Routed to Pond 59P : Basin 18

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.95' @ 12.16 hrs Surf.Area= 4,141 sf Storage= 4,311 cf

Plug-Flow detention time= 44.2 min calculated for 4.633 af (99% of inflow)
Center-of-Mass det. time= 14.6 min (1,315.1 - 1,300.6)

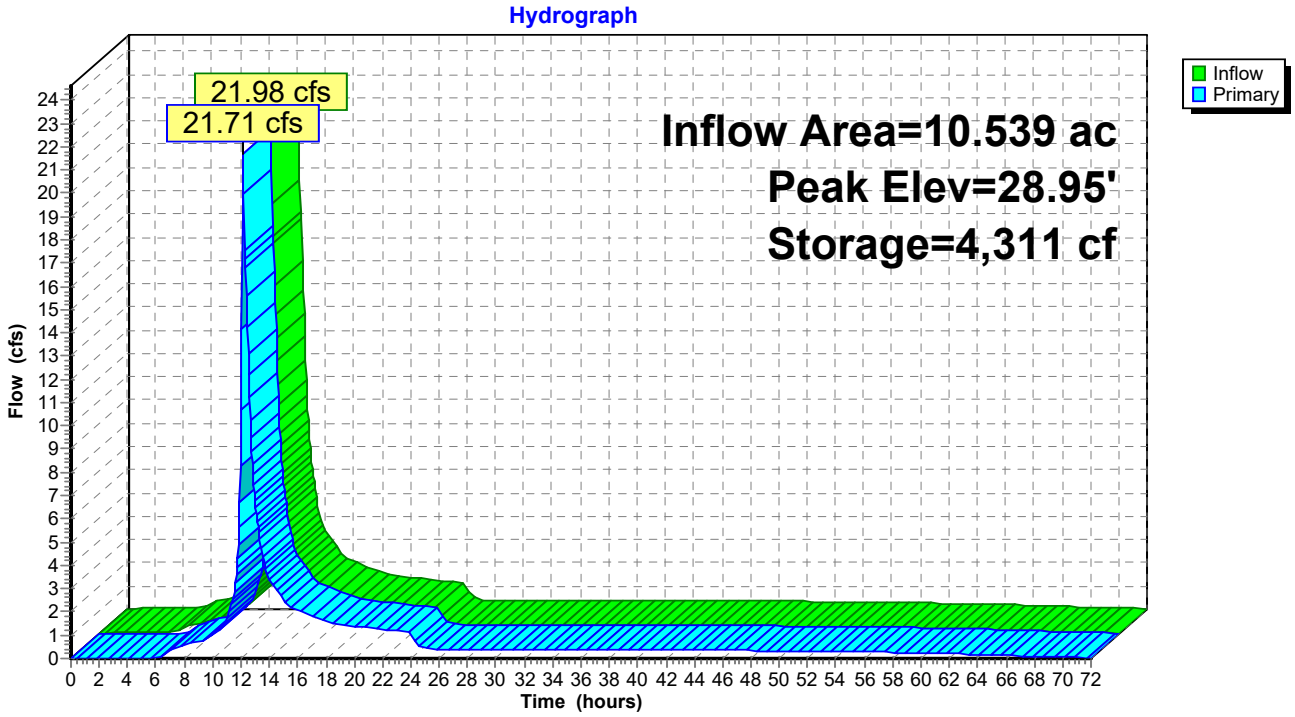
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=21.46 cfs @ 12.16 hrs HW=28.94' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 21.46 cfs @ 2.43 fps)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

[79] Warning: Submerged Pond 58P Primary device # 1 by 0.37'

Inflow Area = 13.307 ac, 32.08% Impervious, Inflow Depth > 5.28" for Custom event
Inflow = 31.24 cfs @ 12.14 hrs, Volume= 5.853 af
Outflow = 30.87 cfs @ 12.16 hrs, Volume= 5.674 af, Atten= 1%, Lag= 1.6 min
Primary = 22.41 cfs @ 12.16 hrs, Volume= 5.407 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 8.46 cfs @ 12.16 hrs, Volume= 0.267 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.76' @ 12.16 hrs Surf.Area= 8,973 sf Storage= 17,469 cf

Plug-Flow detention time= 179.2 min calculated for 5.670 af (97% of inflow)
Center-of-Mass det. time= 98.9 min (1,307.0 - 1,208.0)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

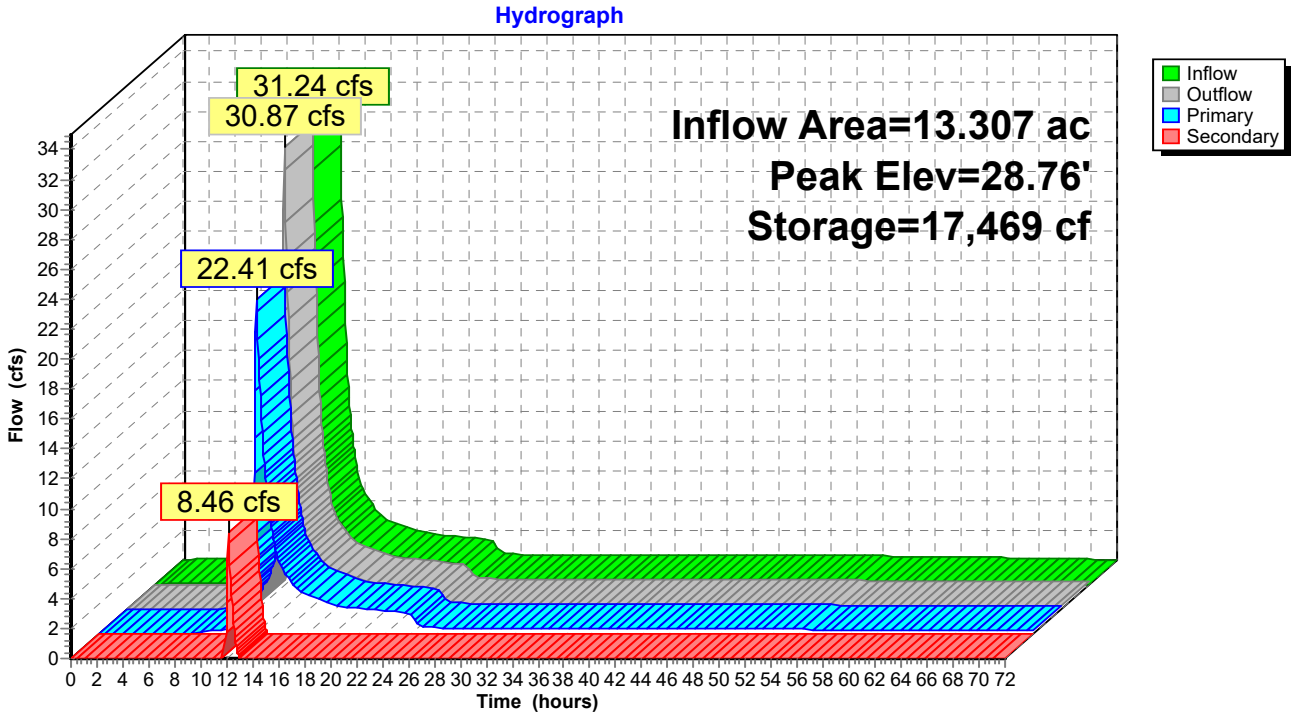
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=22.12 cfs @ 12.16 hrs HW=28.76' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.32 cfs @ 6.59 fps)
└**2=Orifice/Grate** (Weir Controls 21.80 cfs @ 2.44 fps)

Secondary OutFlow Max=8.22 cfs @ 12.16 hrs HW=28.76' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 8.22 cfs @ 1.27 fps)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 152% of capacity of segment #2

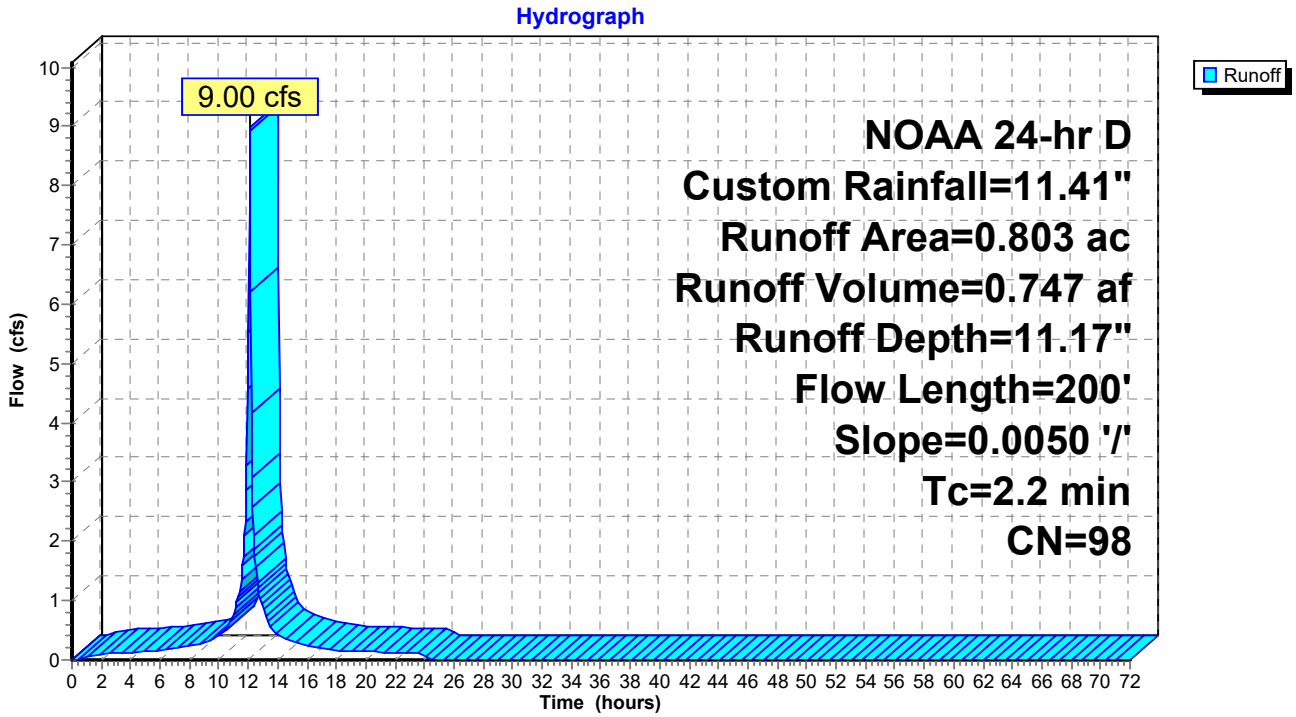
Runoff = 9.00 cfs @ 12.09 hrs, Volume= 0.747 af, Depth=11.17"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

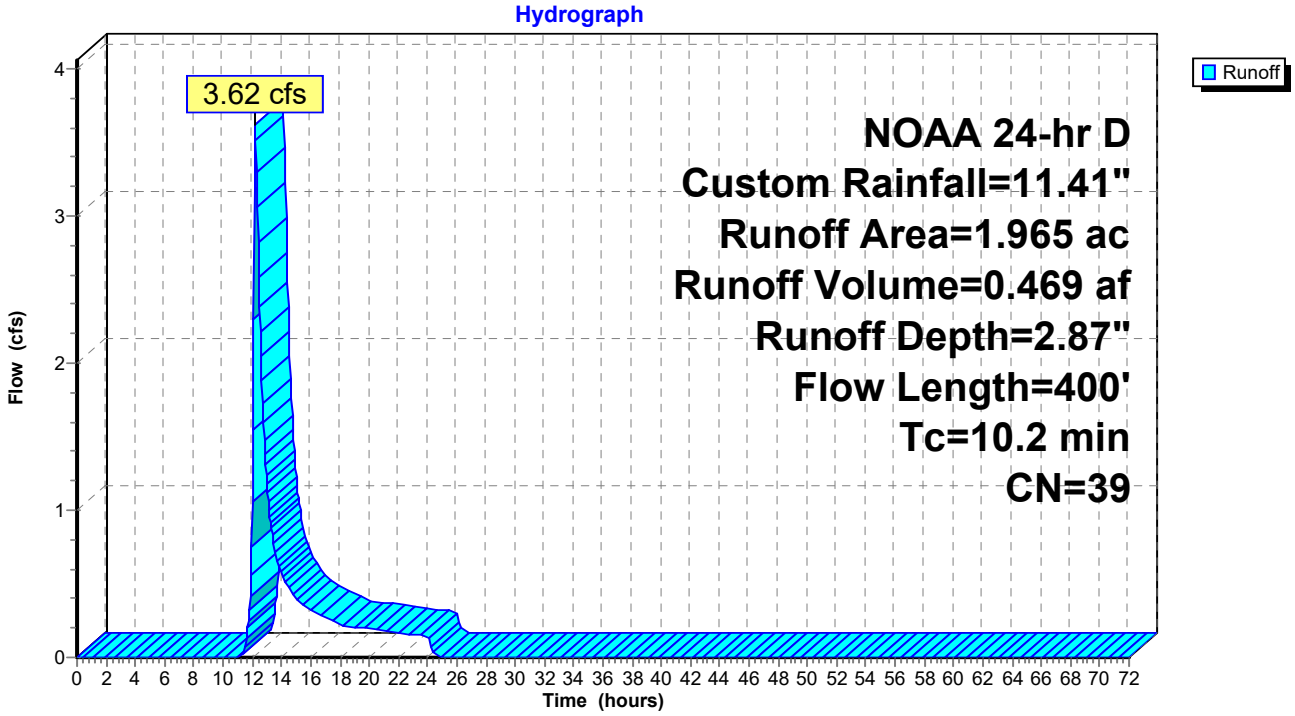
Runoff = 3.62 cfs @ 12.22 hrs, Volume= 0.469 af, Depth= 2.87"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

[79] Warning: Submerged Pond 75P Primary device # 1 by 1.98'

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 4.52" for Custom event
Inflow = 199.21 cfs @ 12.17 hrs, Volume= 28.401 af
Outflow = 23.87 cfs @ 14.26 hrs, Volume= 17.791 af, Atten= 88%, Lag= 125.5 min
Primary = 23.87 cfs @ 14.26 hrs, Volume= 17.791 af
Routed to Link 129L : Tuckerton Creek (Center St)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 104,445 sf Storage= 357,814 cf
Peak Elev= 26.58' @ 14.26 hrs Surf.Area= 170,218 sf Storage= 914,989 cf (557,176 cf above start)

Plug-Flow detention time= 1,171.6 min calculated for 9.577 af (34% of inflow)
Center-of-Mass det. time= 321.0 min (1,451.7 - 1,130.7)

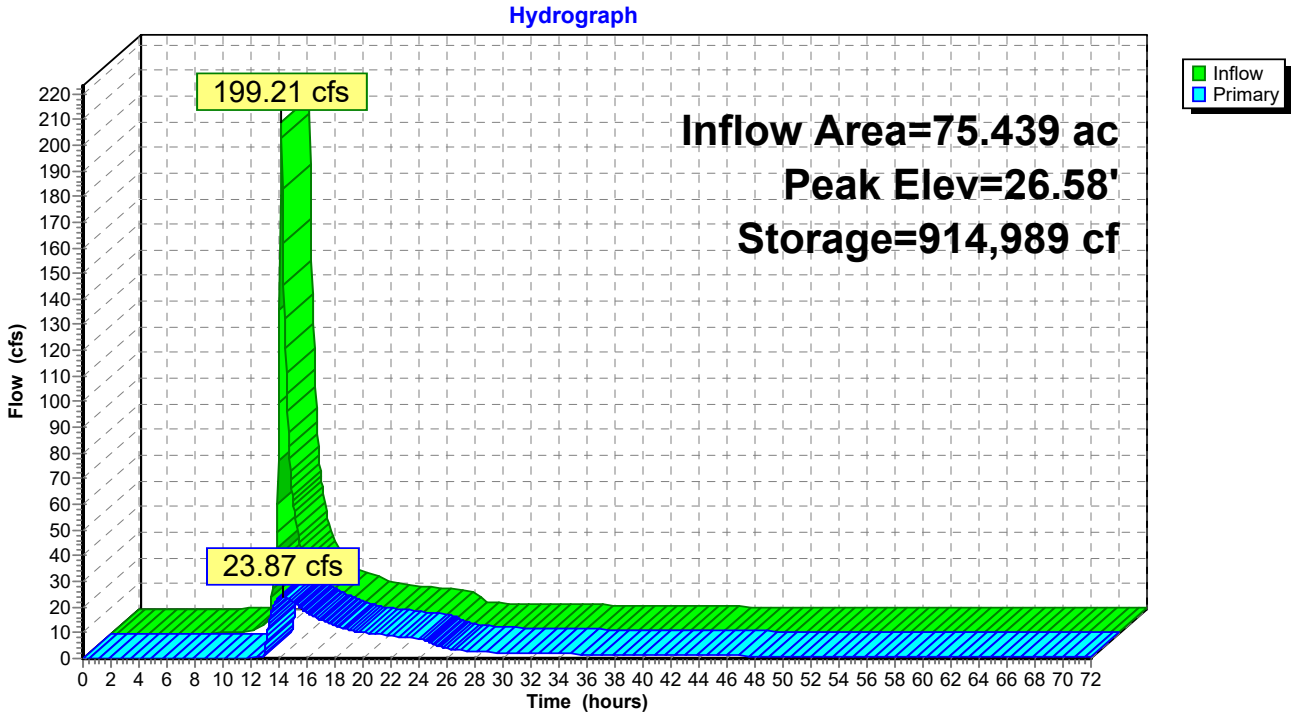
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	1,079,043 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.55'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=23.82 cfs @ 14.26 hrs HW=26.58' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.47 cfs @ 9.52 fps)
2=Orifice/Grate (Weir Controls 23.35 cfs @ 2.50 fps)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

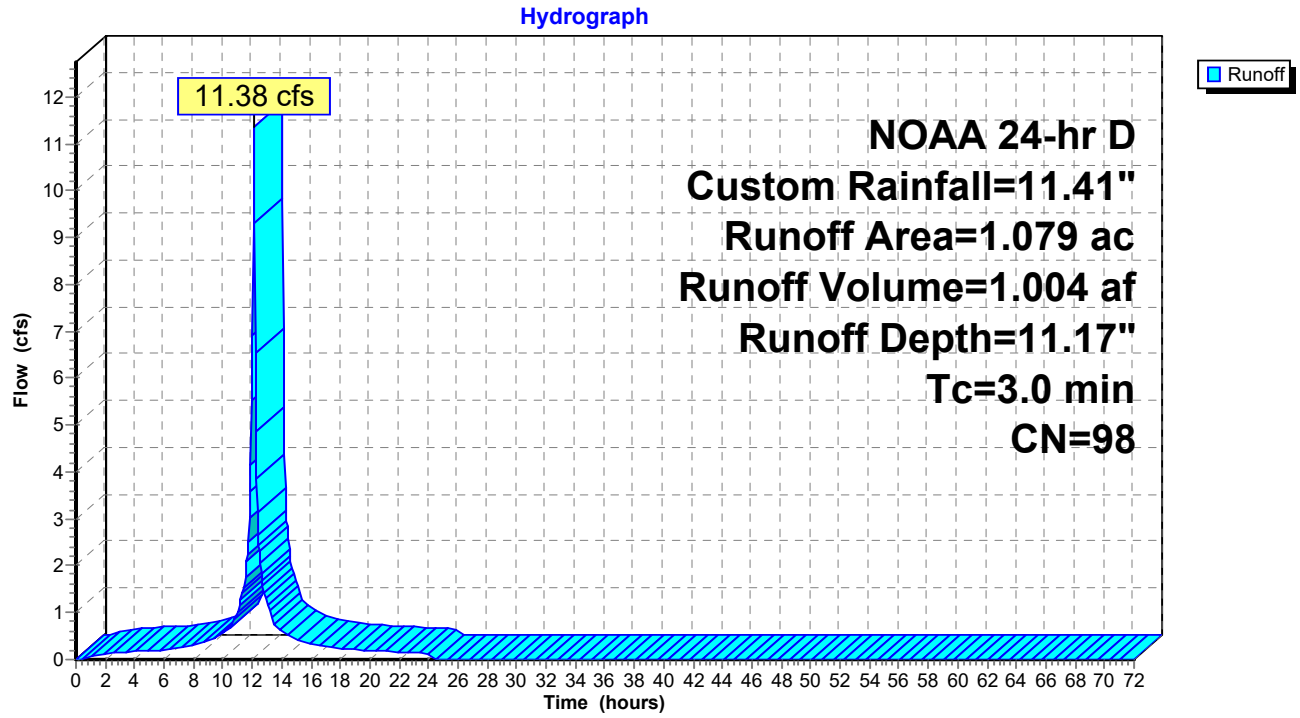
Runoff = 11.38 cfs @ 12.10 hrs, Volume= 1.004 af, Depth=11.17"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

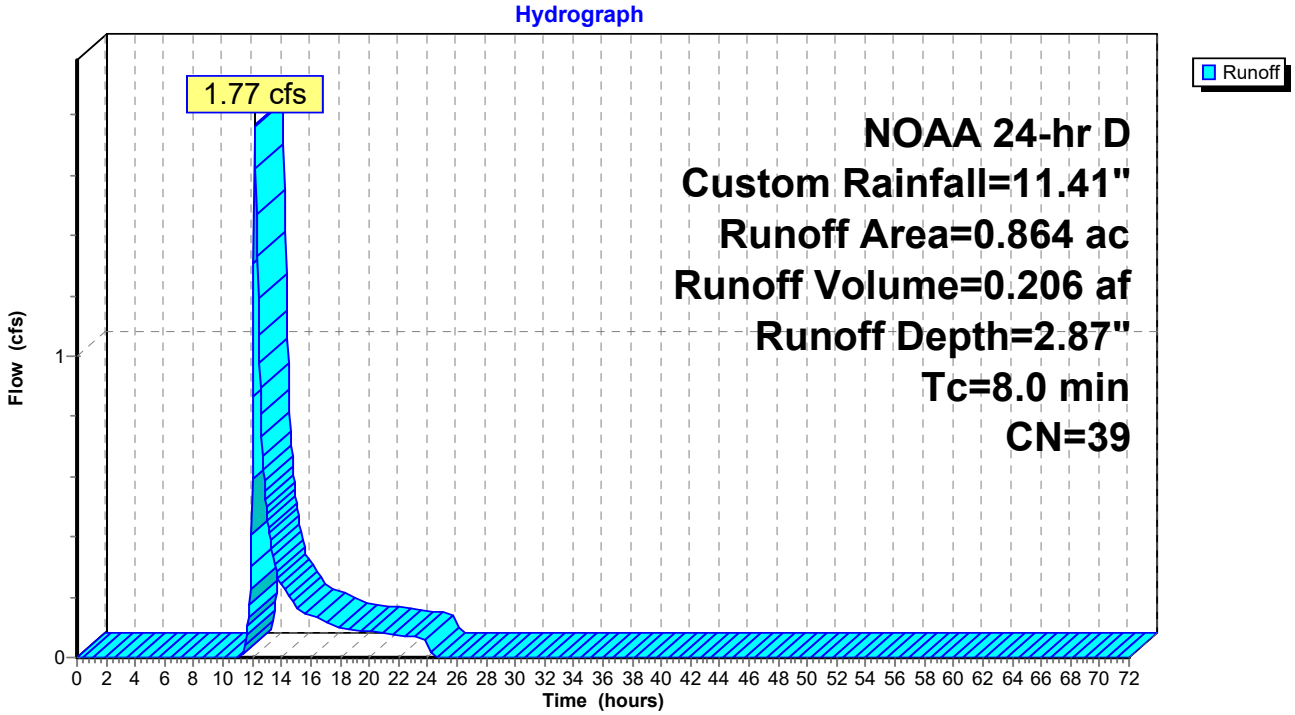
Runoff = 1.77 cfs @ 12.19 hrs, Volume= 0.206 af, Depth= 2.87"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 4.94" for Custom event
Inflow = 15.06 cfs @ 12.05 hrs, Volume= 1.104 af
Outflow = 12.78 cfs @ 12.09 hrs, Volume= 1.045 af, Atten= 15%, Lag= 2.2 min
Primary = 12.78 cfs @ 12.09 hrs, Volume= 1.045 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.19' @ 12.09 hrs Surf.Area= 7,308 sf Storage= 11,366 cf

Plug-Flow detention time= 216.4 min calculated for 1.044 af (95% of inflow)
Center-of-Mass det. time= 187.0 min (986.5 - 799.5)

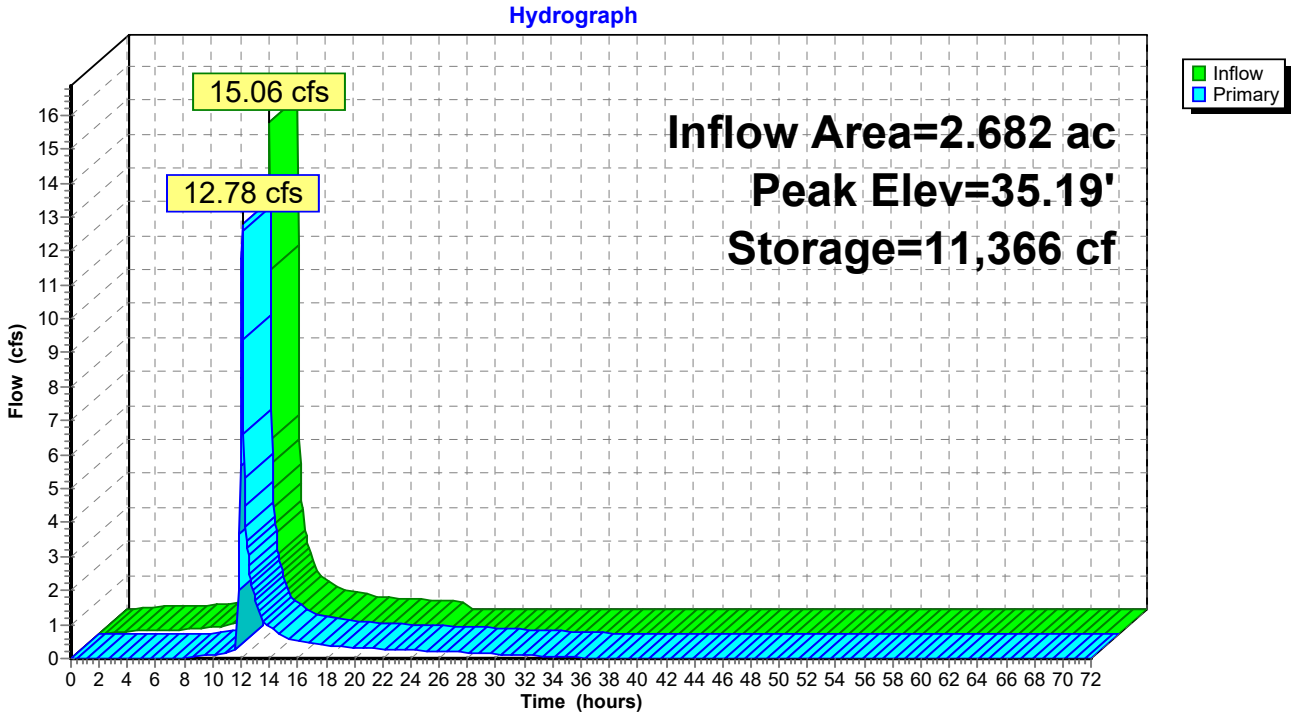
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.36 cfs @ 12.09 hrs HW=35.18' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.68 fps)
2=Orifice/Grate (Weir Controls 12.08 cfs @ 2.01 fps)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

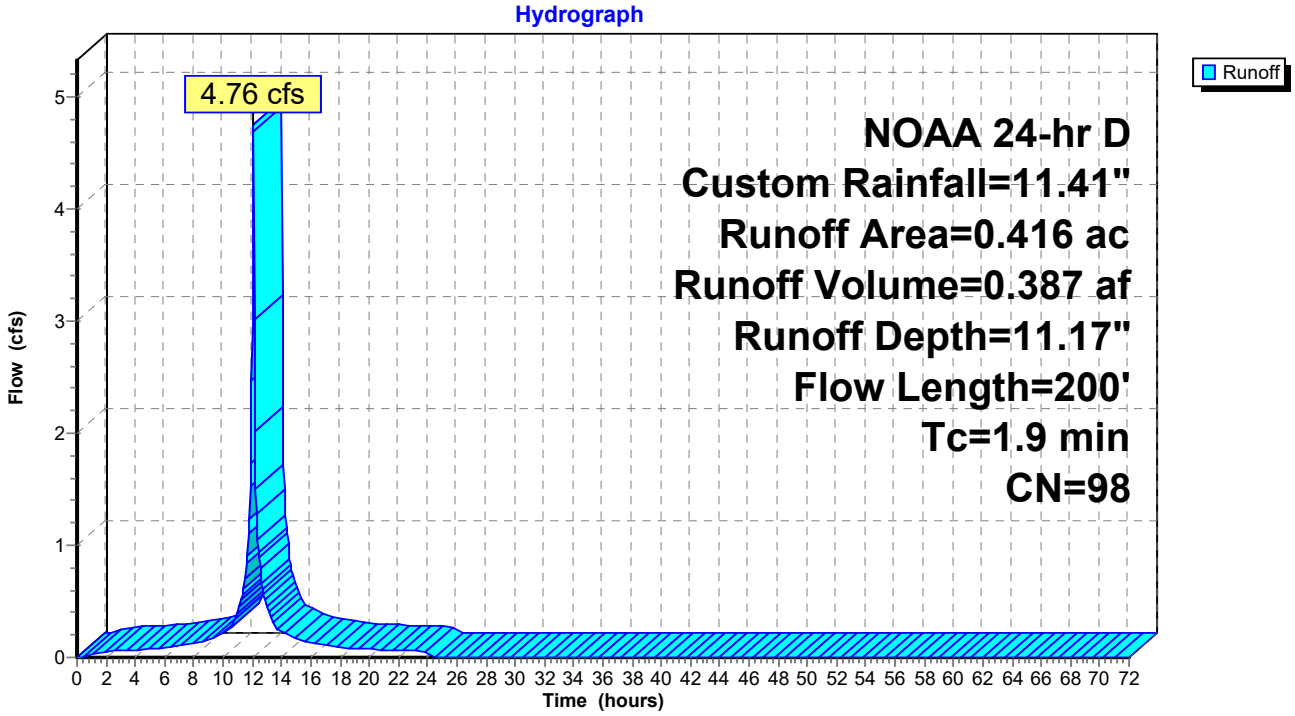
Runoff = 4.76 cfs @ 12.09 hrs, Volume= 0.387 af, Depth=11.17"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 4.58" for Custom event
Inflow = 9.23 cfs @ 12.12 hrs, Volume= 1.016 af
Outflow = 3.90 cfs @ 12.45 hrs, Volume= 0.966 af, Atten= 58%, Lag= 19.8 min
Primary = 3.90 cfs @ 12.45 hrs, Volume= 0.966 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.87' @ 12.45 hrs Surf.Area= 8,286 sf Storage= 17,077 cf

Plug-Flow detention time= 424.2 min calculated for 0.966 af (95% of inflow)
Center-of-Mass det. time= 397.5 min (1,214.8 - 817.3)

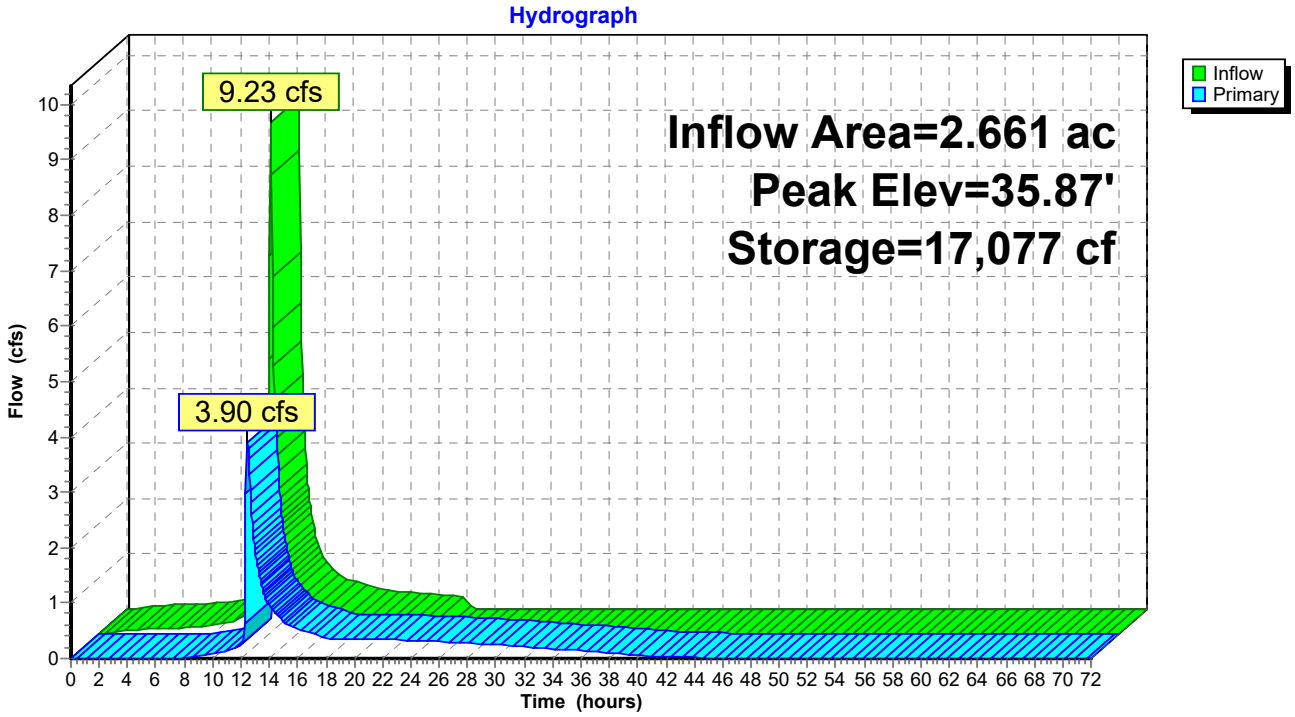
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.89 cfs @ 12.45 hrs HW=35.87' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.19 fps)
└—**2=Orifice/Grate** (Weir Controls 3.53 cfs @ 1.33 fps)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

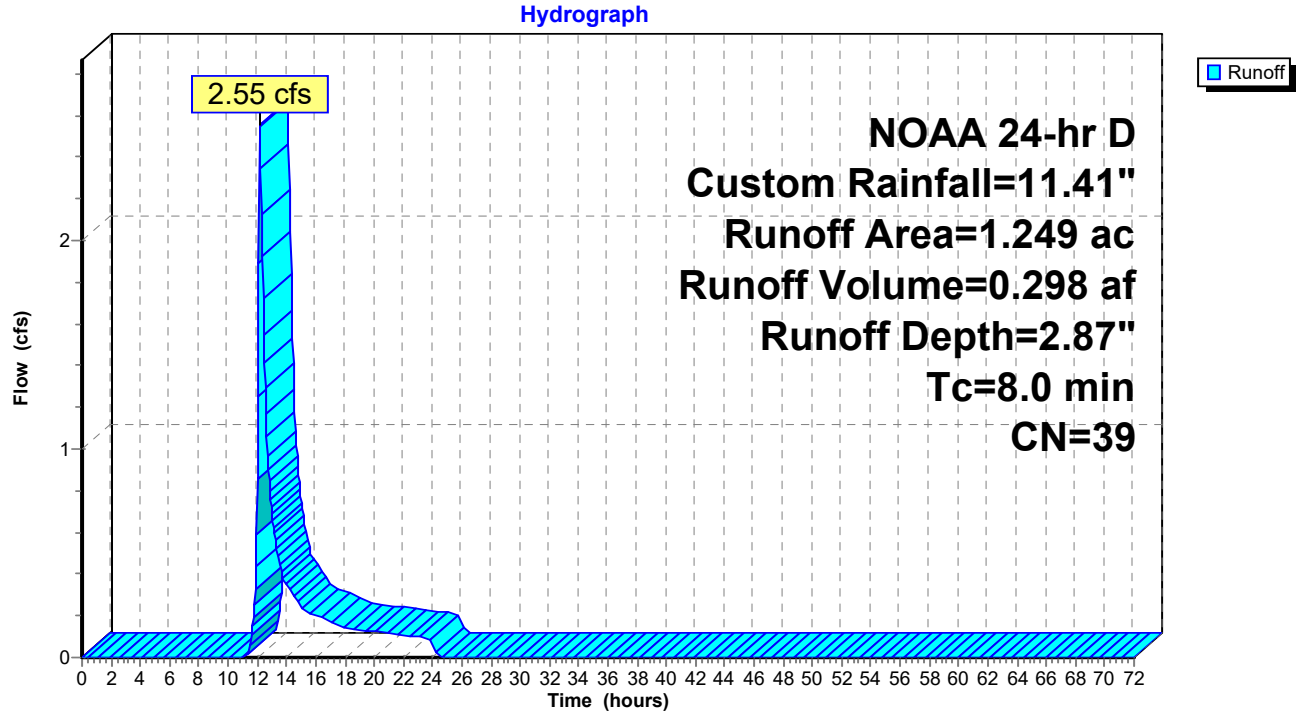
Runoff = 2.55 cfs @ 12.19 hrs, Volume= 0.298 af, Depth= 2.87"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 4.94" for Custom event
Inflow = 6.57 cfs @ 12.10 hrs, Volume= 0.686 af
Outflow = 3.40 cfs @ 12.32 hrs, Volume= 0.650 af, Atten= 48%, Lag= 13.3 min
Primary = 3.40 cfs @ 12.32 hrs, Volume= 0.650 af
Routed to Pond 69P : Basin 20

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.15' @ 12.32 hrs Surf.Area= 3,777 sf Storage= 10,194 cf

Plug-Flow detention time= 249.7 min calculated for 0.649 af (95% of inflow)
Center-of-Mass det. time= 219.8 min (1,026.2 - 806.4)

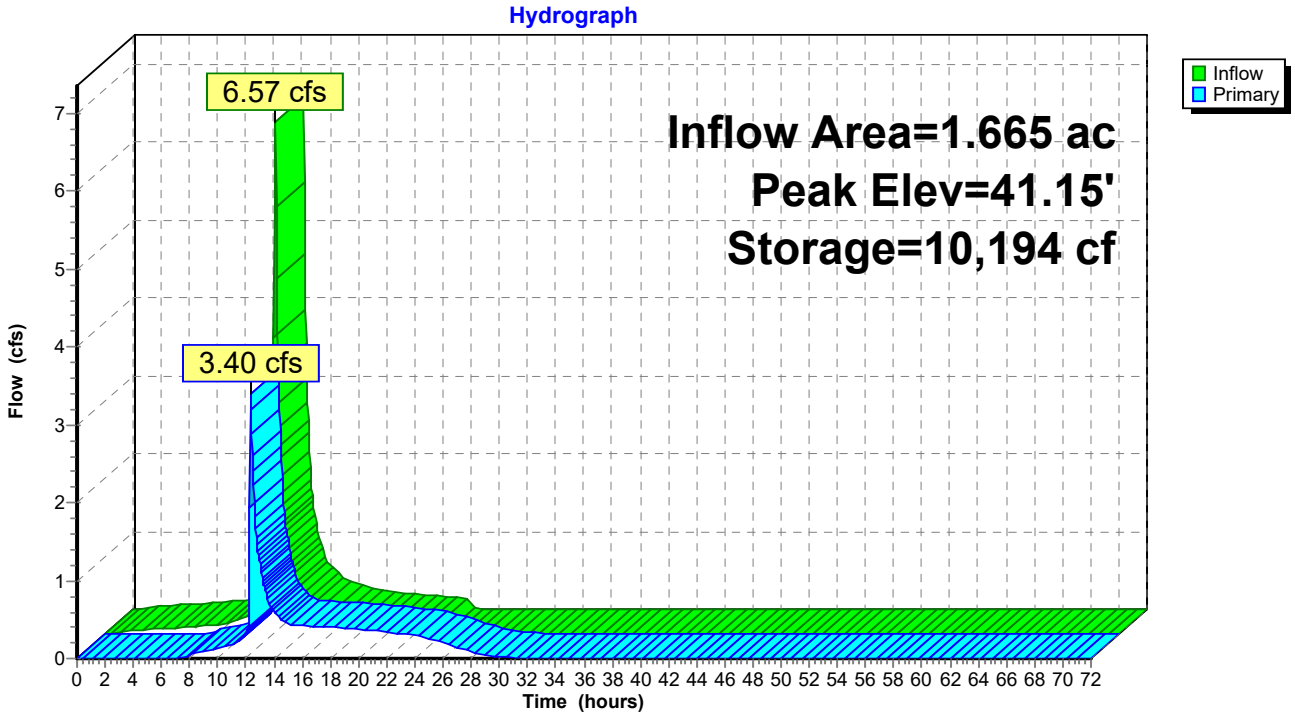
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.20 cfs @ 12.32 hrs HW=41.14' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.43 cfs @ 8.81 fps)
2=Orifice/Grate (Weir Controls 2.77 cfs @ 1.23 fps)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 4.123 ac, 27.97% Impervious, Inflow Depth = 5.08" for Custom event
Inflow = 10.90 cfs @ 12.05 hrs, Volume= 1.747 af
Outflow = 9.37 cfs @ 12.10 hrs, Volume= 1.682 af, Atten= 14%, Lag= 2.9 min
Primary = 9.37 cfs @ 12.10 hrs, Volume= 1.682 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.31' @ 12.10 hrs Surf.Area= 8,359 sf Storage= 11,788 cf

Plug-Flow detention time= 179.6 min calculated for 1.682 af (96% of inflow)
Center-of-Mass det. time= 151.8 min (1,032.6 - 880.8)

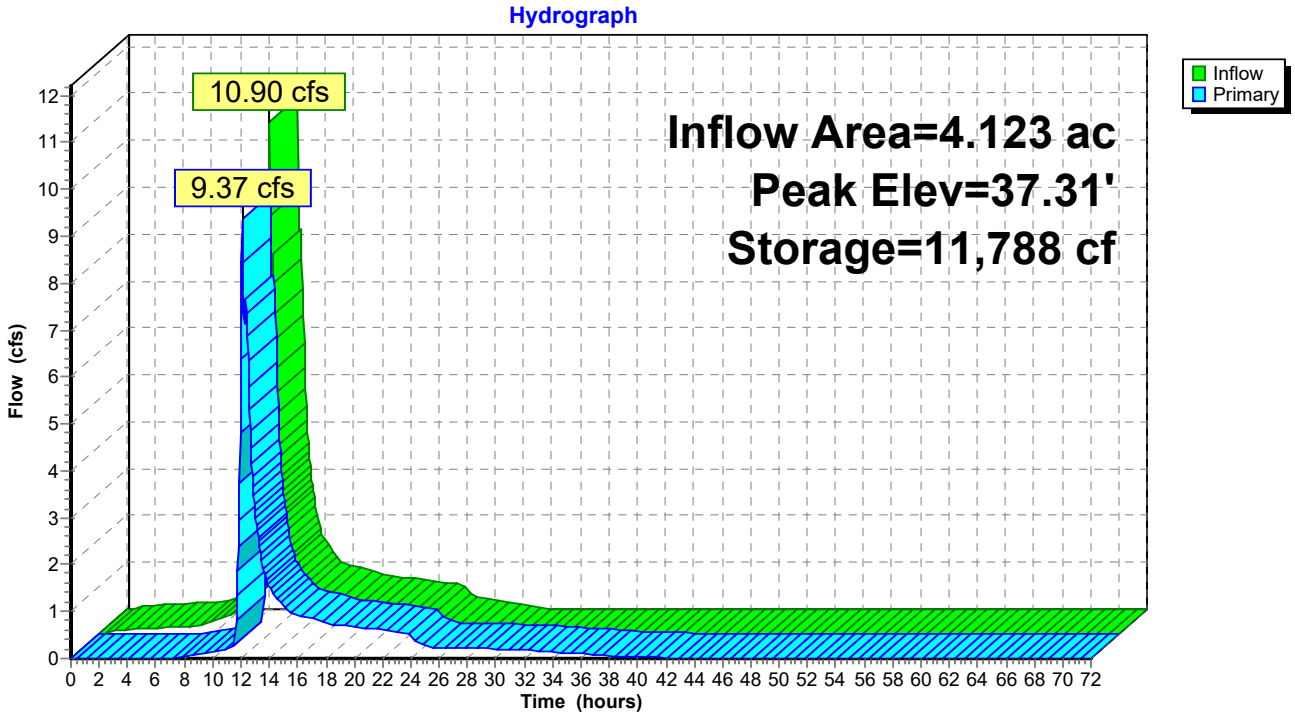
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.36 cfs @ 12.10 hrs HW=37.31' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.27 cfs @ 5.59 fps)
2=Orifice/Grate (Weir Controls 9.09 cfs @ 1.82 fps)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.987 ac, 32.51% Impervious, Inflow Depth = 5.57" for Custom event
Inflow = 12.56 cfs @ 12.09 hrs, Volume= 1.385 af
Outflow = 11.90 cfs @ 12.12 hrs, Volume= 1.334 af, Atten= 5%, Lag= 2.0 min
Primary = 11.90 cfs @ 12.12 hrs, Volume= 1.334 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.83' @ 12.12 hrs Surf.Area= 5,916 sf Storage= 4,337 cf

Plug-Flow detention time= 51.7 min calculated for 1.334 af (96% of inflow)
Center-of-Mass det. time= 28.7 min (820.8 - 792.1)

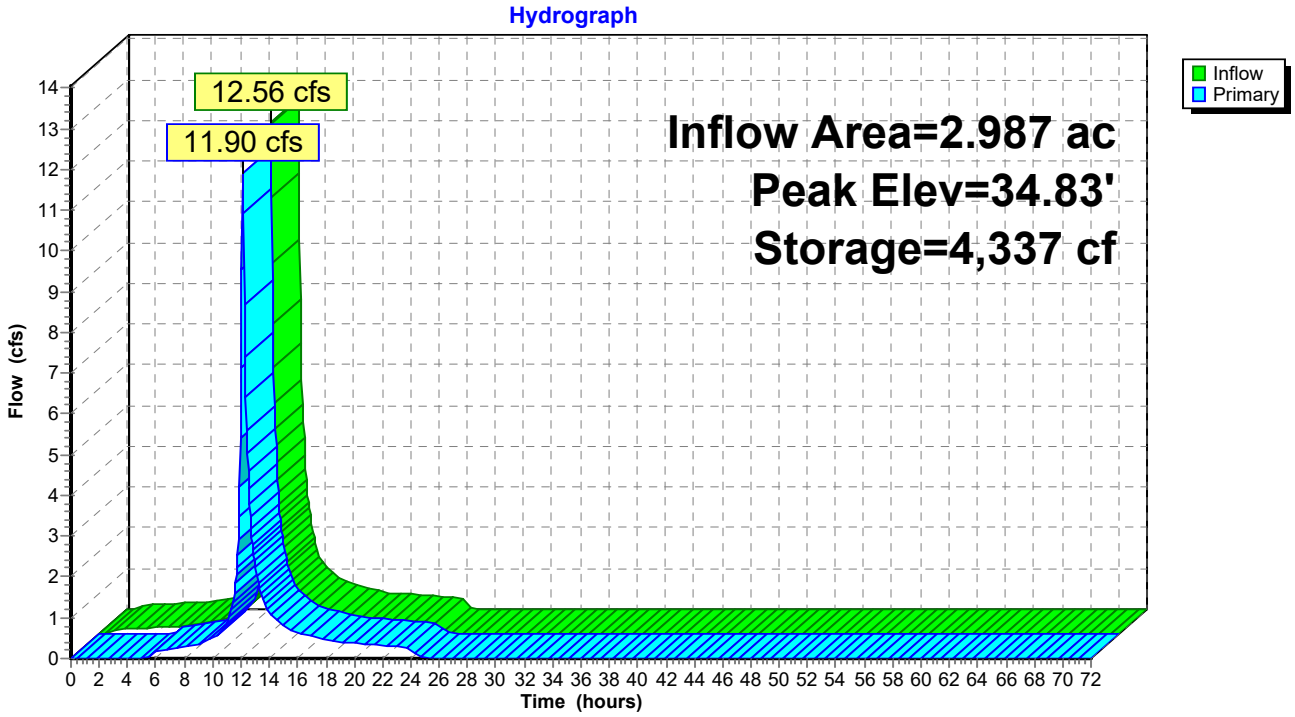
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=11.63 cfs @ 12.12 hrs HW=34.83' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 11.63 cfs @ 1.98 fps)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

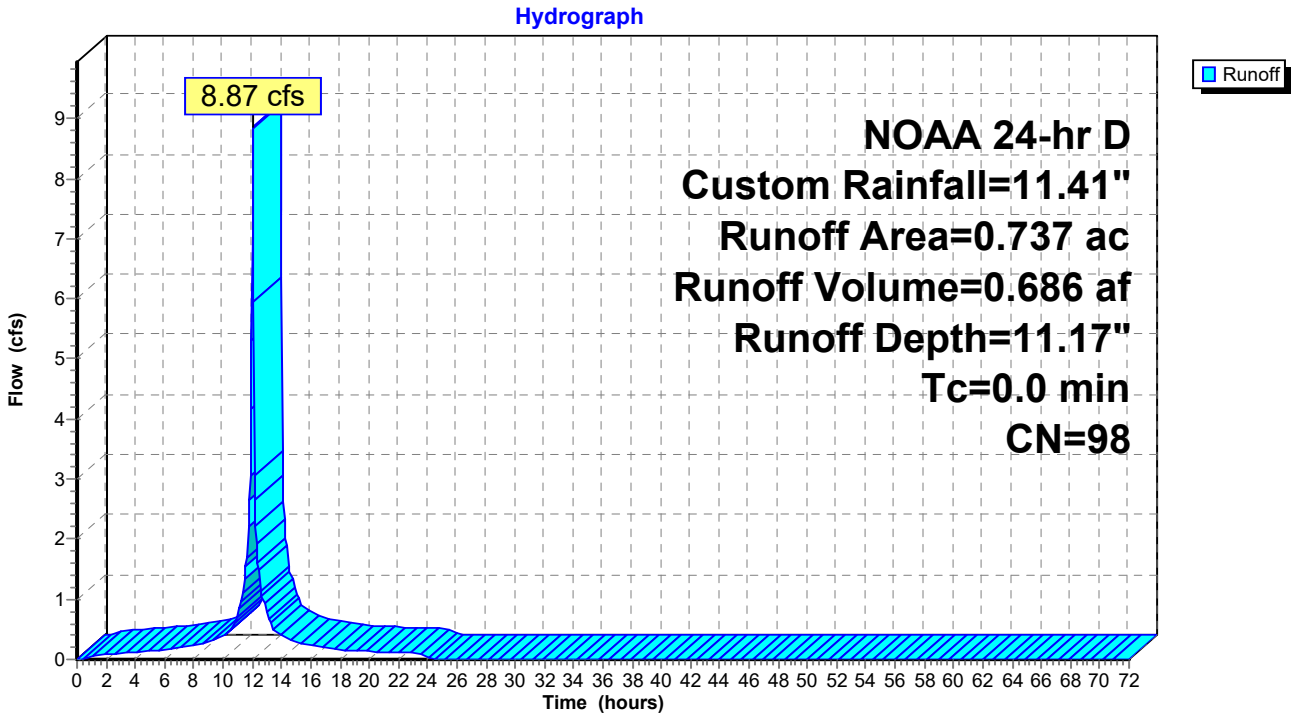
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 8.87 cfs @ 12.04 hrs, Volume= 0.686 af, Depth=11.17"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

[79] Warning: Submerged Pond 73P Primary device # 1 by 0.82'

Inflow Area = 5.600 ac, 26.93% Impervious, Inflow Depth > 4.96" for Custom event
Inflow = 11.38 cfs @ 12.11 hrs, Volume= 2.317 af
Outflow = 1.87 cfs @ 13.25 hrs, Volume= 2.212 af, Atten= 84%, Lag= 68.0 min
Primary = 1.87 cfs @ 13.25 hrs, Volume= 2.212 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.09' @ 13.25 hrs Surf.Area= 11,180 sf Storage= 30,447 cf

Plug-Flow detention time= 768.3 min calculated for 2.211 af (95% of inflow)
Center-of-Mass det. time= 669.9 min (1,995.5 - 1,325.5)

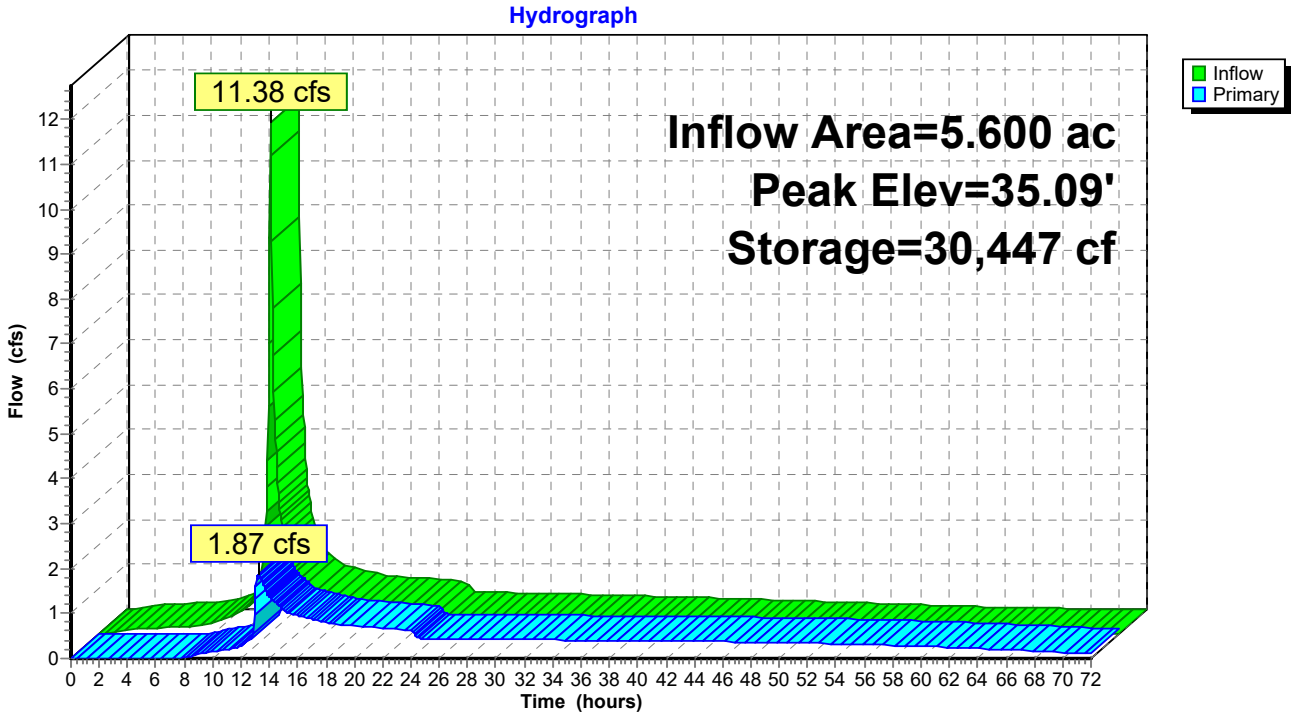
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.84 cfs @ 13.25 hrs HW=35.09' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.43 cfs @ 8.74 fps)
└**2=Orifice/Grate** (Weir Controls 1.41 cfs @ 0.98 fps)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

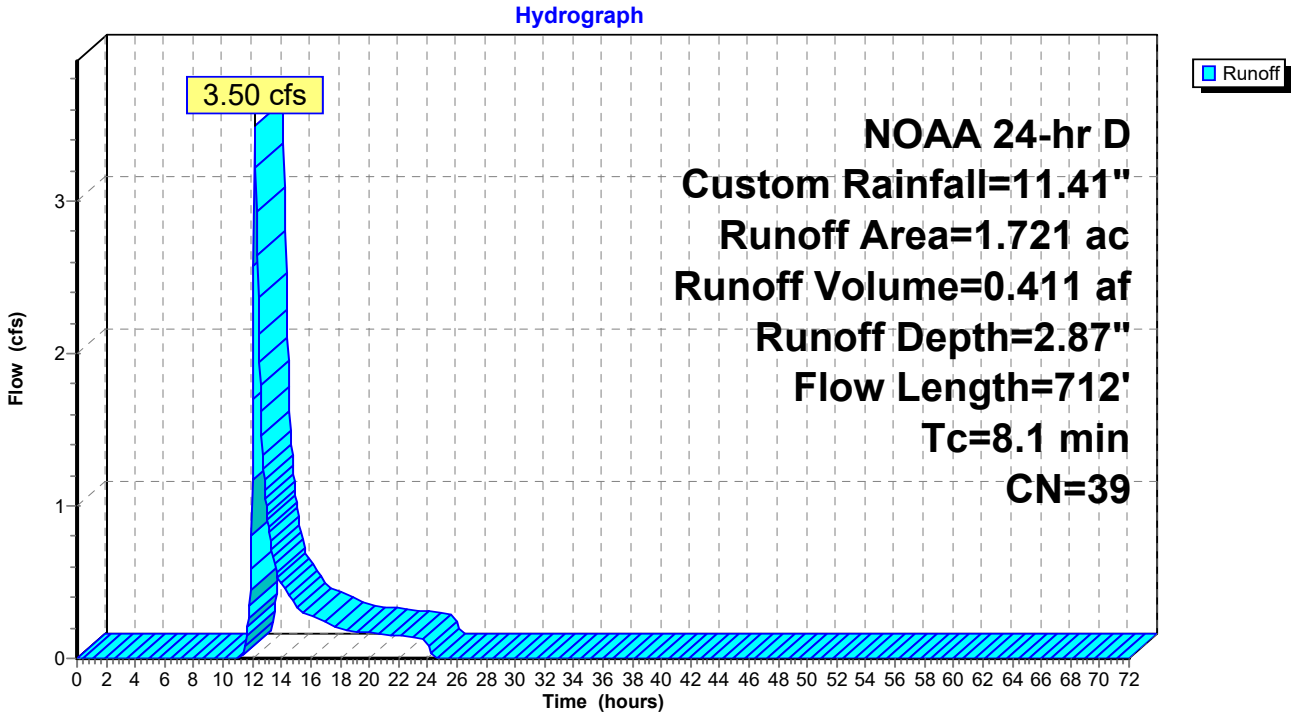
Runoff = 3.50 cfs @ 12.19 hrs, Volume= 0.411 af, Depth= 2.87"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 4.47" for Custom event
Inflow = 8.60 cfs @ 12.13 hrs, Volume= 0.961 af
Outflow = 8.61 cfs @ 12.15 hrs, Volume= 0.918 af, Atten= 0%, Lag= 1.1 min
Primary = 8.61 cfs @ 12.15 hrs, Volume= 0.918 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.16' @ 12.15 hrs Surf.Area= 2,160 sf Storage= 2,483 cf

Plug-Flow detention time= 54.2 min calculated for 0.918 af (96% of inflow)
Center-of-Mass det. time= 28.0 min (848.9 - 820.9)

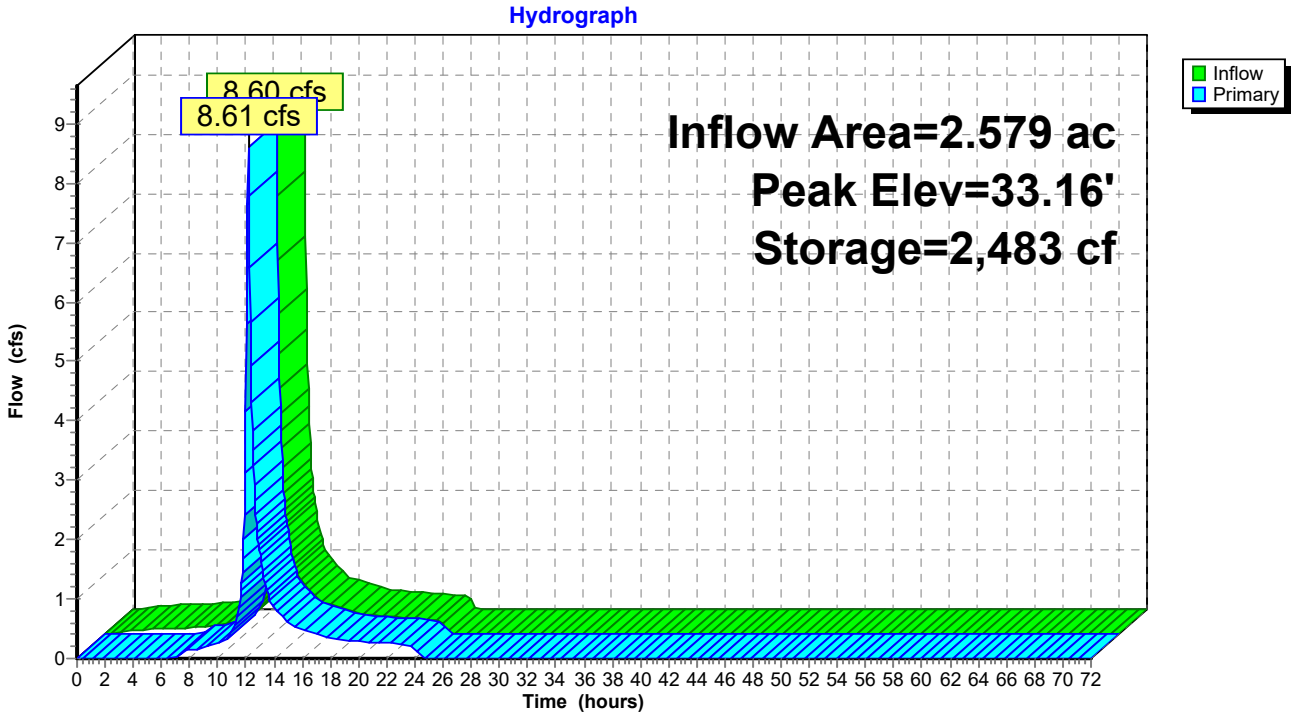
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.57 cfs @ 12.15 hrs HW=33.16' (Free Discharge)
1=Orifice/Grate (Weir Controls 8.57 cfs @ 1.79 fps)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.998 ac, 24.25% Impervious, Inflow Depth = 4.88" for Custom event
Inflow = 10.93 cfs @ 12.11 hrs, Volume= 1.219 af
Outflow = 0.40 cfs @ 18.12 hrs, Volume= 1.155 af, Atten= 96%, Lag= 360.4 min
Primary = 0.40 cfs @ 18.12 hrs, Volume= 1.155 af
Routed to Pond 71P : Basin 33

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.26' @ 18.12 hrs Surf.Area= 14,433 sf Storage= 36,174 cf

Plug-Flow detention time= 1,077.9 min calculated for 1.154 af (95% of inflow)
Center-of-Mass det. time= 1,048.3 min (1,856.9 - 808.5)

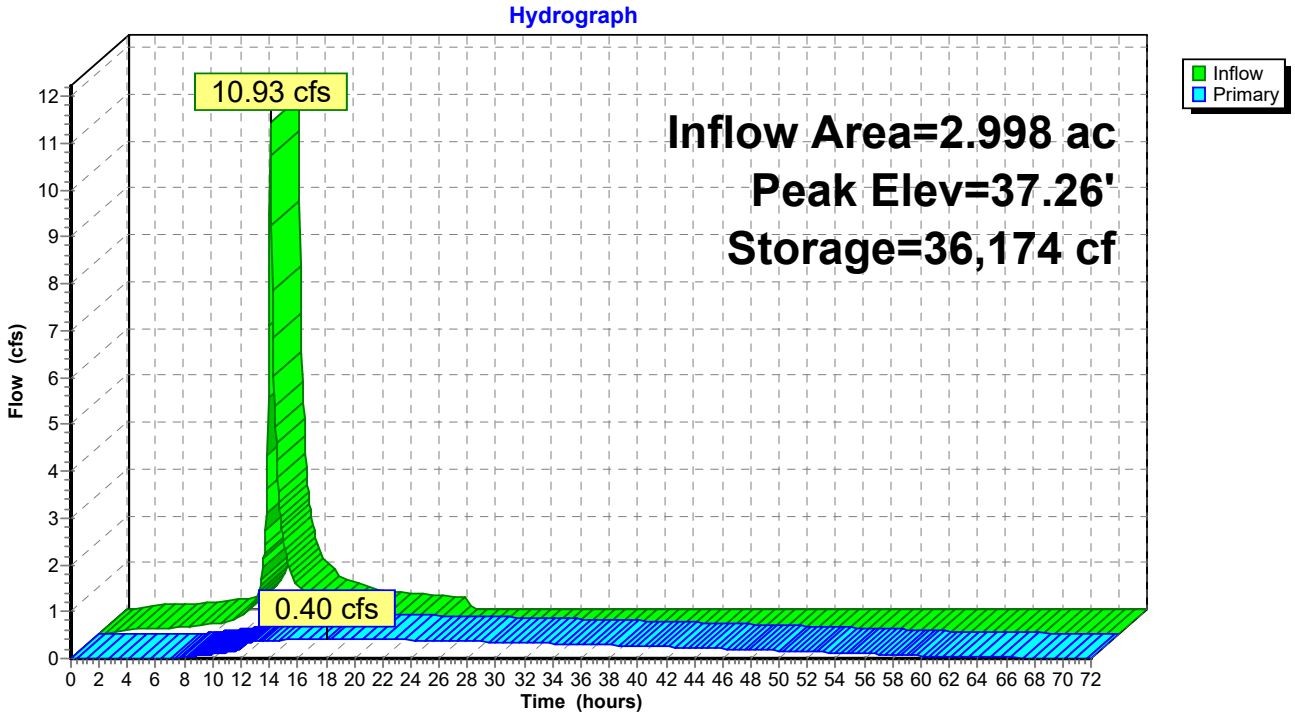
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.40 cfs @ 18.12 hrs HW=37.26' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.40 cfs @ 8.16 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

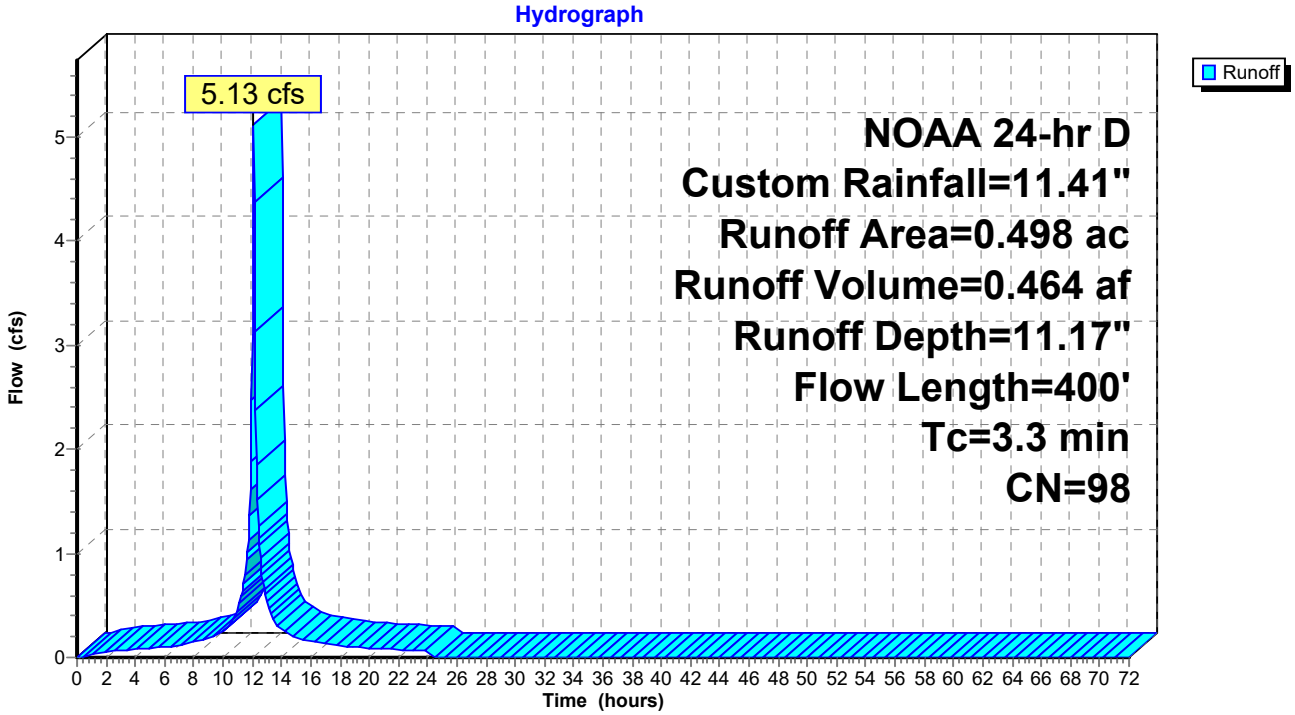
Runoff = 5.13 cfs @ 12.10 hrs, Volume= 0.464 af, Depth=11.17"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

[93] Warning: Storage range exceeded by 0.50'
[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=3)

Inflow Area = 20.262 ac, 21.17% Impervious, Inflow Depth = 3.62" for Custom event
Inflow = 49.72 cfs @ 12.17 hrs, Volume= 6.116 af
Outflow = 52.79 cfs @ 12.16 hrs, Volume= 6.094 af, Atten= 0%, Lag= 0.0 min
Primary = 52.79 cfs @ 12.16 hrs, Volume= 6.094 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.00' @ 12.16 hrs Surf.Area= 9,900 sf Storage= 22,725 cf

Plug-Flow detention time= 99.5 min calculated for 6.094 af (100% of inflow)
Center-of-Mass det. time= 97.2 min (944.3 - 847.1)

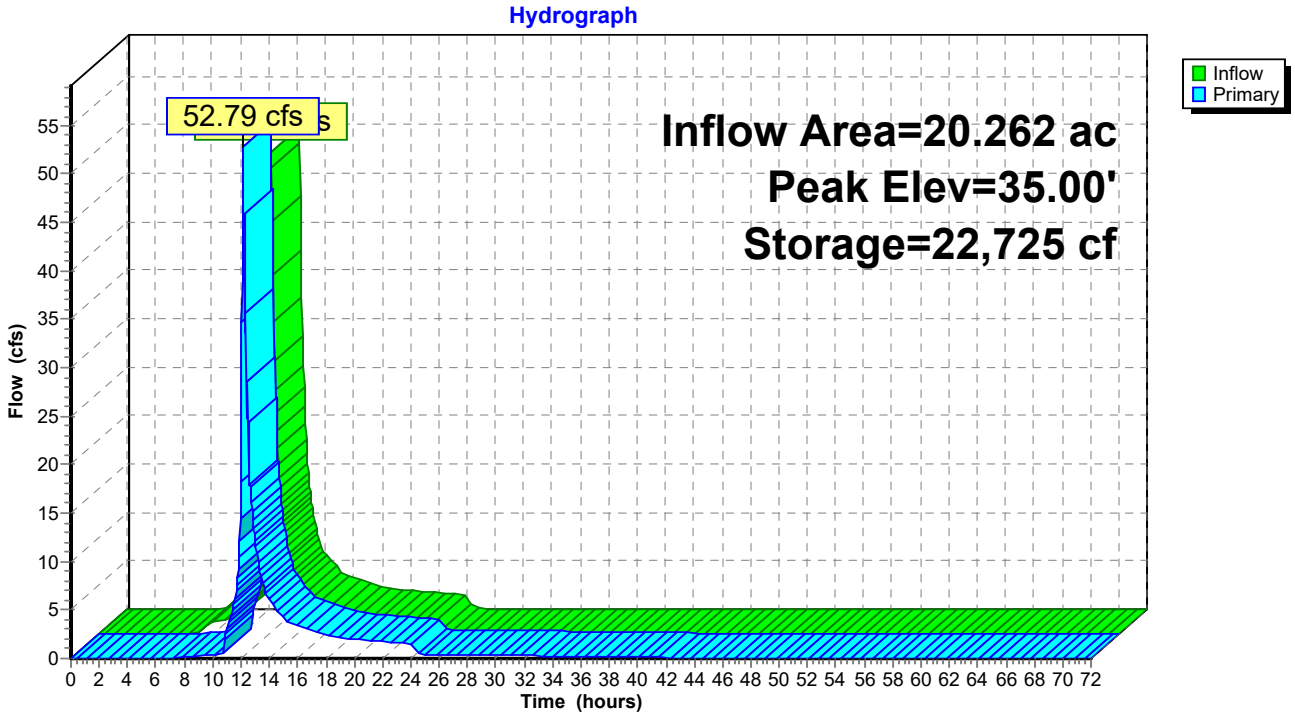
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=51.53 cfs @ 12.16 hrs HW=34.98' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.45 cfs @ 9.15 fps)
2=Orifice/Grate (Weir Controls 51.08 cfs @ 3.24 fps)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

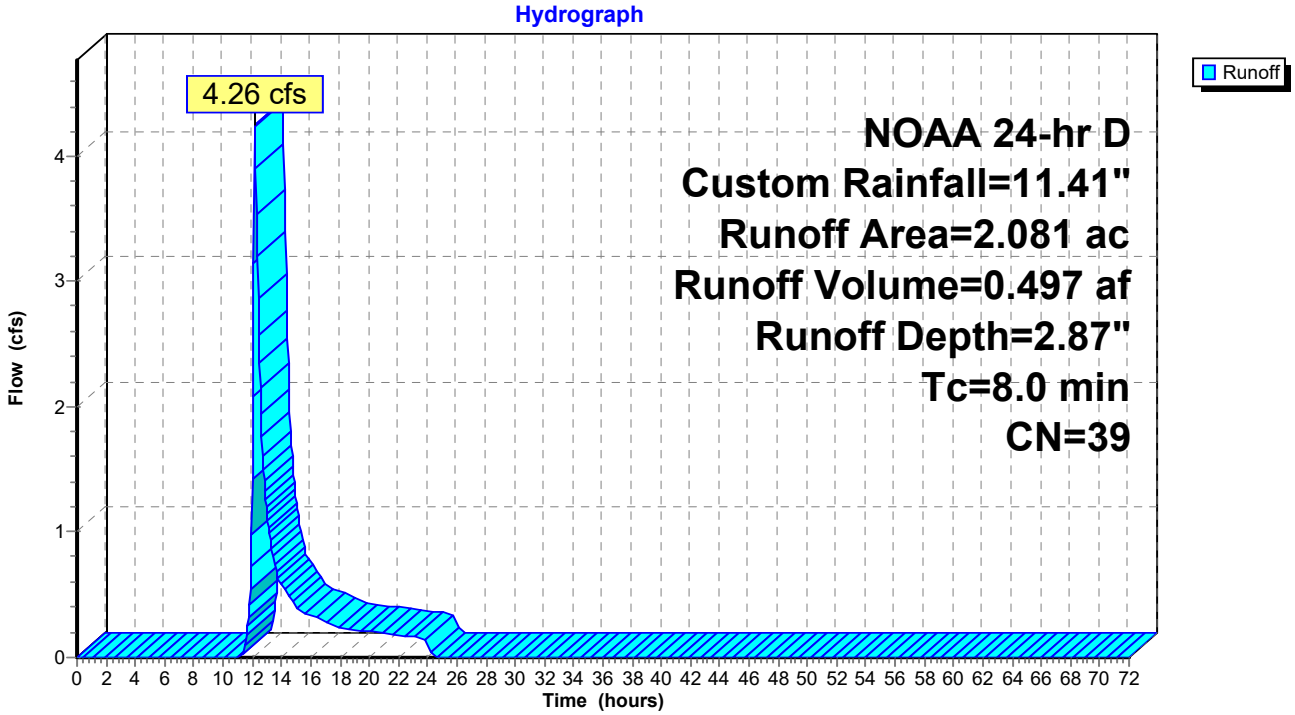
Runoff = 4.26 cfs @ 12.19 hrs, Volume= 0.497 af, Depth= 2.87"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 60.189 ac, 26.67% Impervious, Inflow Depth > 4.52" for Custom event
Inflow = 165.22 cfs @ 12.15 hrs, Volume= 22.682 af
Outflow = 157.49 cfs @ 12.18 hrs, Volume= 21.516 af, Atten= 5%, Lag= 1.7 min
Primary = 106.34 cfs @ 12.18 hrs, Volume= 19.675 af
Routed to Pond 62P : Basin 26 (Wet Pond)
Secondary = 51.15 cfs @ 12.18 hrs, Volume= 1.841 af
Routed to Pond 62P : Basin 26 (Wet Pond)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.11' @ 12.18 hrs Surf.Area= 28,724 sf Storage= 84,517 cf

Plug-Flow detention time= 162.0 min calculated for 21.501 af (95% of inflow)
Center-of-Mass det. time= 58.3 min (1,104.8 - 1,046.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	96,574 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) x 2

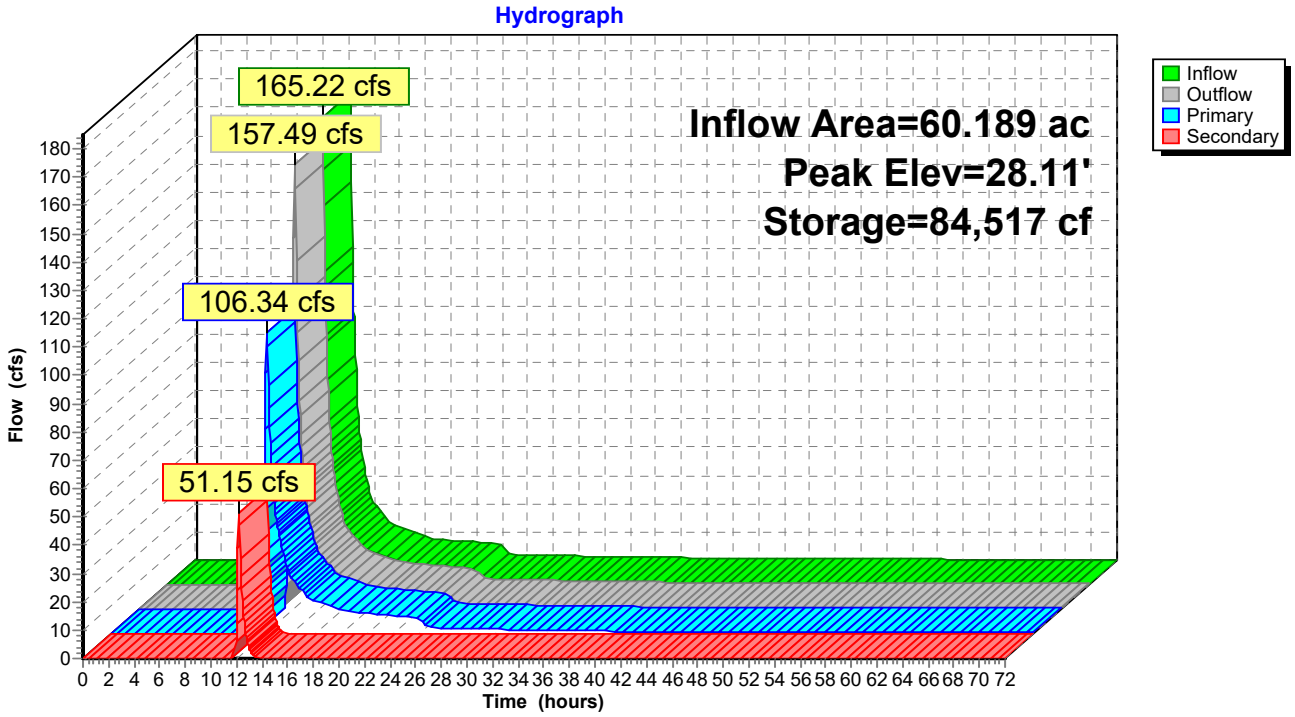
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate X 2.00** C= 0.600 Limited to weir flow at low heads
#3	Secondary	27.50'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=105.29 cfs @ 12.18 hrs HW=28.10' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.43 cfs @ 8.85 fps)
└**2=Orifice/Grate** (Weir Controls 104.86 cfs @ 3.27 fps)

Secondary OutFlow Max=50.37 cfs @ 12.18 hrs HW=28.10' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Weir Controls 50.37 cfs @ 2.09 fps)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 5.20" for Custom event
Inflow = 7.55 cfs @ 12.10 hrs, Volume= 0.779 af
Outflow = 3.92 cfs @ 12.30 hrs, Volume= 0.734 af, Atten= 48%, Lag= 11.8 min
Primary = 3.92 cfs @ 12.30 hrs, Volume= 0.734 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.87' @ 12.30 hrs Surf.Area= 8,699 sf Storage= 12,492 cf

Plug-Flow detention time= 382.8 min calculated for 0.734 af (94% of inflow)
Center-of-Mass det. time= 348.8 min (1,149.2 - 800.3)

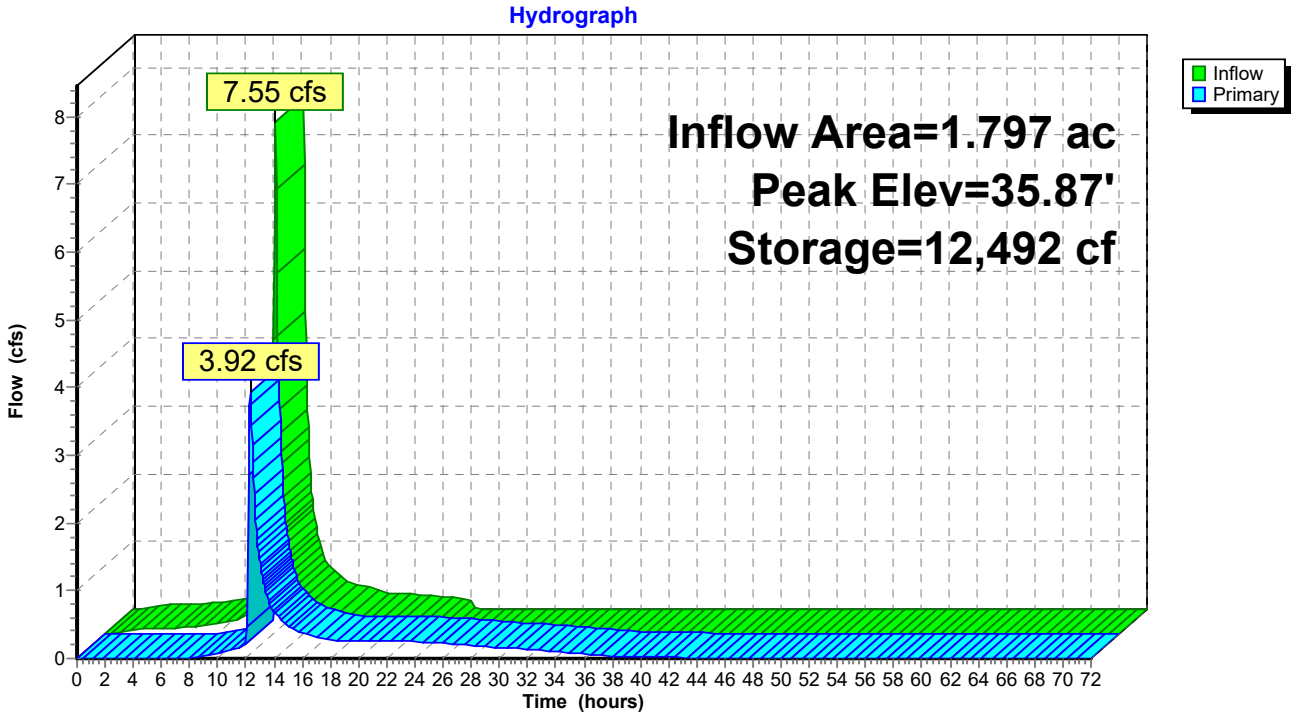
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.91 cfs @ 12.30 hrs HW=35.87' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.66 fps)
2=Orifice/Grate (Weir Controls 3.63 cfs @ 1.34 fps)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

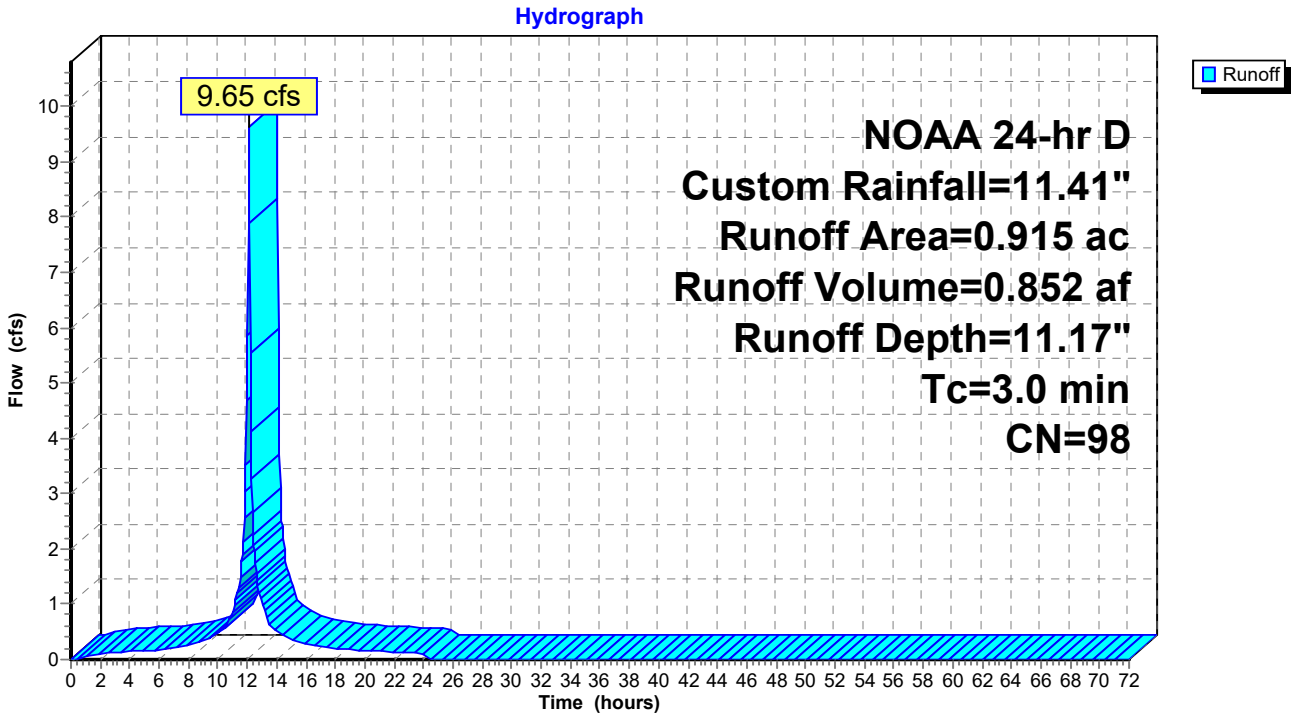
Runoff = 9.65 cfs @ 12.10 hrs, Volume= 0.852 af, Depth=11.17"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

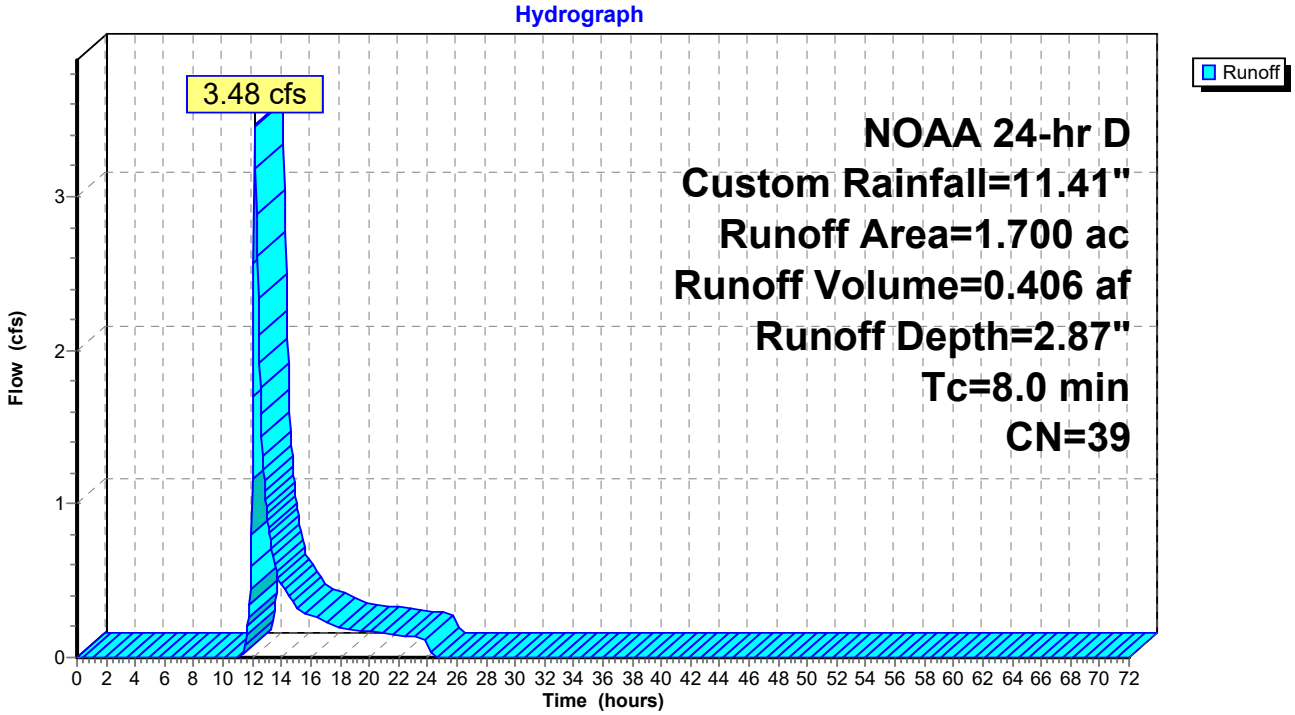
Runoff = 3.48 cfs @ 12.19 hrs, Volume= 0.406 af, Depth= 2.87"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 5.77" for Custom event
Inflow = 11.96 cfs @ 12.11 hrs, Volume= 1.222 af
Outflow = 11.13 cfs @ 12.15 hrs, Volume= 1.144 af, Atten= 7%, Lag= 2.4 min
Primary = 11.13 cfs @ 12.15 hrs, Volume= 1.144 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.08' @ 12.15 hrs Surf.Area= 6,060 sf Storage= 5,407 cf

Plug-Flow detention time= 78.2 min calculated for 1.144 af (94% of inflow)
Center-of-Mass det. time= 40.9 min (830.1 - 789.2)

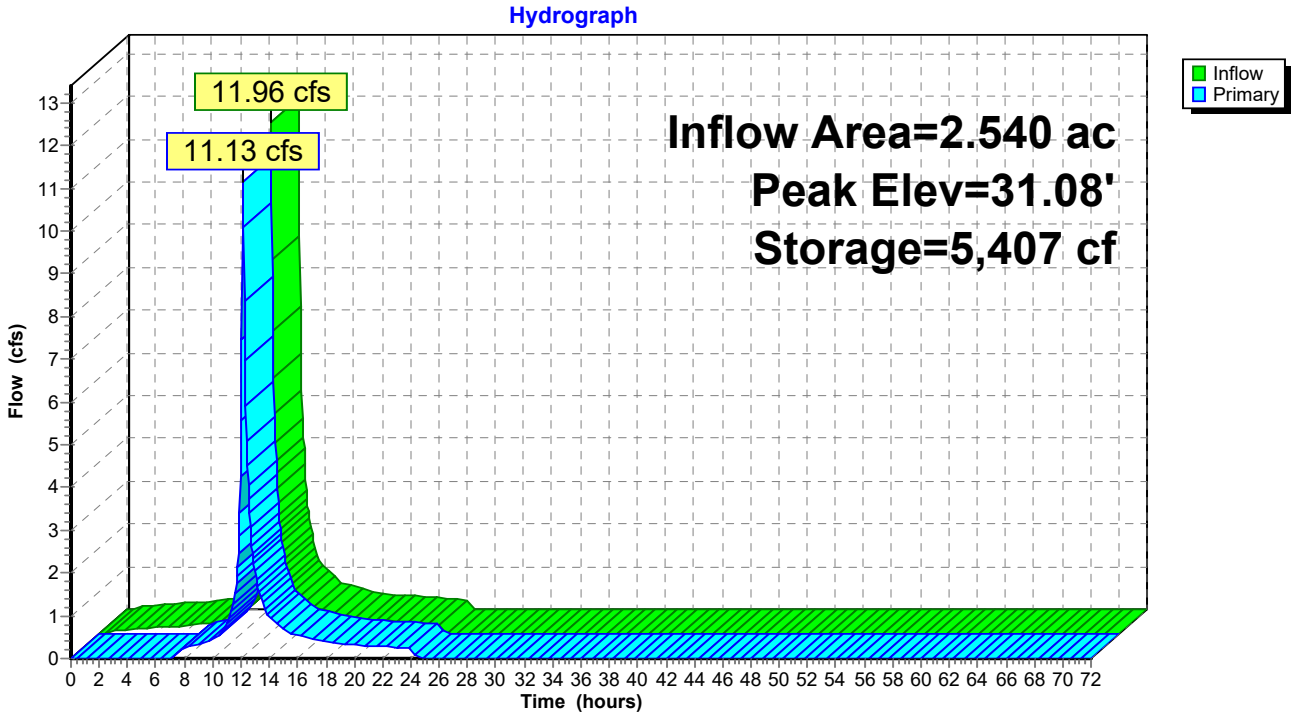
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=11.09 cfs @ 12.15 hrs HW=31.08' (Free Discharge)
1=Orifice/Grate (Weir Controls 11.09 cfs @ 1.95 fps)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 5.28" for Custom event
Inflow = 10.88 cfs @ 12.12 hrs, Volume= 1.142 af
Outflow = 9.90 cfs @ 12.16 hrs, Volume= 1.076 af, Atten= 9%, Lag= 2.9 min
Primary = 9.90 cfs @ 12.16 hrs, Volume= 1.076 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.79' @ 12.16 hrs Surf.Area= 7,516 sf Storage= 5,217 cf

Plug-Flow detention time= 73.9 min calculated for 1.076 af (94% of inflow)
Center-of-Mass det. time= 39.9 min (839.2 - 799.3)

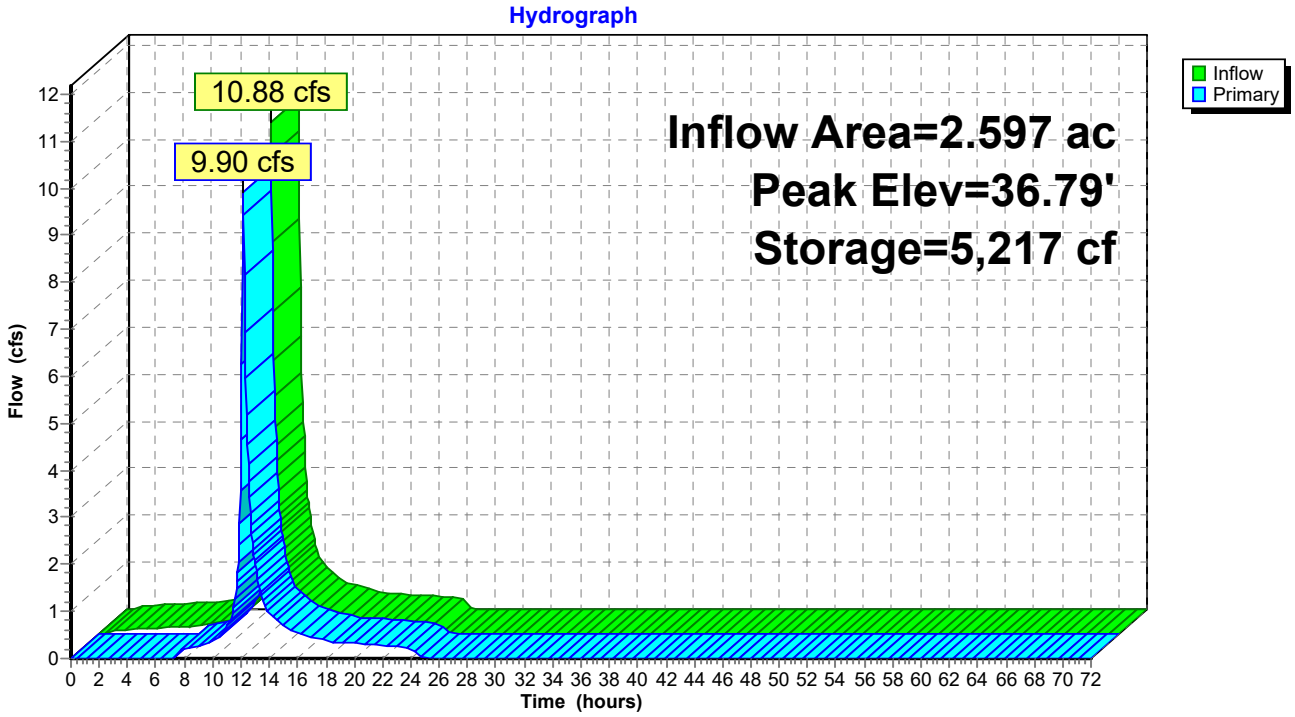
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.72 cfs @ 12.16 hrs HW=36.79' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 9.72 cfs @ 1.87 fps)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

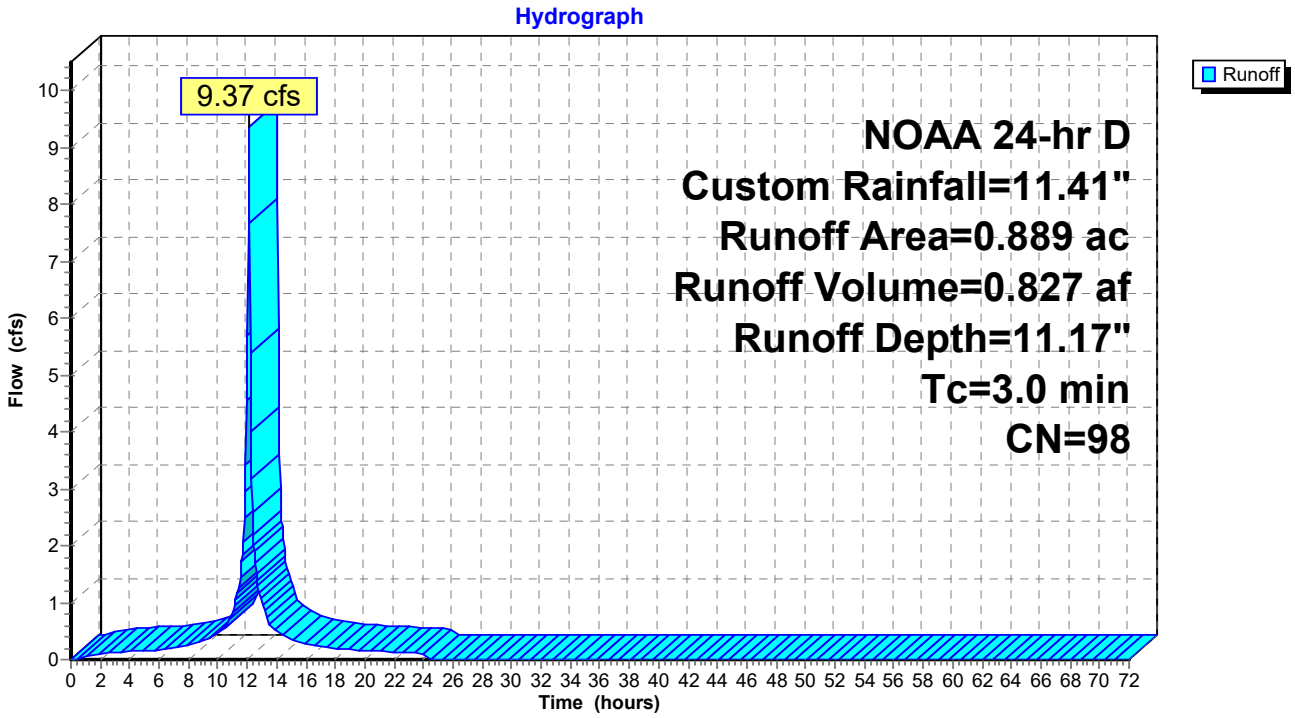
Runoff = 9.37 cfs @ 12.10 hrs, Volume= 0.827 af, Depth=11.17"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 2.67" for Custom event
Inflow = 24.56 cfs @ 12.15 hrs, Volume= 3.321 af
Outflow = 22.86 cfs @ 12.20 hrs, Volume= 3.184 af, Atten= 7%, Lag= 2.9 min
Primary = 22.86 cfs @ 12.20 hrs, Volume= 3.184 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.46' @ 12.20 hrs Surf.Area= 8,857 sf Storage= 10,719 cf

Plug-Flow detention time= 54.6 min calculated for 3.182 af (96% of inflow)
Center-of-Mass det. time= 31.1 min (879.0 - 847.9)

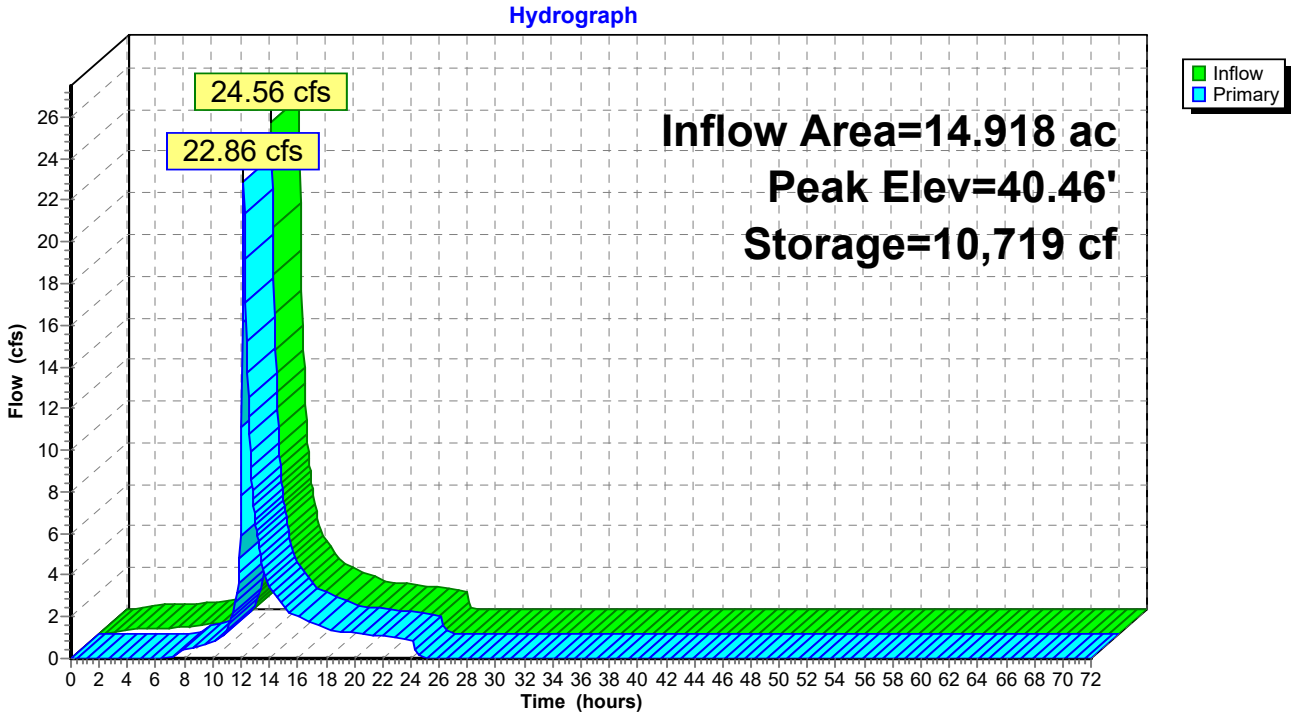
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=22.84 cfs @ 12.20 hrs HW=40.46' (Free Discharge)
1=Orifice/Grate (Weir Controls 22.84 cfs @ 2.48 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

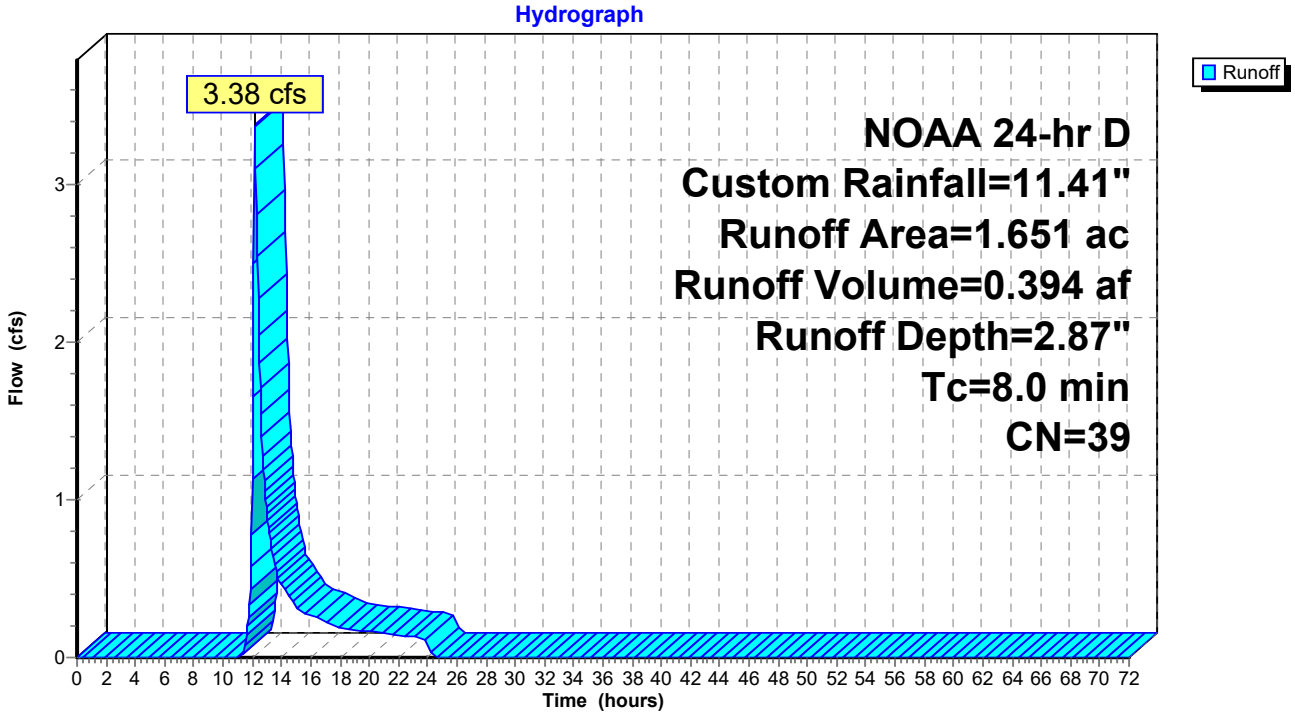
Runoff = 3.38 cfs @ 12.19 hrs, Volume= 0.394 af, Depth= 2.87"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 3.012 ac, 25.00% Impervious, Inflow Depth = 4.94" for Custom event
Inflow = 10.62 cfs @ 12.09 hrs, Volume= 1.240 af
Outflow = 10.35 cfs @ 12.12 hrs, Volume= 1.207 af, Atten= 2%, Lag= 1.6 min
Primary = 10.35 cfs @ 12.12 hrs, Volume= 1.207 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.24' @ 12.12 hrs Surf.Area= 4,355 sf Storage= 2,814 cf

Plug-Flow detention time= 37.8 min calculated for 1.207 af (97% of inflow)
Center-of-Mass det. time= 21.5 min (827.6 - 806.1)

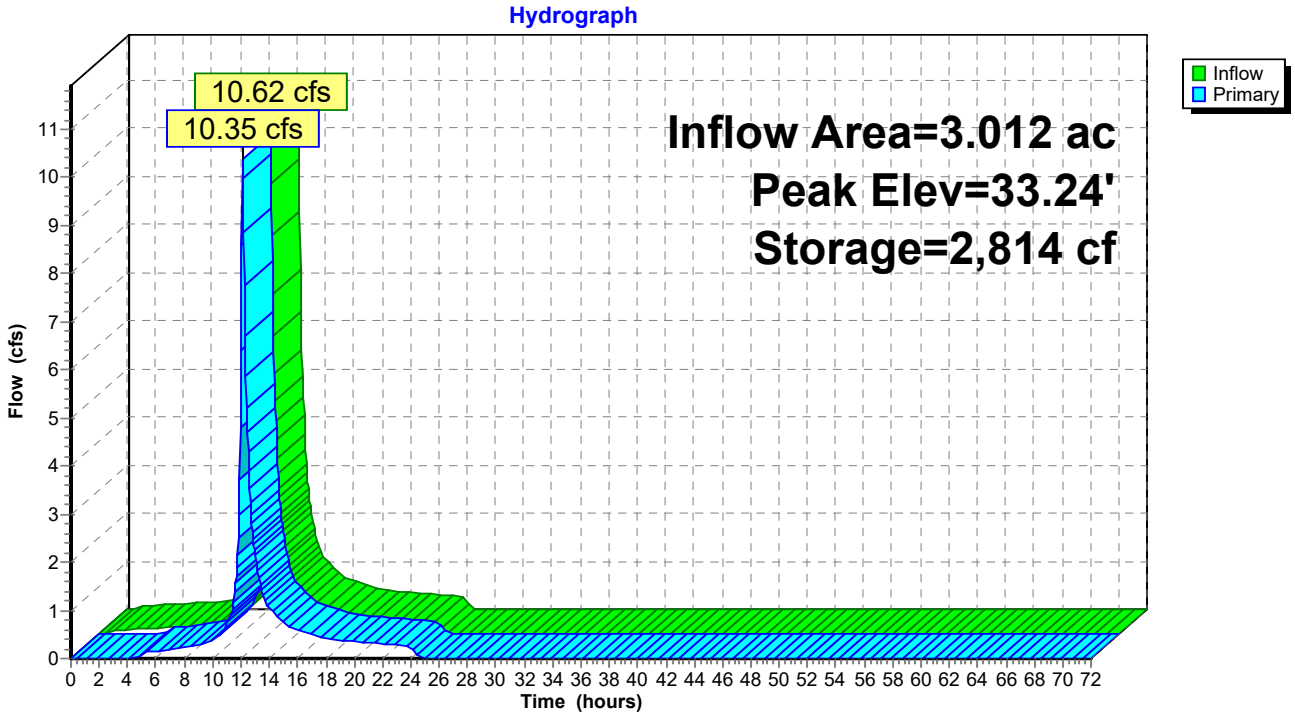
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.13 cfs @ 12.12 hrs HW=33.23' (Free Discharge)
1=Orifice/Grate (Weir Controls 10.13 cfs @ 1.89 fps)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 11.17" for Custom event
Inflow = 15.02 cfs @ 12.11 hrs, Volume= 1.579 af
Outflow = 14.08 cfs @ 12.15 hrs, Volume= 1.433 af, Atten= 6%, Lag= 2.4 min
Primary = 14.08 cfs @ 12.15 hrs, Volume= 1.433 af
Routed to Pond 74P : Basin 37

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.69' @ 12.15 hrs Surf.Area= 6,767 sf Storage= 9,047 cf

Plug-Flow detention time= 104.7 min calculated for 1.432 af (91% of inflow)
Center-of-Mass det. time= 53.7 min (794.2 - 740.5)

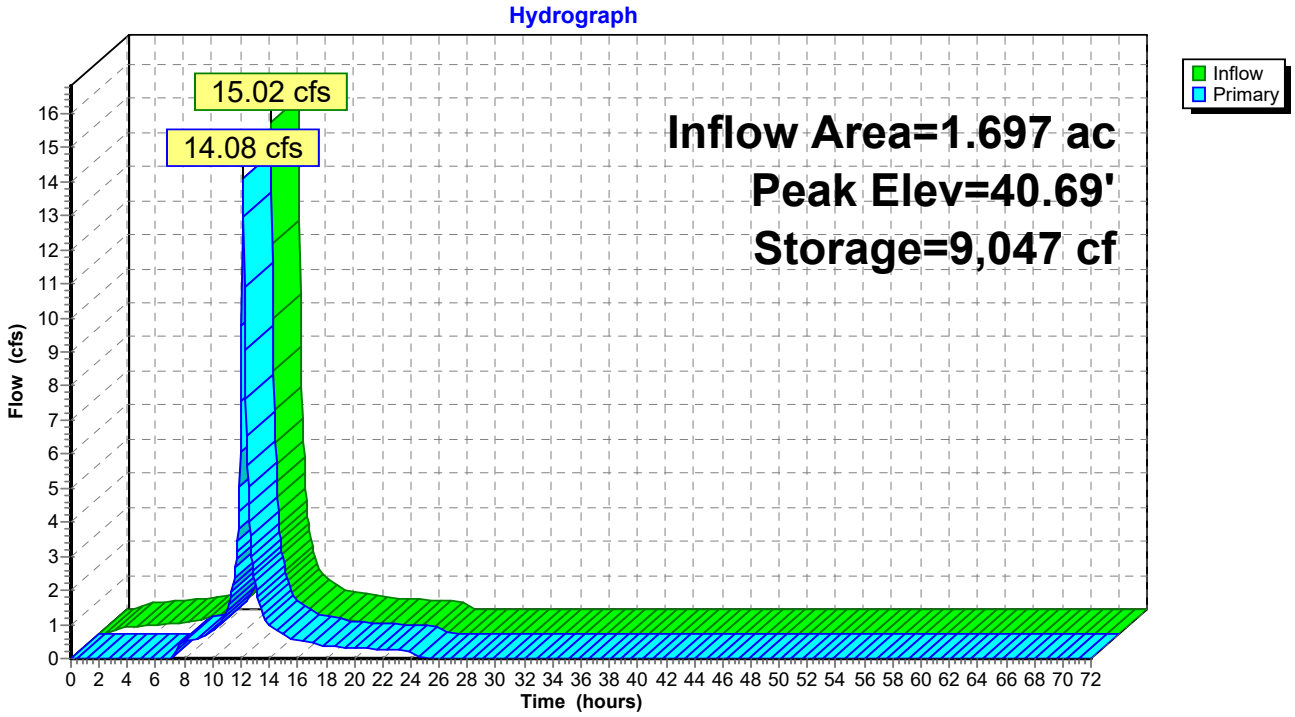
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.98 cfs @ 12.15 hrs HW=40.68' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 13.98 cfs @ 2.11 fps)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

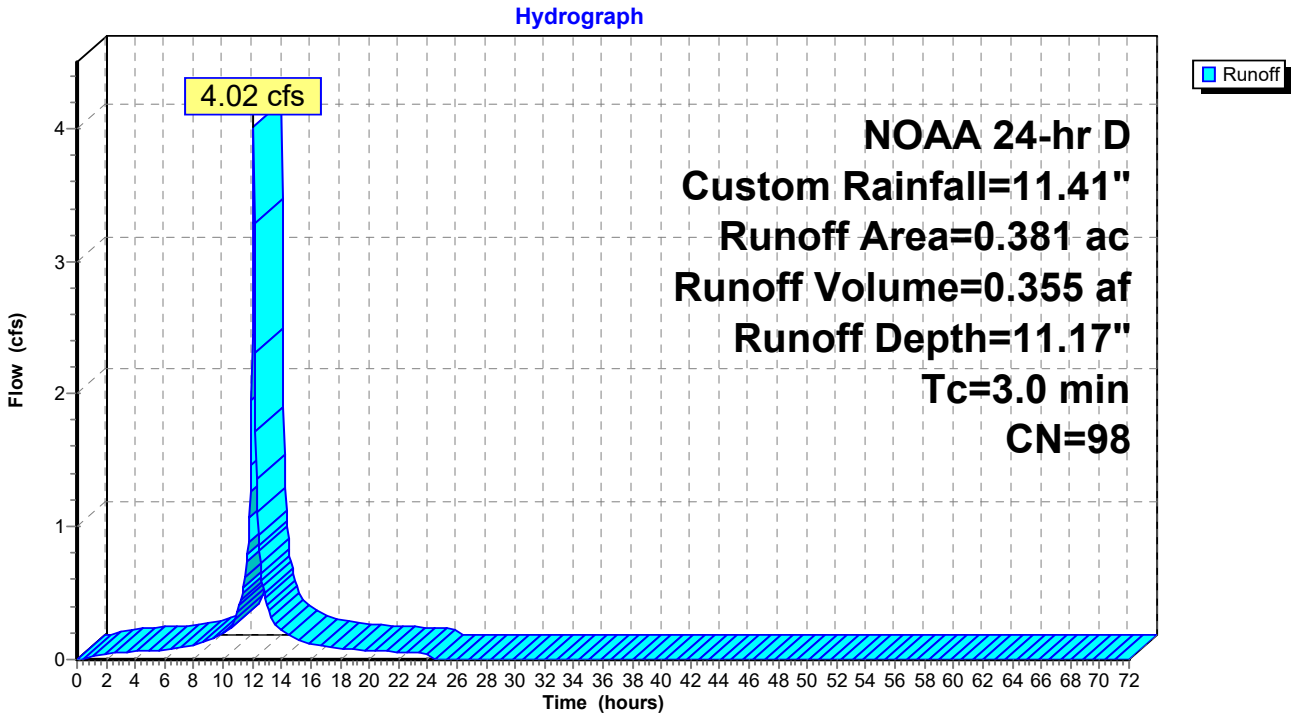
Runoff = 4.02 cfs @ 12.10 hrs, Volume= 0.355 af, Depth=11.17"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

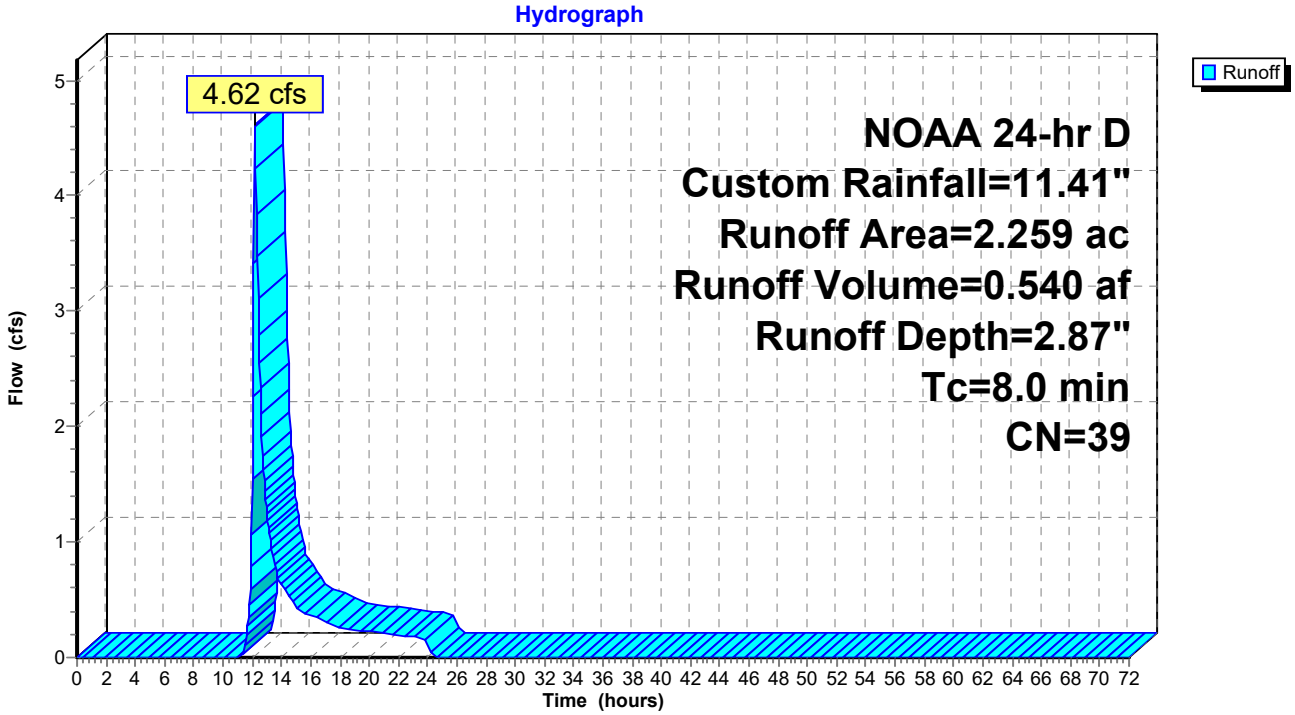
Runoff = 4.62 cfs @ 12.19 hrs, Volume= 0.540 af, Depth= 2.87"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

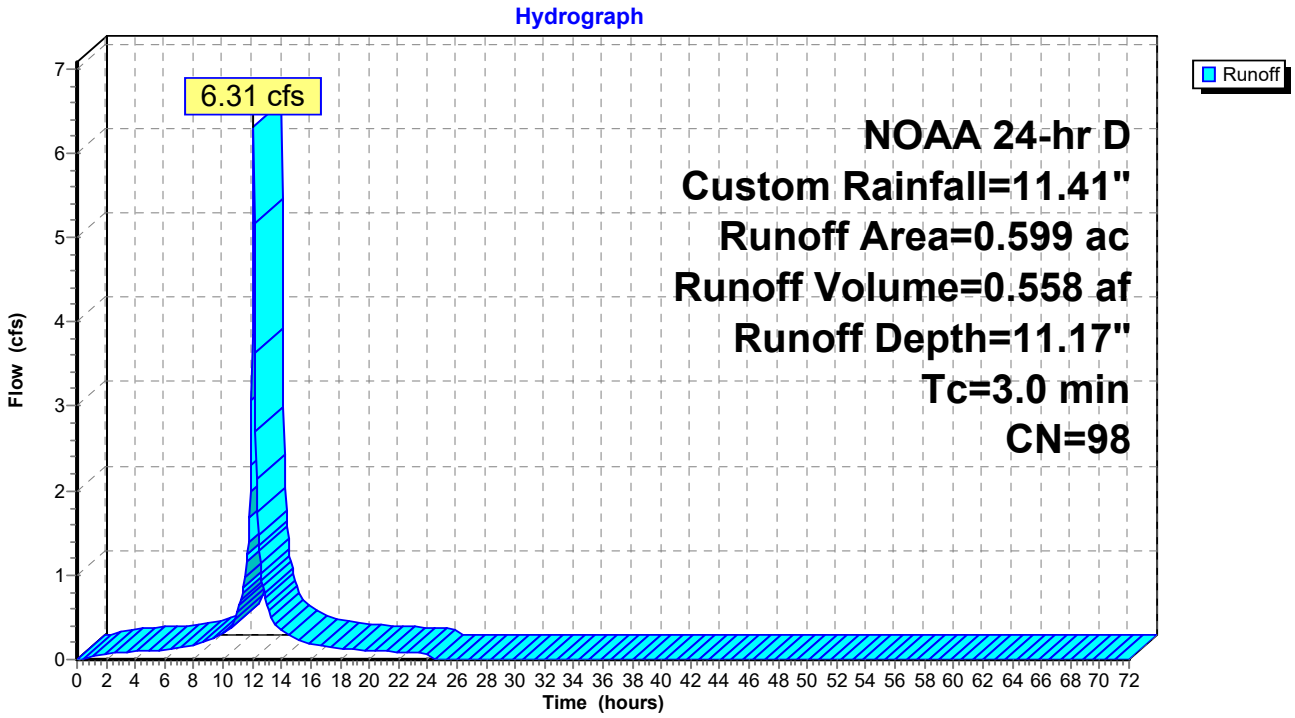
Runoff = 6.31 cfs @ 12.10 hrs, Volume= 0.558 af, Depth=11.17"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 5.78" for Custom event
Inflow = 8.46 cfs @ 12.11 hrs, Volume= 0.839 af
Outflow = 8.16 cfs @ 12.14 hrs, Volume= 0.787 af, Atten= 4%, Lag= 1.7 min
Primary = 8.16 cfs @ 12.14 hrs, Volume= 0.787 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.69' @ 12.14 hrs Surf.Area= 3,428 sf Storage= 3,228 cf

Plug-Flow detention time= 75.0 min calculated for 0.787 af (94% of inflow)
Center-of-Mass det. time= 38.4 min (827.1 - 788.7)

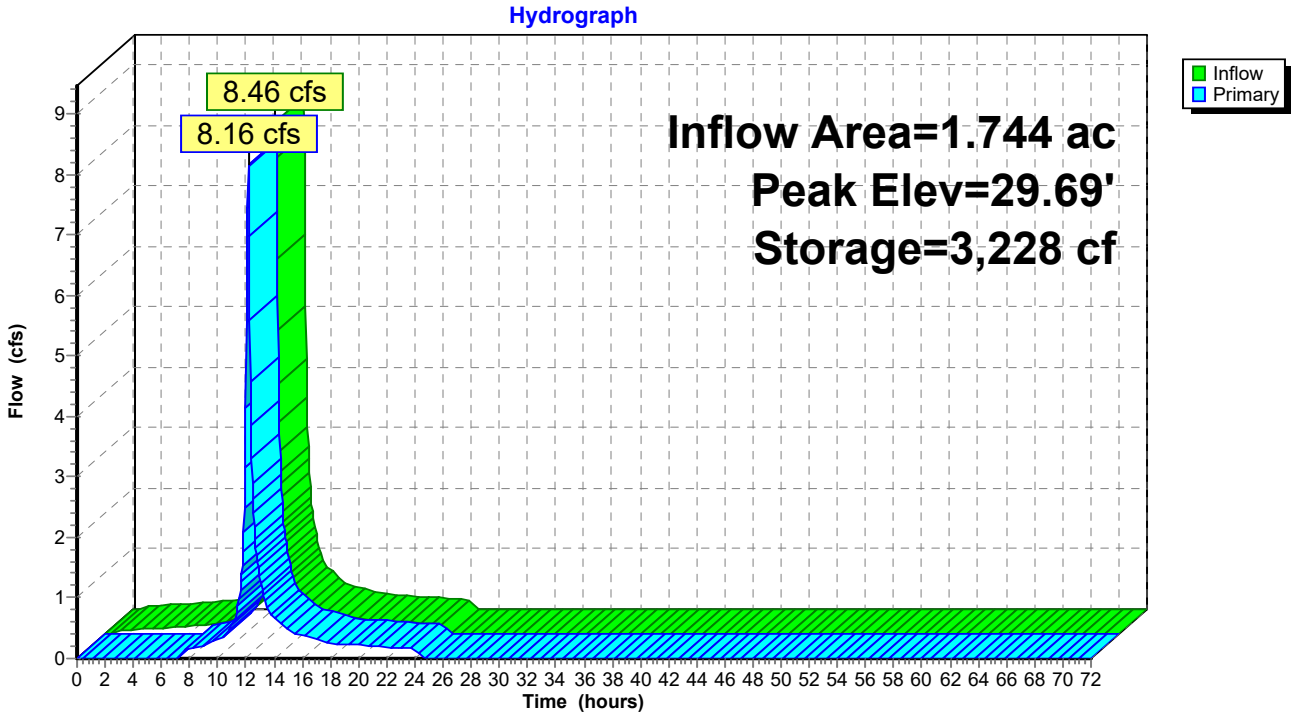
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.05 cfs @ 12.14 hrs HW=29.69' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 8.05 cfs @ 1.75 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

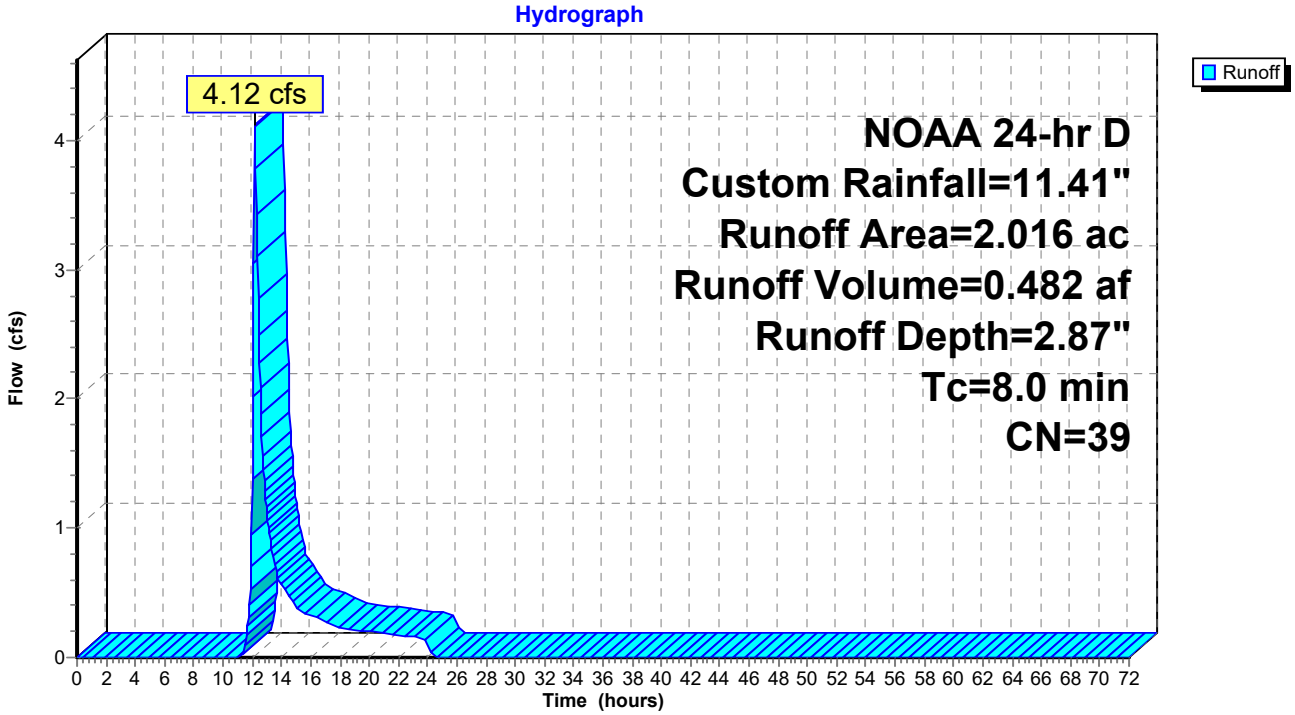
Runoff = 4.12 cfs @ 12.19 hrs, Volume= 0.482 af, Depth= 2.87"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 107% of capacity of segment #3

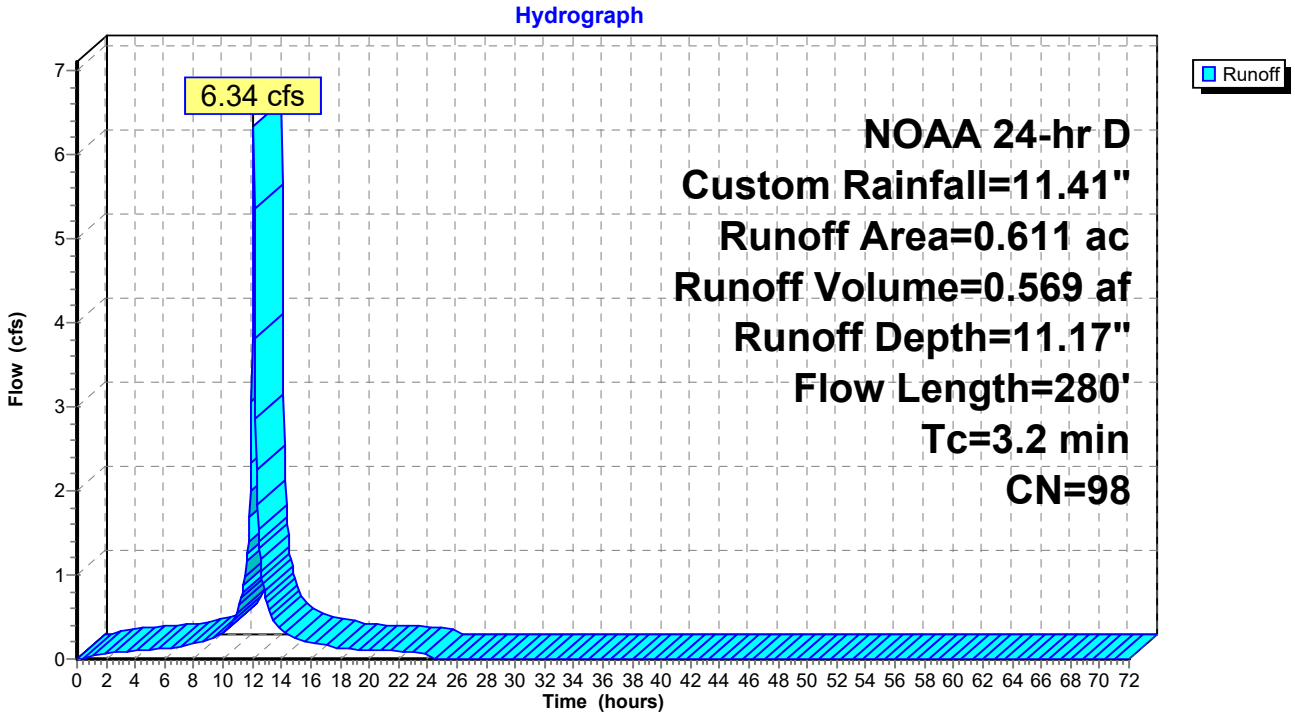
Runoff = 6.34 cfs @ 12.10 hrs, Volume= 0.569 af, Depth=11.17"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 6.43" for Custom event
Inflow = 14.07 cfs @ 12.11 hrs, Volume= 1.393 af
Outflow = 13.21 cfs @ 12.14 hrs, Volume= 1.235 af, Atten= 6%, Lag= 2.1 min
Primary = 13.21 cfs @ 12.14 hrs, Volume= 1.235 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.38' @ 12.14 hrs Surf.Area= 5,317 sf Storage= 8,898 cf

Plug-Flow detention time= 118.5 min calculated for 1.234 af (89% of inflow)
Center-of-Mass det. time= 58.1 min (836.2 - 778.0)

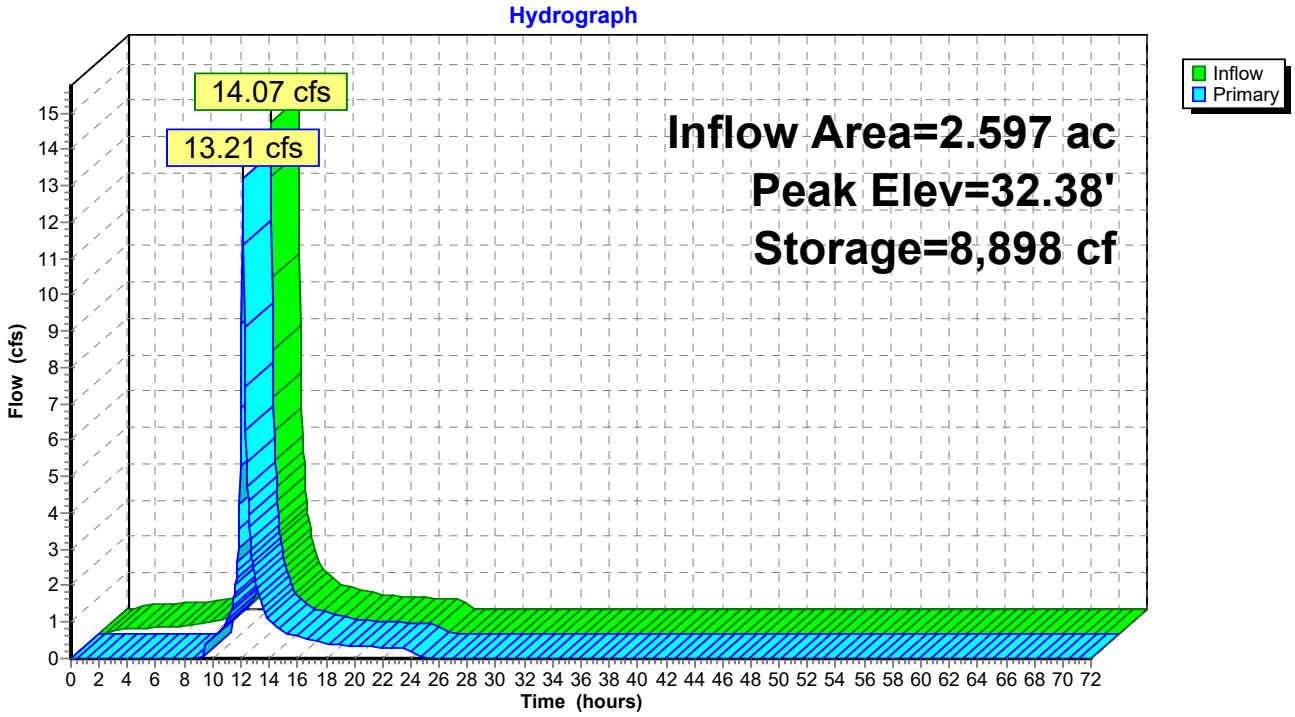
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.03 cfs @ 12.14 hrs HW=32.38' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 13.03 cfs @ 2.06 fps)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

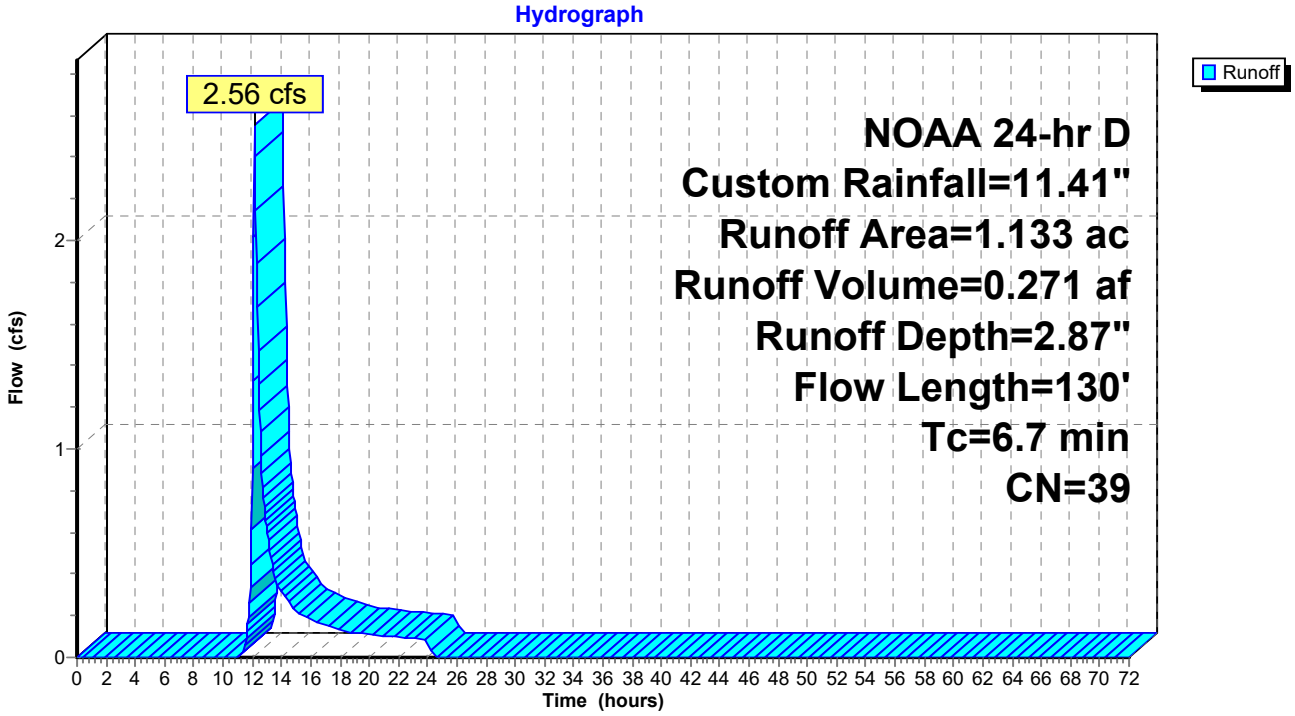
Runoff = 2.56 cfs @ 12.16 hrs, Volume= 0.271 af, Depth= 2.87"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 5.36" for Custom event
Inflow = 10.89 cfs @ 12.11 hrs, Volume= 1.112 af
Outflow = 10.03 cfs @ 12.16 hrs, Volume= 1.047 af, Atten= 8%, Lag= 2.6 min
Primary = 10.03 cfs @ 12.16 hrs, Volume= 1.047 af
Routed to Pond 111P : Basin 23

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.03' @ 12.16 hrs Surf.Area= 6,742 sf Storage= 8,282 cf

Plug-Flow detention time= 154.6 min calculated for 1.046 af (94% of inflow)
Center-of-Mass det. time= 121.9 min (919.1 - 797.2)

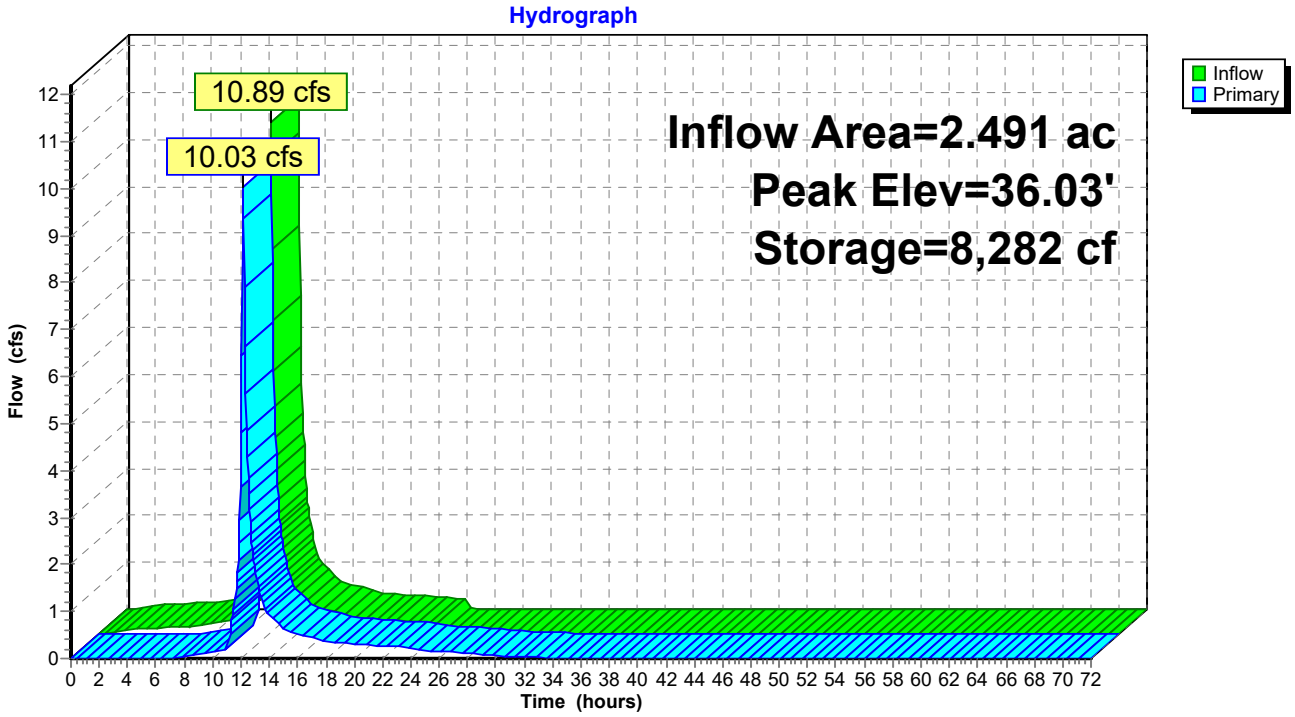
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.88 cfs @ 12.16 hrs HW=36.02' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.23 cfs @ 4.69 fps)
└**2=Orifice/Grate** (Weir Controls 9.65 cfs @ 1.86 fps)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

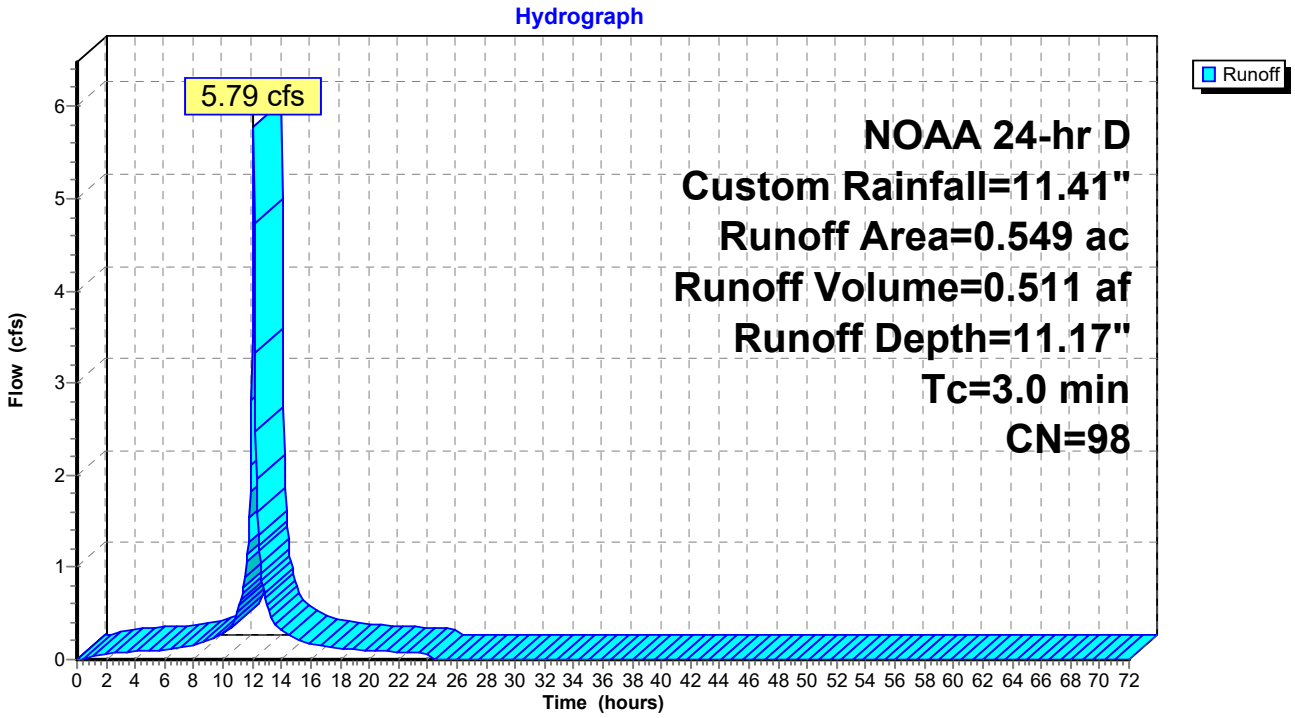
Runoff = 5.79 cfs @ 12.10 hrs, Volume= 0.511 af, Depth=11.17"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Subcatchment 89S: Basin 30 - Pervious

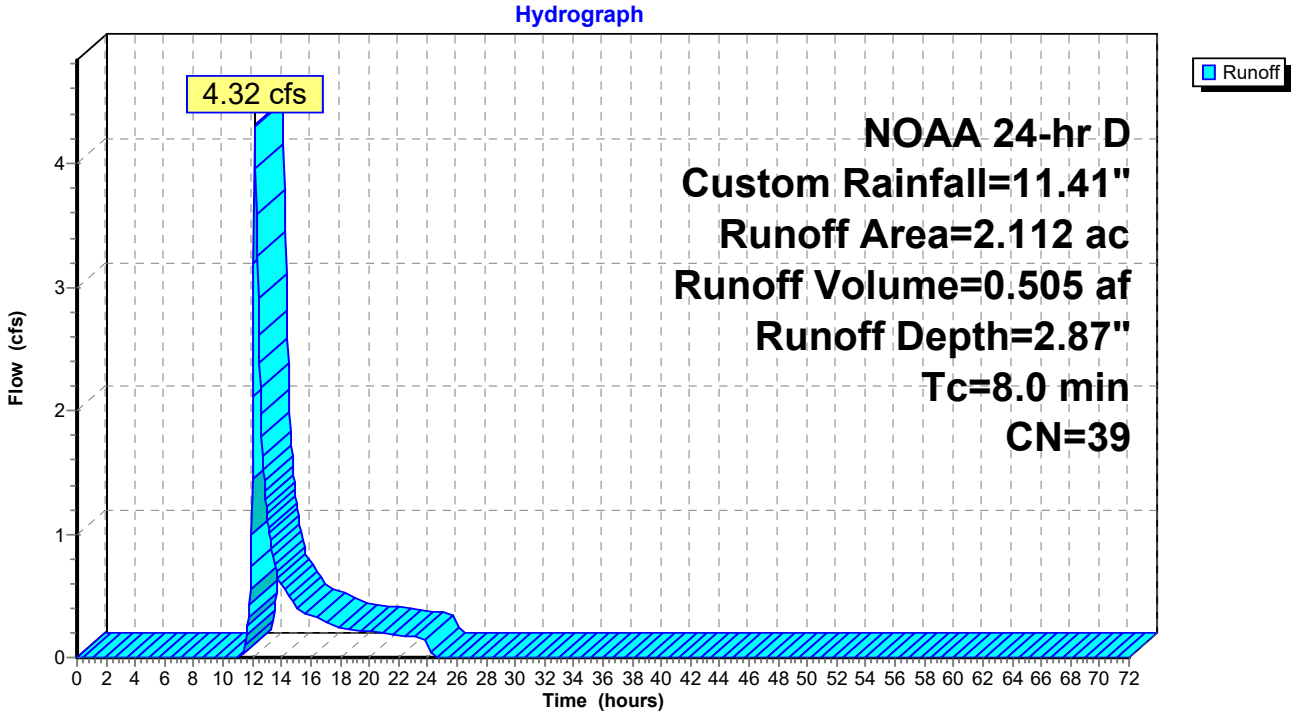
Runoff = 4.32 cfs @ 12.19 hrs, Volume= 0.505 af, Depth= 2.87"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

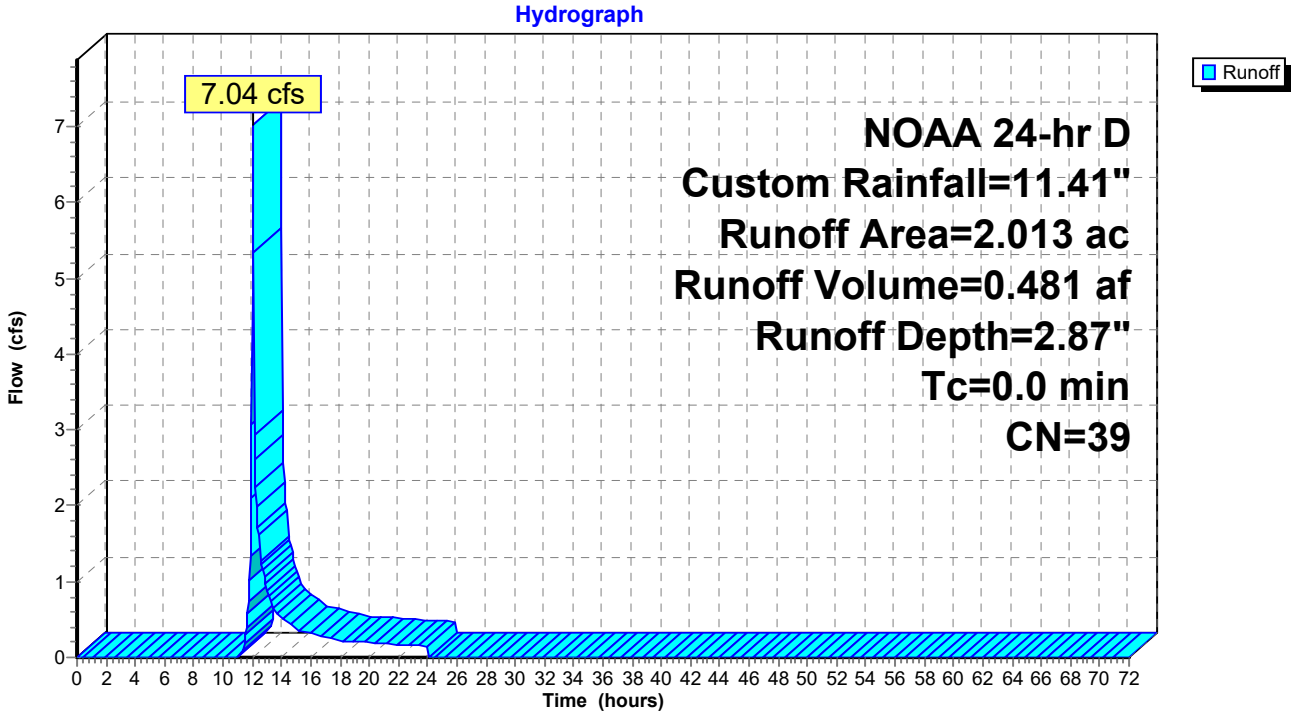
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 7.04 cfs @ 12.05 hrs, Volume= 0.481 af, Depth= 2.87"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

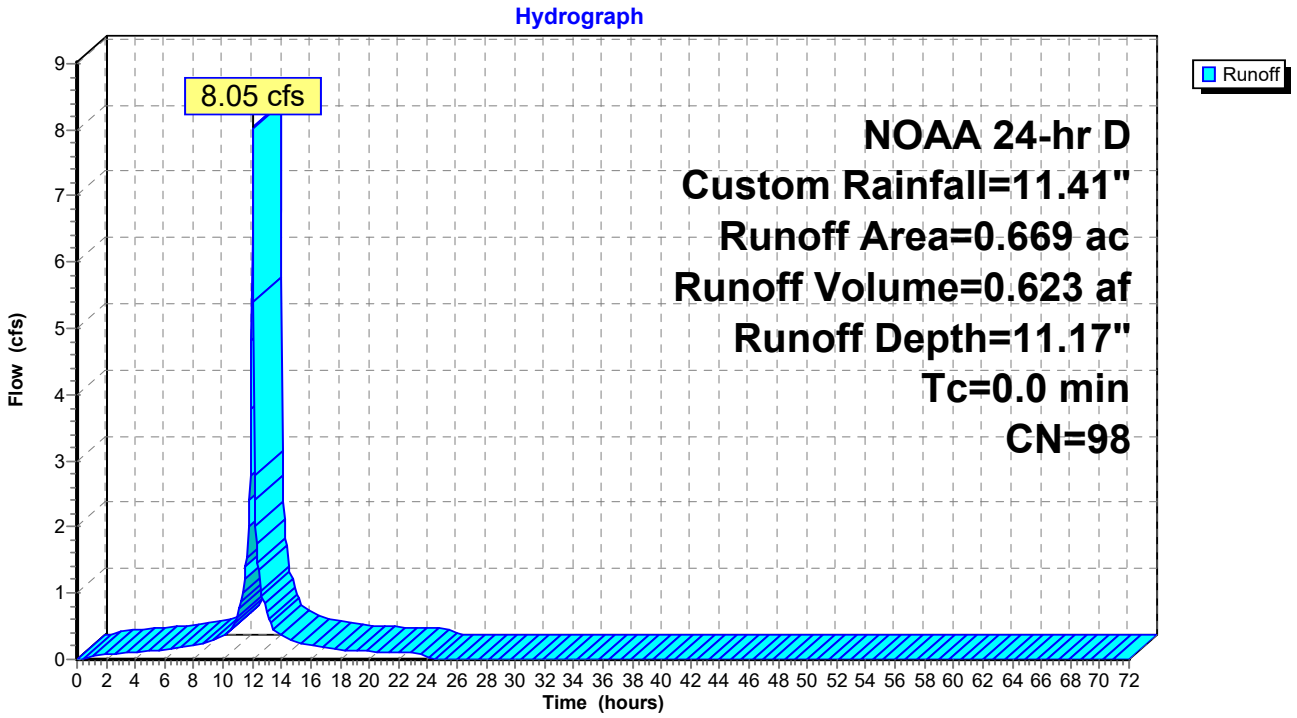
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 8.05 cfs @ 12.04 hrs, Volume= 0.623 af, Depth=11.17"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

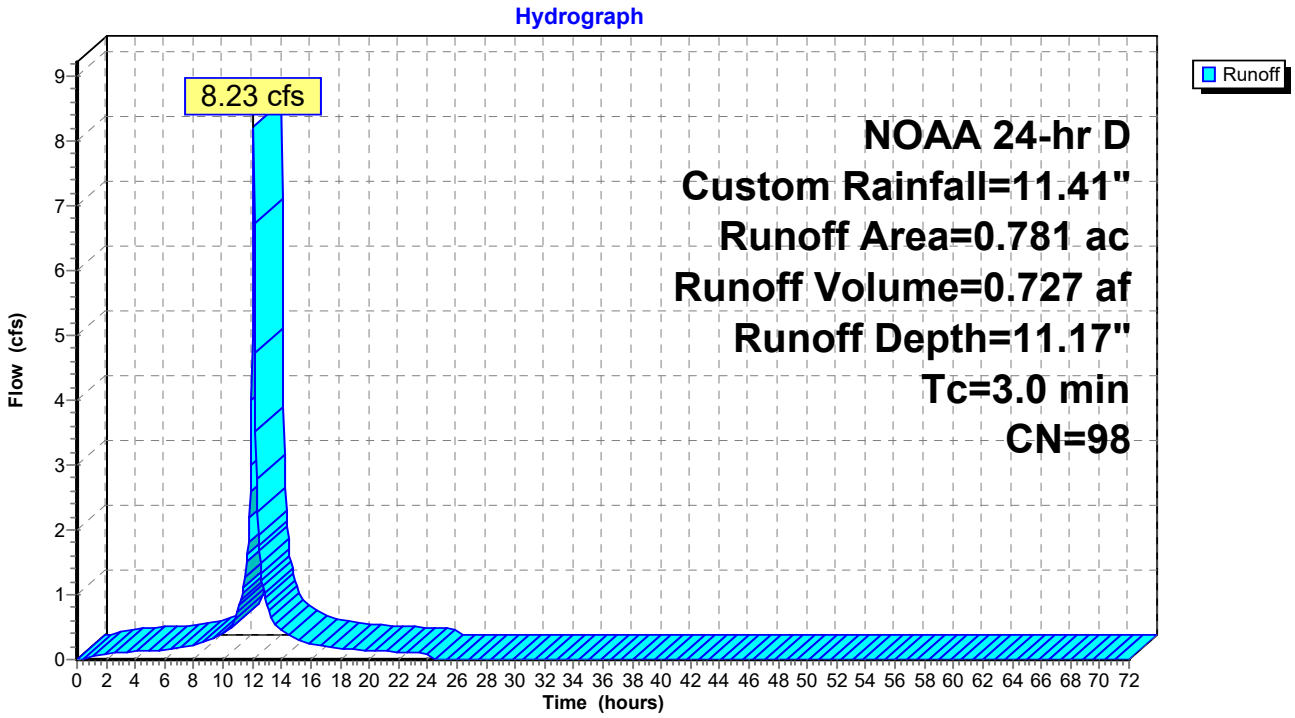
Runoff = 8.23 cfs @ 12.10 hrs, Volume= 0.727 af, Depth=11.17"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

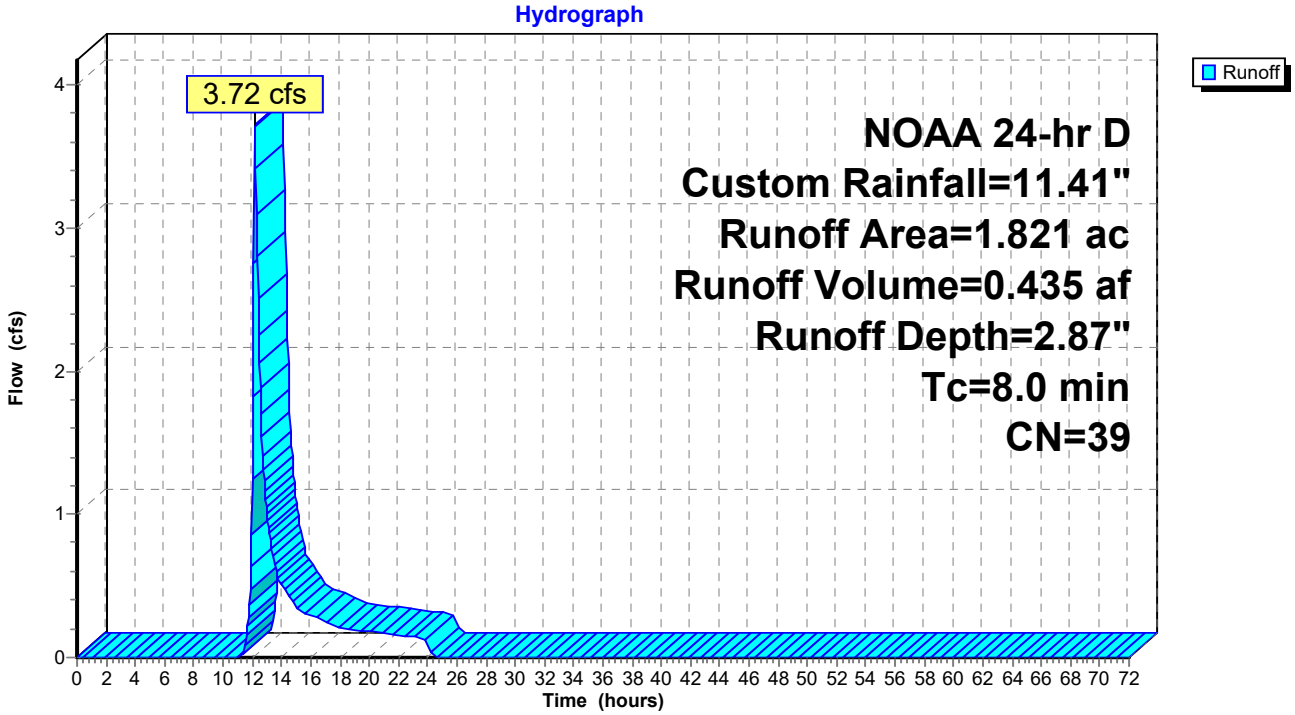
Runoff = 3.72 cfs @ 12.19 hrs, Volume= 0.435 af, Depth= 2.87"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

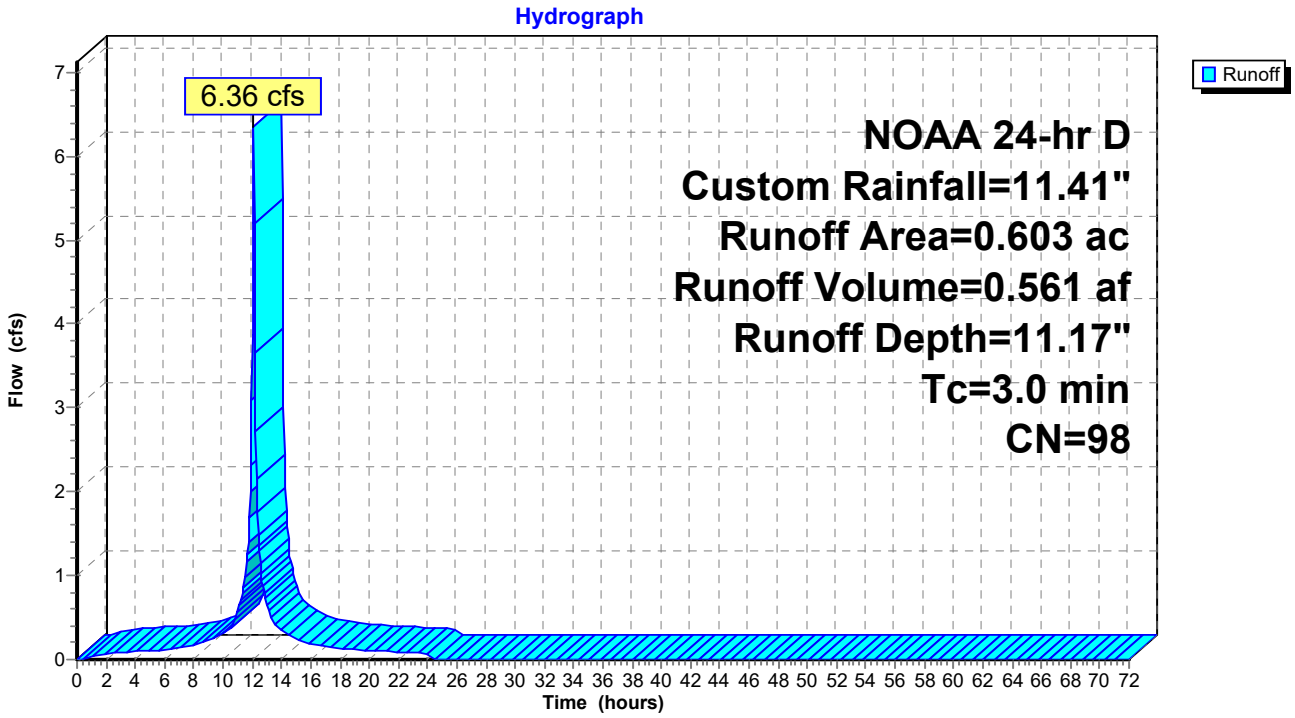
Runoff = 6.36 cfs @ 12.10 hrs, Volume= 0.561 af, Depth=11.17"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

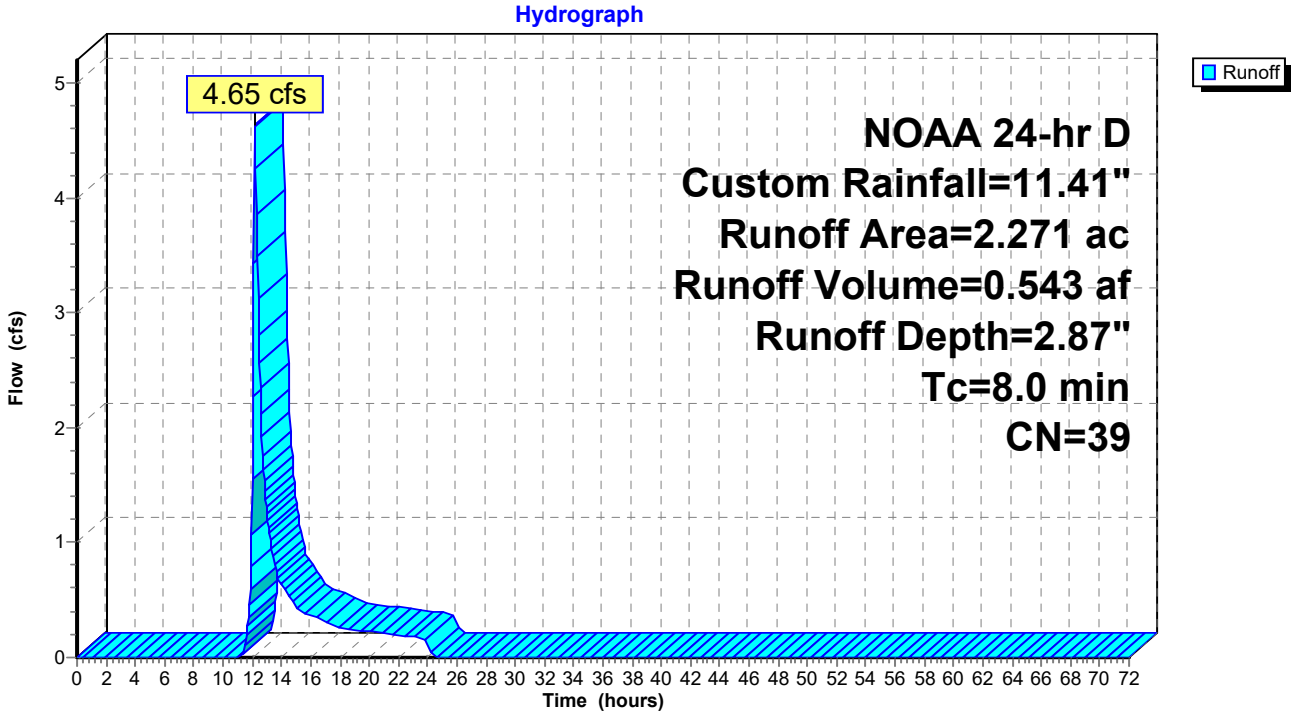
Runoff = 4.65 cfs @ 12.19 hrs, Volume= 0.543 af, Depth= 2.87"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

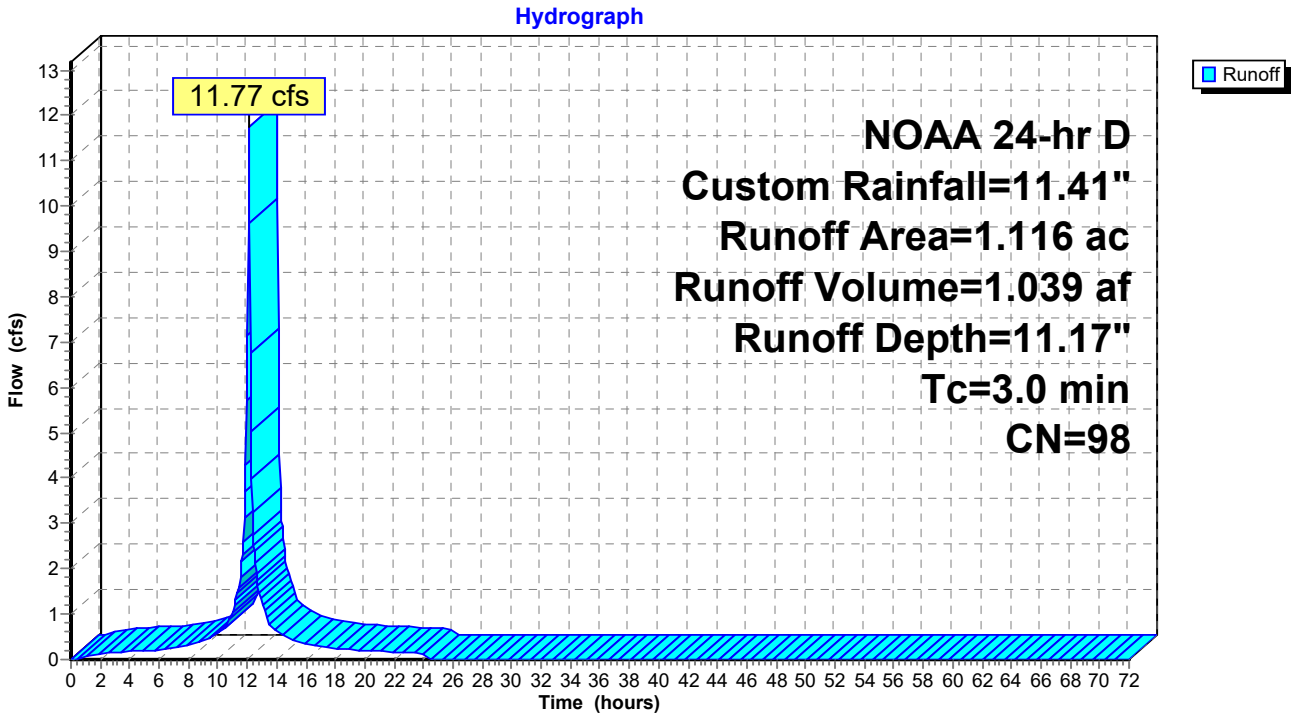
Runoff = 11.77 cfs @ 12.10 hrs, Volume= 1.039 af, Depth=11.17"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

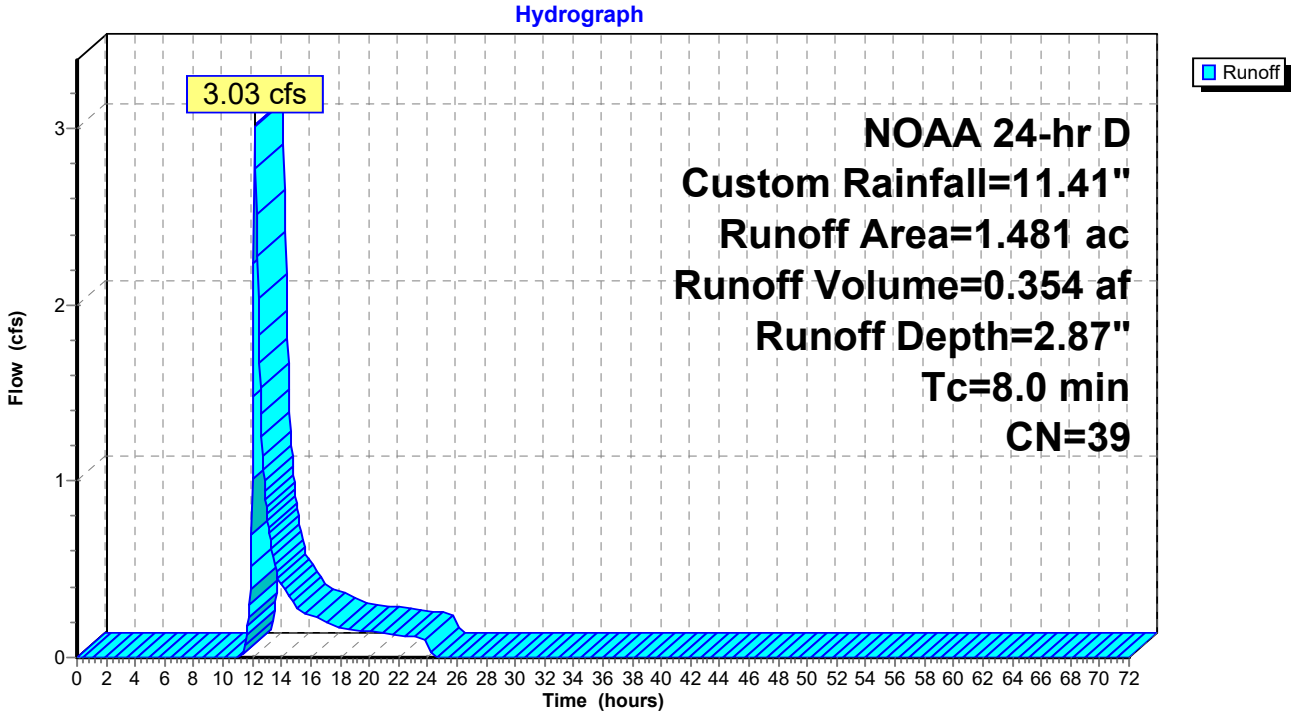
Runoff = 3.03 cfs @ 12.19 hrs, Volume= 0.354 af, Depth= 2.87"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

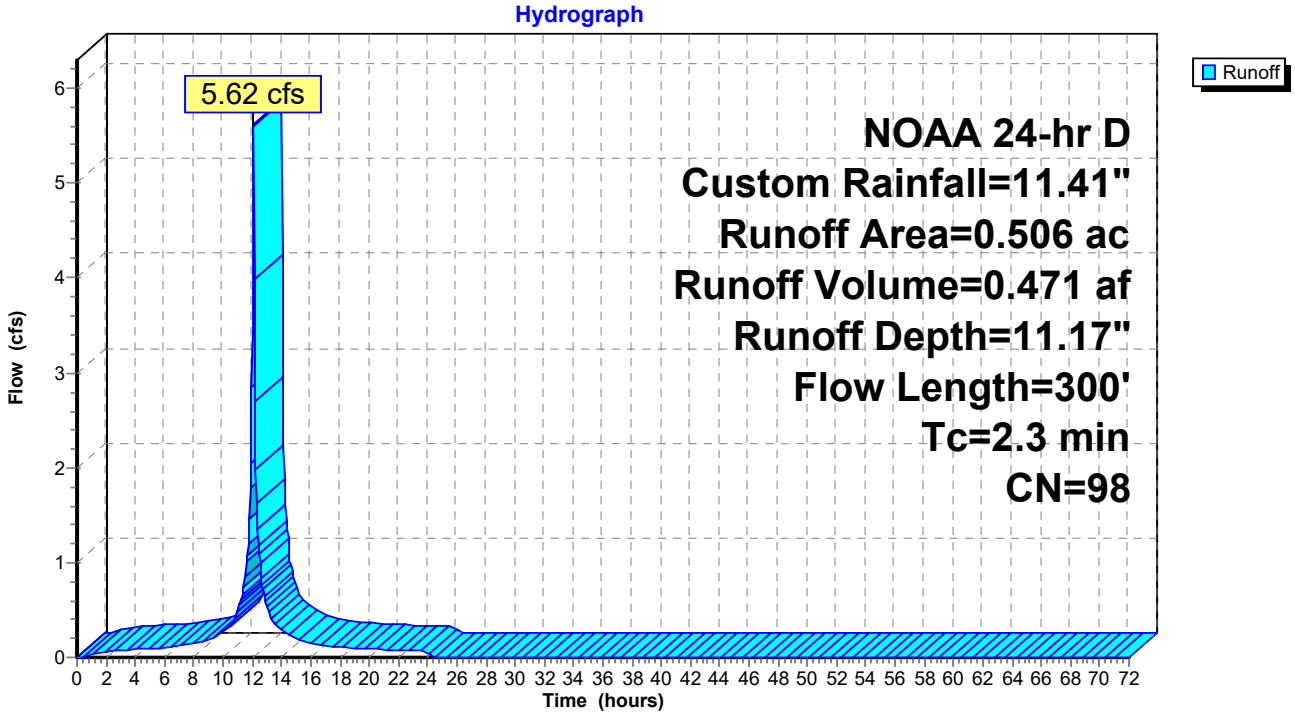
Runoff = 5.62 cfs @ 12.09 hrs, Volume= 0.471 af, Depth=11.17"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

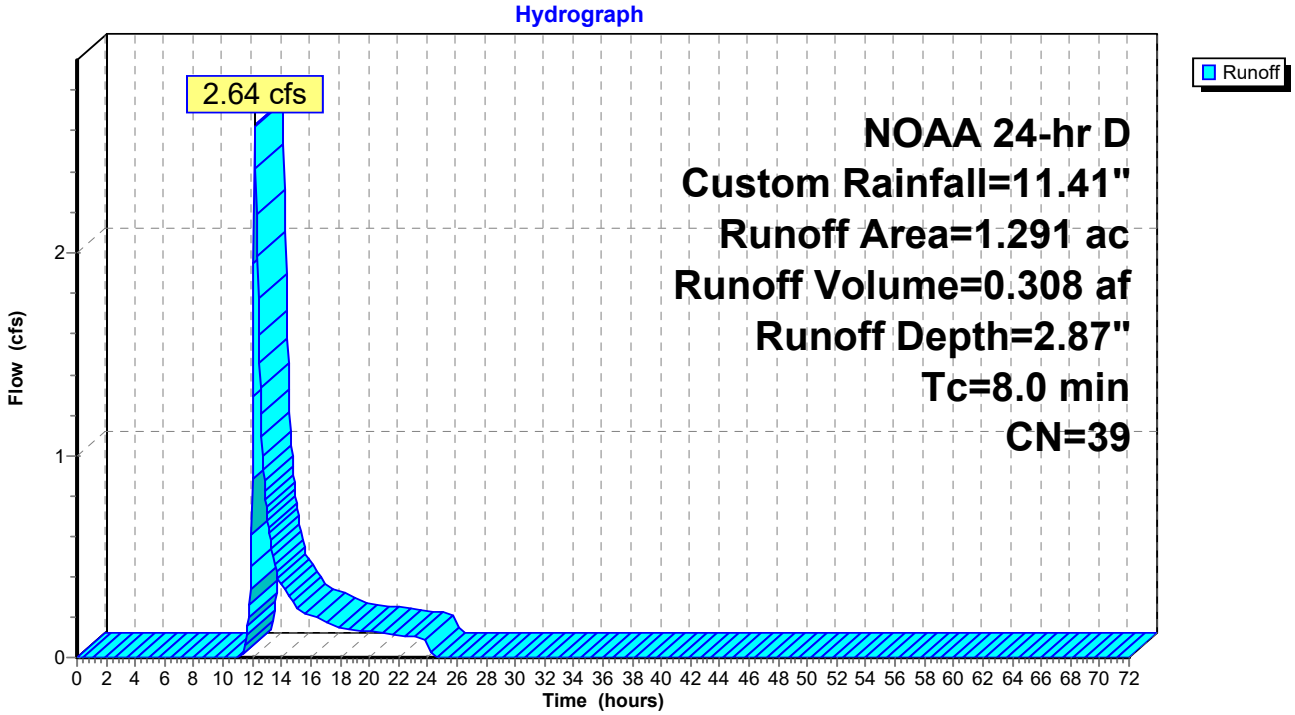
Runoff = 2.64 cfs @ 12.19 hrs, Volume= 0.308 af, Depth= 2.87"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

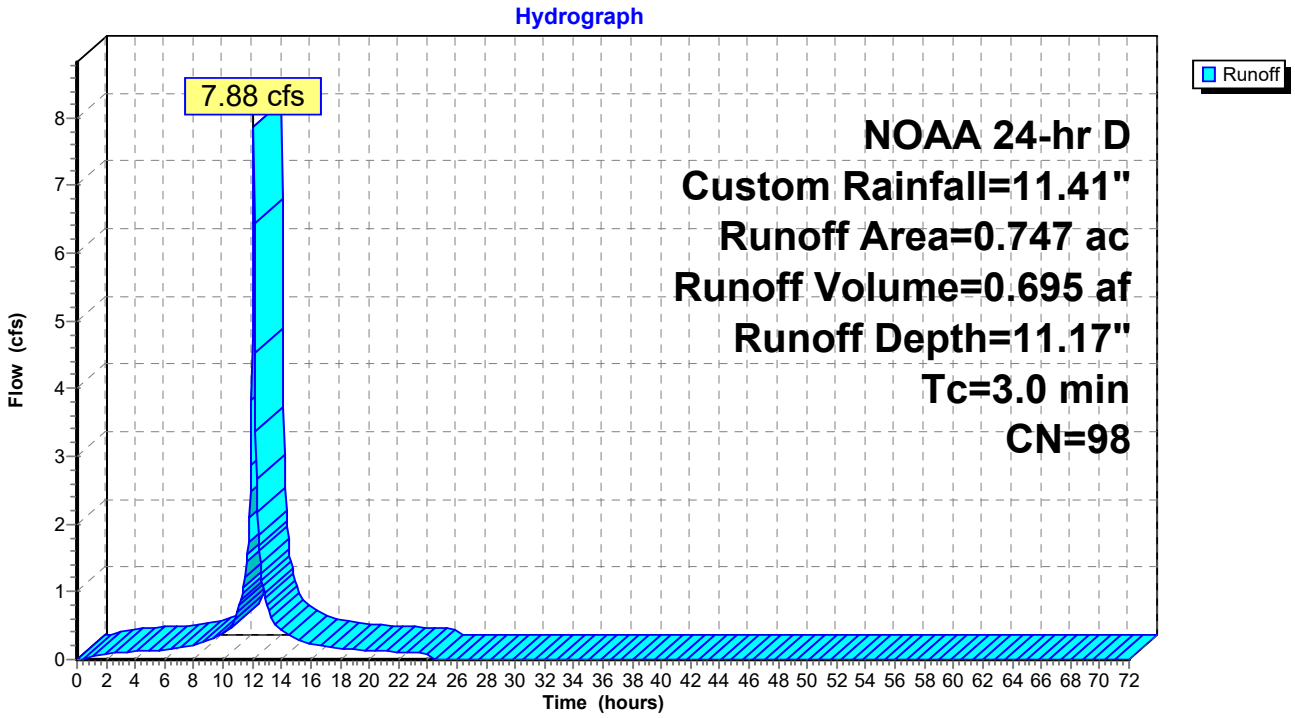
Runoff = 7.88 cfs @ 12.10 hrs, Volume= 0.695 af, Depth=11.17"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

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

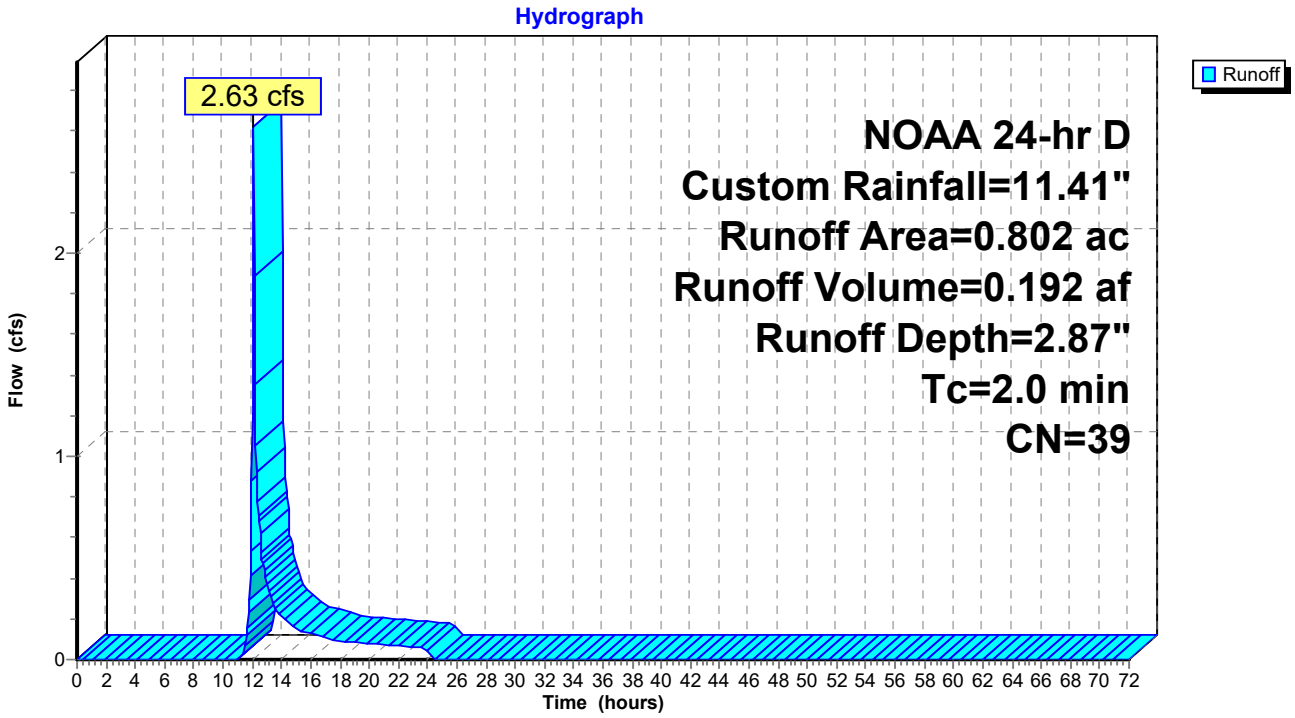
Runoff = 2.63 cfs @ 12.10 hrs, Volume= 0.192 af, Depth= 2.87"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

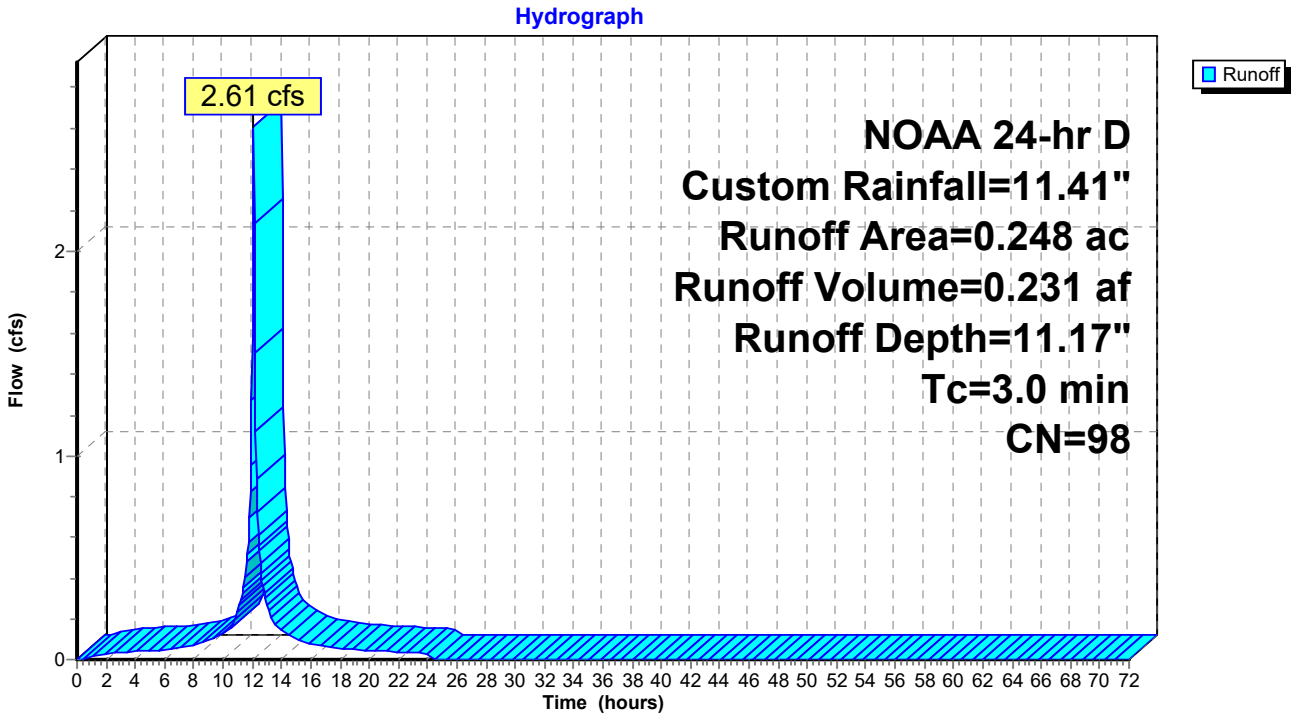
Runoff = 2.61 cfs @ 12.10 hrs, Volume= 0.231 af, Depth=11.17"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

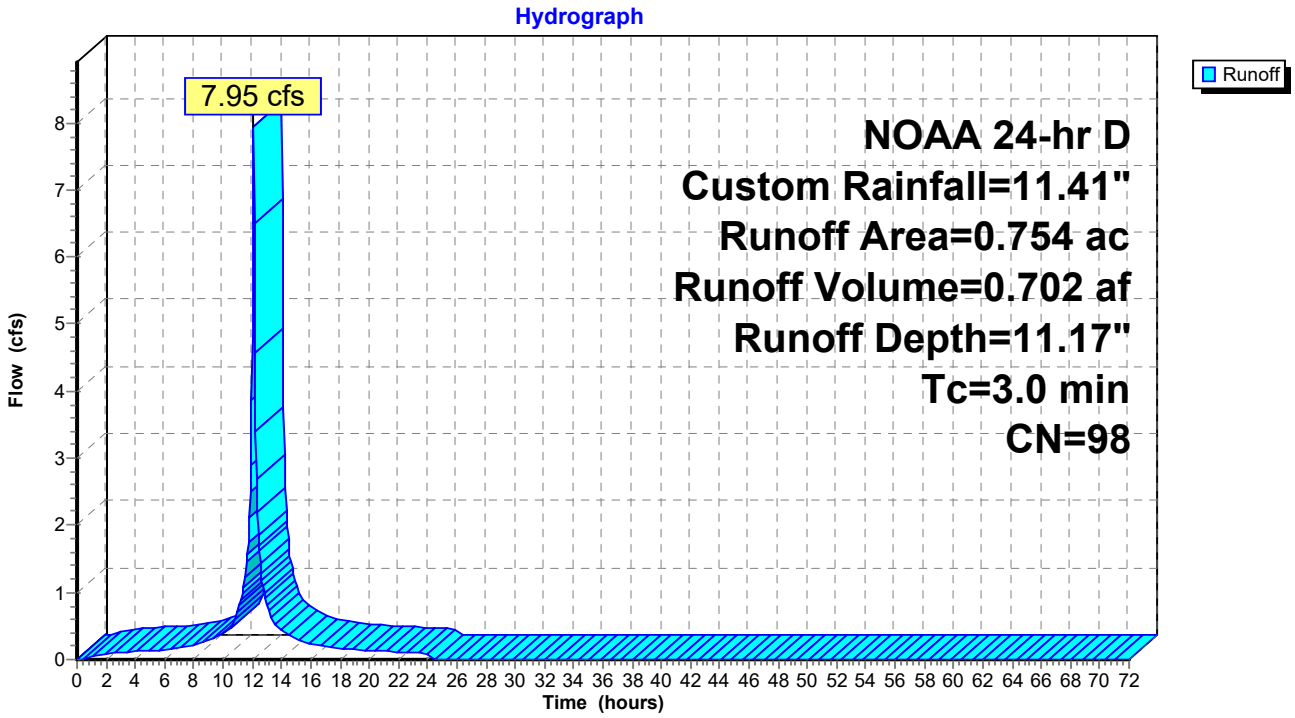
Runoff = 7.95 cfs @ 12.10 hrs, Volume= 0.702 af, Depth=11.17"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

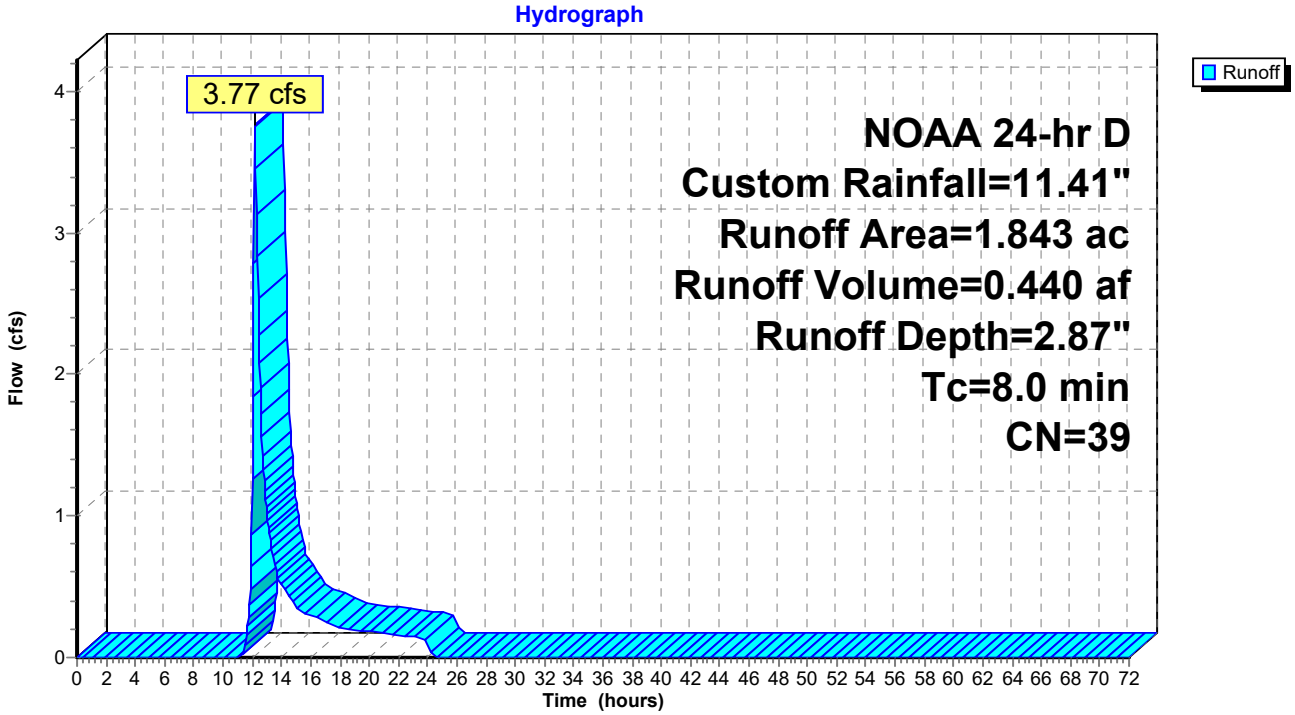
Runoff = 3.77 cfs @ 12.19 hrs, Volume= 0.440 af, Depth= 2.87"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

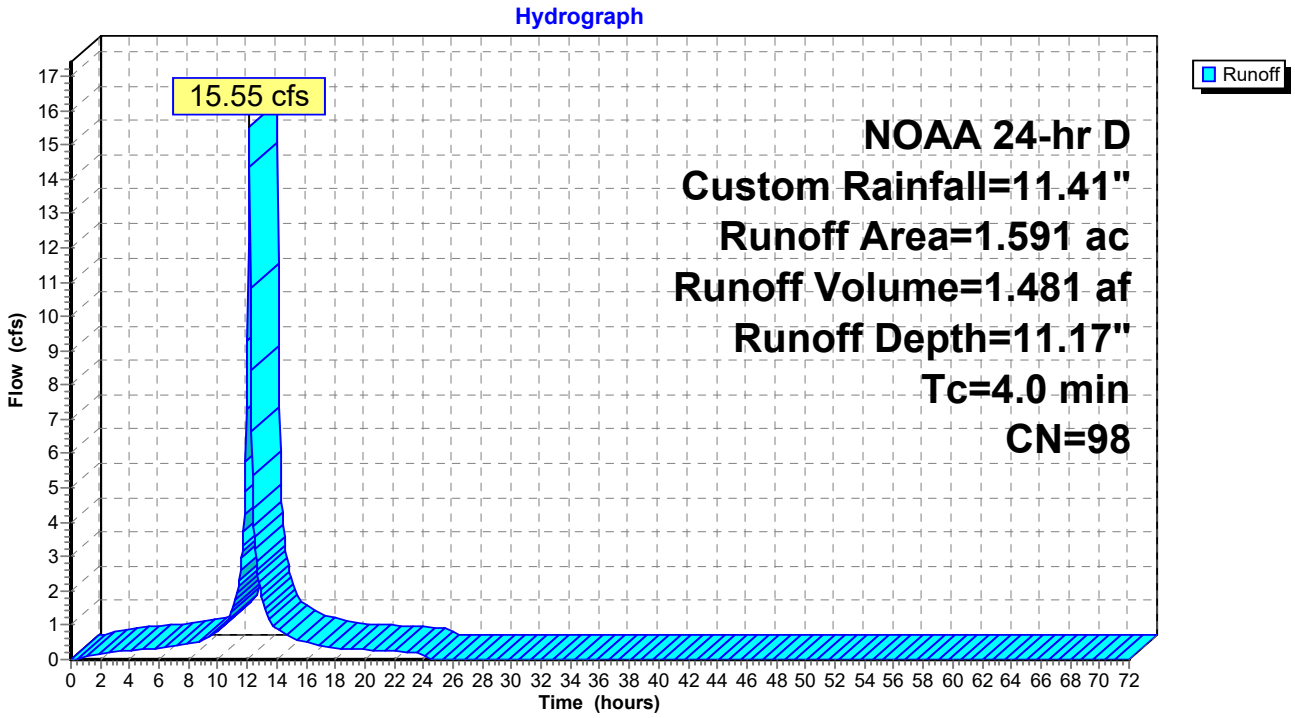
Runoff = 15.55 cfs @ 12.11 hrs, Volume= 1.481 af, Depth=11.17"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

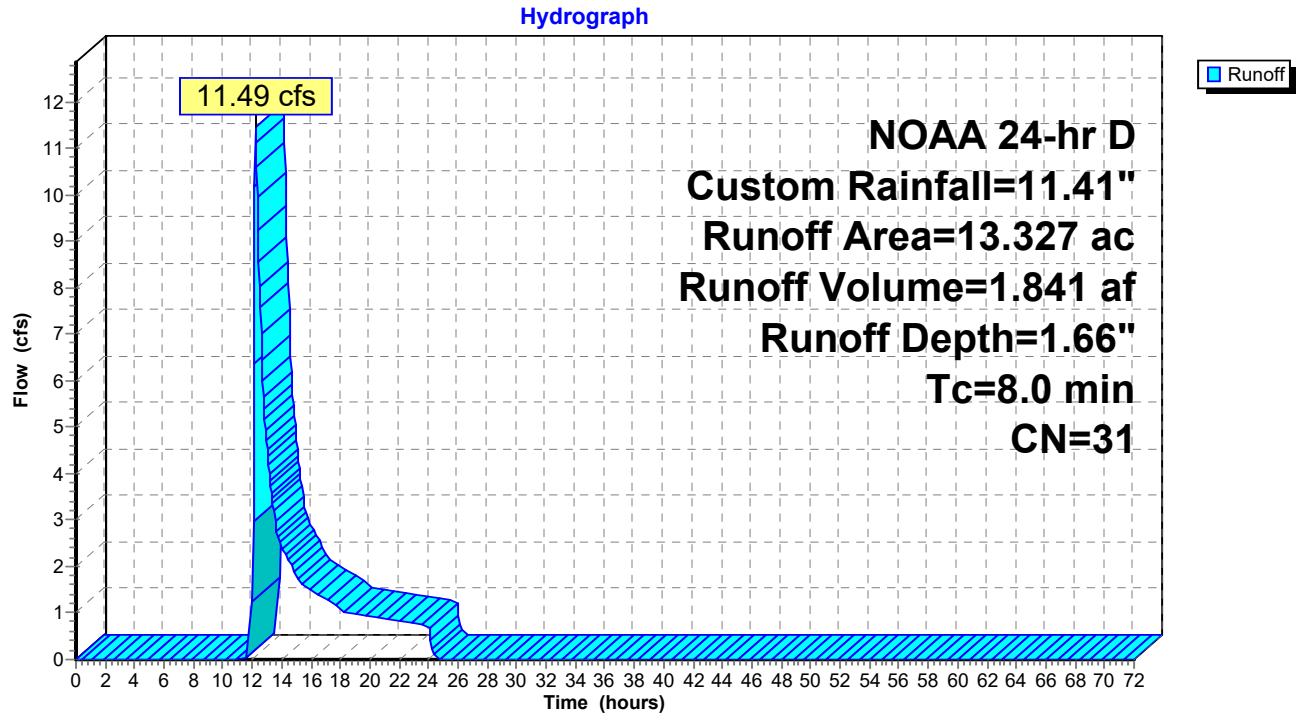
Runoff = 11.49 cfs @ 12.22 hrs, Volume= 1.841 af, Depth= 1.66"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

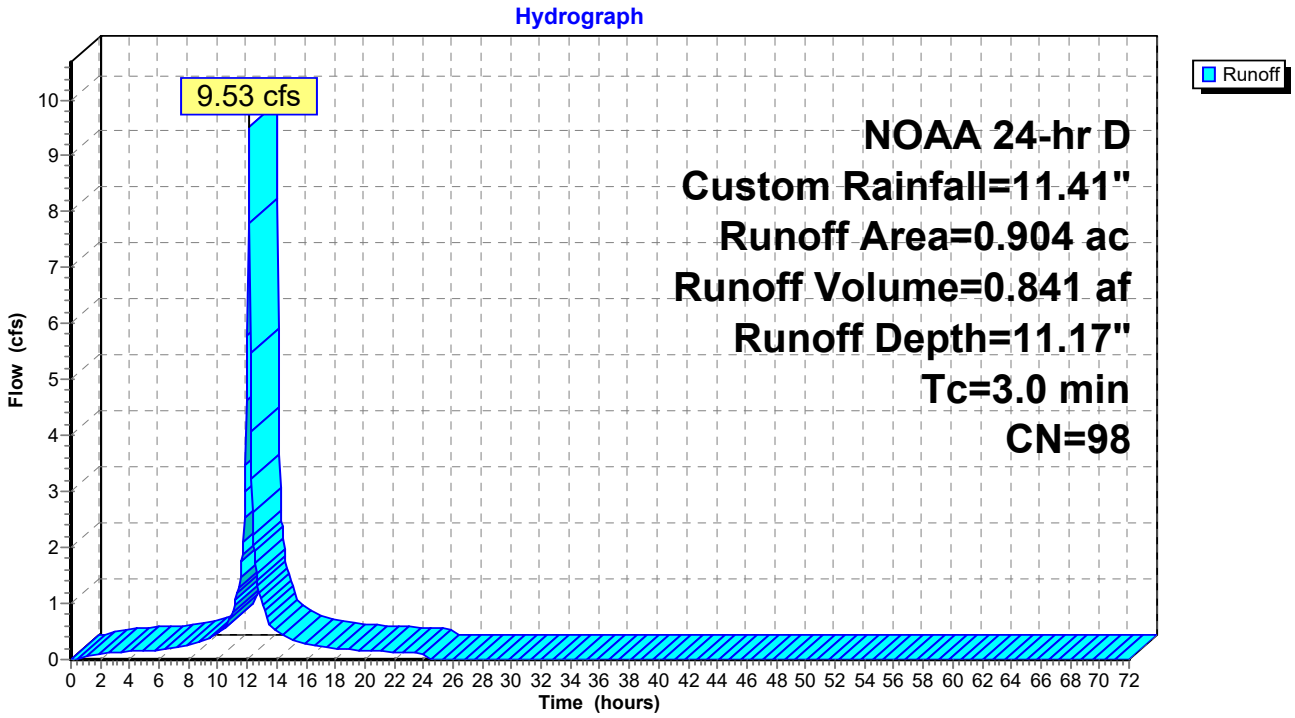
Runoff = 9.53 cfs @ 12.10 hrs, Volume= 0.841 af, Depth=11.17"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

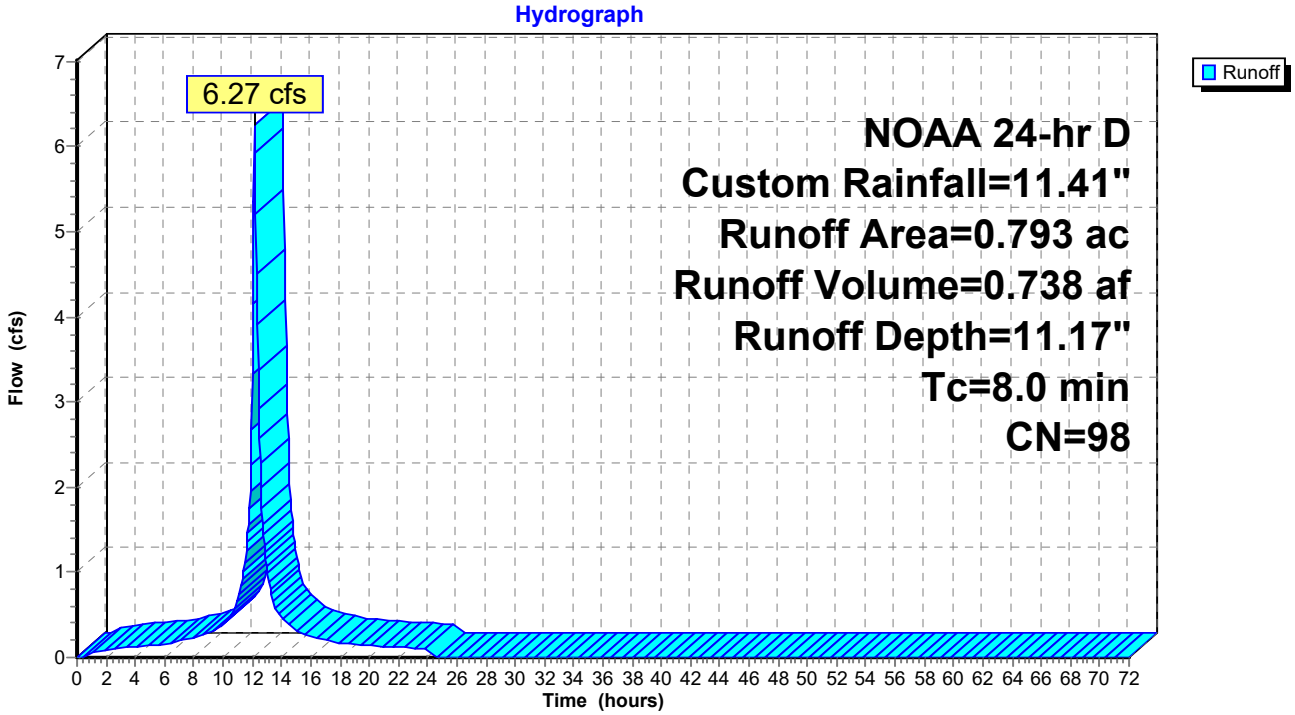
Runoff = 6.27 cfs @ 12.16 hrs, Volume= 0.738 af, Depth=11.17"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

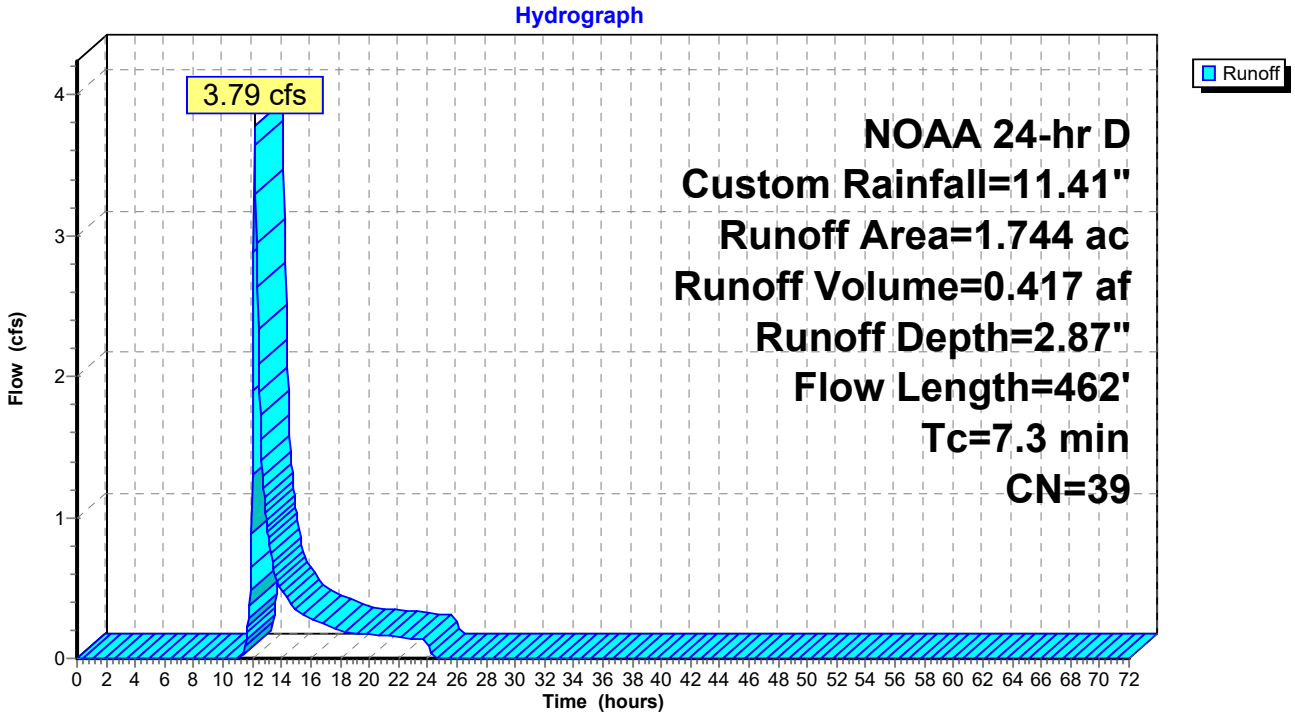
Runoff = 3.79 cfs @ 12.17 hrs, Volume= 0.417 af, Depth= 2.87"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

[79] Warning: Submerged Pond 69P Primary device # 1 by 1.01'
[81] Warning: Exceeded Pond 88P by 1.09' @ 31.75 hrs

Inflow Area = 9.113 ac, 30.45% Impervious, Inflow Depth = 5.18" for Custom event
Inflow = 30.27 cfs @ 12.12 hrs, Volume= 3.931 af
Outflow = 28.24 cfs @ 12.17 hrs, Volume= 3.748 af, Atten= 7%, Lag= 2.9 min
Primary = 28.24 cfs @ 12.17 hrs, Volume= 3.748 af
Routed to Pond 75P : Basin 25

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.86' @ 12.17 hrs Surf.Area= 10,301 sf Storage= 24,356 cf

Plug-Flow detention time= 195.0 min calculated for 3.745 af (95% of inflow)
Center-of-Mass det. time= 144.7 min (1,072.6 - 927.9)

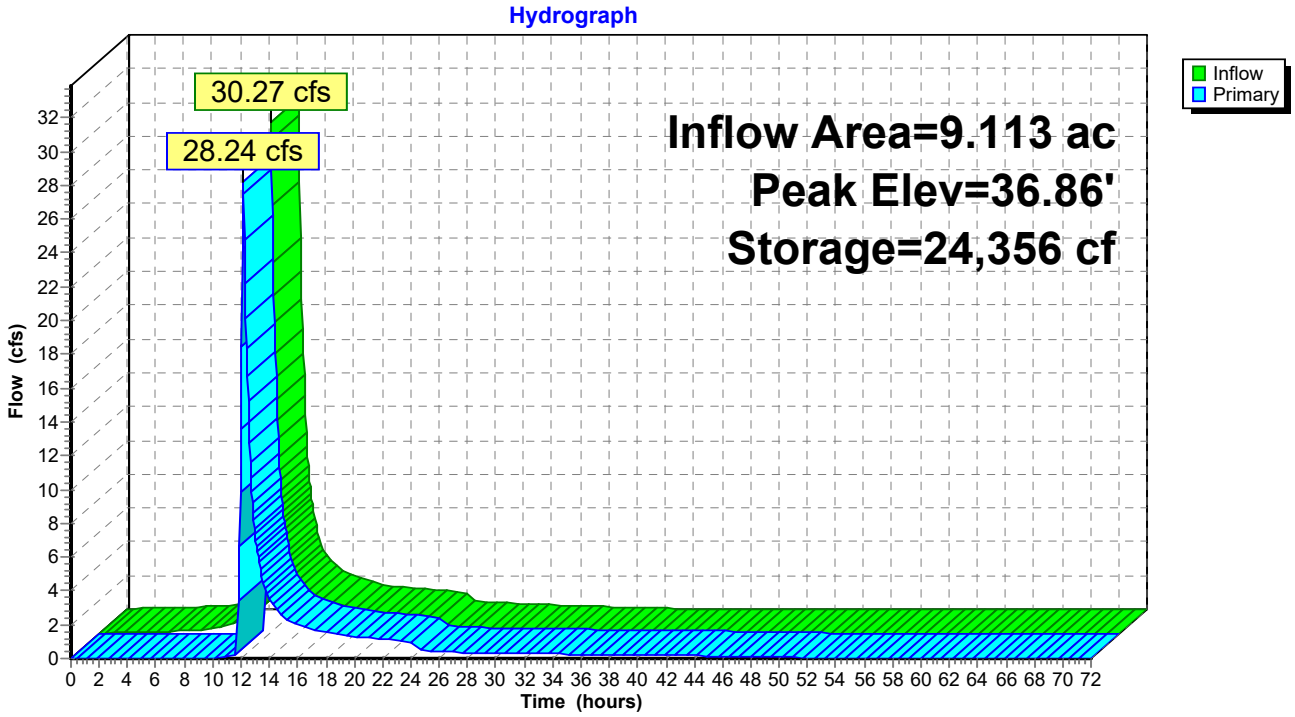
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=27.74 cfs @ 12.17 hrs HW=36.85' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.34 cfs @ 6.87 fps)
2=Orifice/Grate (Weir Controls 27.40 cfs @ 2.64 fps)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

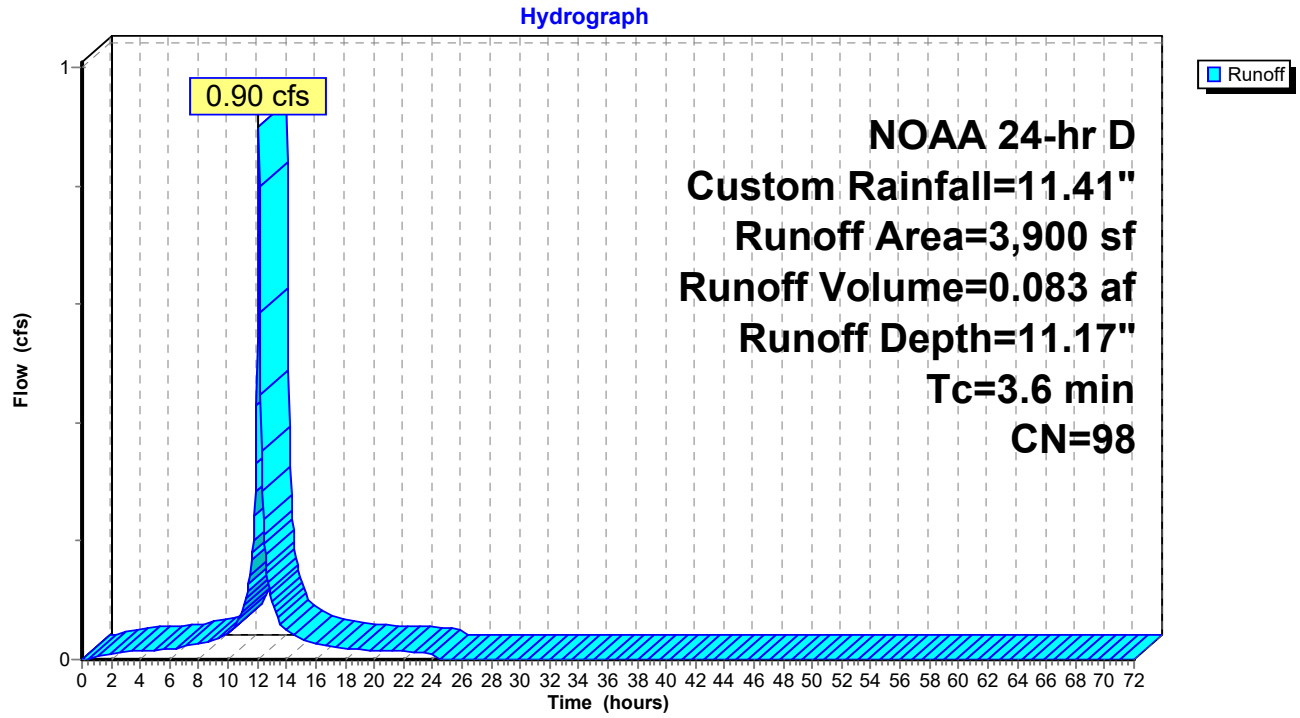
Runoff = 0.90 cfs @ 12.11 hrs, Volume= 0.083 af, Depth=11.17"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

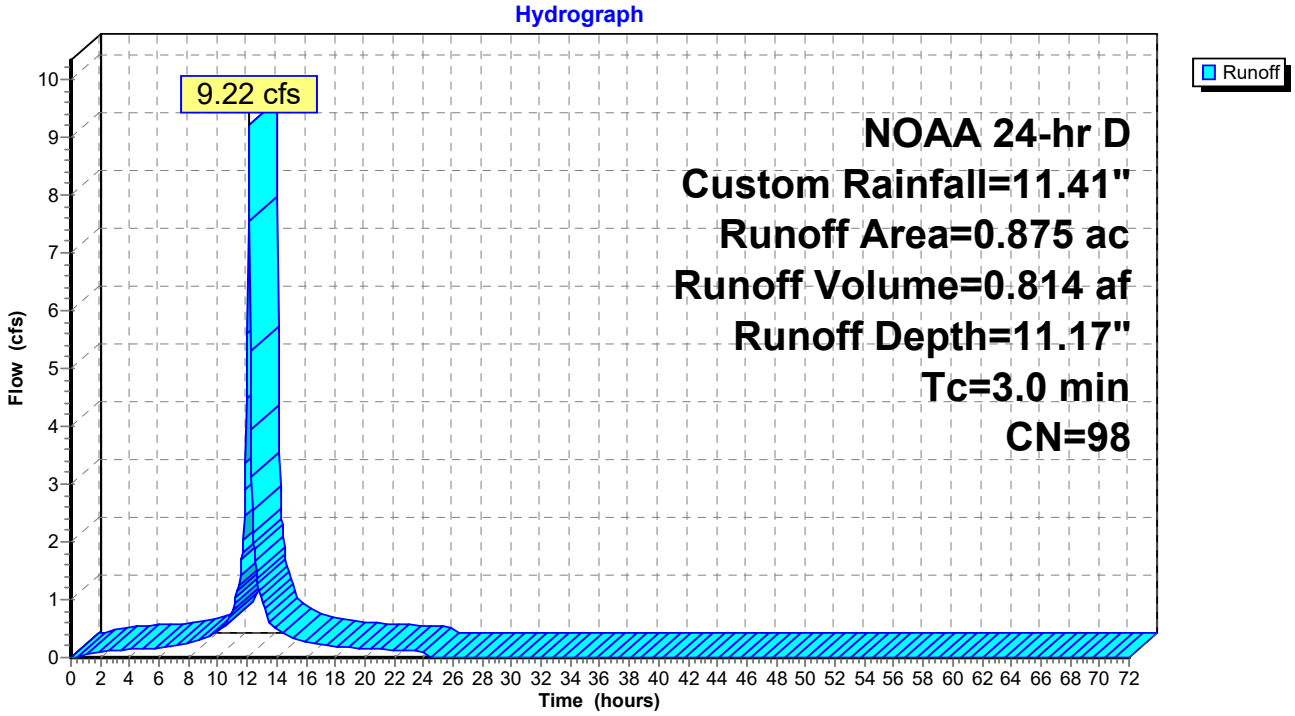
Runoff = 9.22 cfs @ 12.10 hrs, Volume= 0.814 af, Depth=11.17"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

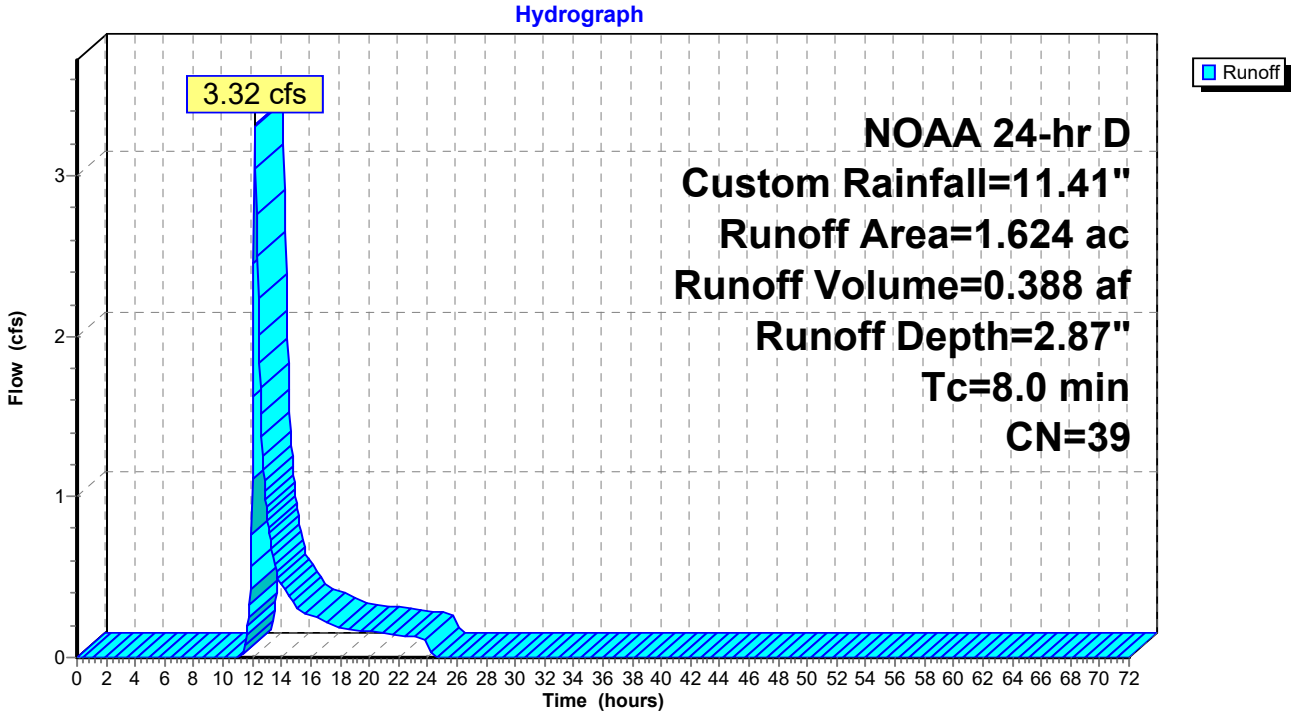
Runoff = 3.32 cfs @ 12.19 hrs, Volume= 0.388 af, Depth= 2.87"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

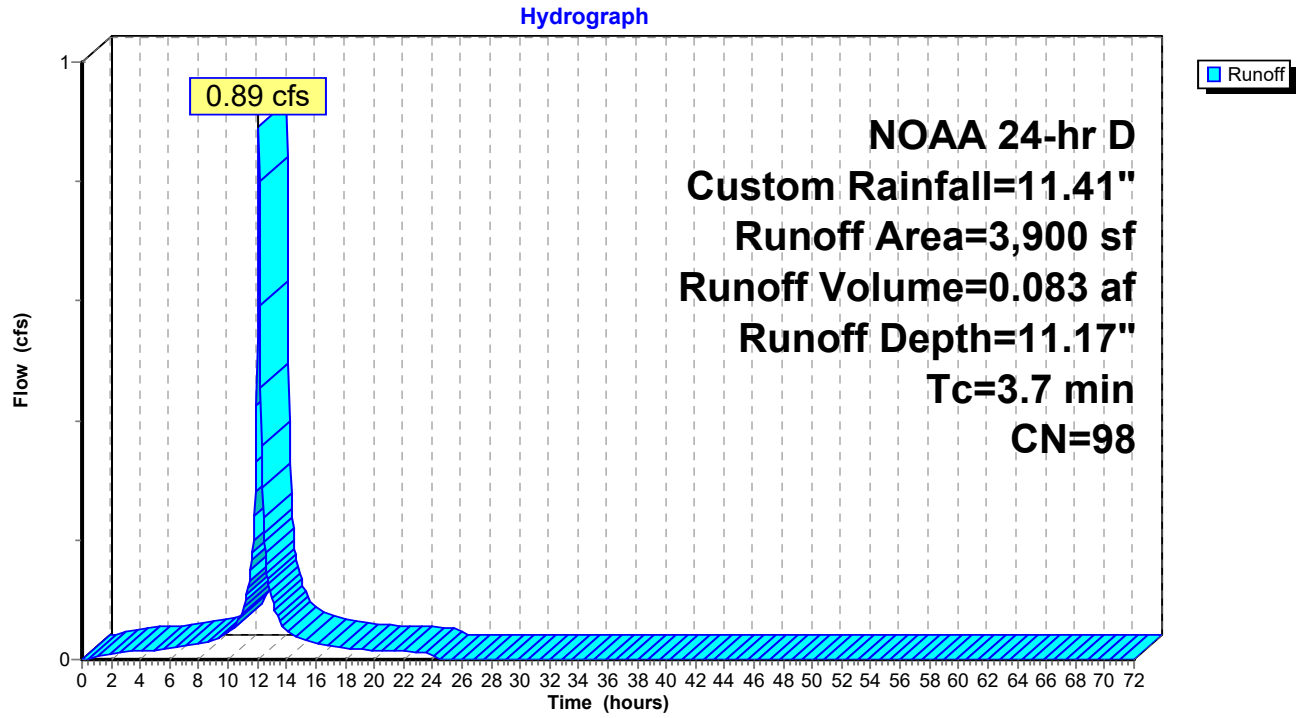
Runoff = 0.89 cfs @ 12.11 hrs, Volume= 0.083 af, Depth=11.17"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

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

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

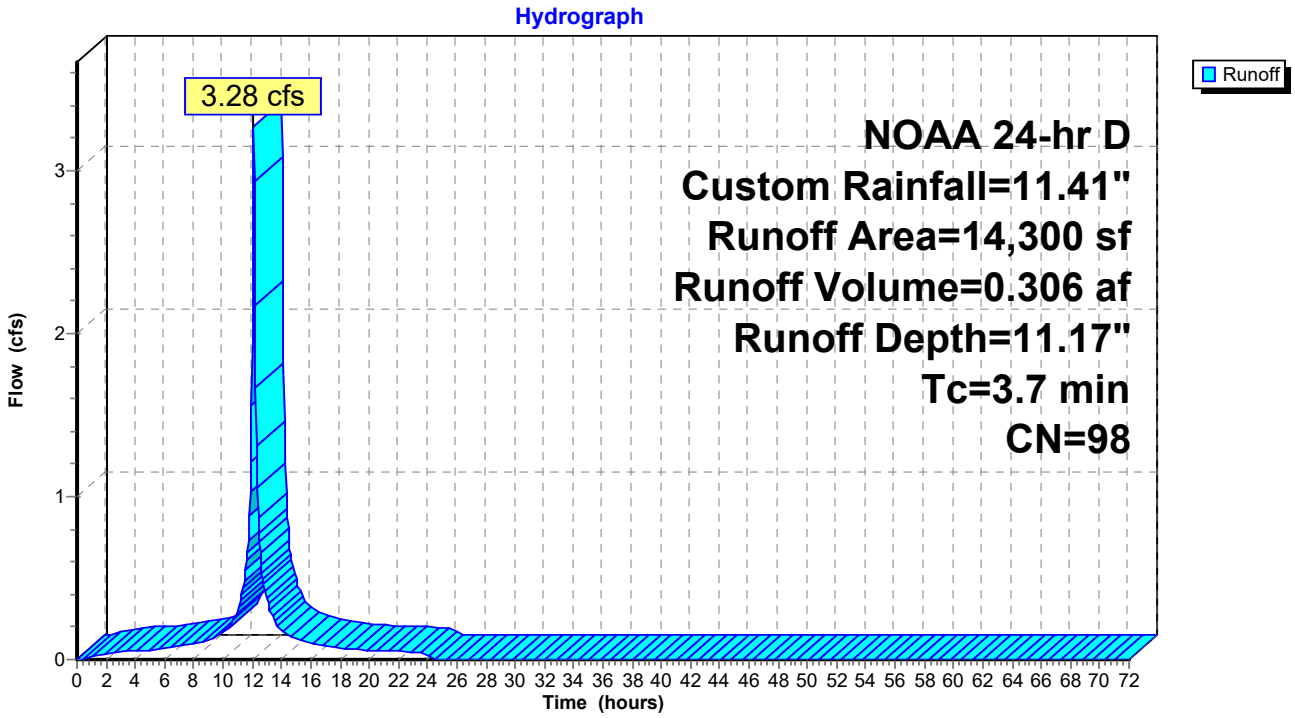
Runoff = 3.28 cfs @ 12.11 hrs, Volume= 0.306 af, Depth=11.17"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

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

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 284% of capacity of segment #1

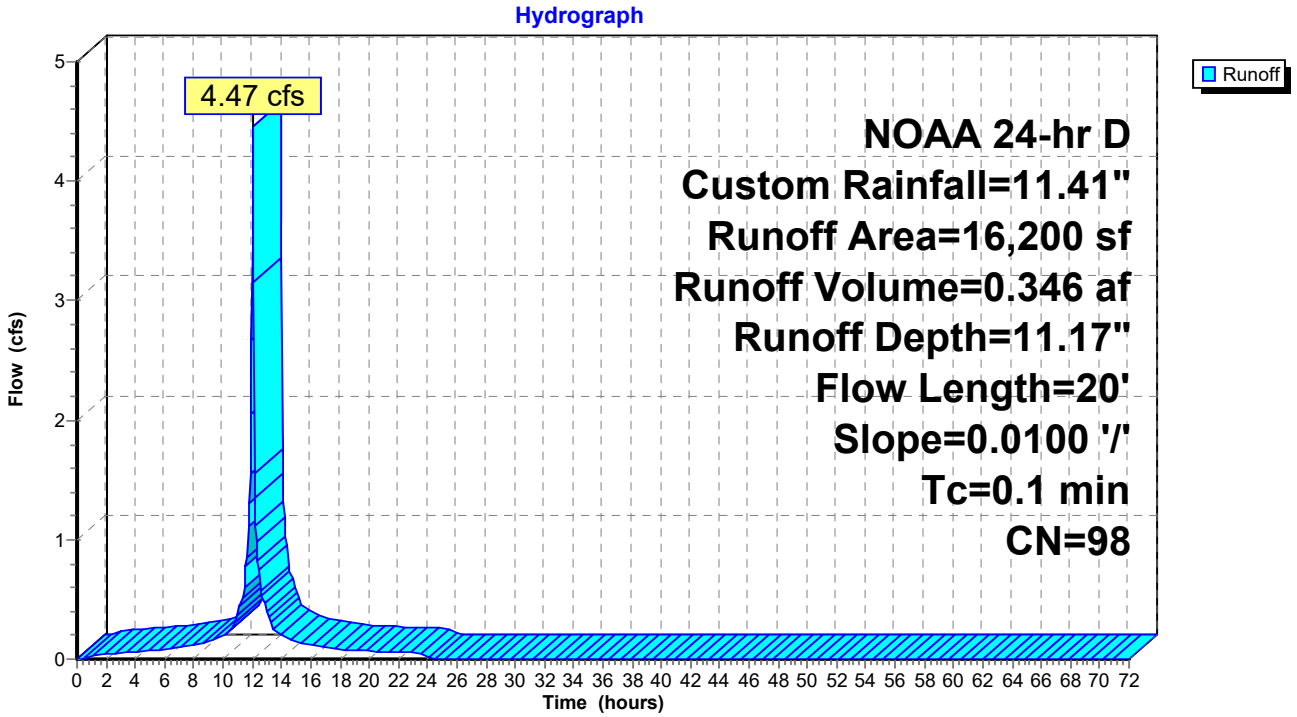
Runoff = 4.47 cfs @ 12.05 hrs, Volume= 0.346 af, Depth=11.17"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Subcatchment 121S: Triplex Lots

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 284% of capacity of segment #1

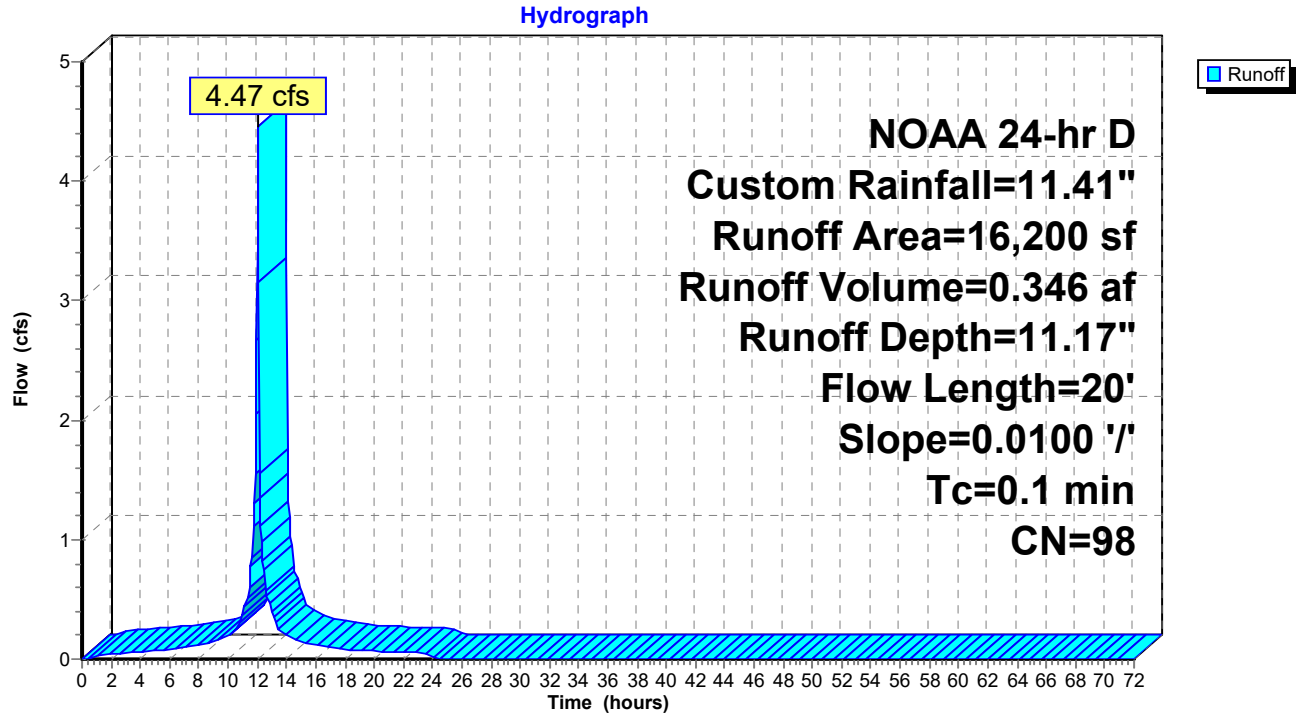
Runoff = 4.47 cfs @ 12.05 hrs, Volume= 0.346 af, Depth=11.17"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Subcatchment 127S: Triplex Lots

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

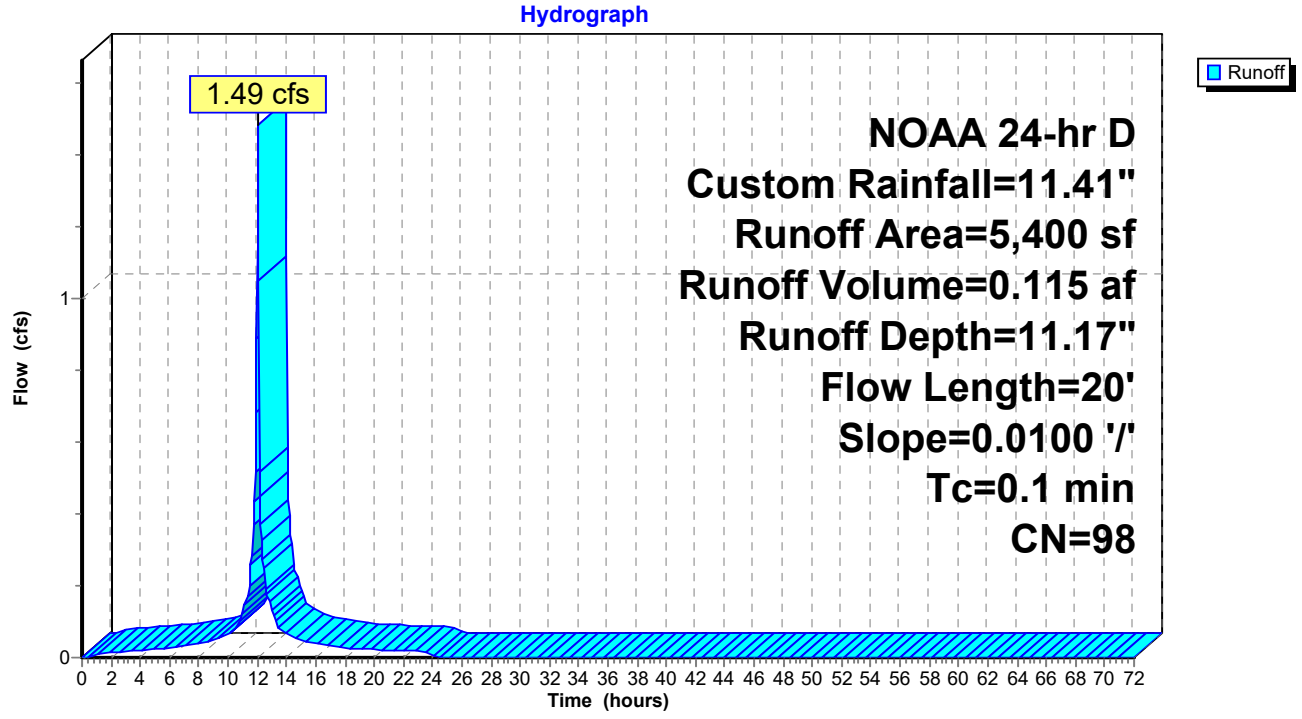
Runoff = 1.49 cfs @ 12.05 hrs, Volume= 0.115 af, Depth=11.17"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots

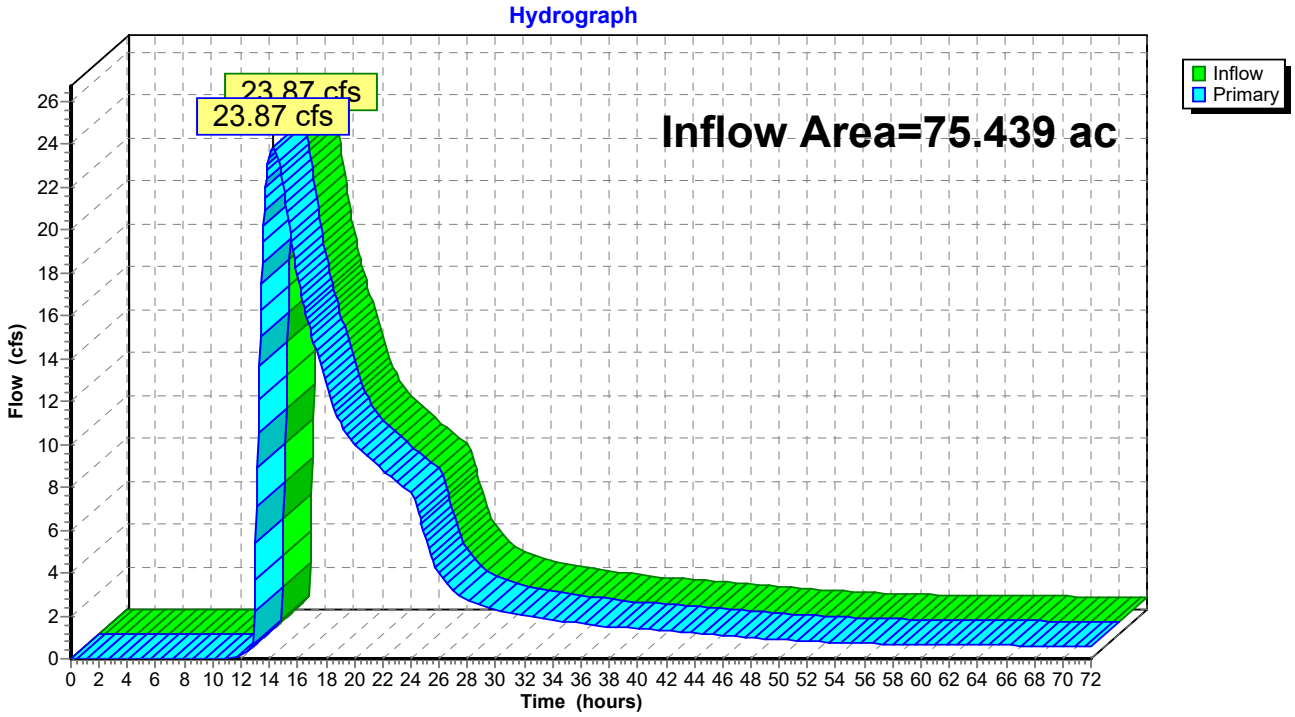


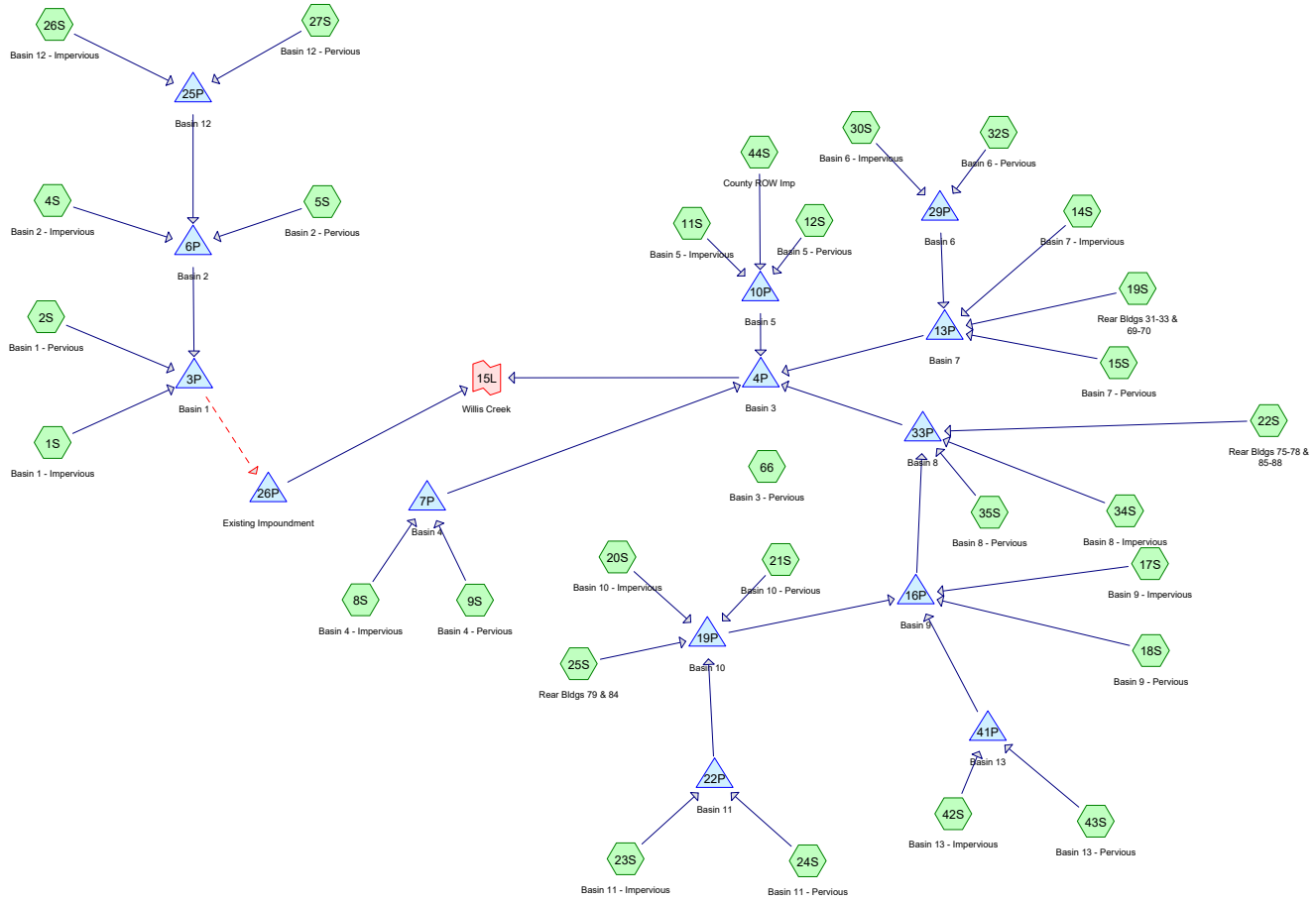
Summary for Link 129L: Tuckerton Creek (Center St)

Inflow Area = 75.439 ac, 28.36% Impervious, Inflow Depth > 2.83" for Custom event
Inflow = 23.87 cfs @ 14.26 hrs, Volume= 17.791 af
Primary = 23.87 cfs @ 14.26 hrs, Volume= 17.791 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 129L: Tuckerton Creek (Center St)





Subcat Reach Pond Link

Routing Diagram for 2, 10 & 100 - YR POST-DEVELOPMENT- WILLIS

Prepared by ARH Associates, Printed 7/24/2025

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NOAA 24-hr	D	Default	24.00	1	11.41	2

Summary for Subcatchment 1S: Basin 1 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 184% of capacity of segment #3

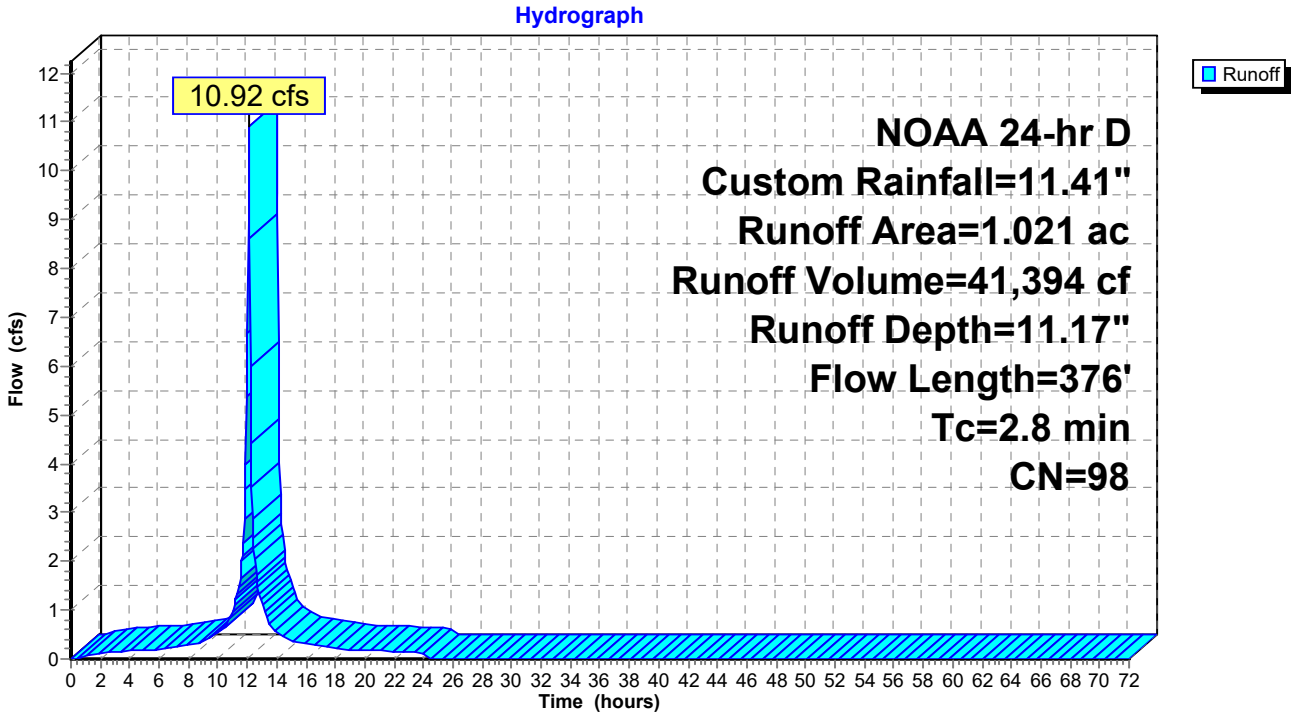
Runoff = 10.92 cfs @ 12.10 hrs, Volume= 41,394 cf, Depth=11.17"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

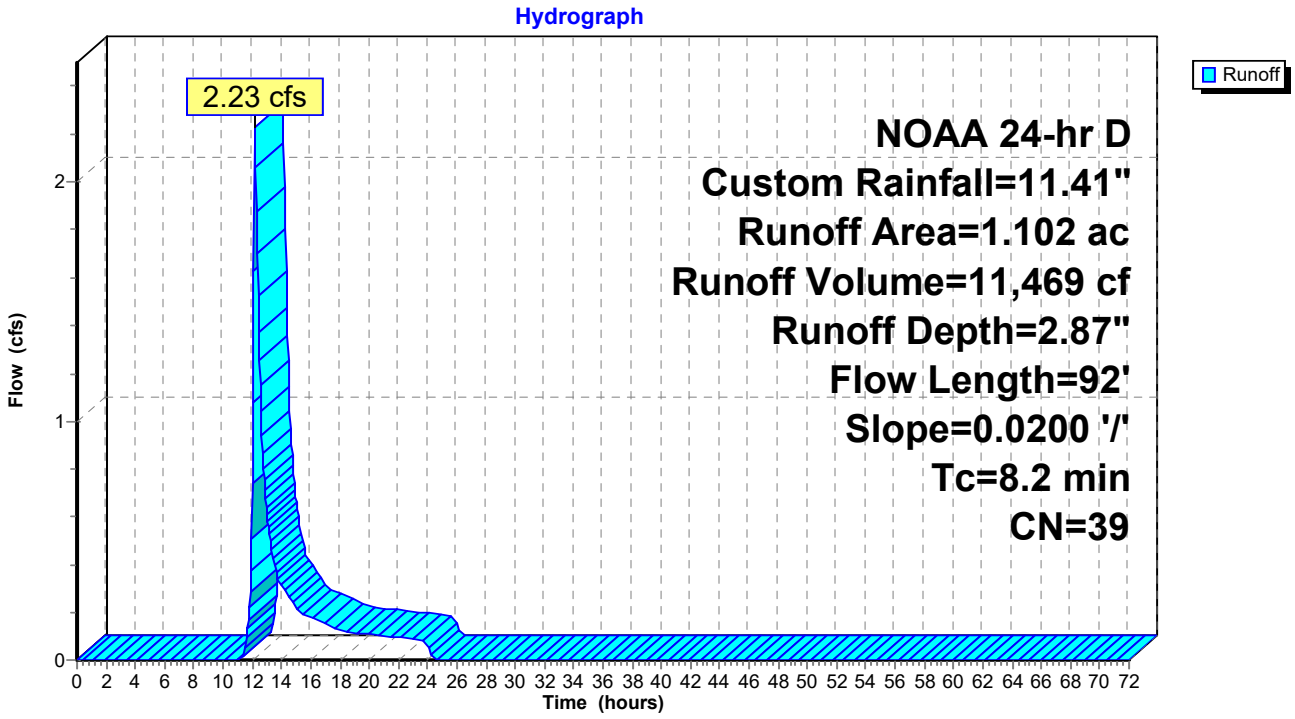
Runoff = 2.23 cfs @ 12.19 hrs, Volume= 11,469 cf, Depth= 2.87"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth > 5.66" for Custom event
Inflow = 14.98 cfs @ 12.17 hrs, Volume= 133,229 cf
Outflow = 14.25 cfs @ 12.22 hrs, Volume= 128,887 cf, Atten= 5%, Lag= 3.0 min
Primary = 0.24 cfs @ 12.22 hrs, Volume= 36,387 cf
Secondary = 14.01 cfs @ 12.22 hrs, Volume= 92,500 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.00' @ 12.22 hrs Surf.Area= 7,204 sf Storage= 11,210 cf

Plug-Flow detention time= 194.5 min calculated for 128,798 cf (97% of inflow)
Center-of-Mass det. time= 121.8 min (1,348.5 - 1,226.7)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

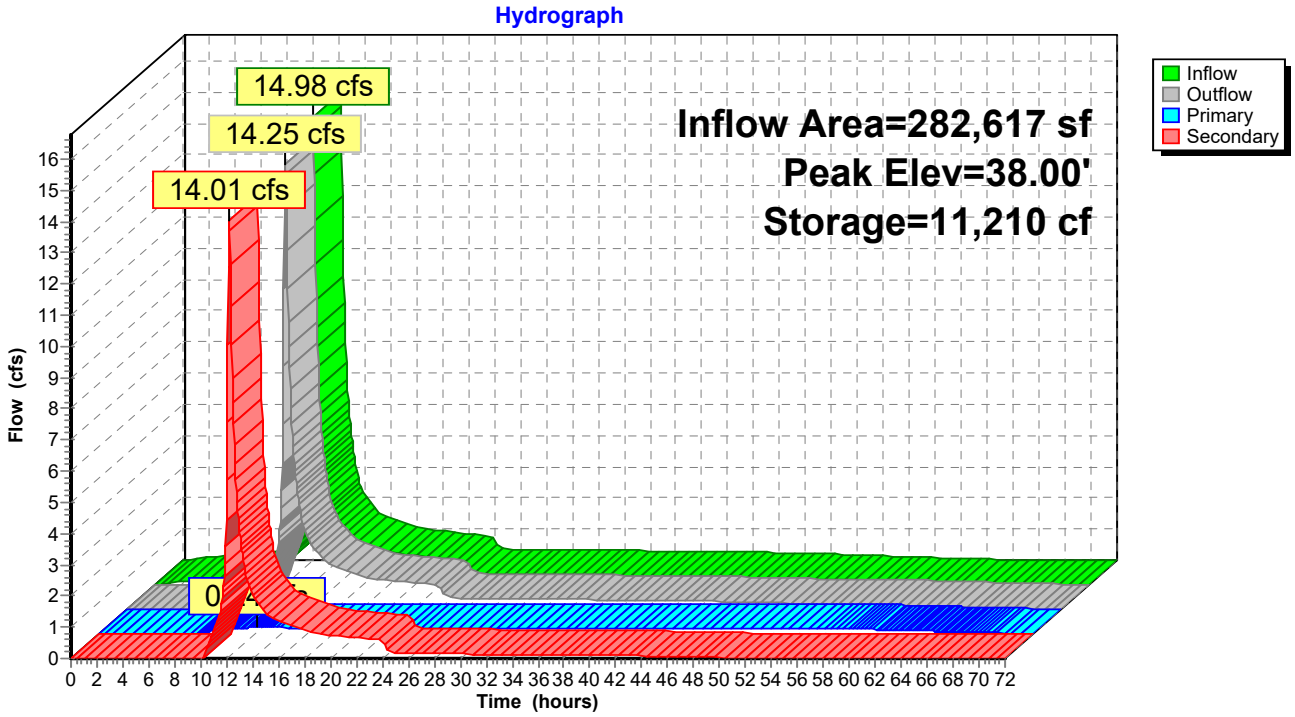
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 12.22 hrs HW=38.00' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.24 cfs @ 4.96 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=13.82 cfs @ 12.22 hrs HW=38.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 13.82 cfs @ 1.85 fps)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 901,235 sf, 41.69% Impervious, Inflow Depth = 7.50" for Custom event
Inflow = 112.01 cfs @ 12.17 hrs, Volume= 563,116 cf
Outflow = 33.51 cfs @ 12.72 hrs, Volume= 305,238 cf, Atten= 70%, Lag= 32.9 min
Primary = 33.51 cfs @ 12.72 hrs, Volume= 305,238 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.86' @ 12.72 hrs Surf.Area= 45,210 sf Storage= 282,884 cf

Plug-Flow detention time= 325.5 min calculated for 305,026 cf (54% of inflow)
Center-of-Mass det. time= 166.7 min (1,032.9 - 866.2)

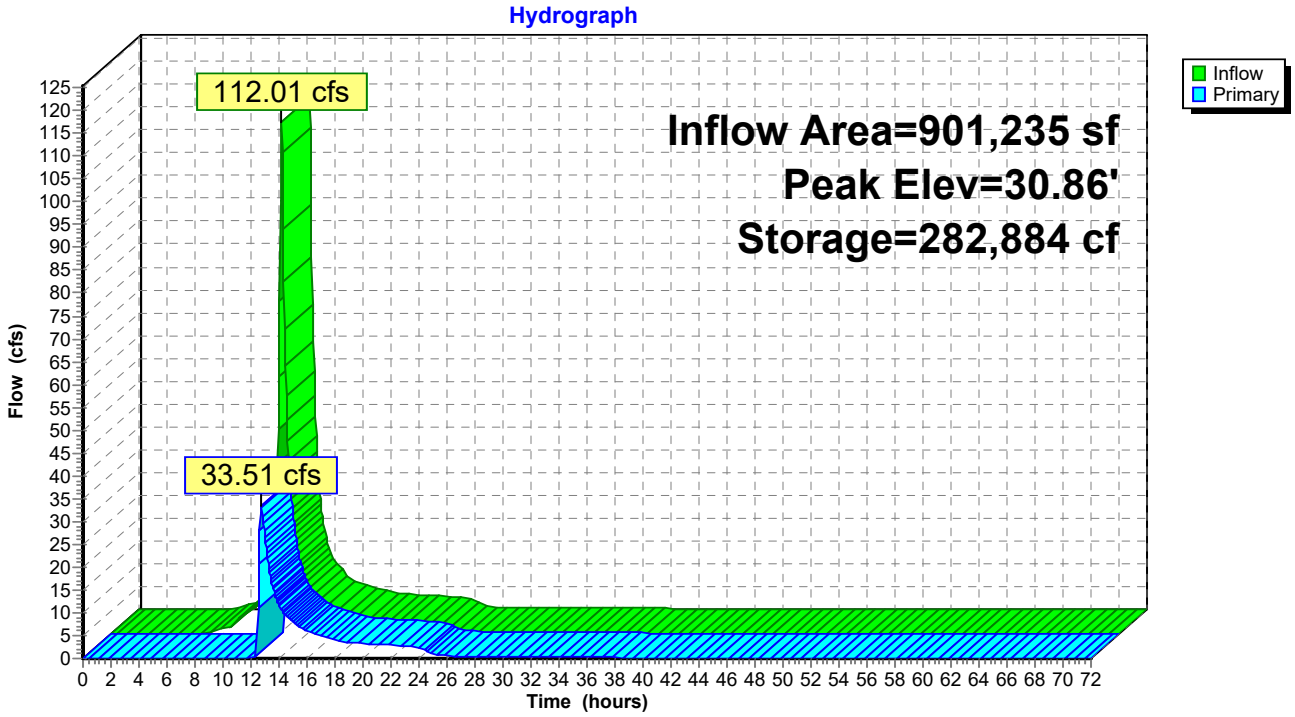
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	289,204 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=33.31 cfs @ 12.72 hrs HW=30.86' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 33.31 cfs @ 1.99 fps)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 167% of capacity of segment #3

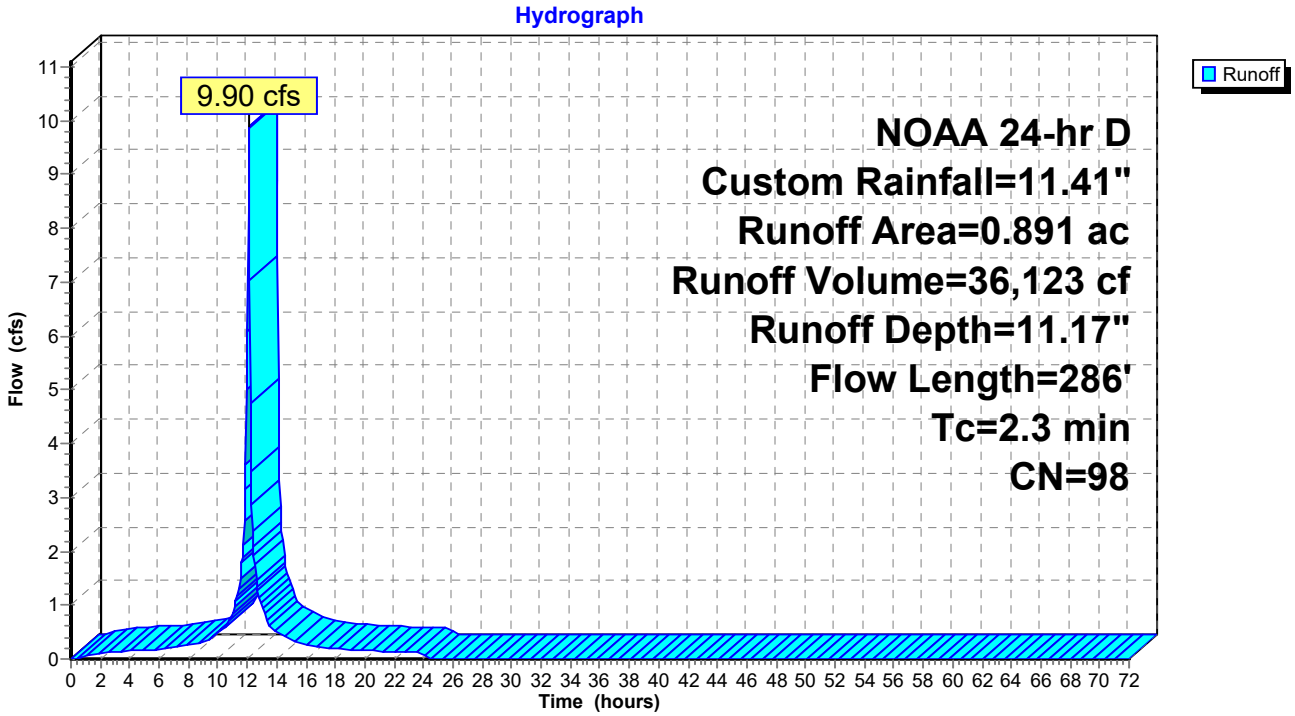
Runoff = 9.90 cfs @ 12.09 hrs, Volume= 36,123 cf, Depth=11.17"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

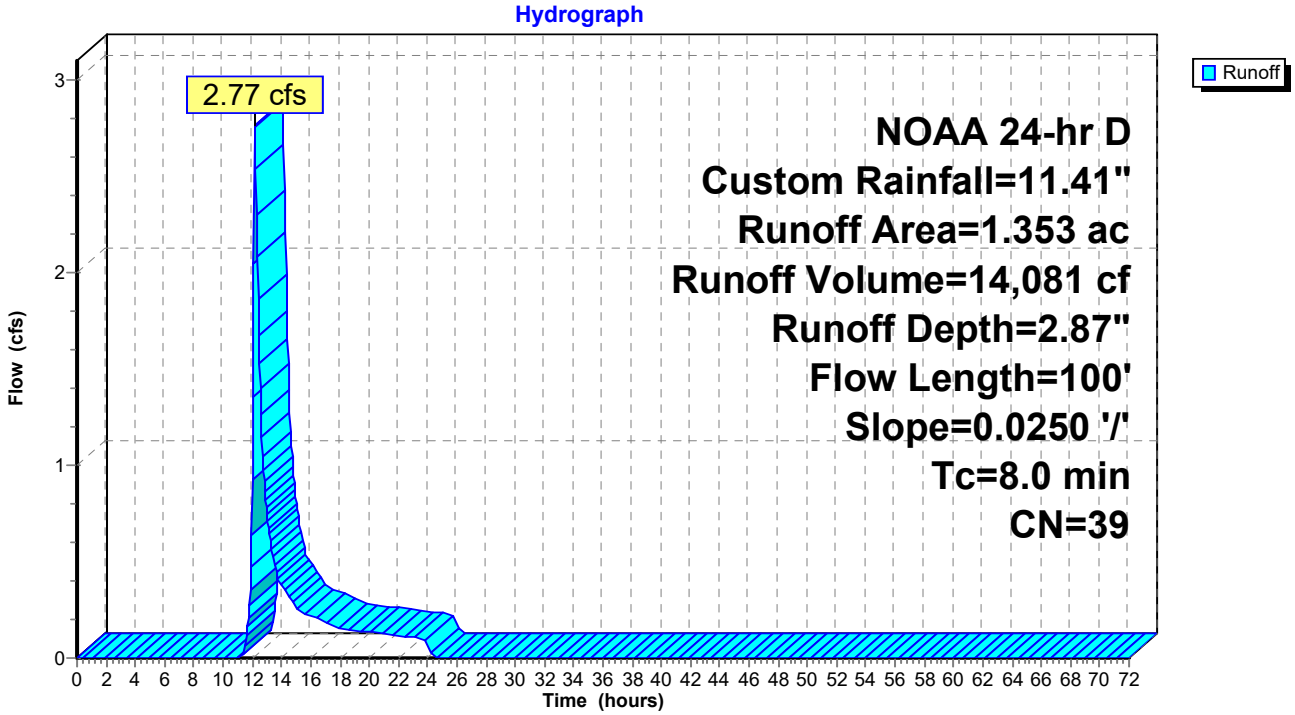
Runoff = 2.77 cfs @ 12.19 hrs, Volume= 14,081 cf, Depth= 2.87"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

[81] Warning: Exceeded Pond 25P by 0.53' @ 41.55 hrs

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth > 5.30" for Custom event
Inflow = 12.11 cfs @ 12.10 hrs, Volume= 83,998 cf
Outflow = 6.68 cfs @ 12.25 hrs, Volume= 80,367 cf, Atten= 45%, Lag= 8.9 min
Primary = 6.68 cfs @ 12.25 hrs, Volume= 80,367 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.96' @ 12.25 hrs Surf.Area= 10,218 sf Storage= 20,886 cf

Plug-Flow detention time= 499.4 min calculated for 80,311 cf (96% of inflow)
Center-of-Mass det. time= 426.6 min (1,525.9 - 1,099.3)

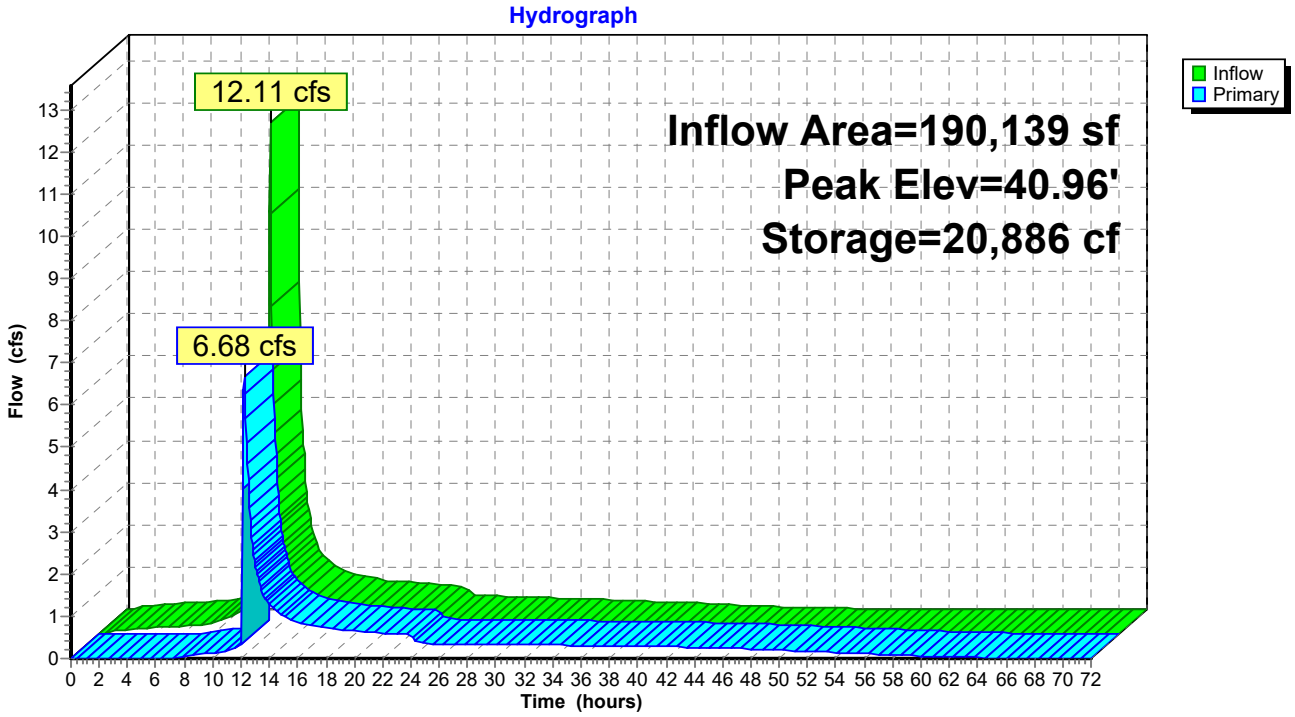
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.65 cfs @ 12.25 hrs HW=40.96' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.06 fps)
└**2=Orifice/Grate** (Weir Controls 6.31 cfs @ 1.62 fps)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 6.72" for Custom event
Inflow = 14.13 cfs @ 12.11 hrs, Volume= 61,577 cf
Outflow = 12.99 cfs @ 12.16 hrs, Volume= 57,120 cf, Atten= 8%, Lag= 2.6 min
Primary = 12.99 cfs @ 12.16 hrs, Volume= 57,120 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.39' @ 12.16 hrs Surf.Area= 7,369 sf Storage= 12,244 cf

Plug-Flow detention time= 194.3 min calculated for 57,120 cf (93% of inflow)
Center-of-Mass det. time= 152.2 min (926.7 - 774.5)

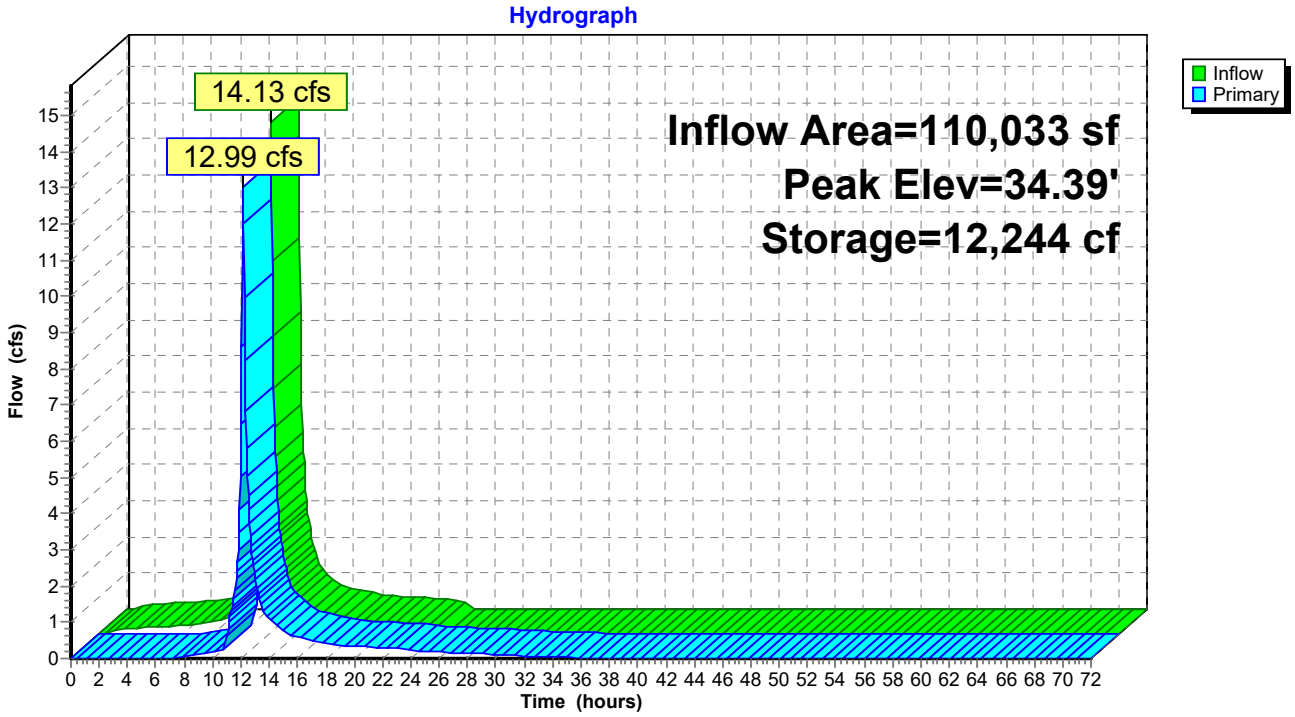
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.85 cfs @ 12.16 hrs HW=34.39' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.26 cfs @ 5.28 fps)
2=Orifice/Grate (Weir Controls 12.59 cfs @ 2.03 fps)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 201% of capacity of segment #3

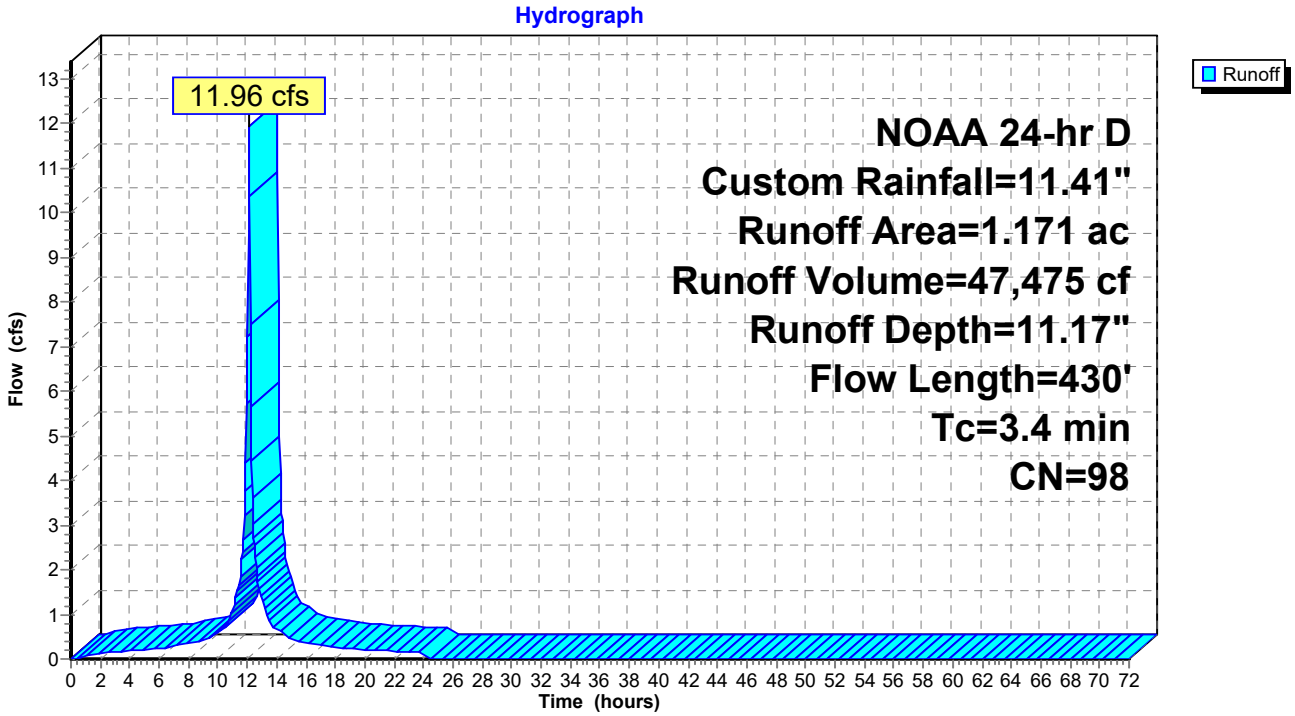
Runoff = 11.96 cfs @ 12.10 hrs, Volume= 47,475 cf, Depth=11.17"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

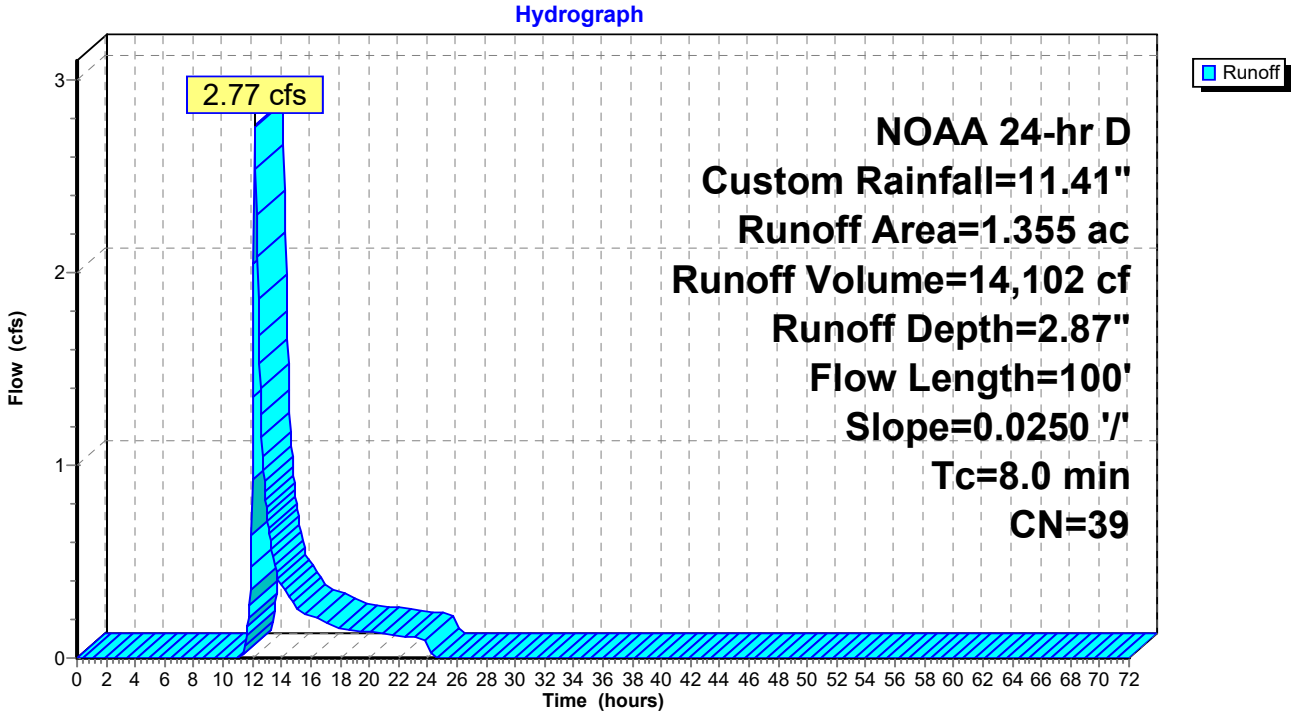
Runoff = 2.77 cfs @ 12.19 hrs, Volume= 14,102 cf, Depth= 2.87"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 8.31" for Custom event
Inflow = 17.10 cfs @ 12.09 hrs, Volume= 60,304 cf
Outflow = 15.98 cfs @ 12.11 hrs, Volume= 55,301 cf, Atten= 7%, Lag= 1.2 min
Primary = 15.98 cfs @ 12.11 hrs, Volume= 55,301 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.01' @ 12.11 hrs Surf.Area= 4,233 sf Storage= 6,783 cf

Plug-Flow detention time= 92.5 min calculated for 55,301 cf (92% of inflow)
Center-of-Mass det. time= 45.8 min (812.2 - 766.4)

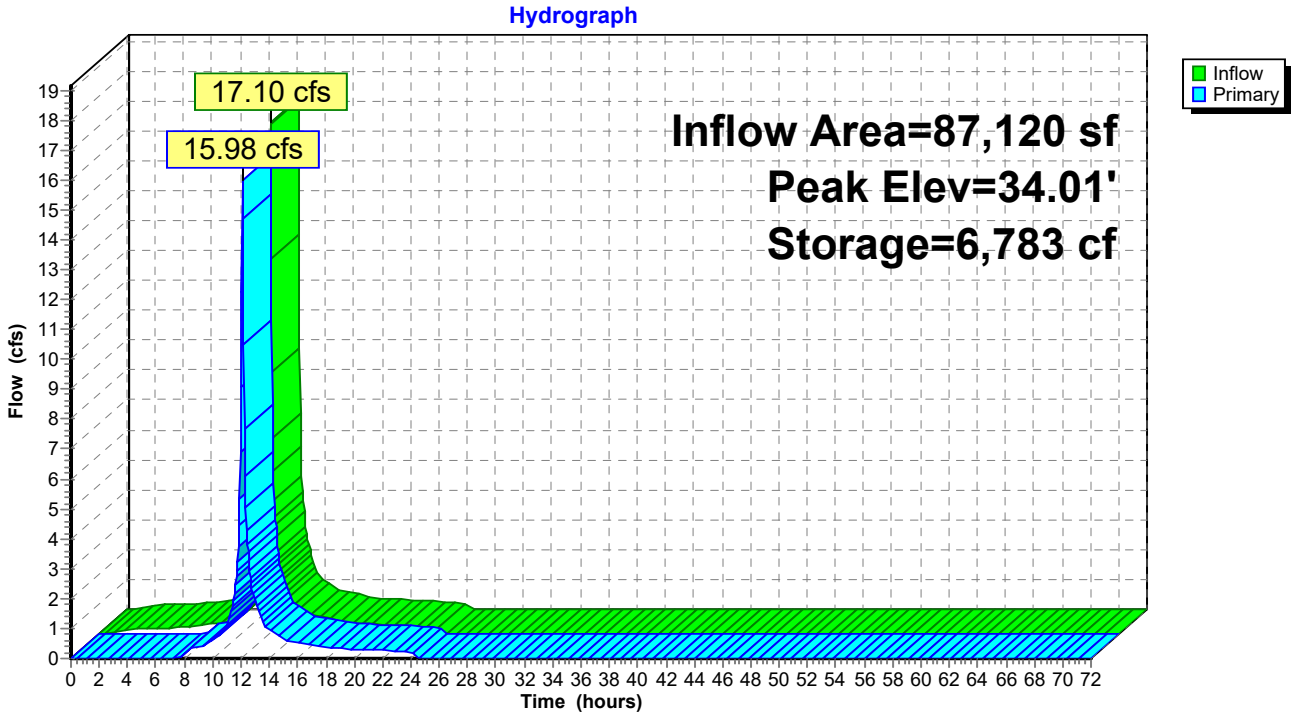
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=15.52 cfs @ 12.11 hrs HW=34.00' (Free Discharge)
1=Orifice/Grate (Weir Controls 15.52 cfs @ 2.18 fps)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

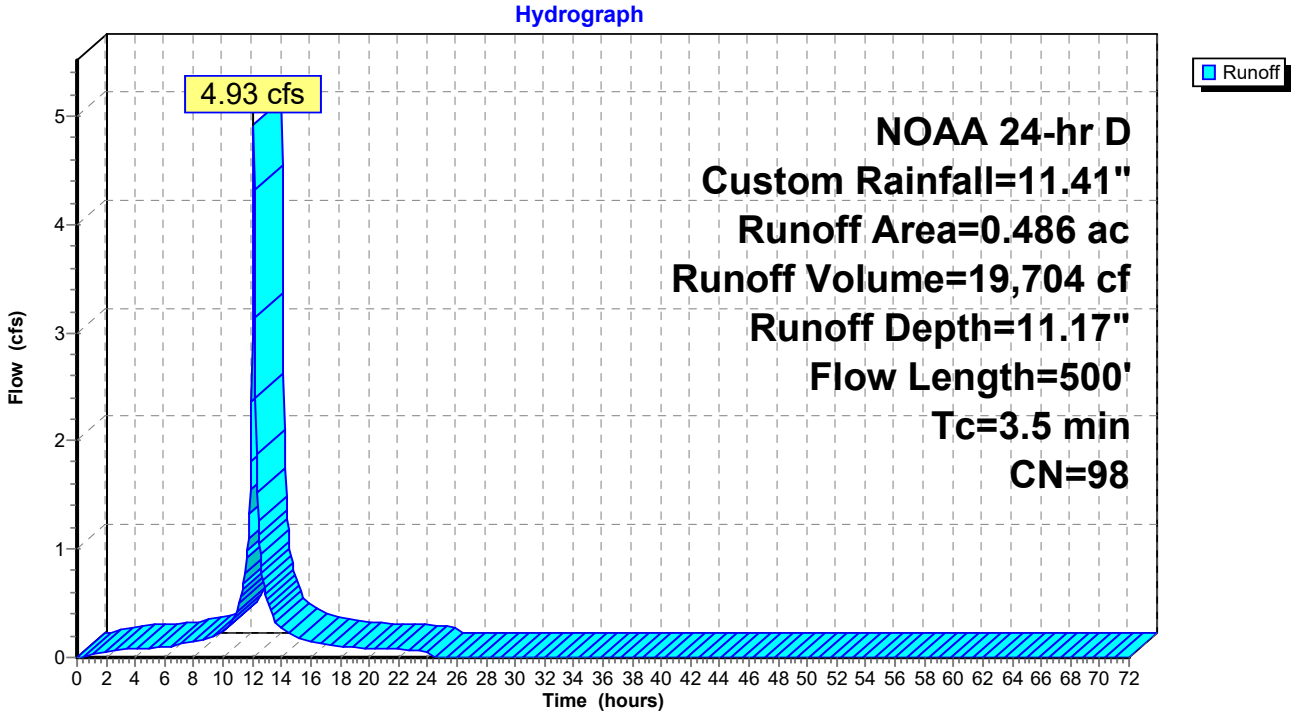
Runoff = 4.93 cfs @ 12.11 hrs, Volume= 19,704 cf, Depth=11.17"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

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

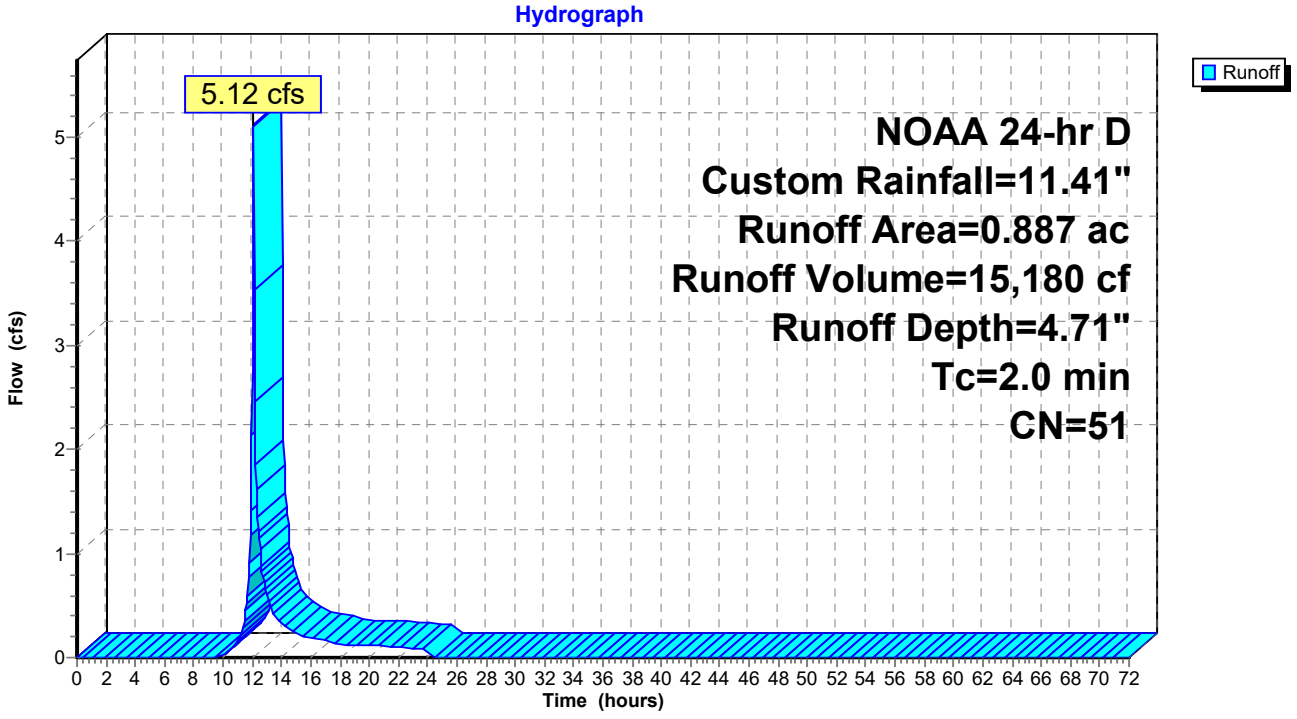
Runoff = 5.12 cfs @ 12.09 hrs, Volume= 15,180 cf, Depth= 4.71"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 178,904 sf, 43.22% Impervious, Inflow Depth = 9.32" for Custom event
Inflow = 28.77 cfs @ 12.17 hrs, Volume= 139,019 cf
Outflow = 28.08 cfs @ 12.20 hrs, Volume= 133,976 cf, Atten= 2%, Lag= 1.9 min
Primary = 28.08 cfs @ 12.20 hrs, Volume= 133,976 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.72' @ 12.20 hrs Surf.Area= 5,769 sf Storage= 8,438 cf

Plug-Flow detention time= 45.1 min calculated for 133,976 cf (96% of inflow)
Center-of-Mass det. time= 22.9 min (808.5 - 785.6)

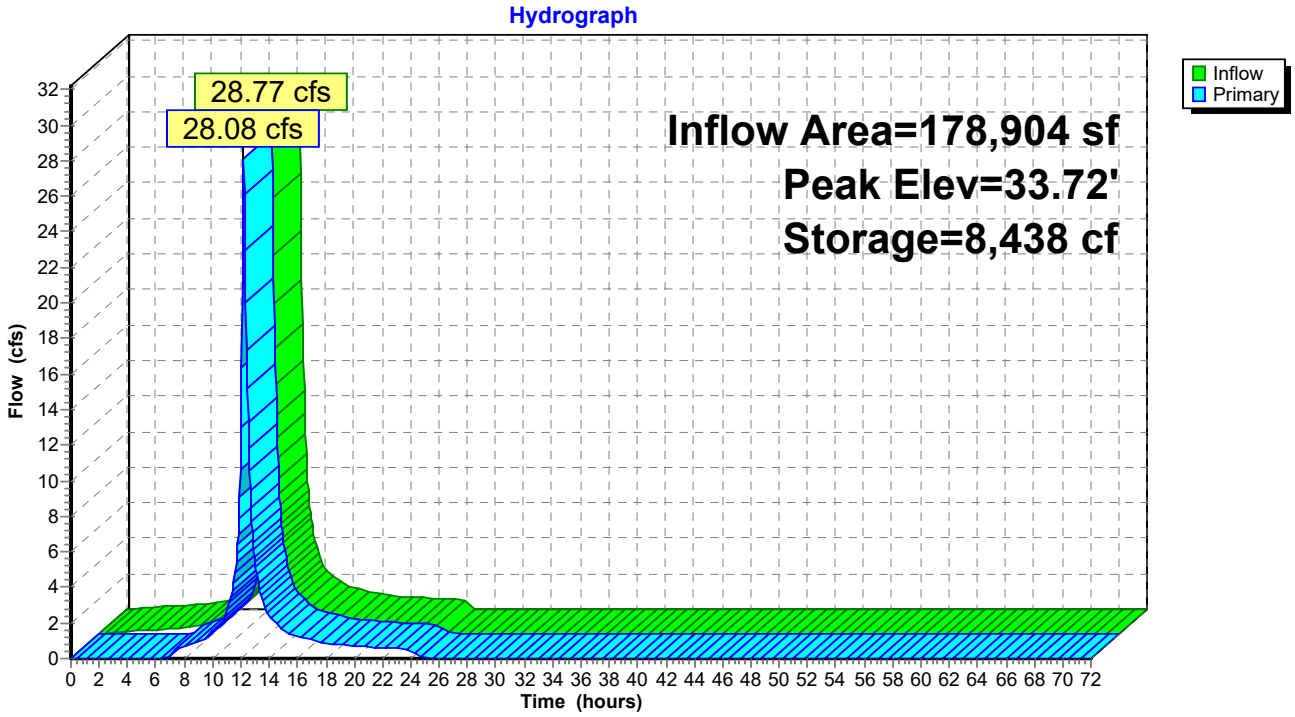
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=28.05 cfs @ 12.20 hrs HW=33.72' (Free Discharge)
1=Orifice/Grate (Weir Controls 28.05 cfs @ 2.66 fps)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

[47] Hint: Peak is 157% of capacity of segment #3

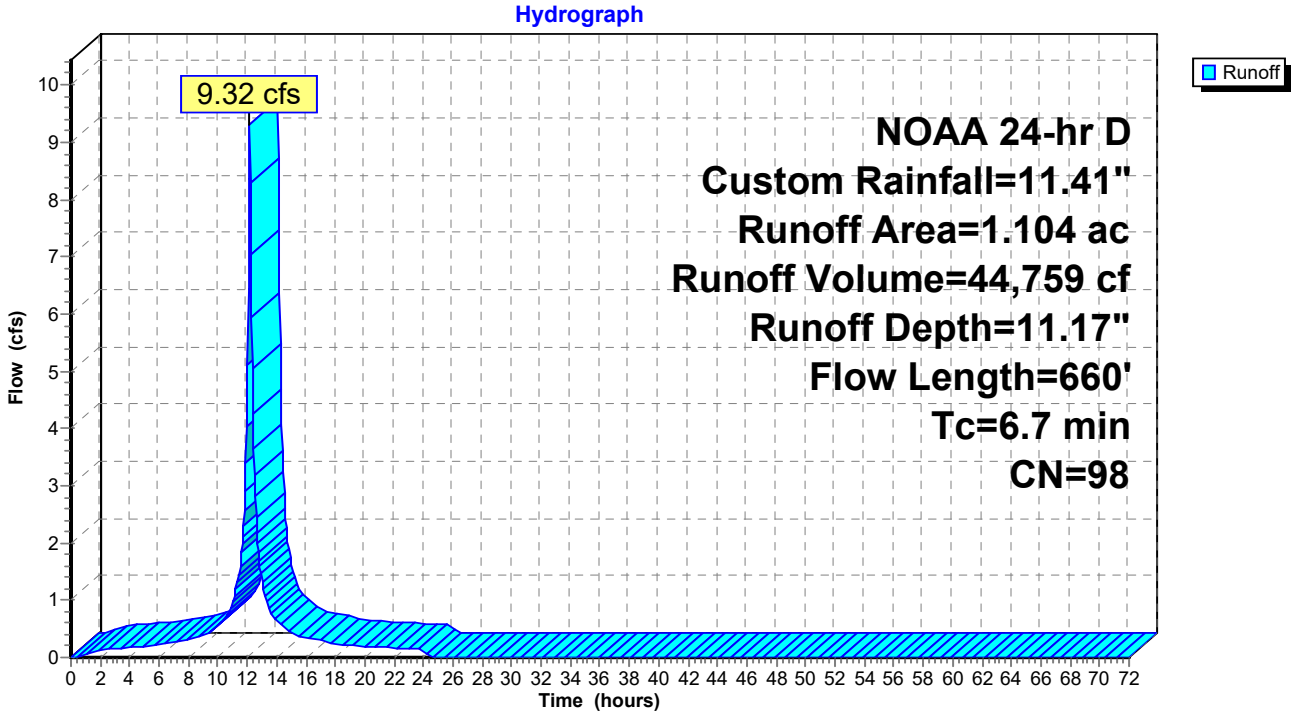
Runoff = 9.32 cfs @ 12.15 hrs, Volume= 44,759 cf, Depth=11.17"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

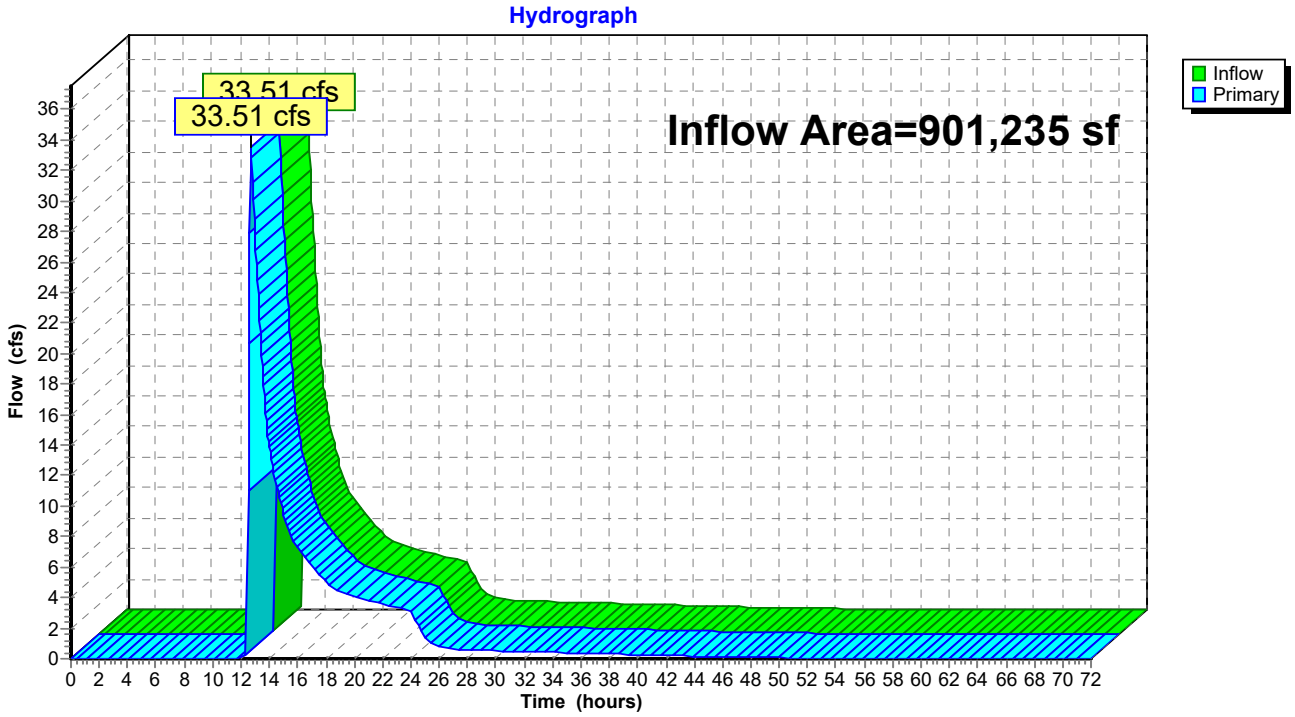


Summary for Link 15L: Willis Creek

Inflow Area = 901,235 sf, 41.69% Impervious, Inflow Depth = 4.83" for Custom event
Inflow = 33.51 cfs @ 12.72 hrs, Volume= 362,864 cf
Primary = 33.51 cfs @ 12.72 hrs, Volume= 362,864 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

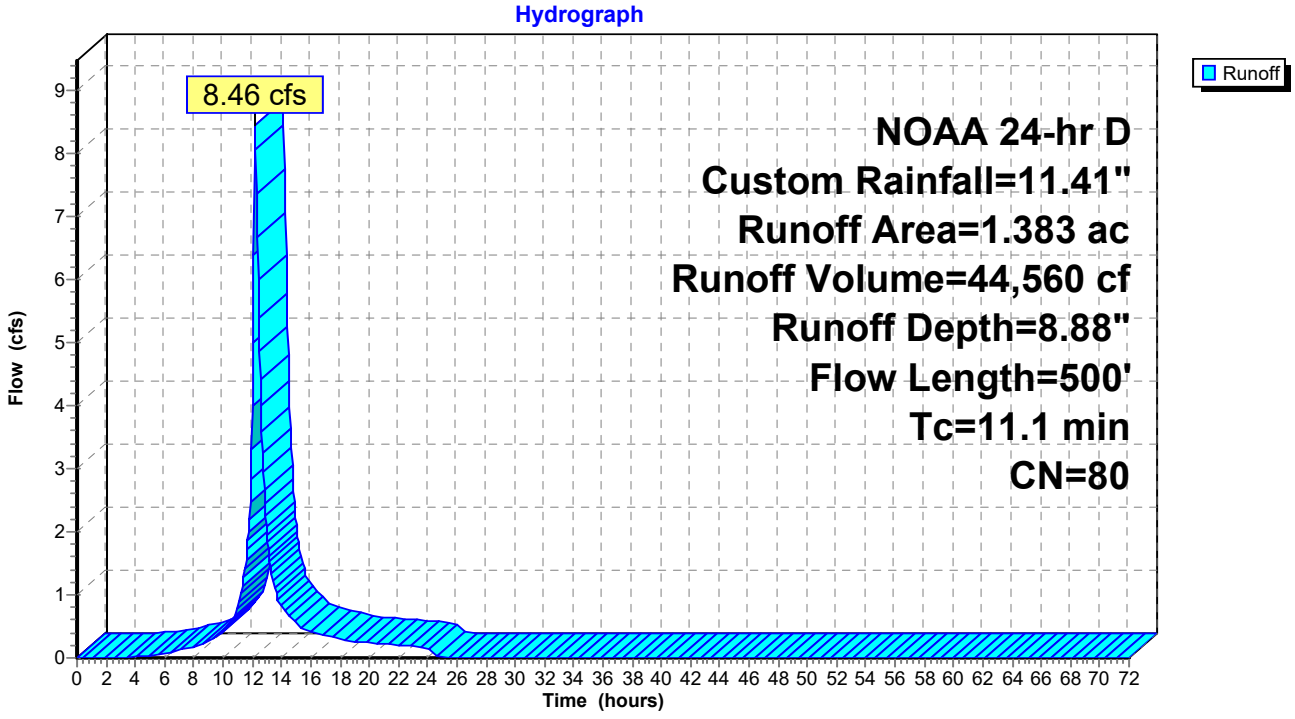
Runoff = 8.46 cfs @ 12.21 hrs, Volume= 44,560 cf, Depth= 8.88"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

[81] Warning: Exceeded Pond 41P by 0.44' @ 7.40 hrs

Inflow Area = 399,649 sf, 39.44% Impervious, Inflow Depth = 6.73" for Custom event
Inflow = 41.56 cfs @ 12.16 hrs, Volume= 224,165 cf
Outflow = 41.12 cfs @ 12.19 hrs, Volume= 219,932 cf, Atten= 1%, Lag= 1.5 min
Primary = 41.12 cfs @ 12.19 hrs, Volume= 219,932 cf
Routed to Pond 33P : Basin 8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.78' @ 12.19 hrs Surf.Area= 6,238 sf Storage= 9,110 cf

Plug-Flow detention time= 39.5 min calculated for 219,779 cf (98% of inflow)
Center-of-Mass det. time= 15.3 min (882.3 - 866.9)

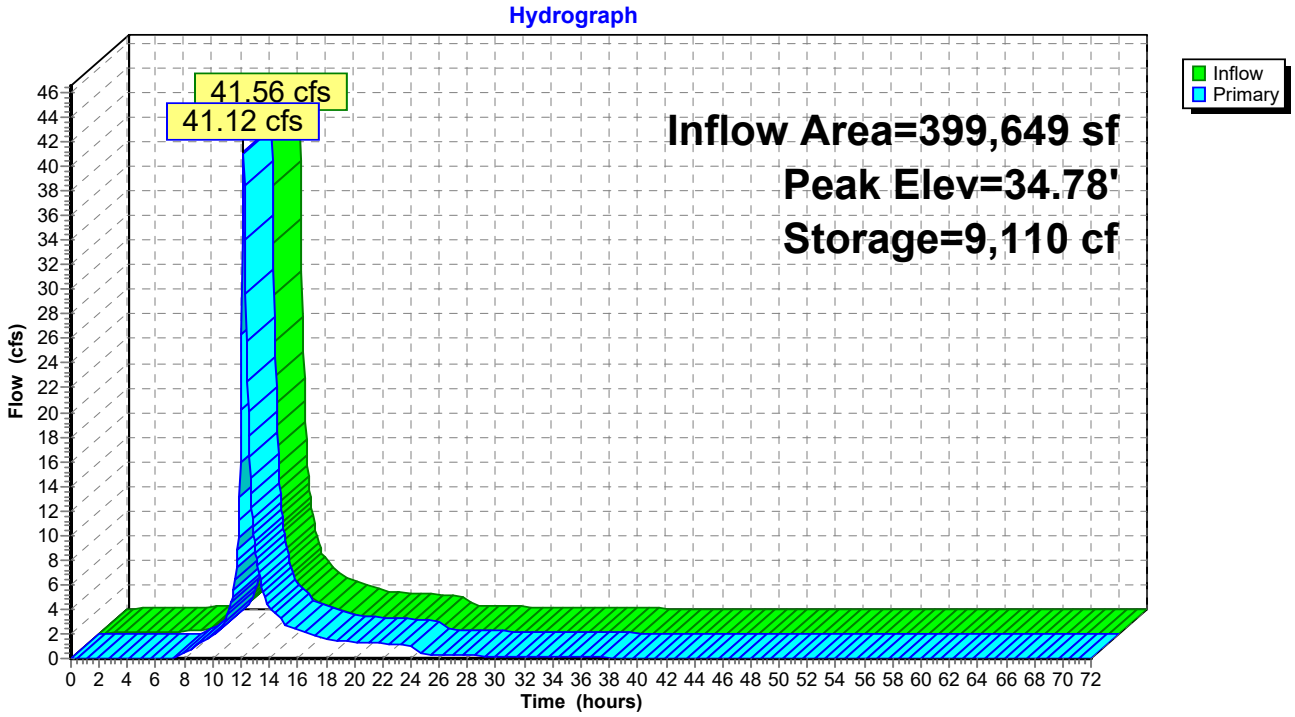
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=40.79 cfs @ 12.19 hrs HW=34.78' (Free Discharge)
└**1=Orifice/Grate** (Weir Controls 40.79 cfs @ 3.01 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Subcatchment 17S: Basin 9 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 195% of capacity of segment #3

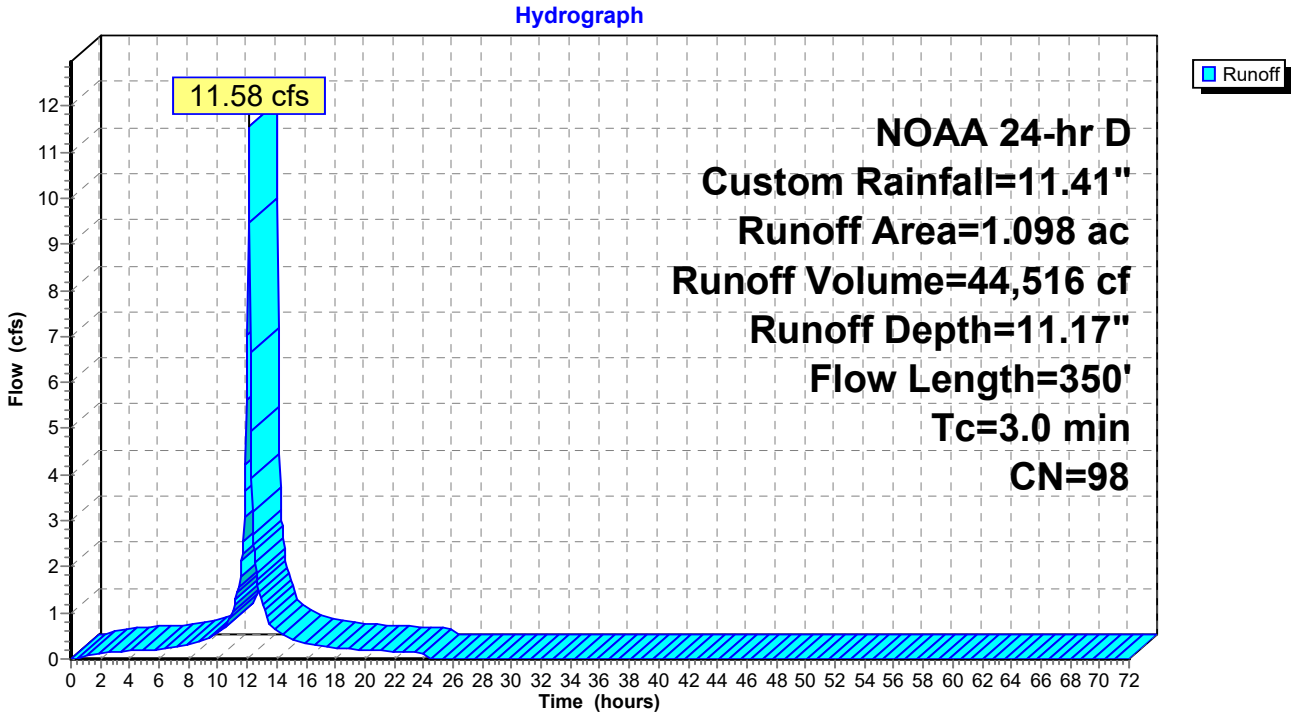
Runoff = 11.58 cfs @ 12.10 hrs, Volume= 44,516 cf, Depth=11.17"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Subcatchment 18S: Basin 9 - Pervious

[47] Hint: Peak is 128% of capacity of segment #4

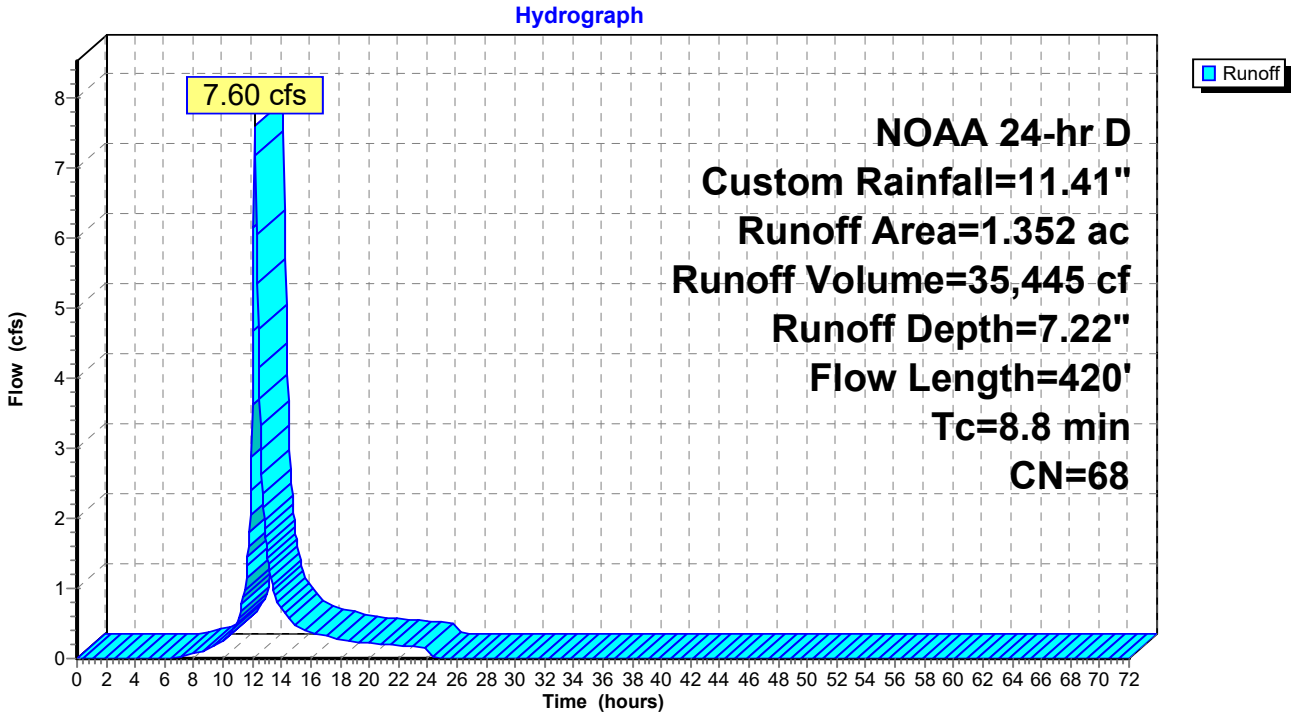
Runoff = 7.60 cfs @ 12.18 hrs, Volume= 35,445 cf, Depth= 7.22"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 203,978 sf, 39.76% Impervious, Inflow Depth = 6.52" for Custom event
Inflow = 24.30 cfs @ 12.13 hrs, Volume= 110,903 cf
Outflow = 23.84 cfs @ 12.16 hrs, Volume= 105,685 cf, Atten= 2%, Lag= 1.7 min
Primary = 23.84 cfs @ 12.16 hrs, Volume= 105,685 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.56' @ 12.16 hrs Surf.Area= 5,637 sf Storage= 8,171 cf

Plug-Flow detention time= 54.9 min calculated for 105,685 cf (95% of inflow)
Center-of-Mass det. time= 26.8 min (830.8 - 804.0)

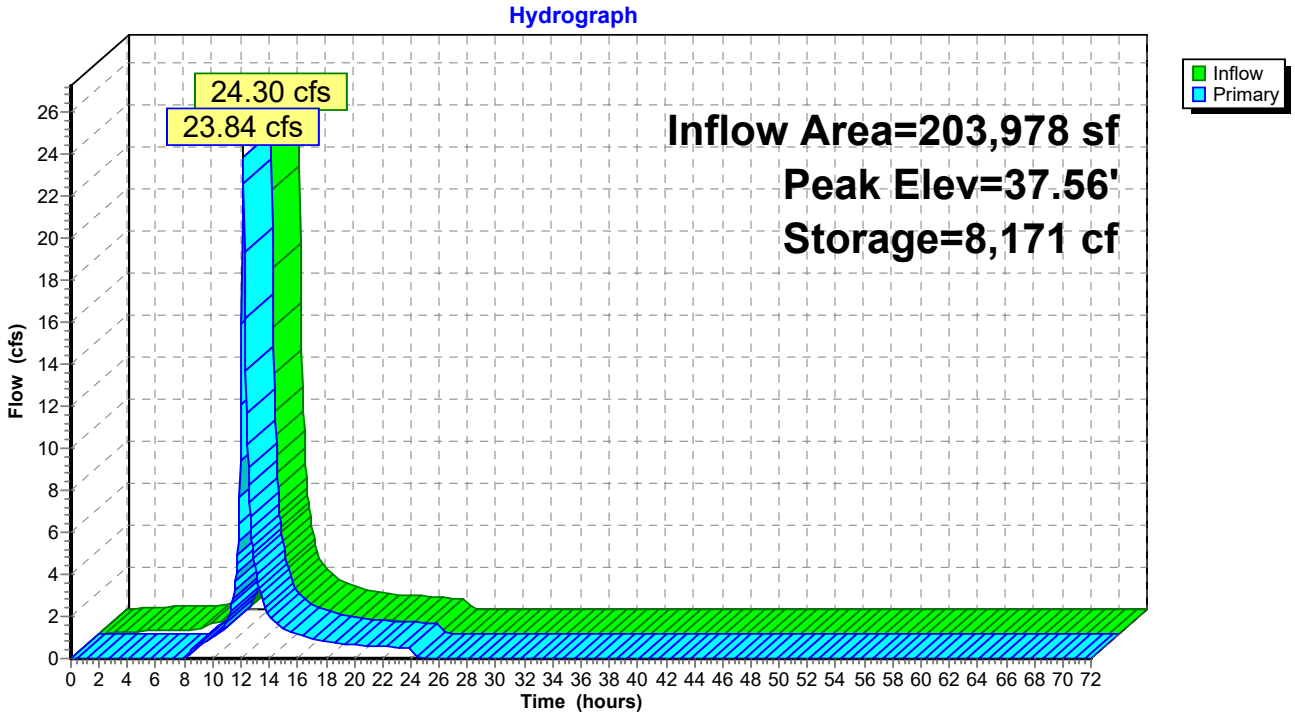
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=23.49 cfs @ 12.16 hrs HW=37.56' (Free Discharge)
1=Orifice/Grate (Weir Controls 23.49 cfs @ 2.50 fps)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

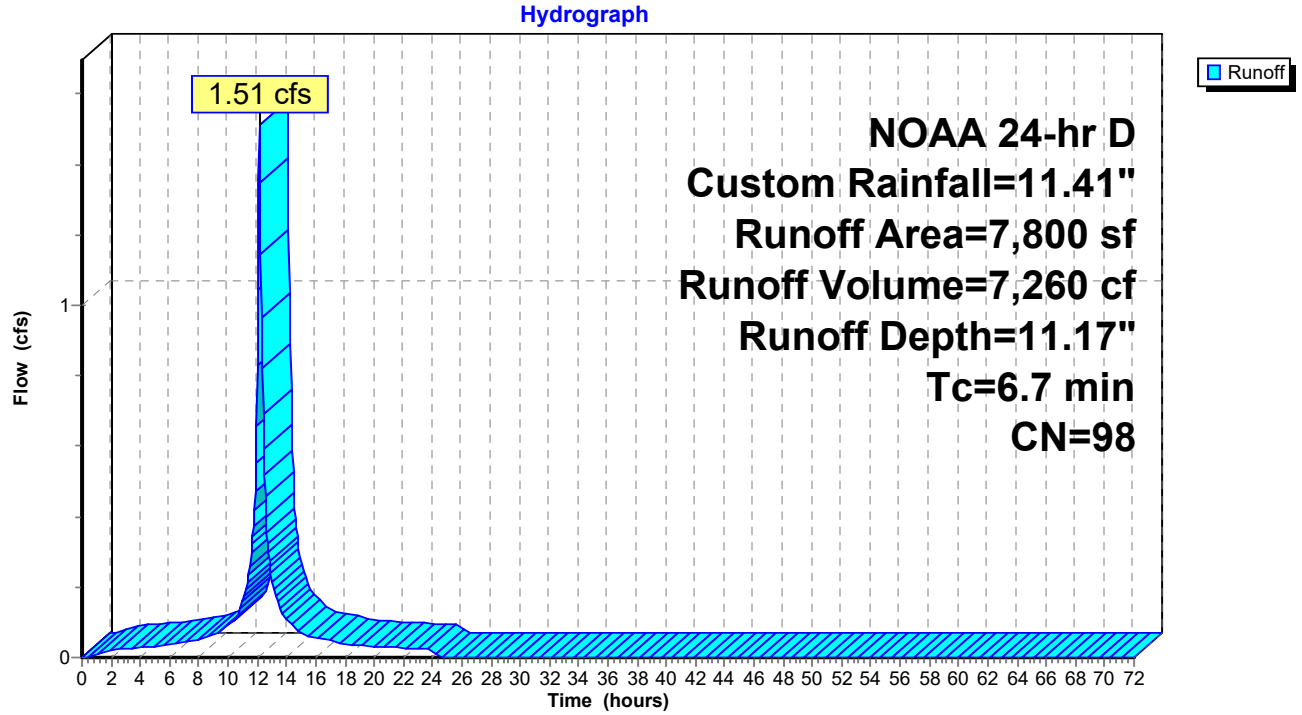
Runoff = 1.51 cfs @ 12.15 hrs, Volume= 7,260 cf, Depth=11.17"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

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

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 153% of capacity of segment #3

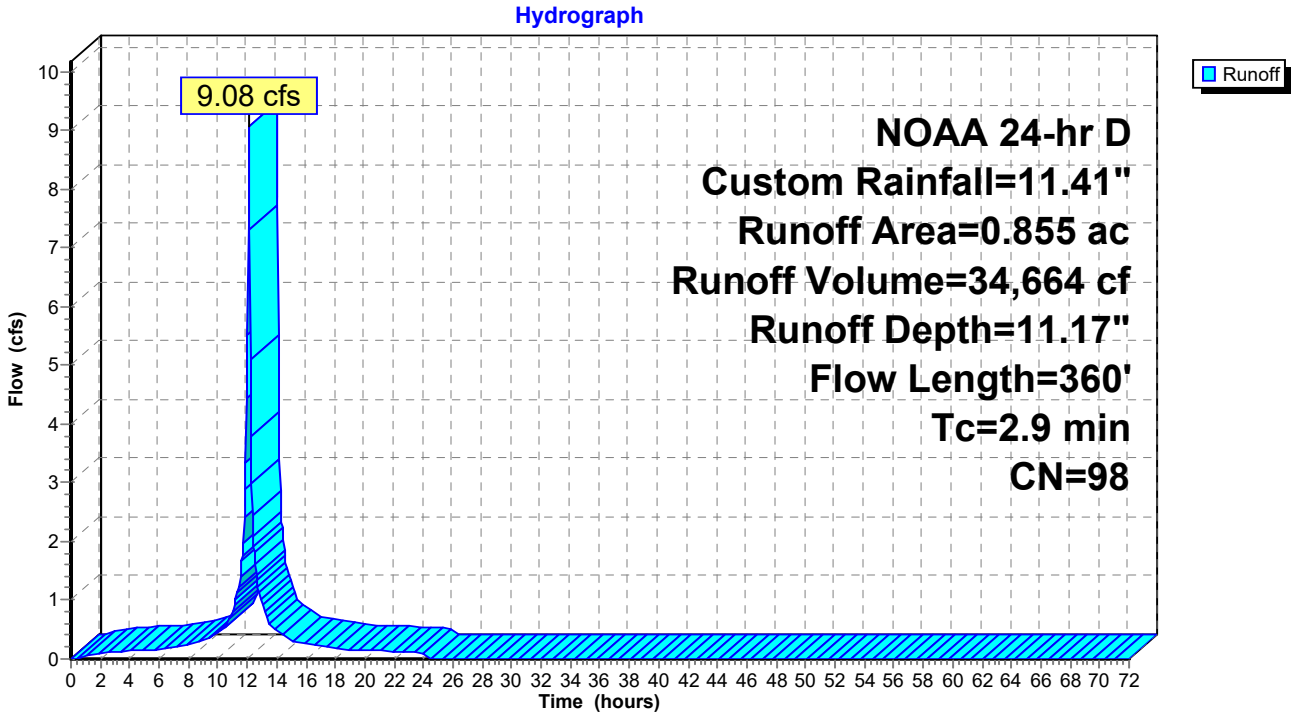
Runoff = 9.08 cfs @ 12.10 hrs, Volume= 34,664 cf, Depth=11.17"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

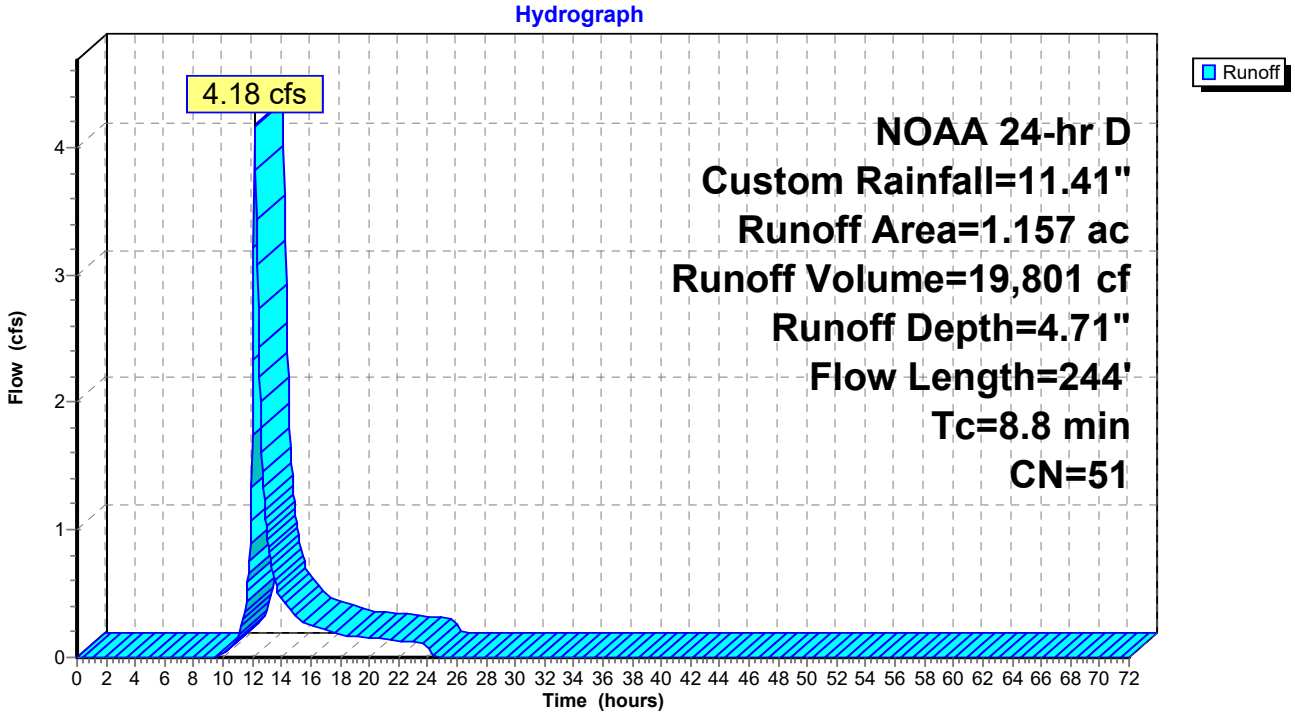
Runoff = 4.18 cfs @ 12.19 hrs, Volume= 19,801 cf, Depth= 4.71"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 6.07" for Custom event
Inflow = 12.97 cfs @ 12.13 hrs, Volume= 57,576 cf
Outflow = 12.51 cfs @ 12.16 hrs, Volume= 54,019 cf, Atten= 4%, Lag= 1.9 min
Primary = 12.51 cfs @ 12.16 hrs, Volume= 54,019 cf
Routed to Pond 19P : Basin 10

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.38' @ 12.16 hrs Surf.Area= 5,275 sf Storage= 5,396 cf

Plug-Flow detention time= 74.9 min calculated for 54,019 cf (94% of inflow)
Center-of-Mass det. time= 38.7 min (827.6 - 788.9)

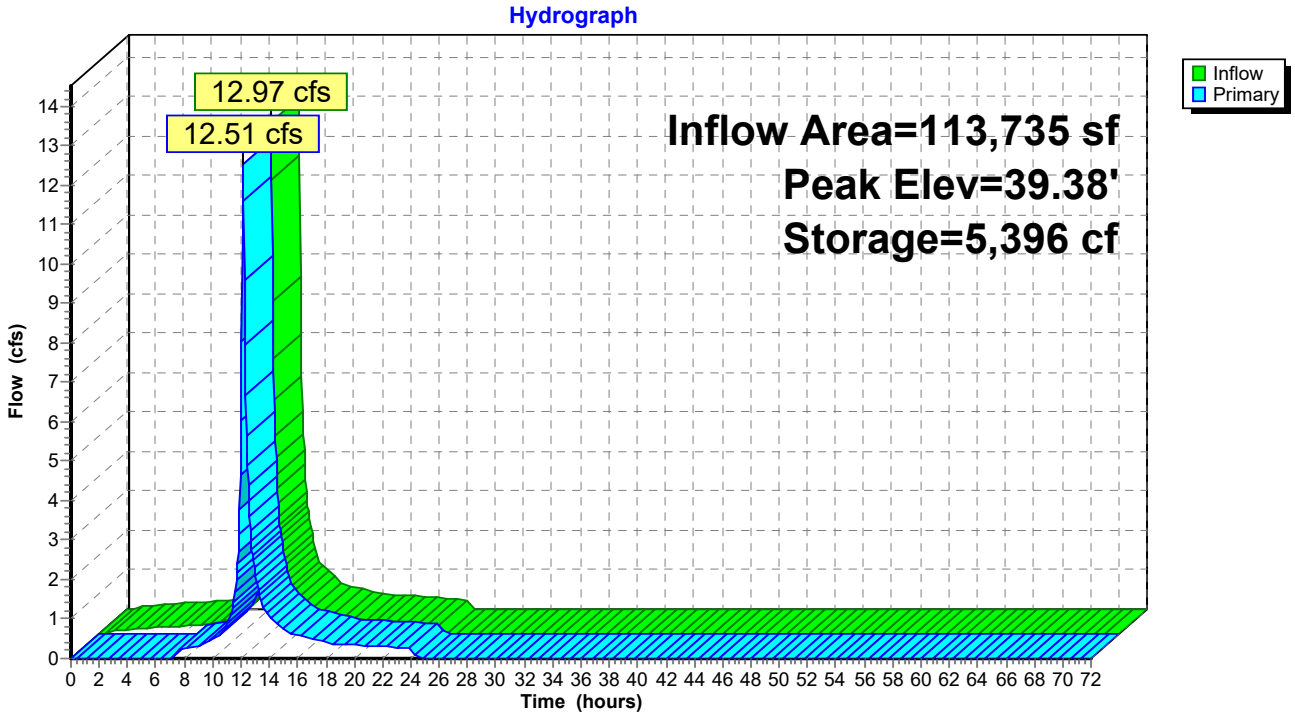
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.33 cfs @ 12.16 hrs HW=39.37' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 12.33 cfs @ 2.02 fps)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

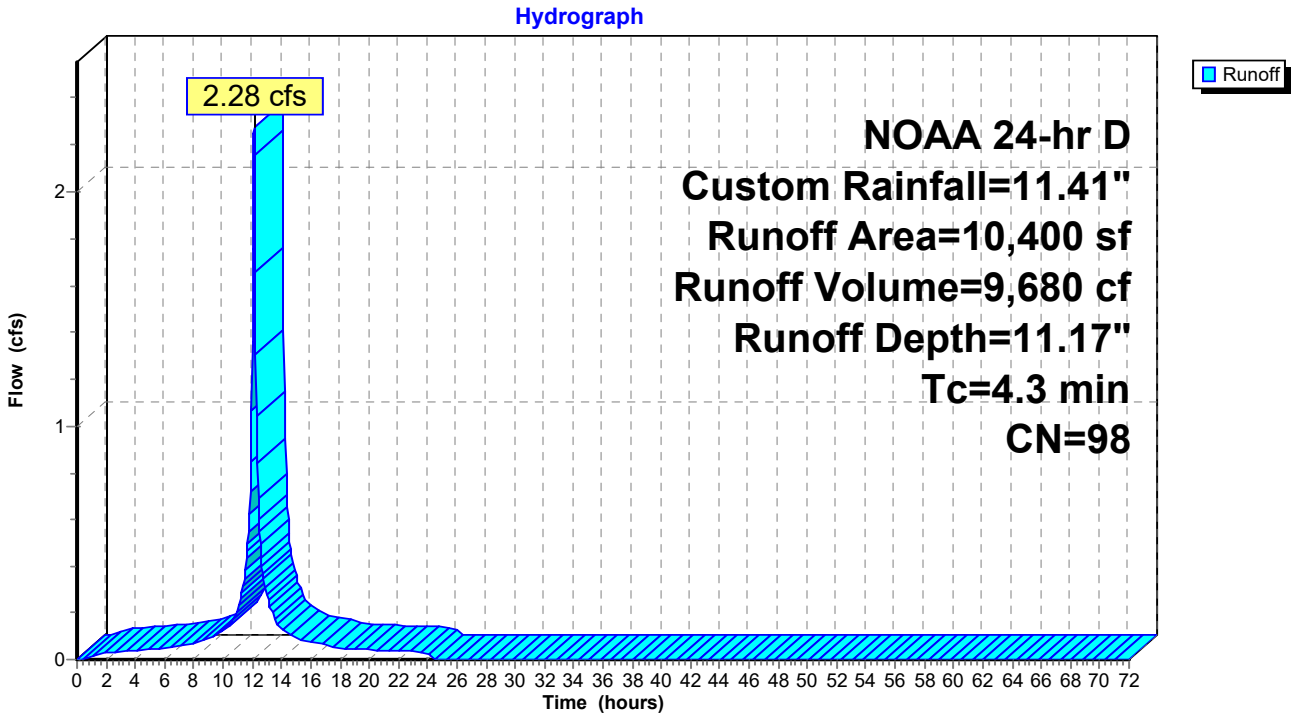
Runoff = 2.28 cfs @ 12.12 hrs, Volume= 9,680 cf, Depth=11.17"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

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

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Subcatchment 23S: Basin 11 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 158% of capacity of segment #3

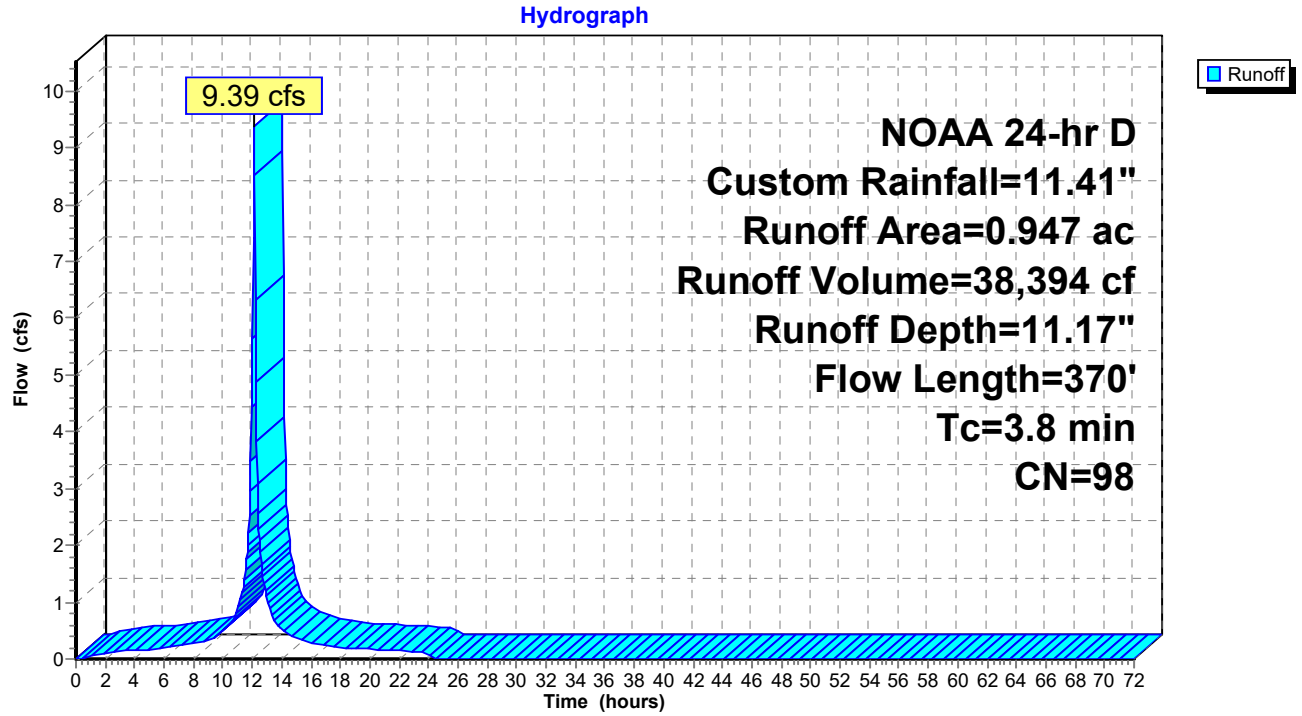
Runoff = 9.39 cfs @ 12.11 hrs, Volume= 38,394 cf, Depth=11.17"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

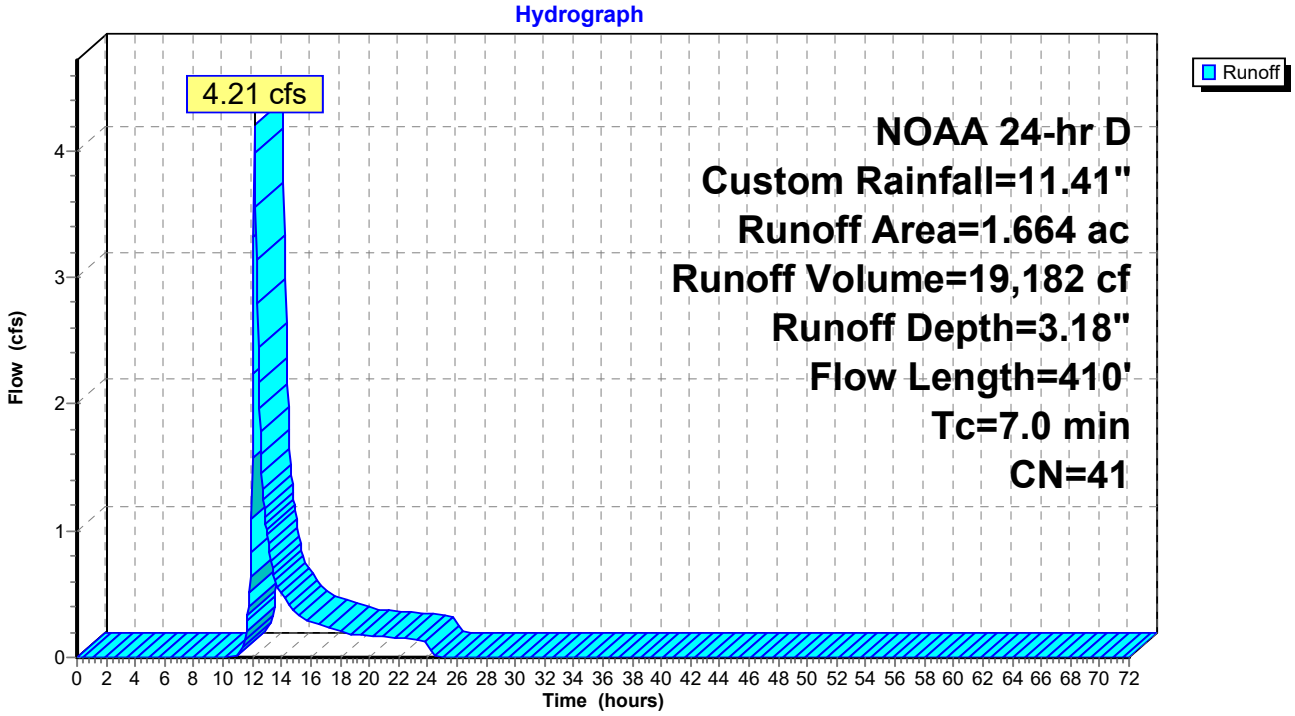
Runoff = 4.21 cfs @ 12.17 hrs, Volume= 19,182 cf, Depth= 3.18"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 4.63" for Custom event
Inflow = 7.20 cfs @ 12.12 hrs, Volume= 35,635 cf
Outflow = 0.36 cfs @ 16.86 hrs, Volume= 33,794 cf, Atten= 95%, Lag= 284.6 min
Primary = 0.36 cfs @ 16.86 hrs, Volume= 33,794 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 41.69' @ 16.86 hrs Surf.Area= 10,544 sf Storage= 22,306 cf

Plug-Flow detention time= 785.0 min calculated for 33,794 cf (95% of inflow)
Center-of-Mass det. time= 754.9 min (1,571.4 - 816.5)

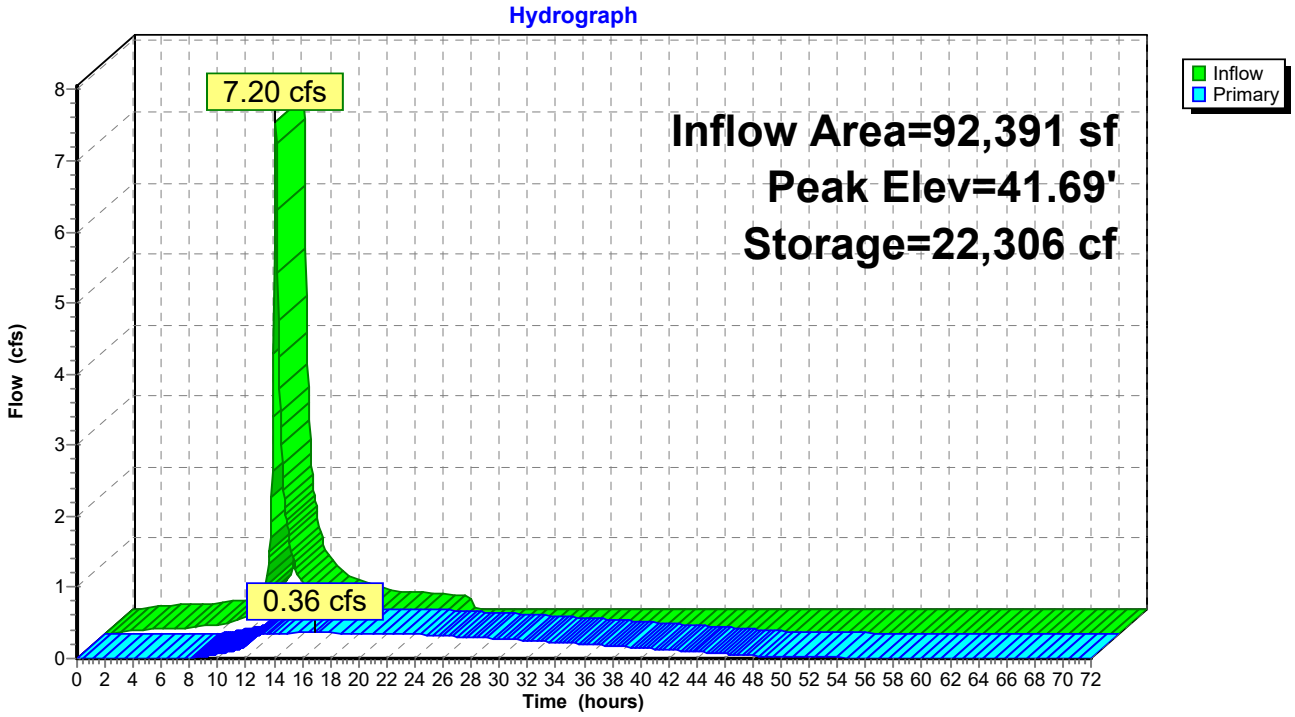
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.36 cfs @ 16.86 hrs HW=41.69' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.36 cfs @ 7.31 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

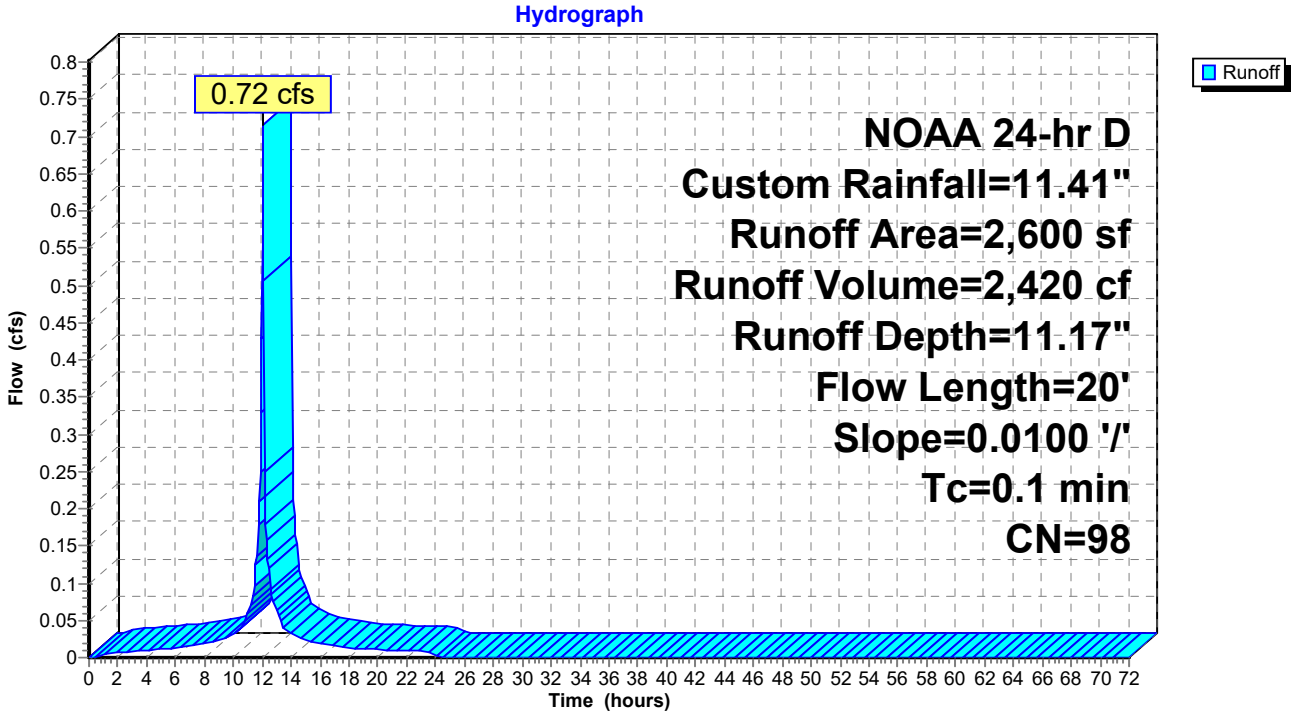
Runoff = 0.72 cfs @ 12.05 hrs, Volume= 2,420 cf, Depth=11.17"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

[81] Warning: Exceeded Pond 3P by 1.59' @ 71.95 hrs

Inflow = 14.01 cfs @ 12.22 hrs, Volume= 92,500 cf
Outflow = 2.60 cfs @ 13.53 hrs, Volume= 57,625 cf, Atten= 81%, Lag= 78.9 min
Primary = 2.60 cfs @ 13.53 hrs, Volume= 57,625 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.63' @ 13.53 hrs Surf.Area= 35,754 sf Storage= 39,465 cf

Plug-Flow detention time= 479.4 min calculated for 57,585 cf (62% of inflow)
Center-of-Mass det. time= 225.3 min (1,253.1 - 1,027.8)

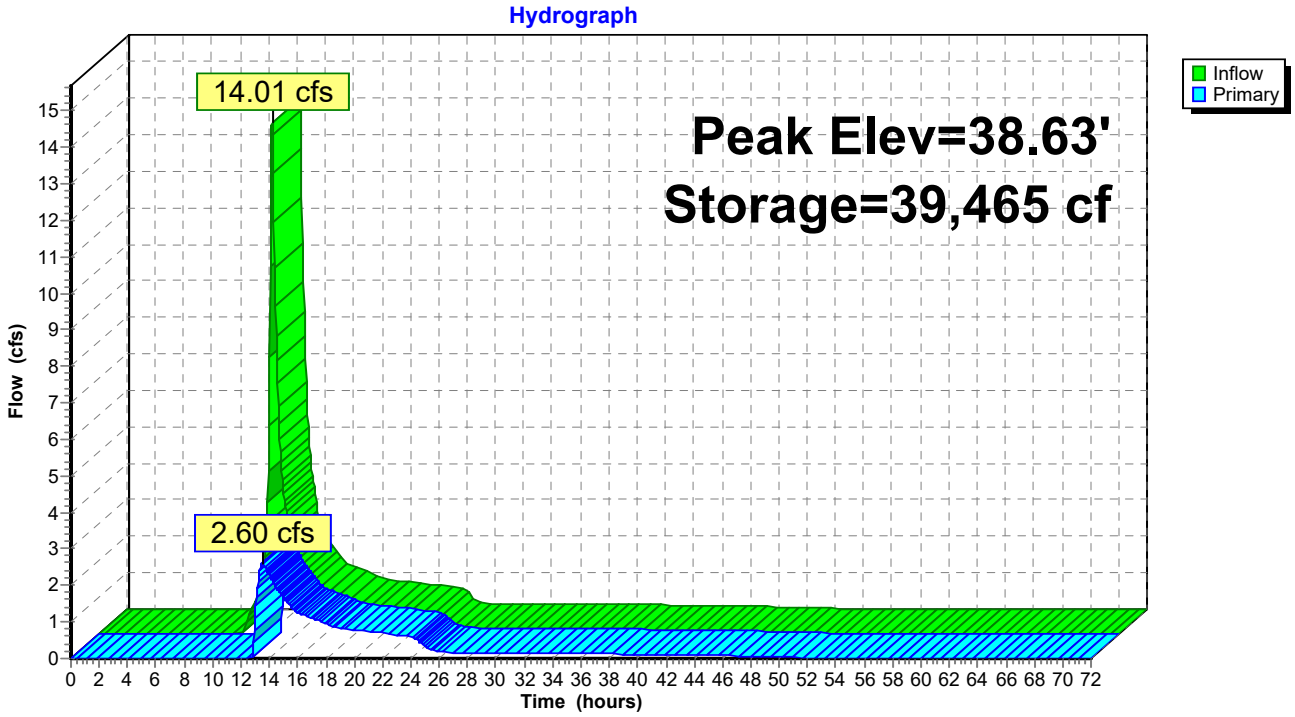
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.59 cfs @ 13.53 hrs HW=38.63' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 2.59 cfs @ 0.98 fps)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

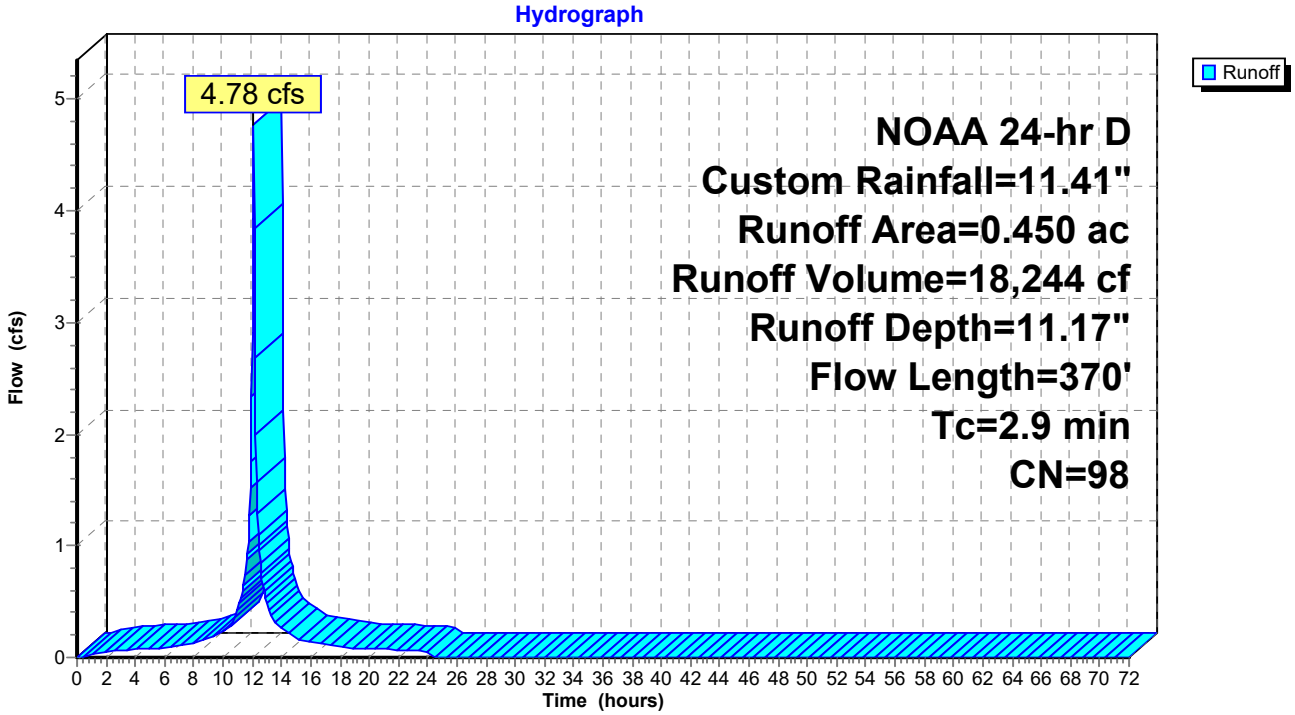
Runoff = 4.78 cfs @ 12.10 hrs, Volume= 18,244 cf, Depth=11.17"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

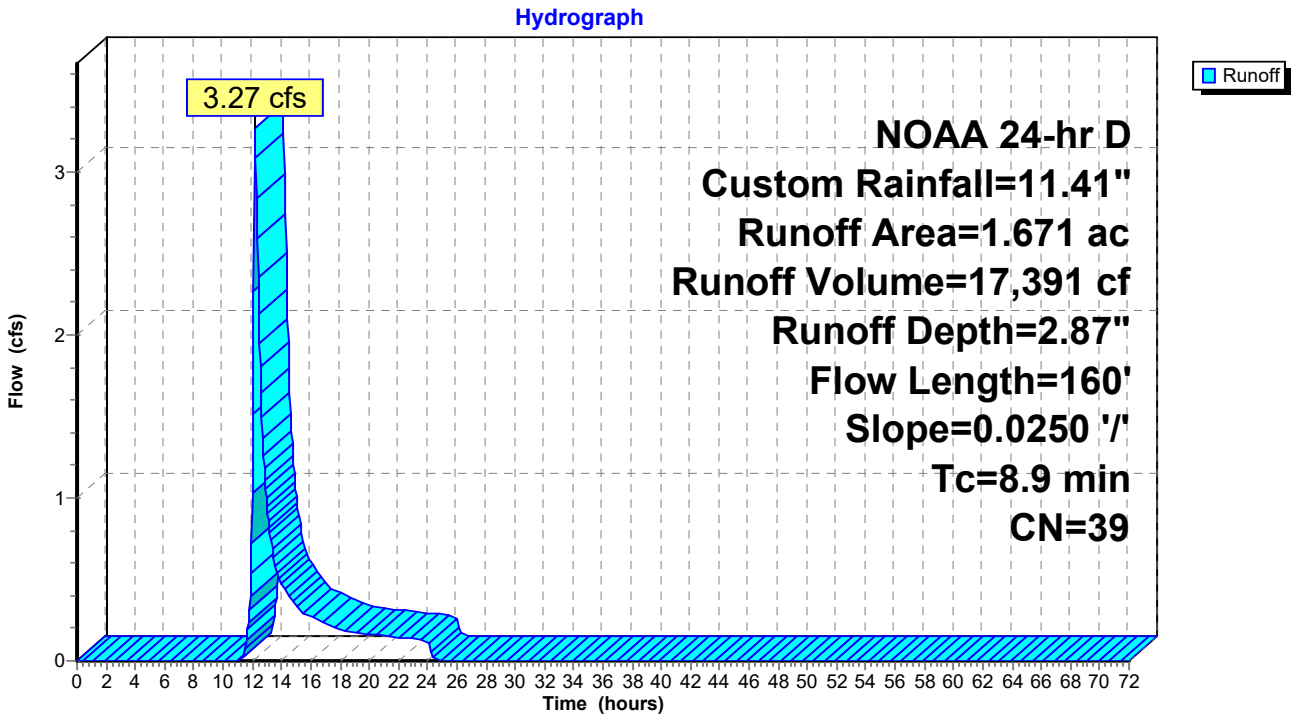
Runoff = 3.27 cfs @ 12.20 hrs, Volume= 17,391 cf, Depth= 2.87"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 8.48" for Custom event
Inflow = 10.19 cfs @ 12.15 hrs, Volume= 44,336 cf
Outflow = 9.93 cfs @ 12.17 hrs, Volume= 42,440 cf, Atten= 2%, Lag= 1.2 min
Primary = 9.93 cfs @ 12.17 hrs, Volume= 42,440 cf
Routed to Pond 13P : Basin 7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.19' @ 12.17 hrs Surf.Area= 3,243 sf Storage= 2,880 cf

Plug-Flow detention time= 51.6 min calculated for 42,440 cf (96% of inflow)
Center-of-Mass det. time= 26.0 min (815.6 - 789.6)

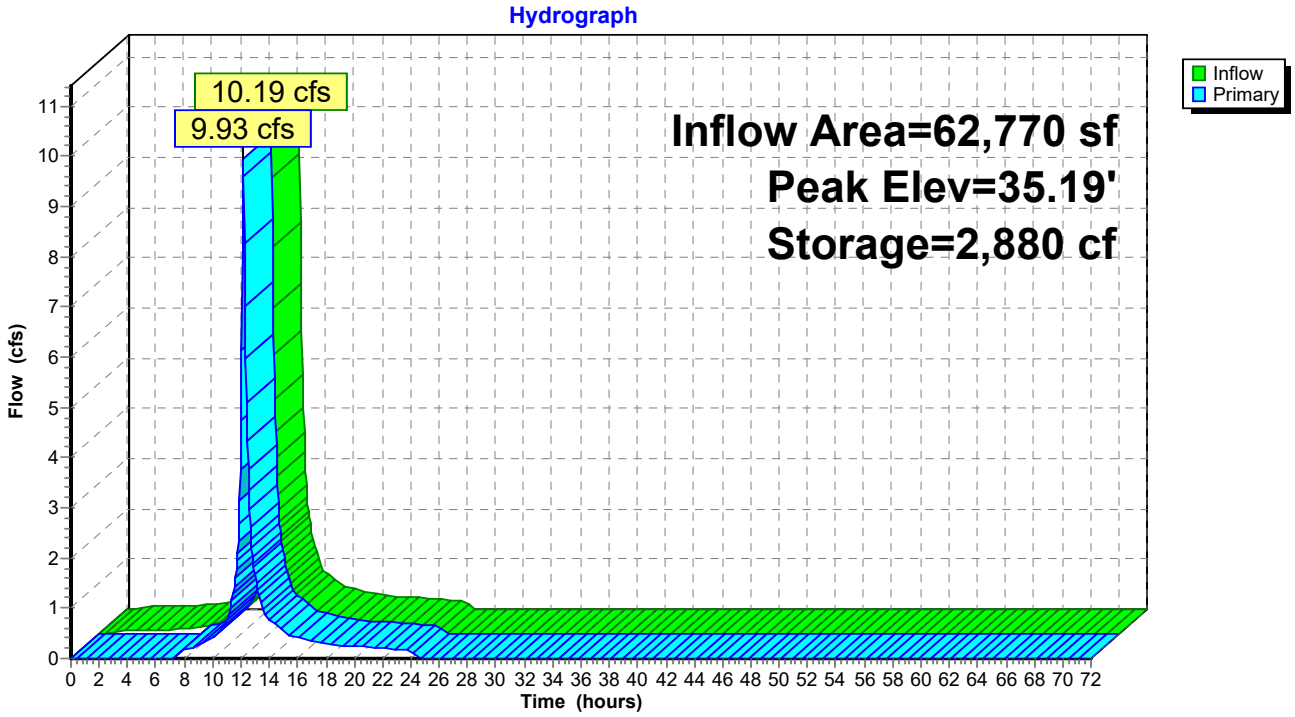
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.70 cfs @ 12.17 hrs HW=35.19' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 9.70 cfs @ 1.86 fps)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

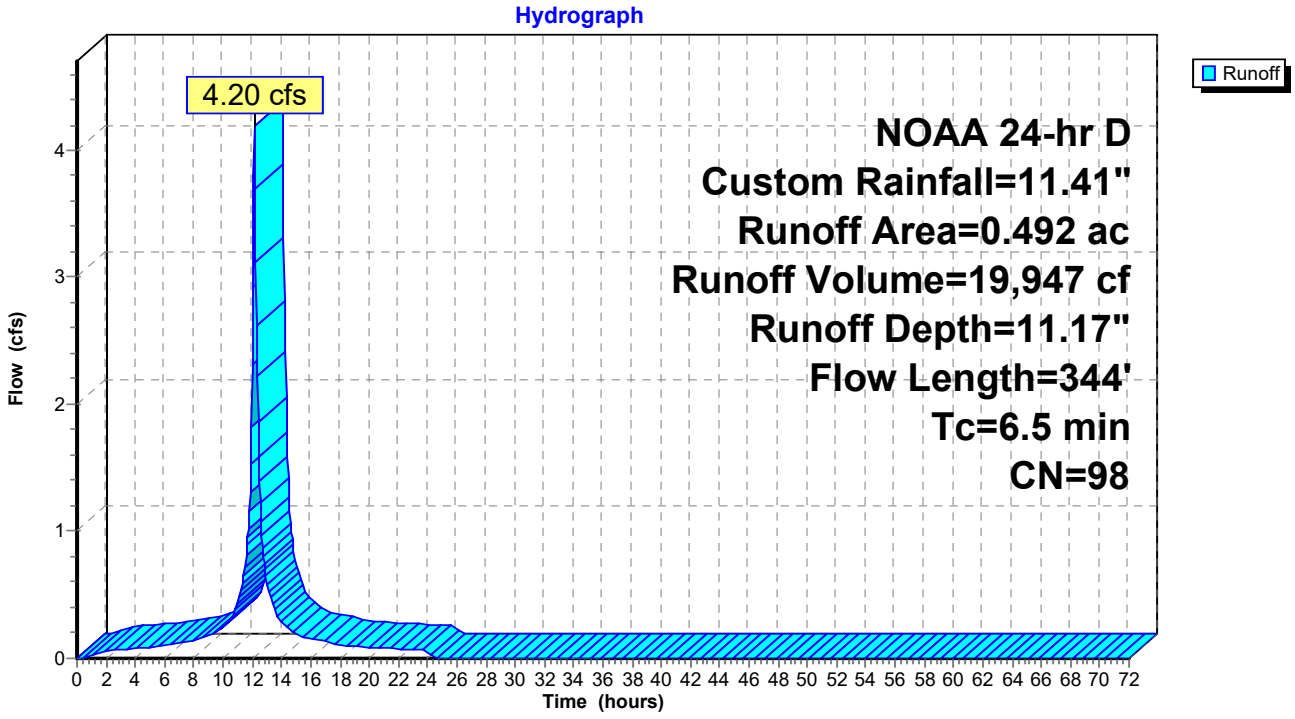
Runoff = 4.20 cfs @ 12.15 hrs, Volume= 19,947 cf, Depth=11.17"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

[47] Hint: Peak is 101% of capacity of segment #2

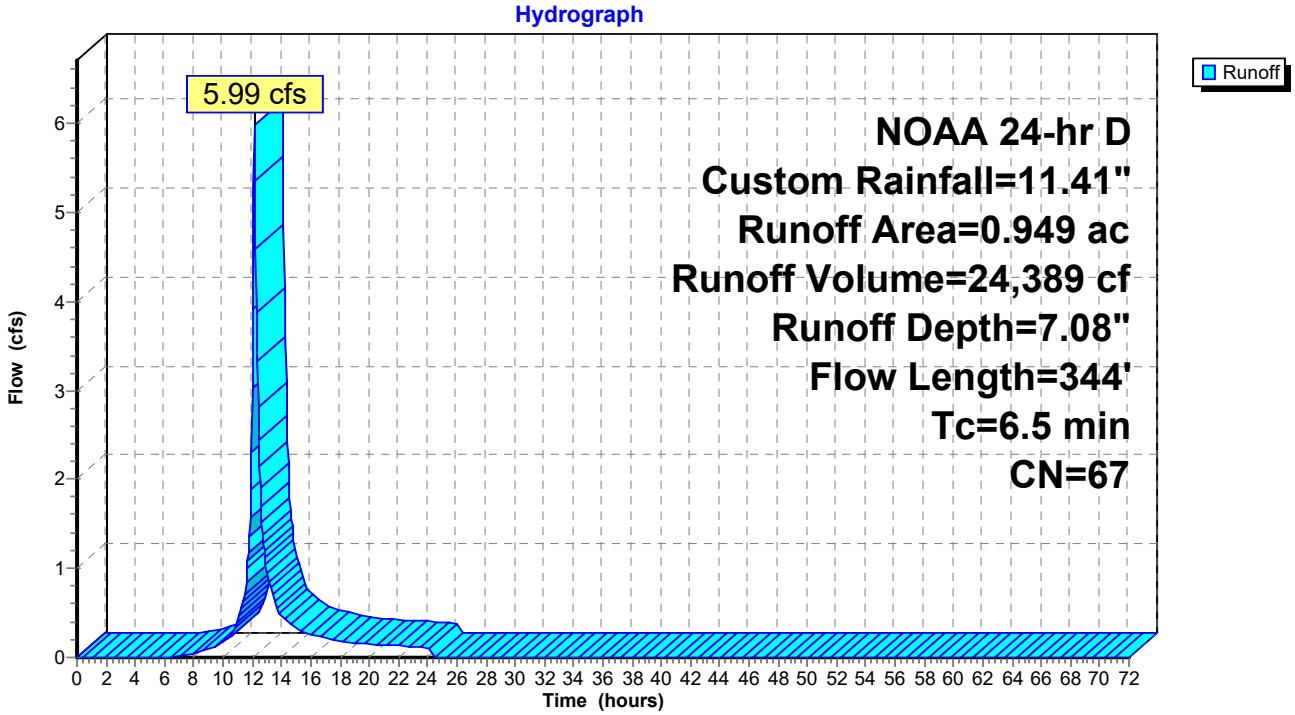
Runoff = 5.99 cfs @ 12.15 hrs, Volume= 24,389 cf, Depth= 7.08"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

[81] Warning: Exceeded Pond 16P by 1.41' @ 12.25 hrs

Inflow Area = 525,178 sf, 37.88% Impervious, Inflow Depth = 7.33" for Custom event
Inflow = 60.32 cfs @ 12.17 hrs, Volume= 320,670 cf
Outflow = 59.53 cfs @ 12.20 hrs, Volume= 316,719 cf, Atten= 1%, Lag= 1.8 min
Primary = 59.53 cfs @ 12.20 hrs, Volume= 316,719 cf
Routed to Pond 4P : Basin 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.19' @ 12.20 hrs Surf.Area= 6,571 sf Storage= 15,235 cf

Plug-Flow detention time= 55.7 min calculated for 316,719 cf (99% of inflow)
Center-of-Mass det. time= 38.5 min (889.1 - 850.6)

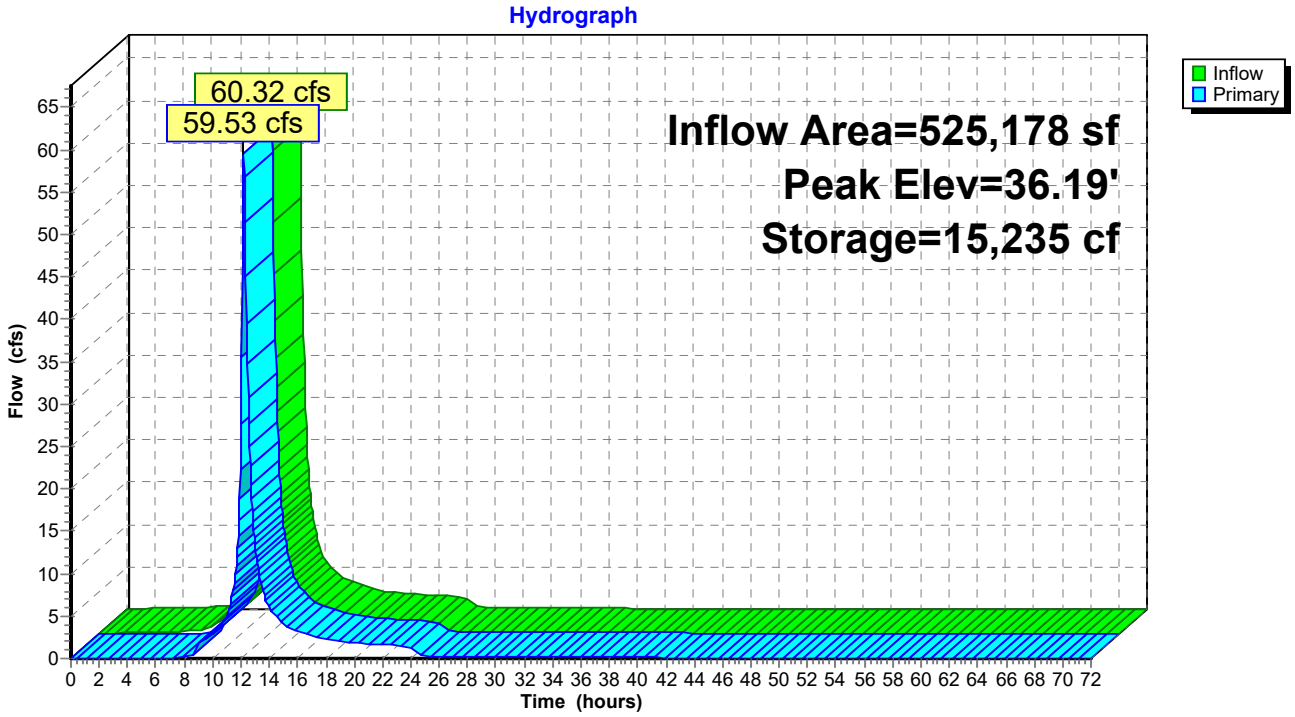
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=59.37 cfs @ 12.20 hrs HW=36.18' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.36 cfs @ 7.35 fps)
└**2=Orifice/Grate** (Weir Controls 59.01 cfs @ 3.40 fps)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 114% of capacity of segment #3

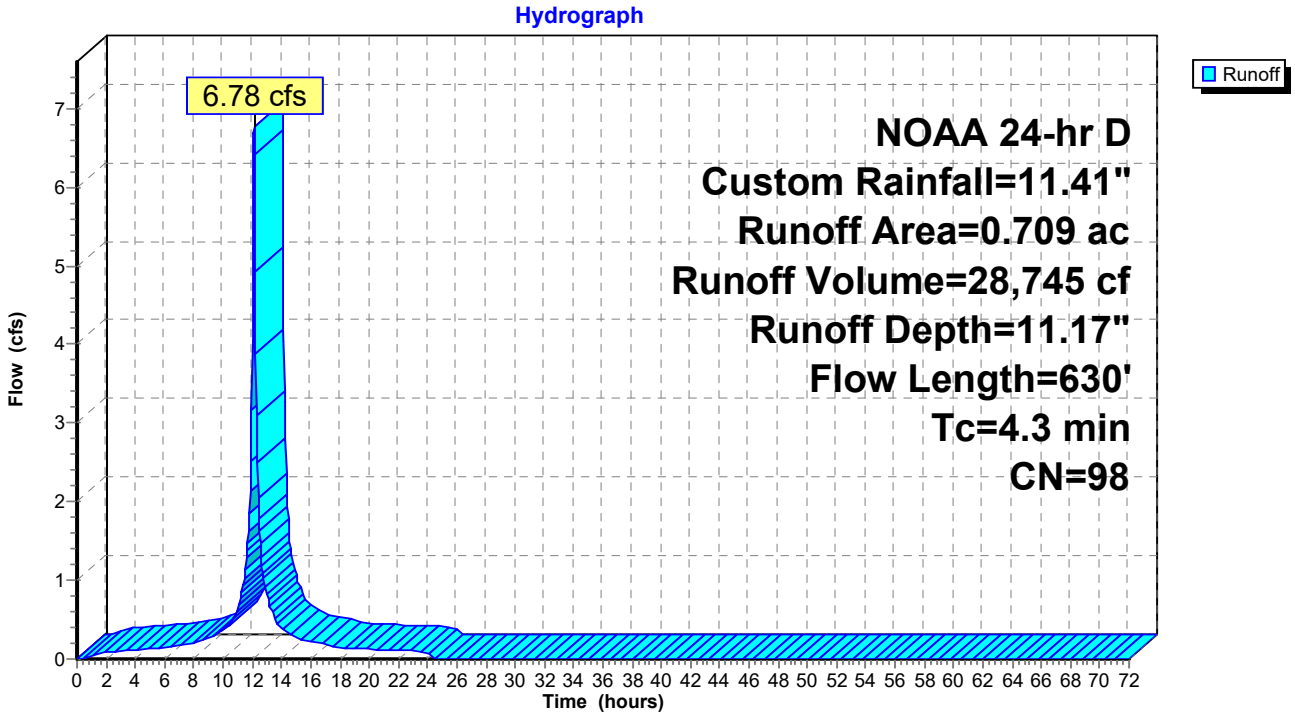
Runoff = 6.78 cfs @ 12.12 hrs, Volume= 28,745 cf, Depth=11.17"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

[47] Hint: Peak is 196% of capacity of segment #3

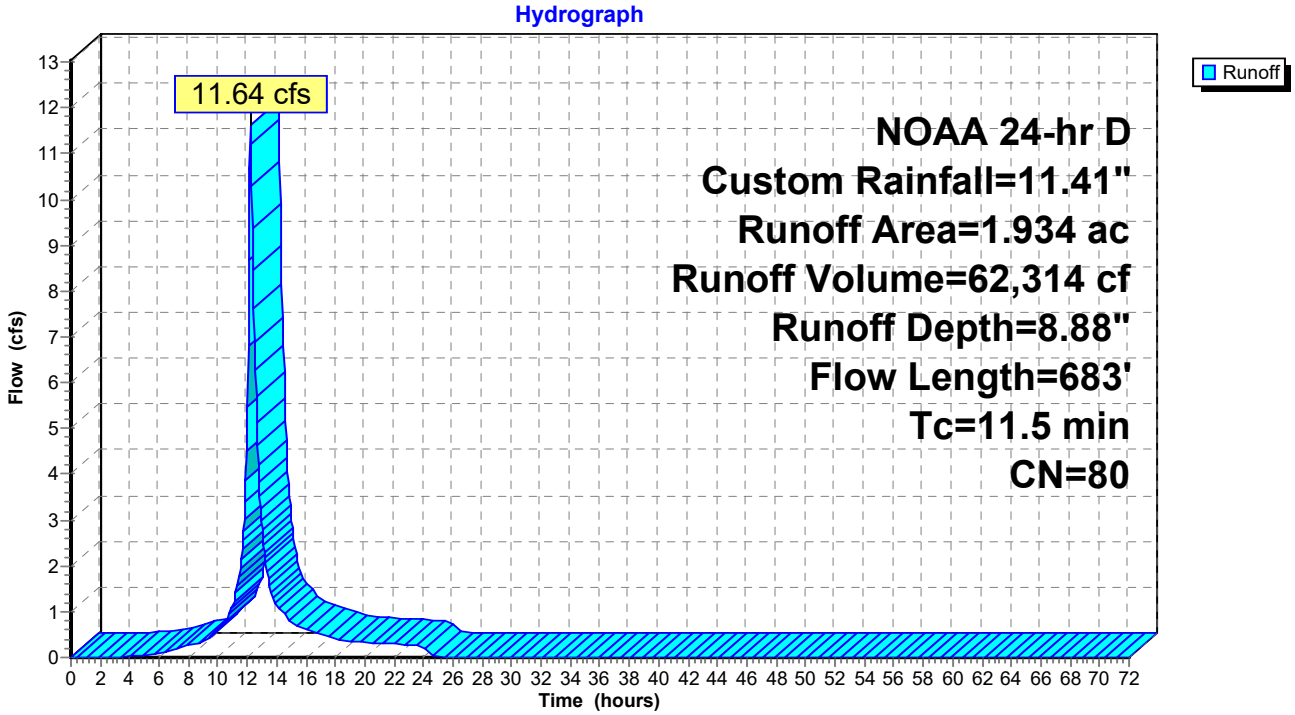
Runoff = 11.64 cfs @ 12.21 hrs, Volume= 62,314 cf, Depth= 8.88"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 5.55" for Custom event
Inflow = 8.91 cfs @ 12.14 hrs, Volume= 41,111 cf
Outflow = 5.65 cfs @ 12.30 hrs, Volume= 38,519 cf, Atten= 37%, Lag= 9.3 min
Primary = 5.65 cfs @ 12.30 hrs, Volume= 38,519 cf
Routed to Pond 16P : Basin 9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.22' @ 12.30 hrs Surf.Area= 9,269 sf Storage= 15,065 cf

Plug-Flow detention time= 390.5 min calculated for 38,493 cf (94% of inflow)
Center-of-Mass det. time= 355.5 min (1,150.5 - 795.0)

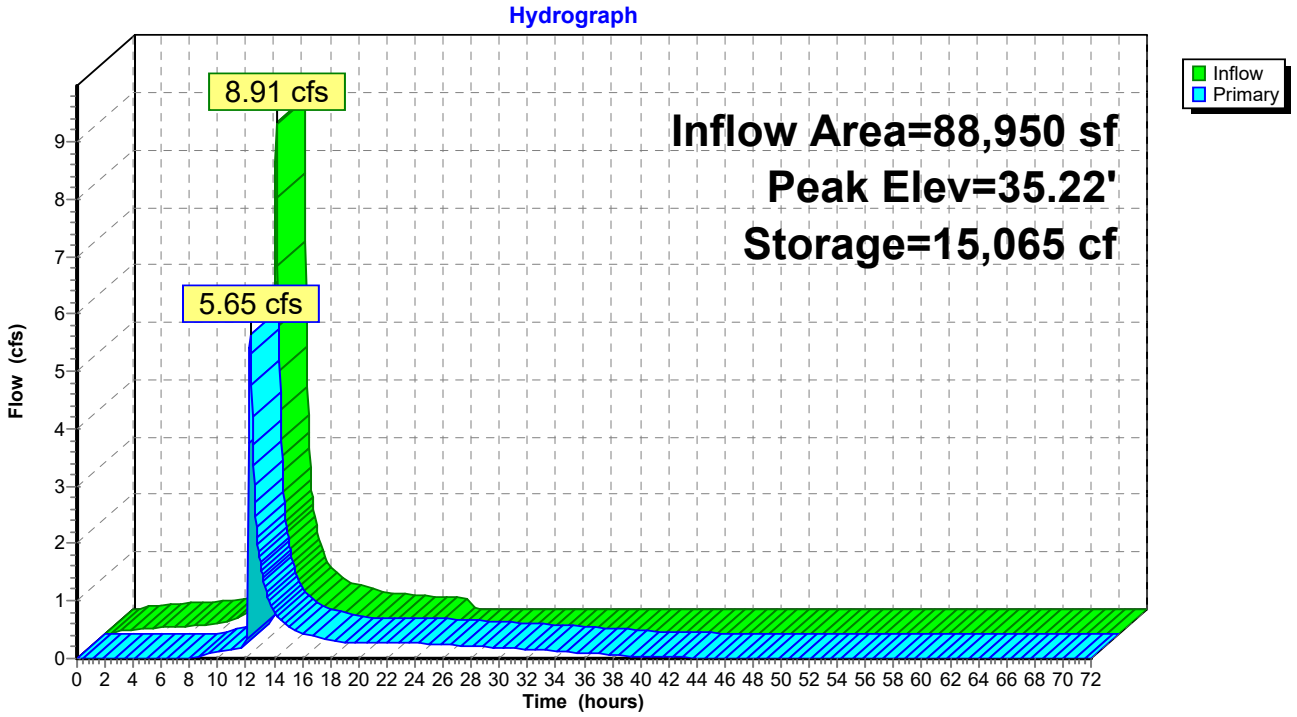
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.63 cfs @ 12.30 hrs HW=35.22' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.30 cfs @ 6.08 fps)
2=Orifice/Grate (Weir Controls 5.33 cfs @ 1.53 fps)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 103% of capacity of segment #3

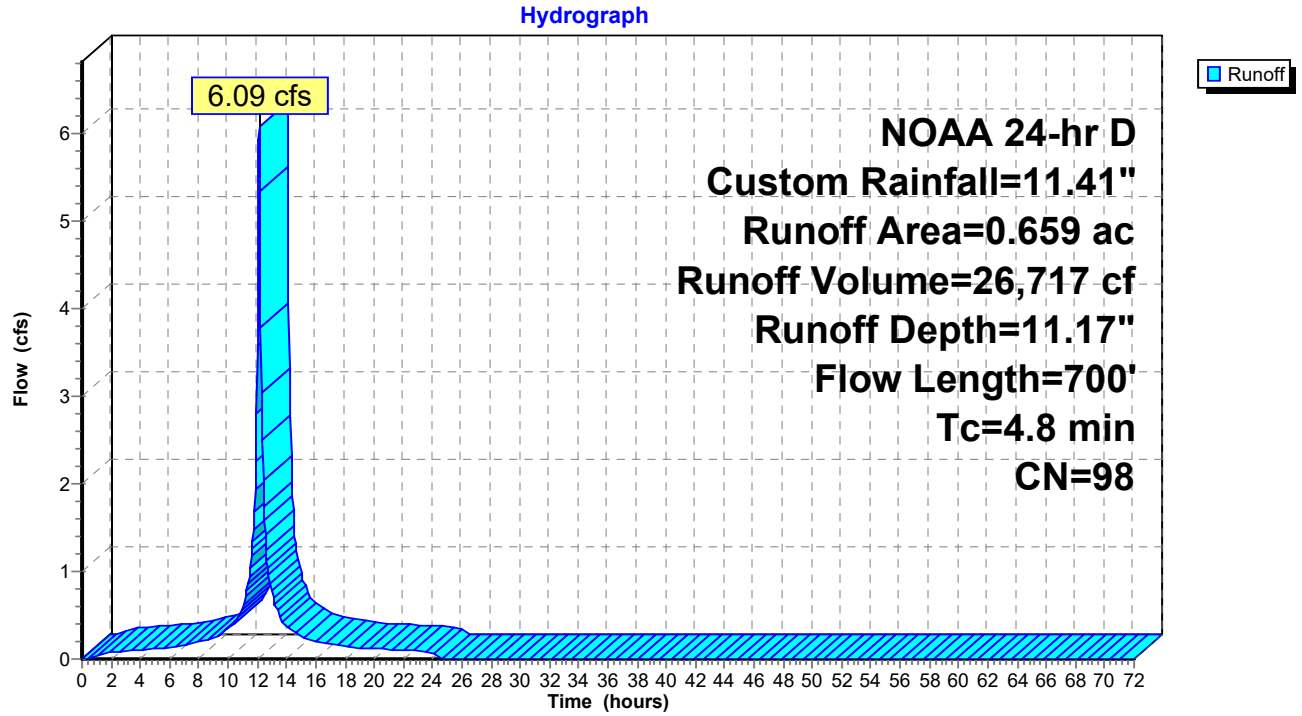
Runoff = 6.09 cfs @ 12.13 hrs, Volume= 26,717 cf, Depth=11.17"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

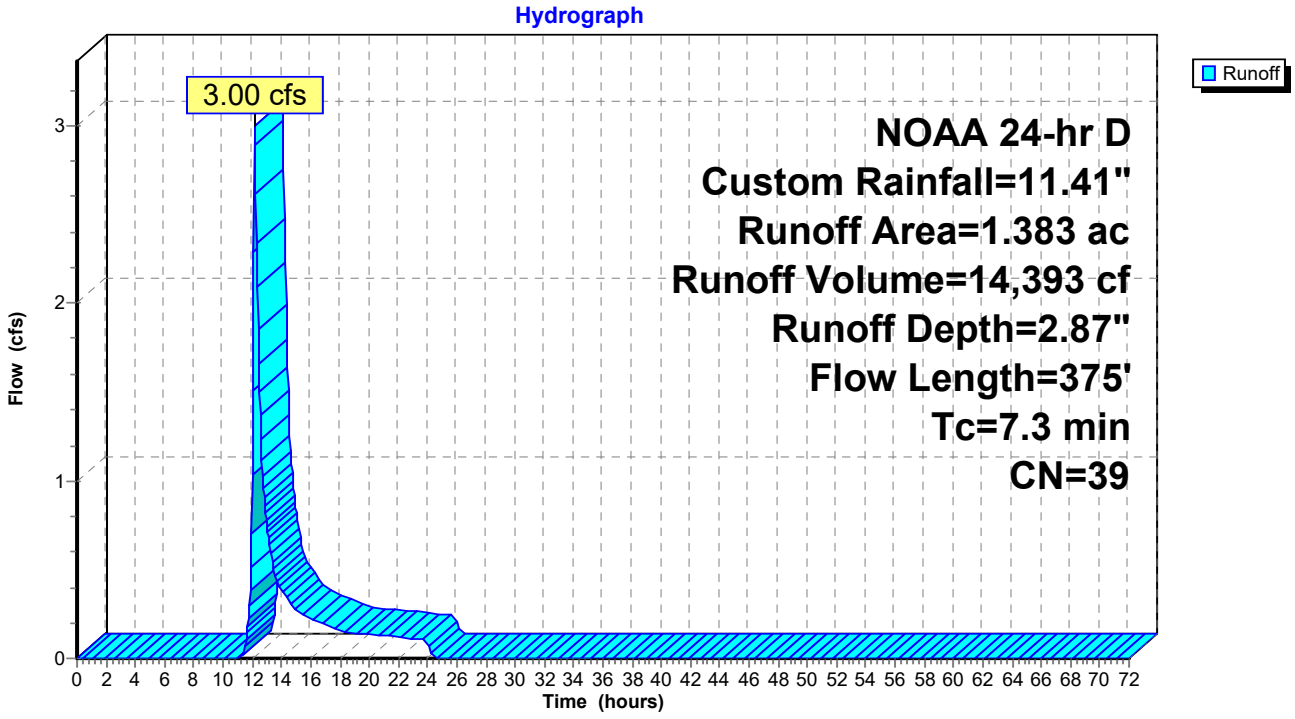
Runoff = 3.00 cfs @ 12.17 hrs, Volume= 14,393 cf, Depth= 2.87"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

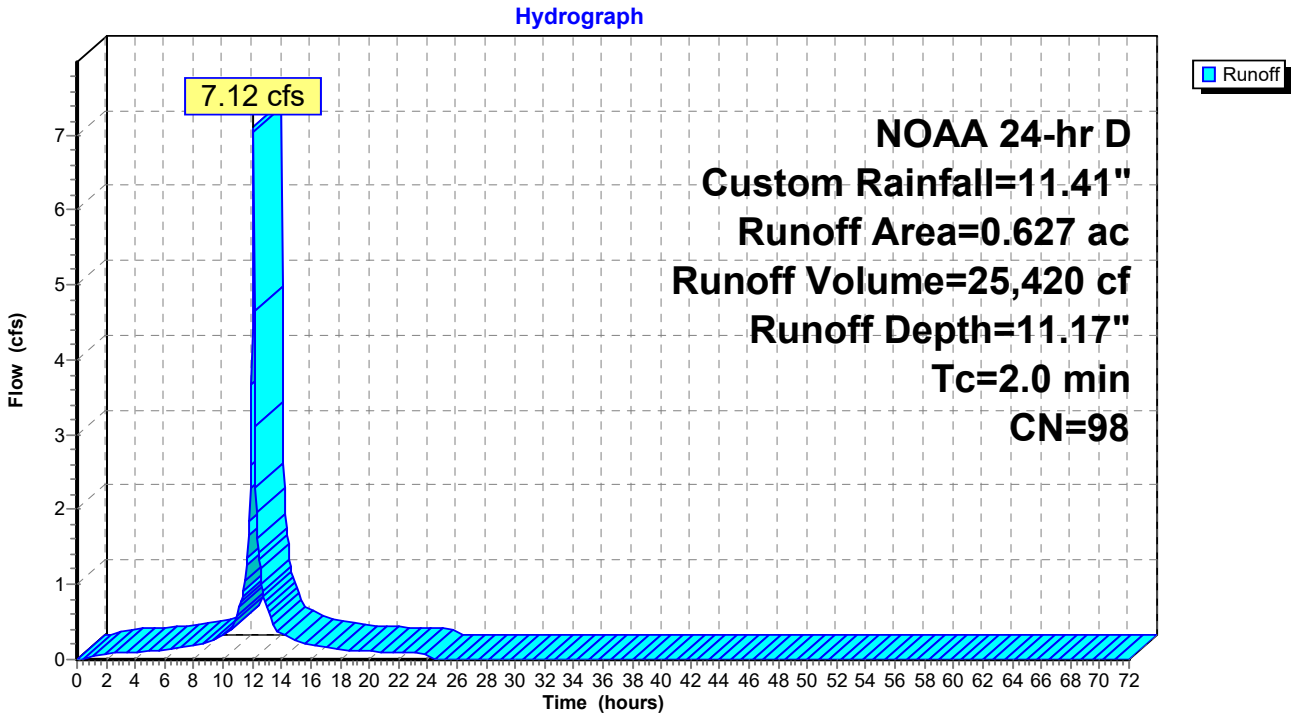
Runoff = 7.12 cfs @ 12.09 hrs, Volume= 25,420 cf, Depth=11.17"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

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

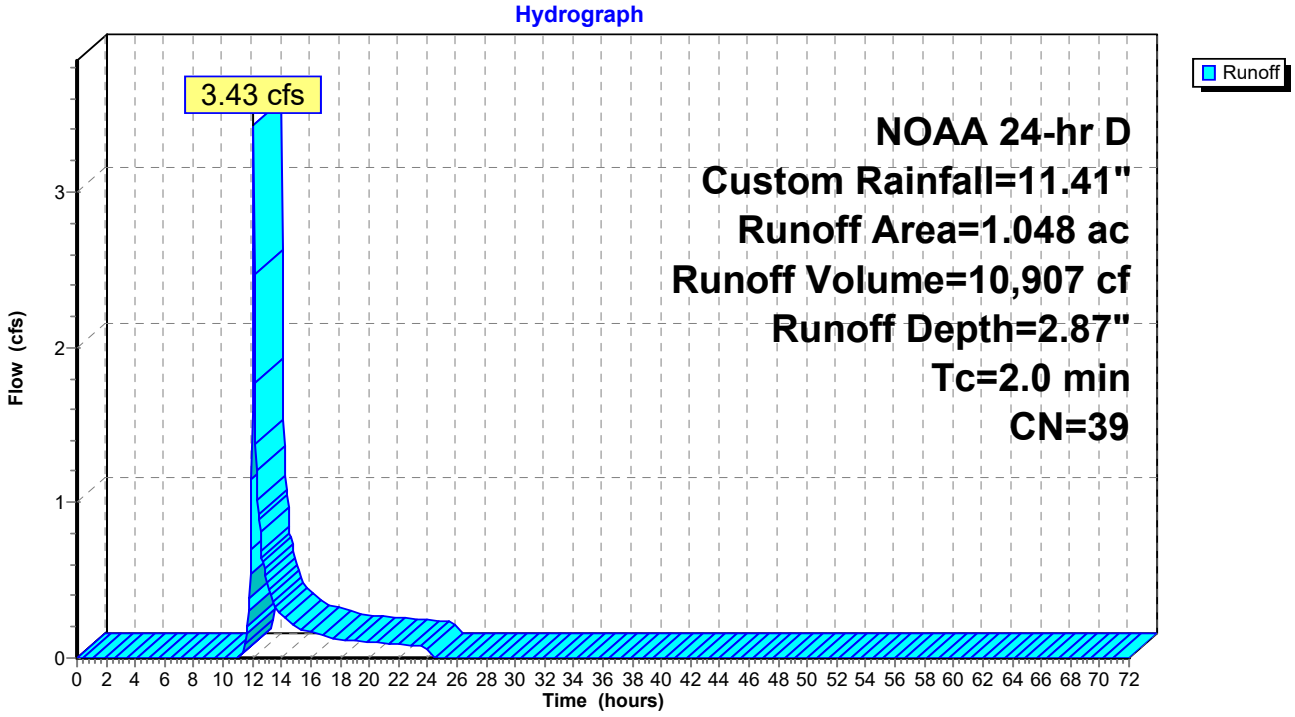
Runoff = 3.43 cfs @ 12.10 hrs, Volume= 10,907 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NOAA 24-hr D Custom Rainfall=11.41"

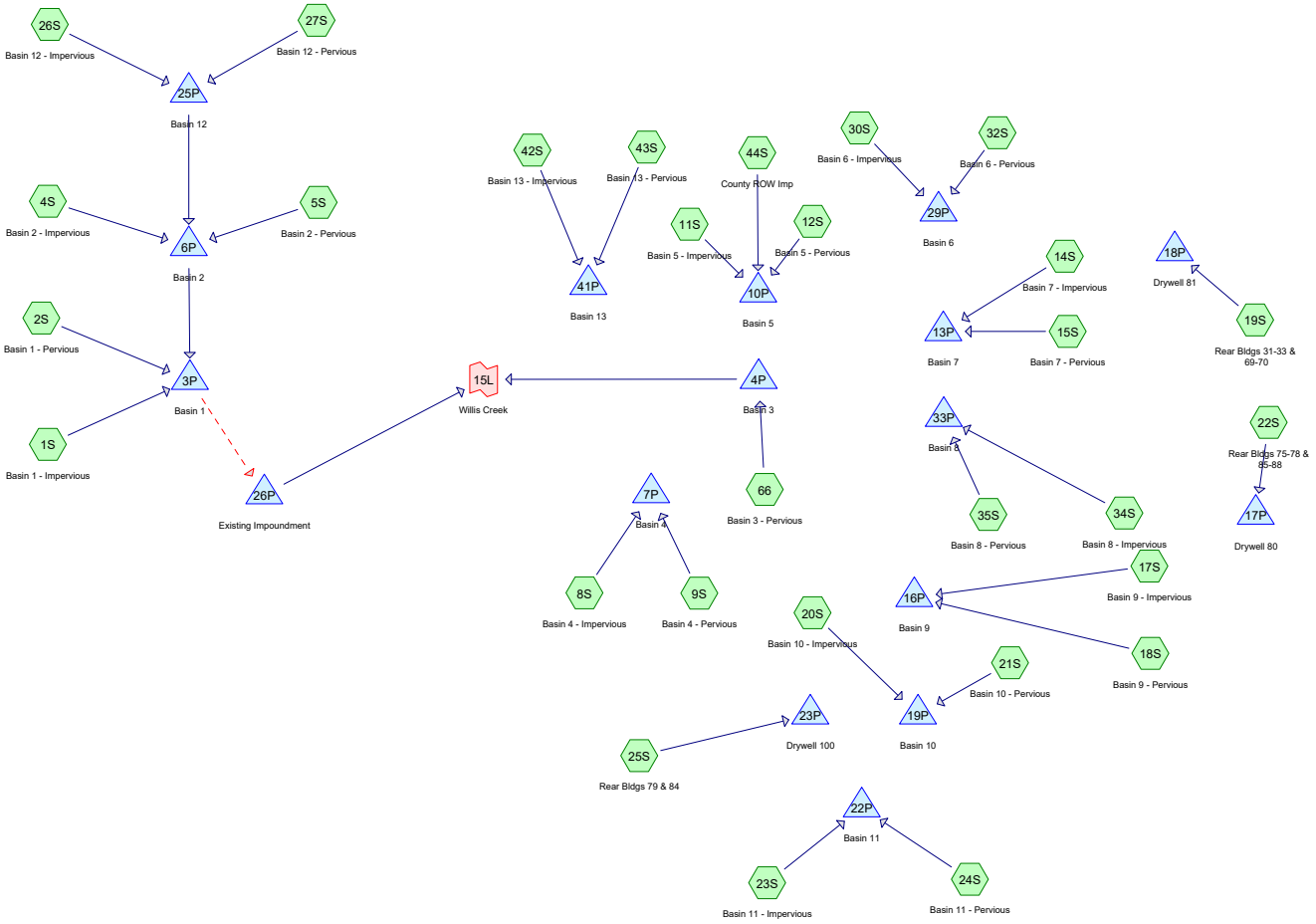
Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious



Appendix F – Water Quality Calculations



Subcat Reach Pond Link

Routing Diagram for WQ - WILLIS CREEK - REV 01
Prepared by ARH Associates, Printed 7/24/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NJ DEP 2-hr		Default	2.00	1	1.25	2

Summary for Subcatchment 1S: Basin 1 - Impervious

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

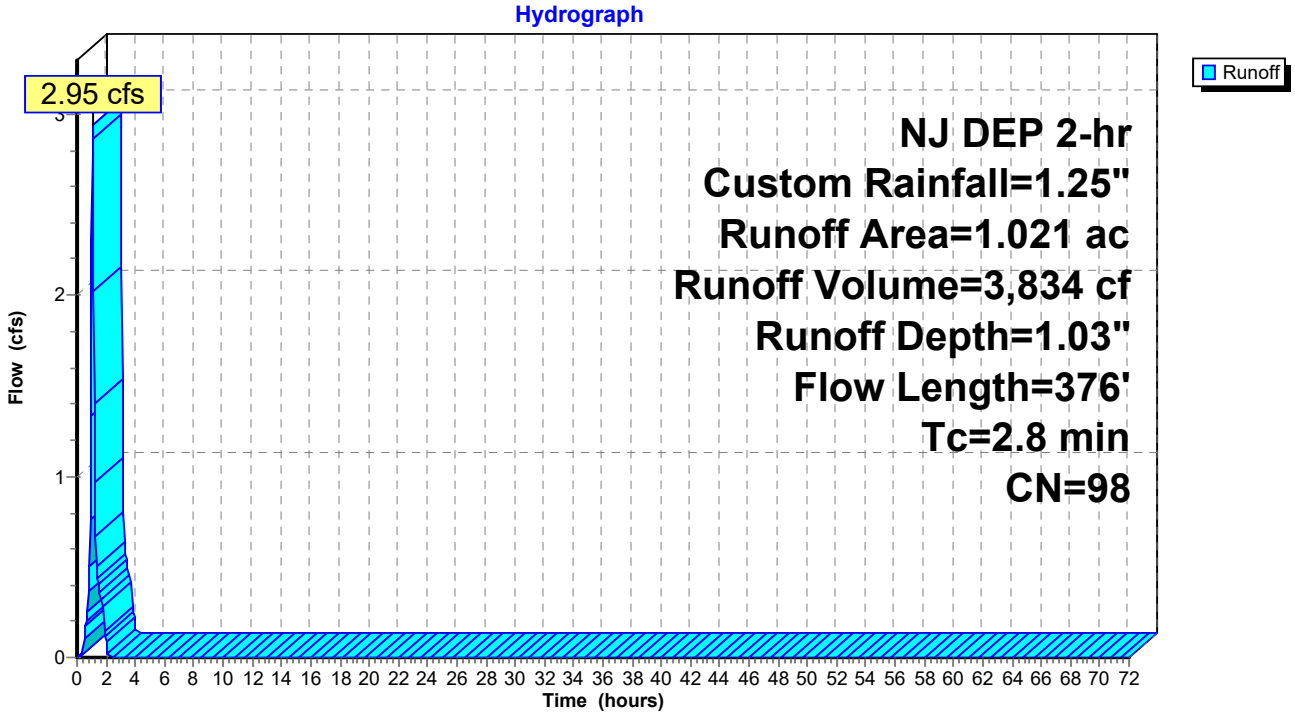
Runoff = 2.95 cfs @ 1.08 hrs, Volume= 3,834 cf, Depth= 1.03"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.021	98	
	1.021		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	86	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	190	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.8	376	Total			

Subcatchment 1S: Basin 1 - Impervious



Summary for Subcatchment 2S: Basin 1 - Pervious

[45] Hint: Runoff=Zero

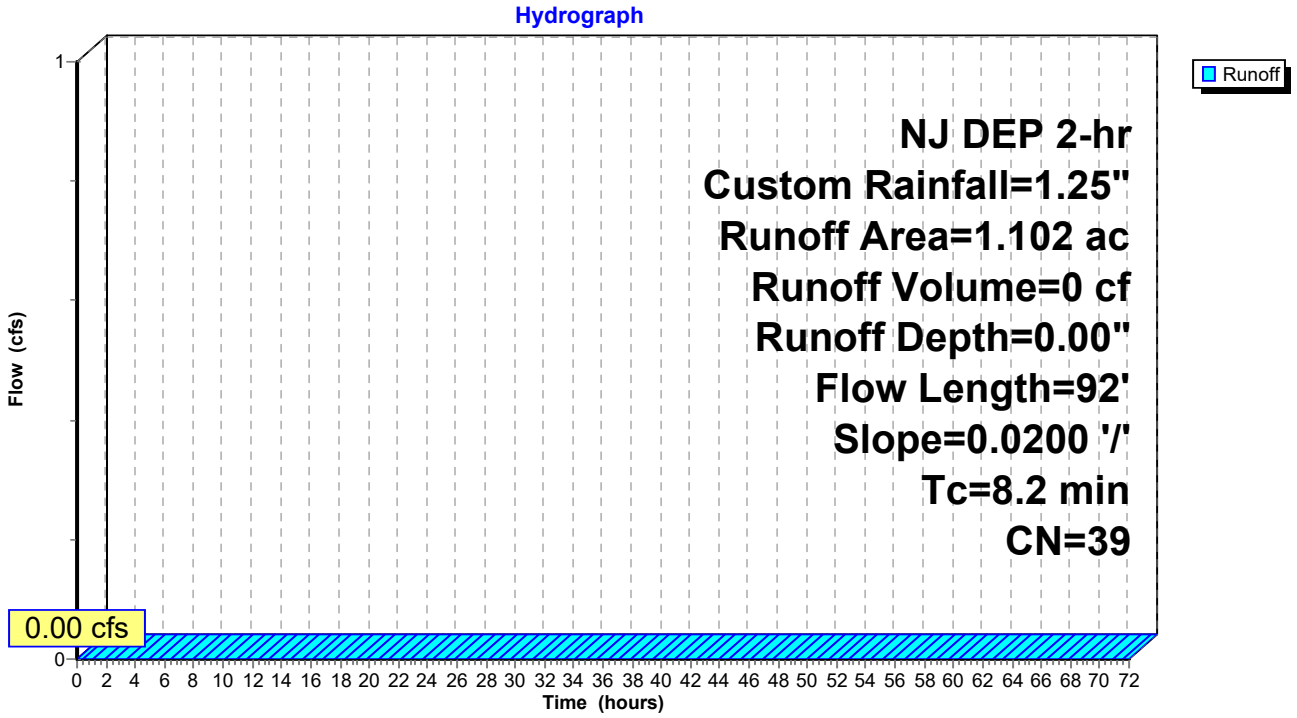
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 3P : Basin 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.102	39	>75% Grass cover, Good, HSG A
1.102		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	92	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 2S: Basin 1 - Pervious



Summary for Pond 3P: Basin 1

Inflow Area = 282,617 sf, 36.41% Impervious, Inflow Depth = 0.16" for Custom event
Inflow = 2.95 cfs @ 1.08 hrs, Volume= 3,857 cf
Outflow = 0.00 cfs @ 70.67 hrs, Volume= 16 cf, Atten= 100%, Lag= 4,175.8 min
Primary = 0.00 cfs @ 70.67 hrs, Volume= 16 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Pond 26P : Existing Impoundment

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.81' @ 70.67 hrs Surf.Area= 5,256 sf Storage= 3,841 cf

Plug-Flow detention time= 2,425.4 min calculated for 16 cf (0% of inflow)
Center-of-Mass det. time= 2,370.7 min (2,452.3 - 81.6)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	15,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

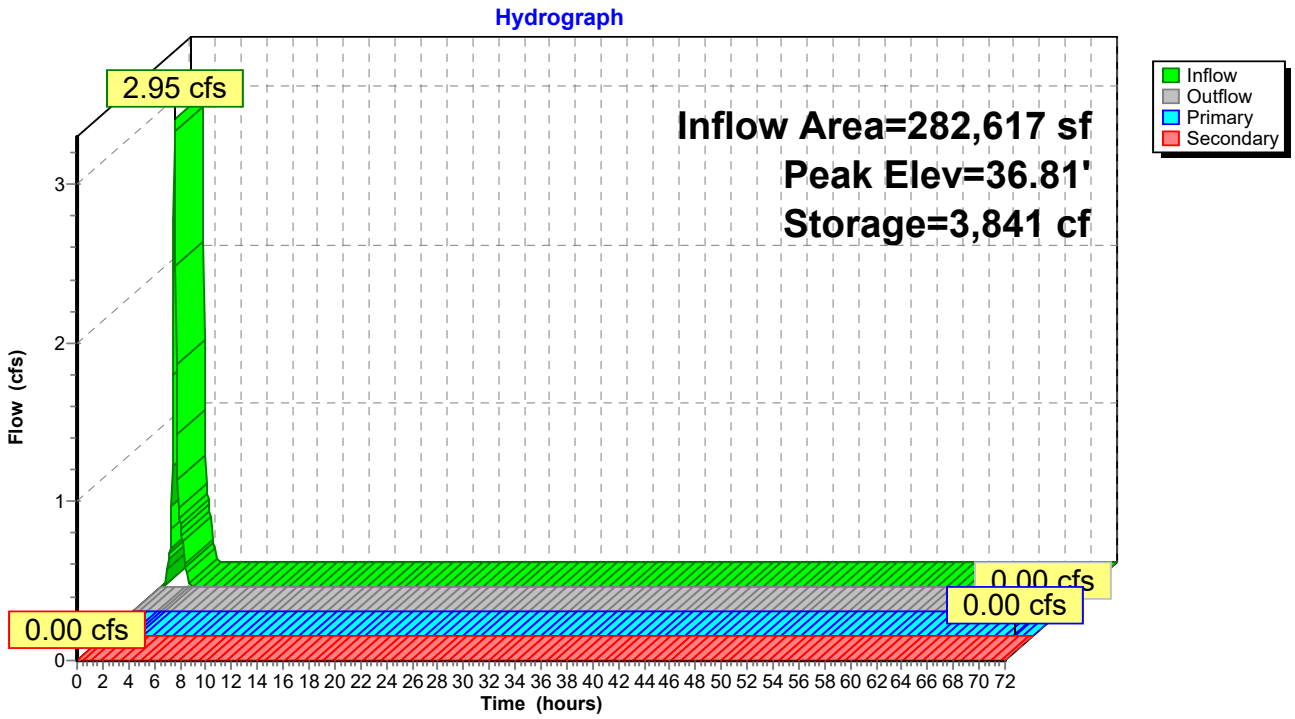
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	4,200	0	0
37.00	5,500	4,850	4,850
38.00	7,200	6,350	11,200
38.50	8,500	3,925	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	36.81'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Secondary	37.50'	**15.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#3	Primary	38.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 70.67 hrs HW=36.81' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.17 fps)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: Basin 1



Summary for Pond 4P: Basin 3

Inflow Area = 45,651 sf, 0.00% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 24.10' @ 0.00 hrs Surf.Area= 46,050 sf Storage= 0 cf

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

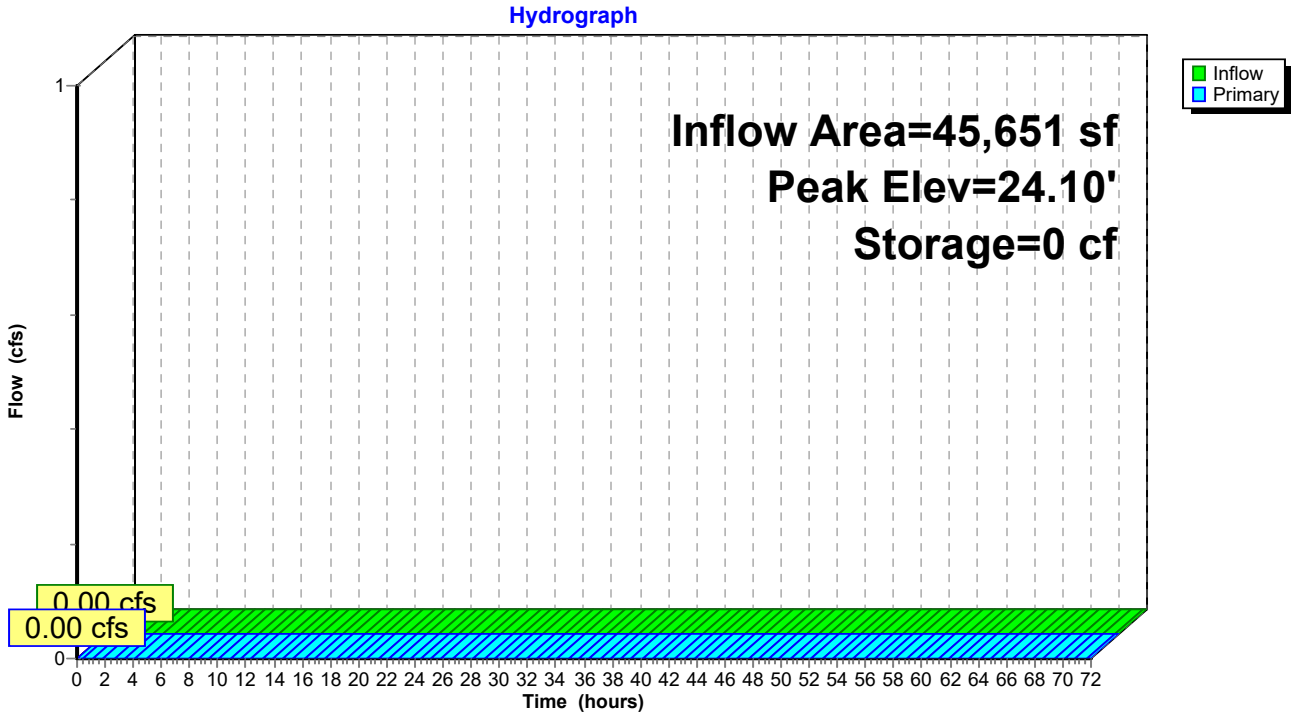
Volume	Invert	Avail.Storage	Storage Description
#1	24.10'	333,697 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.10	30,700	0	0
25.00	31,000	27,765	27,765
26.00	31,400	31,200	58,965
27.00	31,800	31,600	90,565
28.00	32,300	32,050	122,615
29.00	32,800	32,550	155,165
30.00	33,400	33,100	188,265
31.00	35,000	34,200	222,465

Device	Routing	Invert	Outlet Devices
#1	Primary	30.30'	**30.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=24.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 4P: Basin 3



Summary for Subcatchment 4S: Basin 2 - Impervious

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

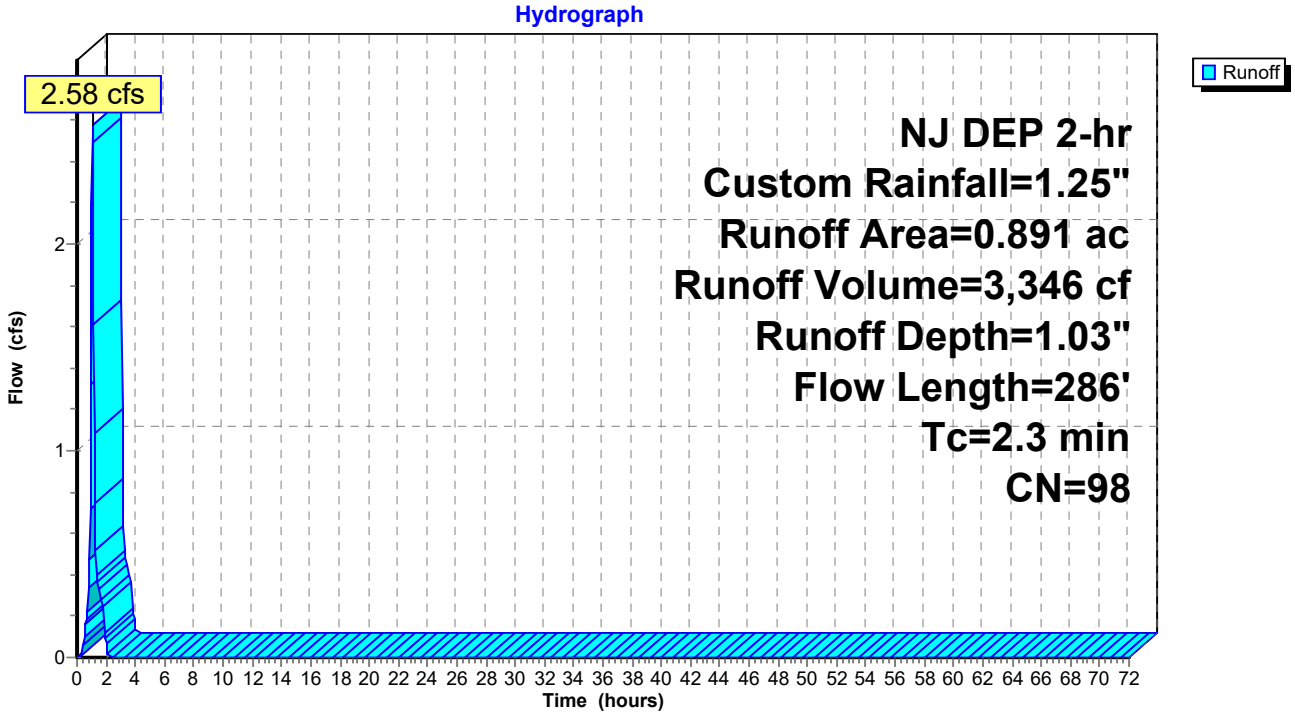
Runoff = 2.58 cfs @ 1.07 hrs, Volume= 3,346 cf, Depth= 1.03"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.891	98	Impervious
	0.891		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	56	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	286	Total			

Subcatchment 4S: Basin 2 - Impervious



Summary for Subcatchment 5S: Basin 2 - Pervious

[45] Hint: Runoff=Zero

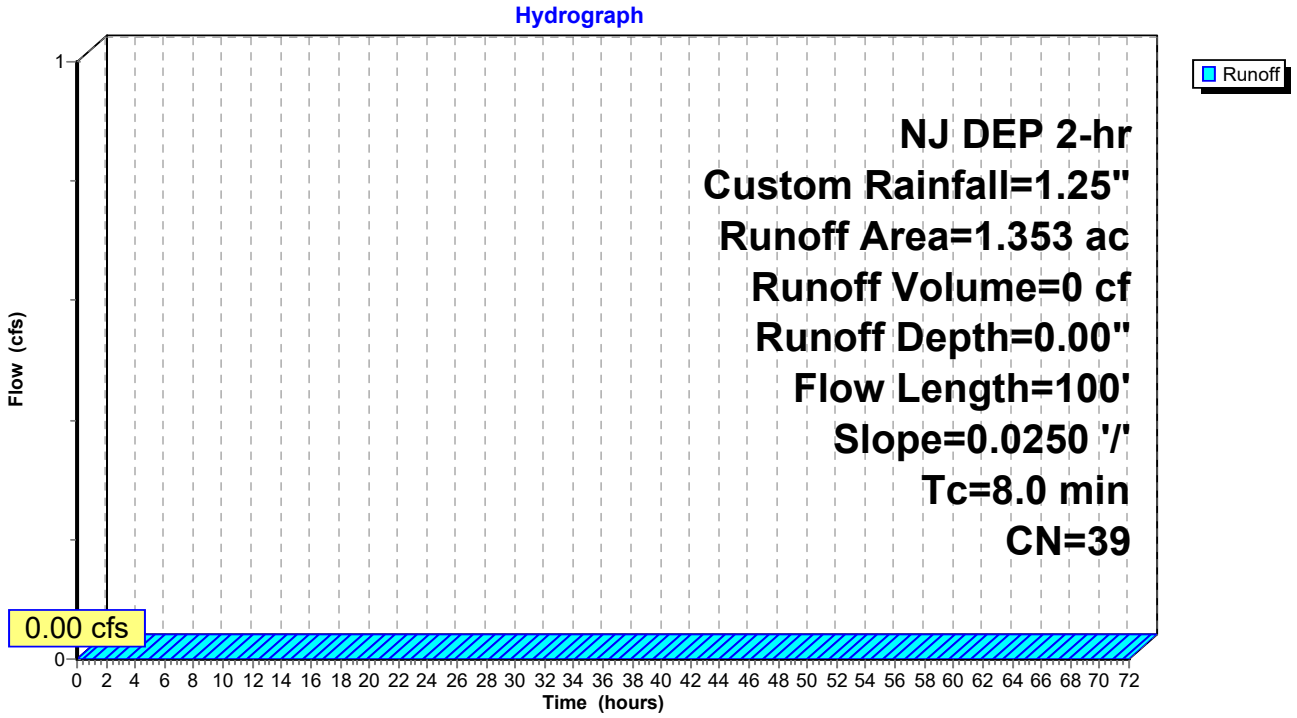
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 6P : Basin 2

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.353	39	>75% Grass cover, Good, HSG A
1.353		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 5S: Basin 2 - Pervious



Summary for Pond 6P: Basin 2

Inflow Area = 190,139 sf, 30.72% Impervious, Inflow Depth = 0.21" for Custom event
Inflow = 2.58 cfs @ 1.07 hrs, Volume= 3,368 cf
Outflow = 0.00 cfs @ 28.01 hrs, Volume= 23 cf, Atten= 100%, Lag= 1,616.6 min
Primary = 0.00 cfs @ 28.01 hrs, Volume= 23 cf
Routed to Pond 3P : Basin 1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.69' @ 28.01 hrs Surf.Area= 5,450 sf Storage= 3,350 cf

Plug-Flow detention time= 2,159.9 min calculated for 23 cf (1% of inflow)
Center-of-Mass det. time= 2,107.7 min (2,186.4 - 78.7)

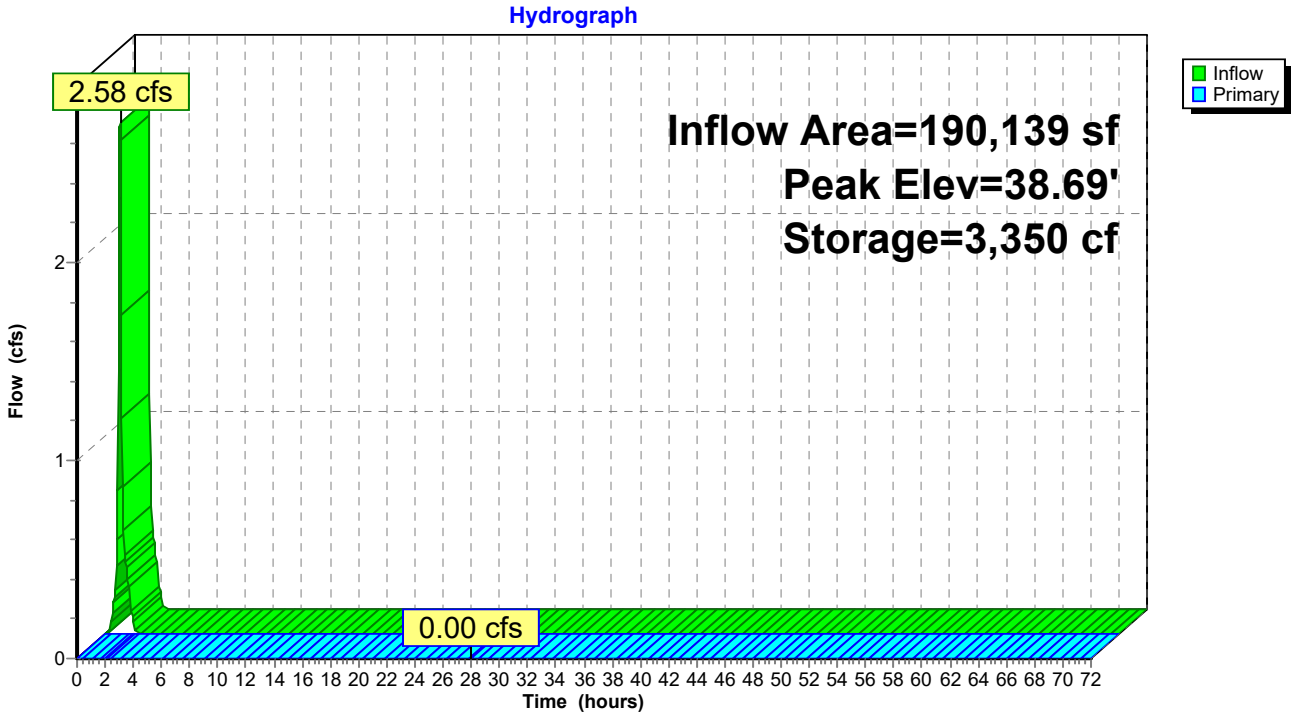
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	26,700 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	4,200	0	0
39.00	6,000	5,100	5,100
40.00	8,000	7,000	12,100
41.00	10,300	9,150	21,250
41.50	11,500	5,450	26,700

Device	Routing	Invert	Outlet Devices
#1	Primary	38.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	40.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 28.01 hrs HW=38.69' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.22 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 6P: Basin 2



Summary for Pond 7P: Basin 4

Inflow Area = 110,033 sf, 46.36% Impervious, Inflow Depth = 0.48" for Custom event
Inflow = 3.27 cfs @ 1.09 hrs, Volume= 4,398 cf
Outflow = 0.00 cfs @ 2.39 hrs, Volume= 6 cf, Atten= 100%, Lag= 78.4 min
Primary = 0.00 cfs @ 2.39 hrs, Volume= 6 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.06' @ 2.39 hrs Surf.Area= 4,886 sf Storage= 4,398 cf

Plug-Flow detention time= 1,627.6 min calculated for 6 cf (0% of inflow)
Center-of-Mass det. time= 1,583.1 min (1,653.1 - 69.9)

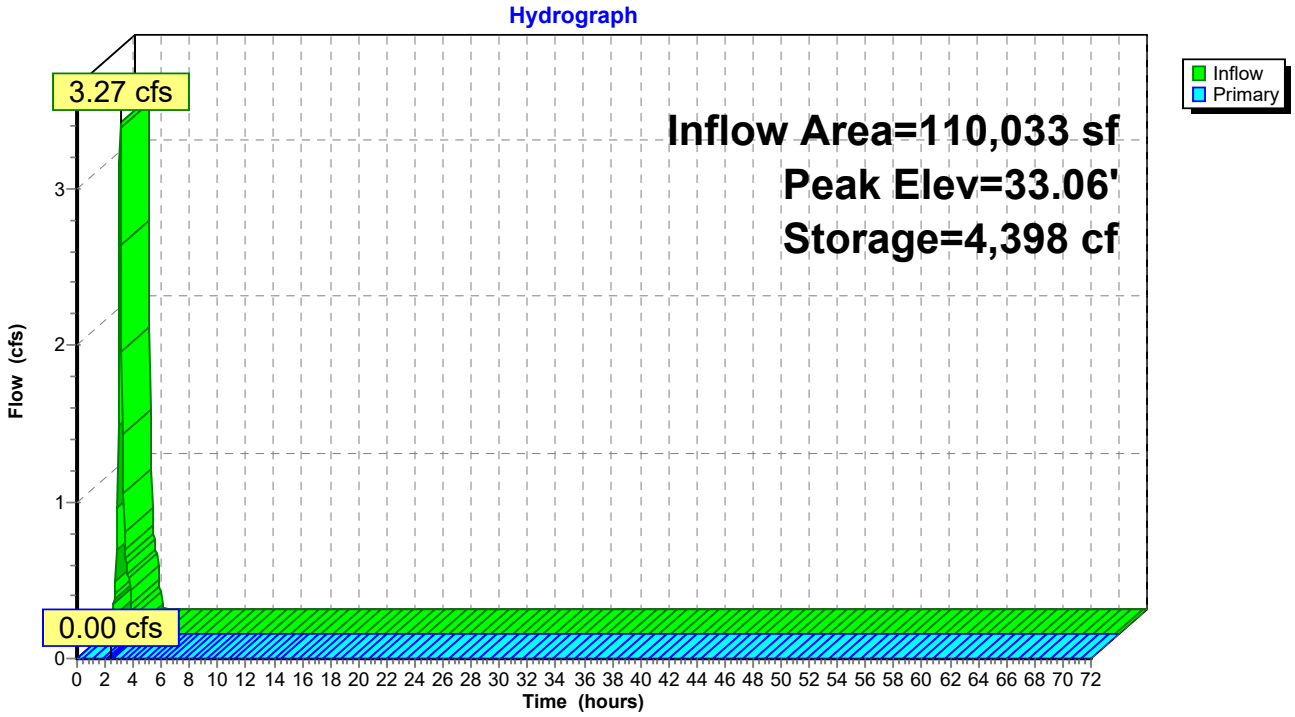
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	13,075 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	3,400	0	0
33.00	4,800	4,100	4,100
34.00	6,200	5,500	9,600
34.50	7,700	3,475	13,075

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.39 hrs HW=33.06' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.13 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 7P: Basin 4



Summary for Subcatchment 8S: Basin 4 - Impervious

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

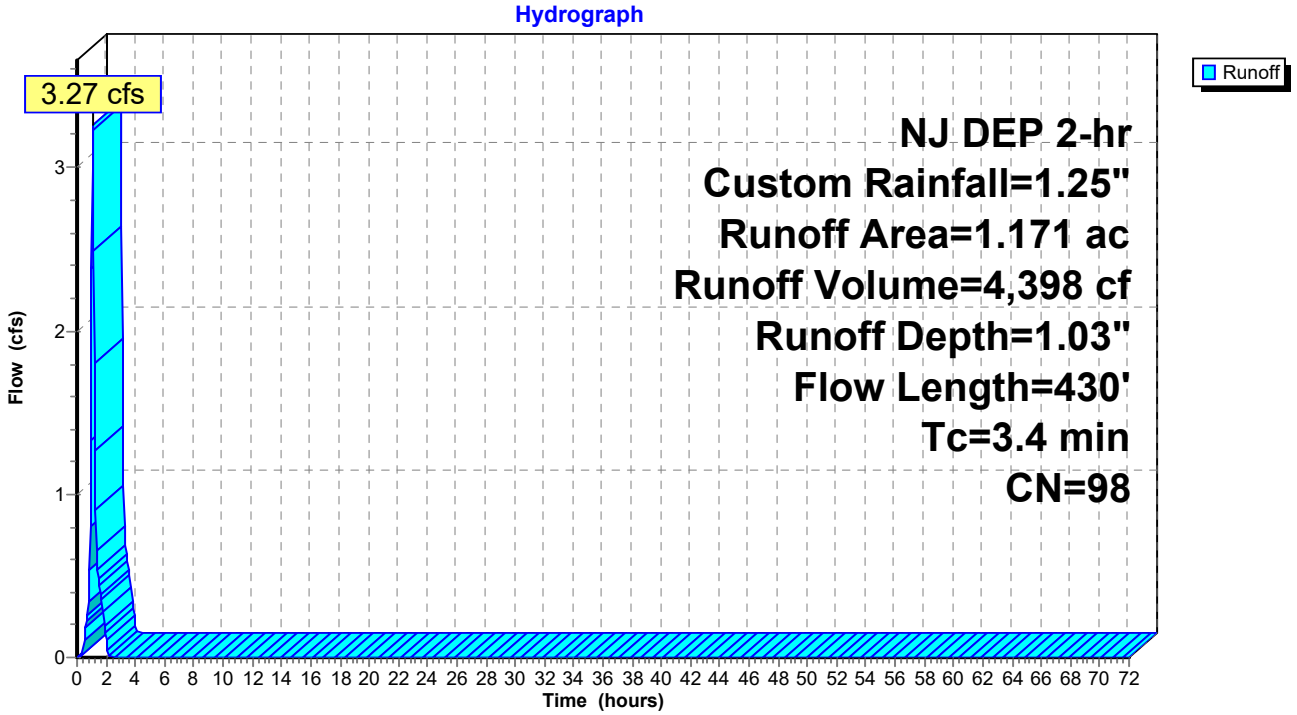
Runoff = 3.27 cfs @ 1.09 hrs, Volume= 4,398 cf, Depth= 1.03"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.171	98	Impervious
	1.171		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0100	1.17		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.6	200	0.0100	2.03		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.4	130	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.4	430	Total			

Subcatchment 8S: Basin 4 - Impervious



Summary for Subcatchment 9S: Basin 4 - Pervious

[45] Hint: Runoff=Zero

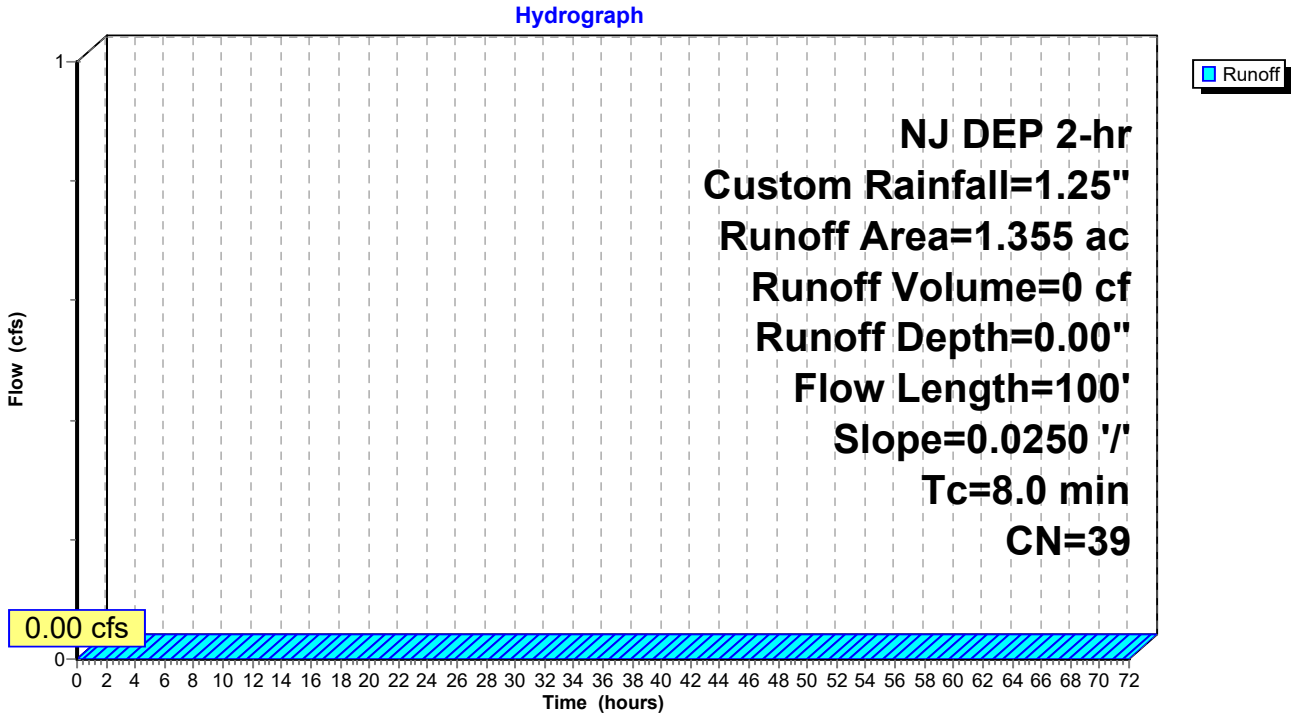
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 7P : Basin 4

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.355	39	>75% Grass cover, Good, HSG A
1.355		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 9S: Basin 4 - Pervious



Summary for Pond 10P: Basin 5

Inflow Area = 87,120 sf, 55.65% Impervious, Inflow Depth = 0.58" for Custom event
Inflow = 3.13 cfs @ 1.07 hrs, Volume= 4,180 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.32' @ 2.45 hrs Surf.Area= 3,320 sf Storage= 4,180 cf

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

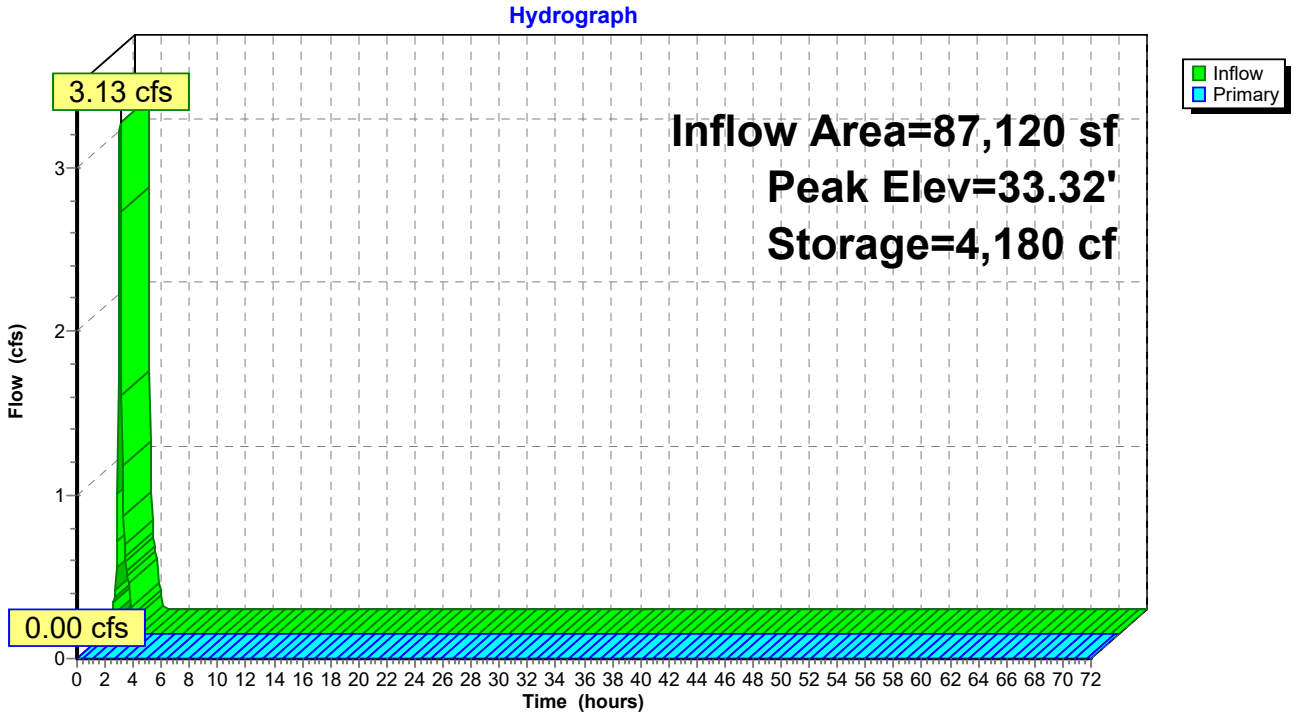
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	9,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,500	0	0
32.00	1,800	825	825
33.00	2,900	2,350	3,175
34.00	4,200	3,550	6,725
34.50	5,400	2,400	9,125

Device	Routing	Invert	Outlet Devices
#1	Primary	33.56'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.50' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 10P: Basin 5



Summary for Subcatchment 11S: Basin 5 - Impervious

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

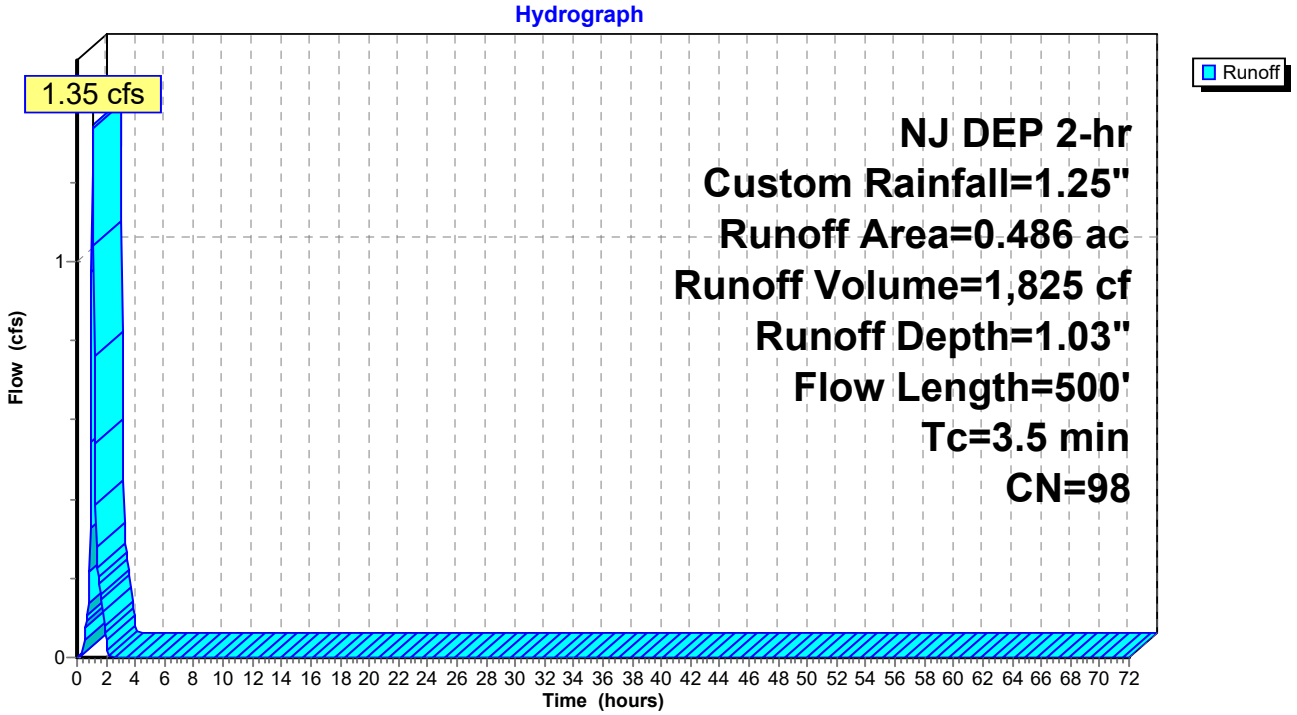
Runoff = 1.35 cfs @ 1.09 hrs, Volume= 1,825 cf, Depth= 1.03"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.486	98	Impervious
	0.486		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.5	500	Total			

Subcatchment 11S: Basin 5 - Impervious



Summary for Subcatchment 12S: Basin 5 - Pervious

[49] Hint: Tc<2dt may require smaller dt
[45] Hint: Runoff=Zero

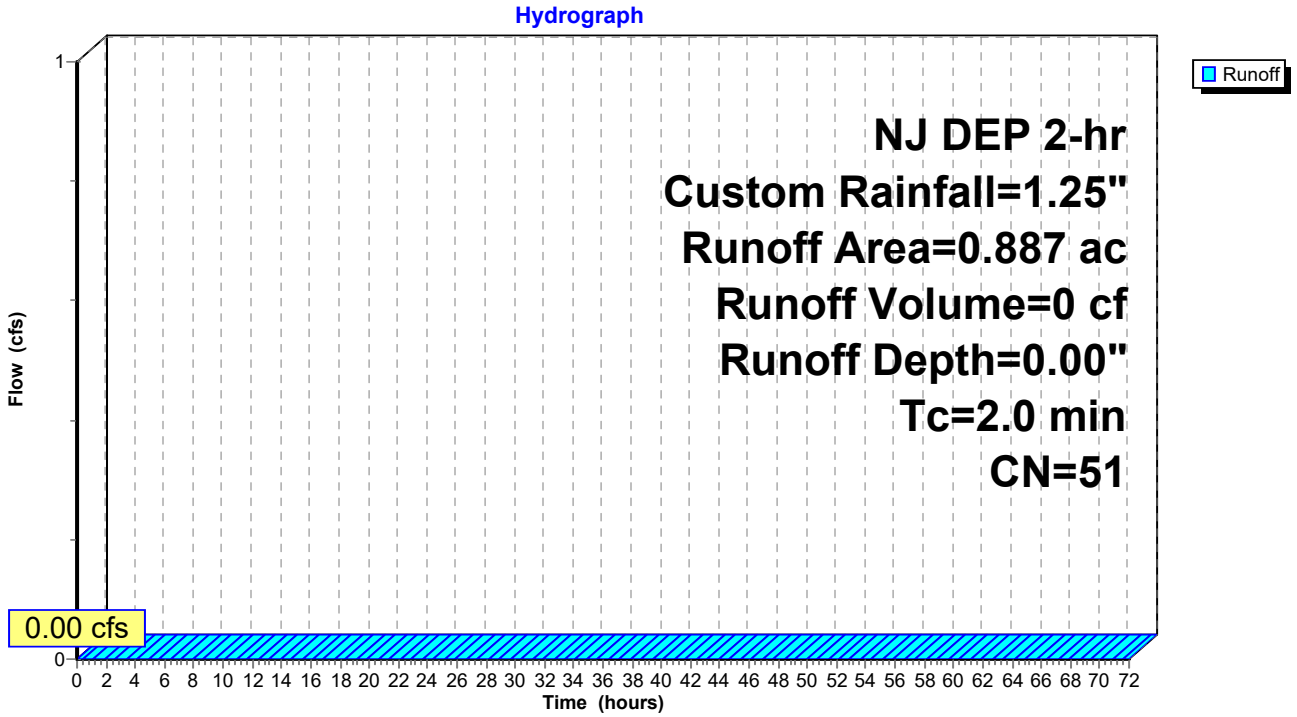
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.621	39	>75% Grass cover, Good, HSG A
0.266	80	>75% Grass cover, Good, HSG D
0.887	51	Weighted Average
0.887		100.00% Pervious Area

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

Subcatchment 12S: Basin 5 - Pervious



Summary for Pond 13P: Basin 7

Inflow Area = 108,334 sf, 44.39% Impervious, Inflow Depth = 0.56" for Custom event
Inflow = 2.64 cfs @ 1.15 hrs, Volume= 5,015 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.05' @ 3.30 hrs Surf.Area= 4,502 sf Storage= 5,015 cf

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

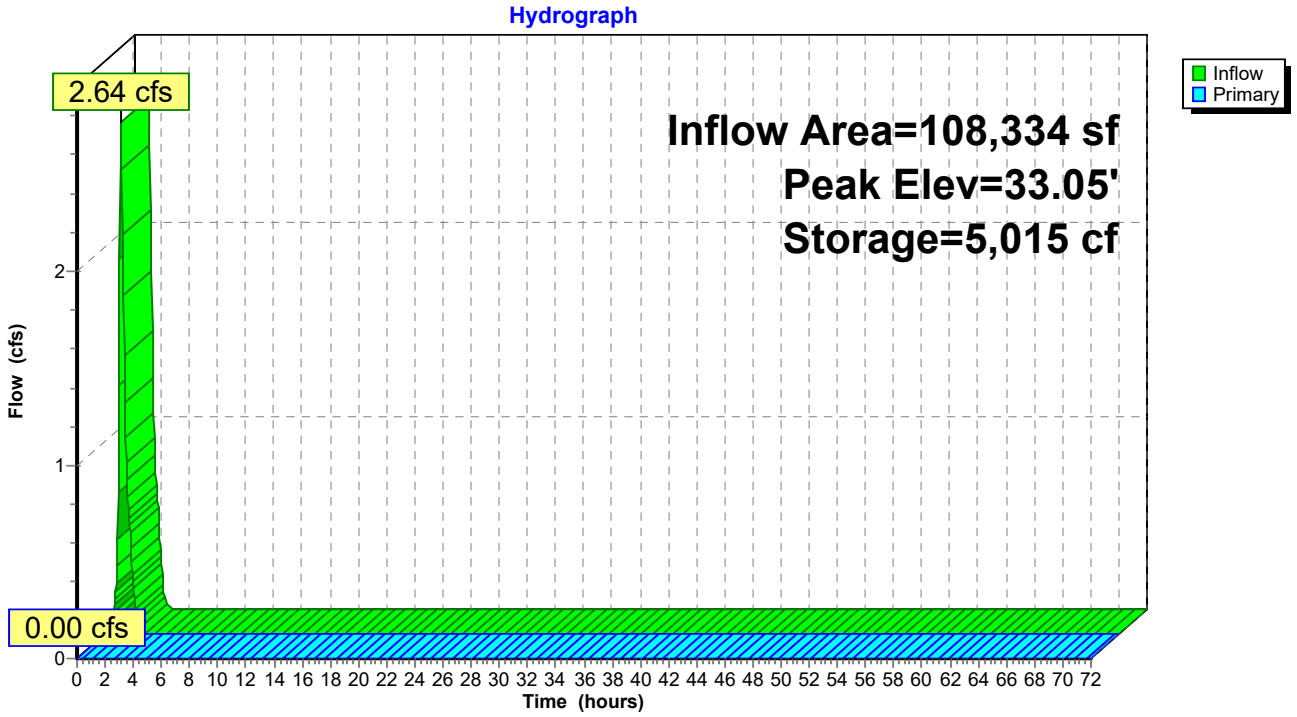
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	13,600 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	2,200	0	0
32.00	2,700	1,225	1,225
33.00	4,400	3,550	4,775
34.00	6,300	5,350	10,125
34.50	7,600	3,475	13,600

Device	Routing	Invert	Outlet Devices
#1	Primary	33.06'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.50' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 13P: Basin 7



Summary for Subcatchment 14S: Basin 7 - Impervious

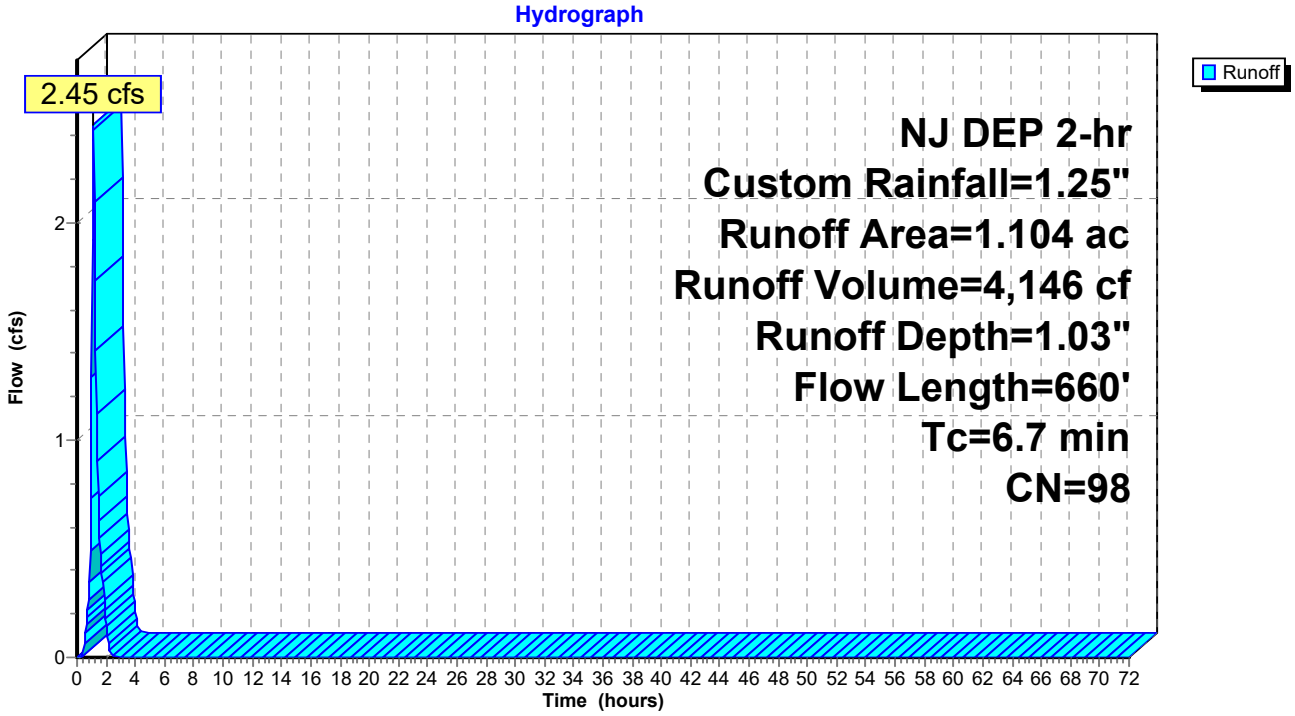
Runoff = 2.45 cfs @ 1.13 hrs, Volume= 4,146 cf, Depth= 1.03"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.104	98	Impervious
	1.104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
4.9	500	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	60	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	660	Total			

Subcatchment 14S: Basin 7 - Impervious

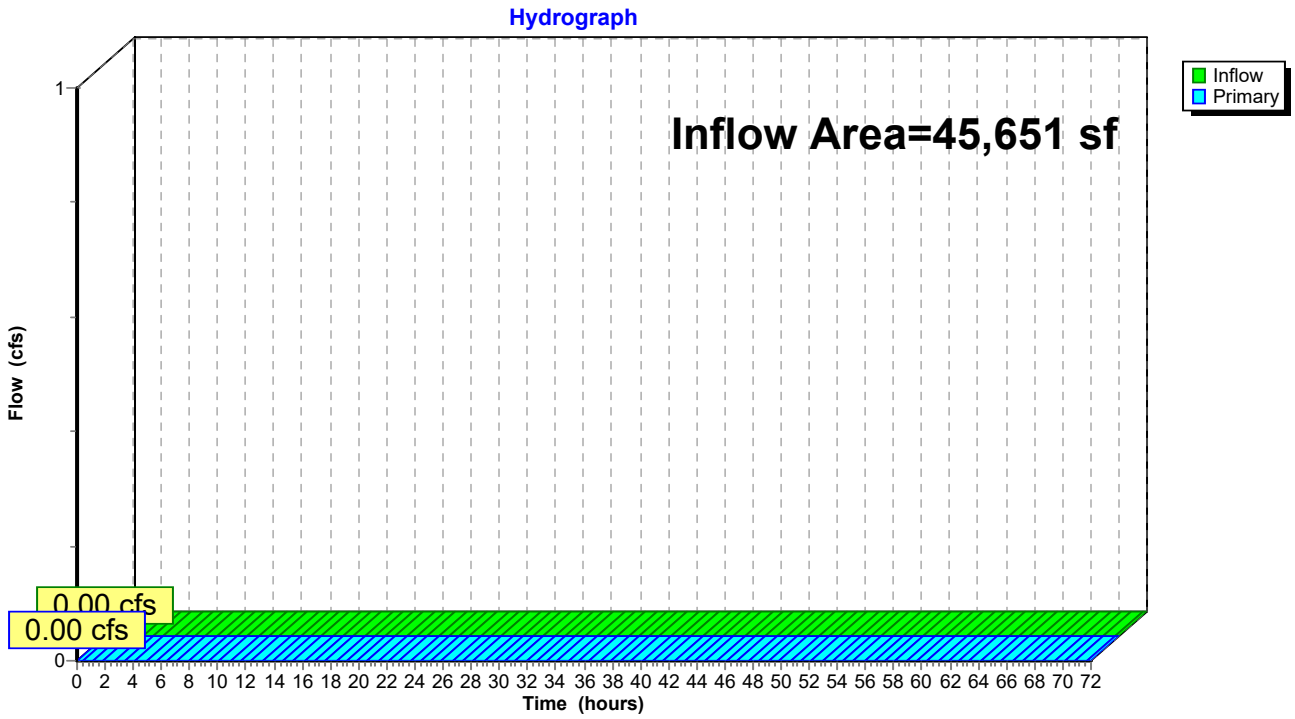


Summary for Link 15L: Willis Creek

Inflow Area = 45,651 sf, 0.00% Impervious, Inflow Depth = 0.00" for Custom event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link 15L: Willis Creek



Summary for Subcatchment 15S: Basin 7 - Pervious

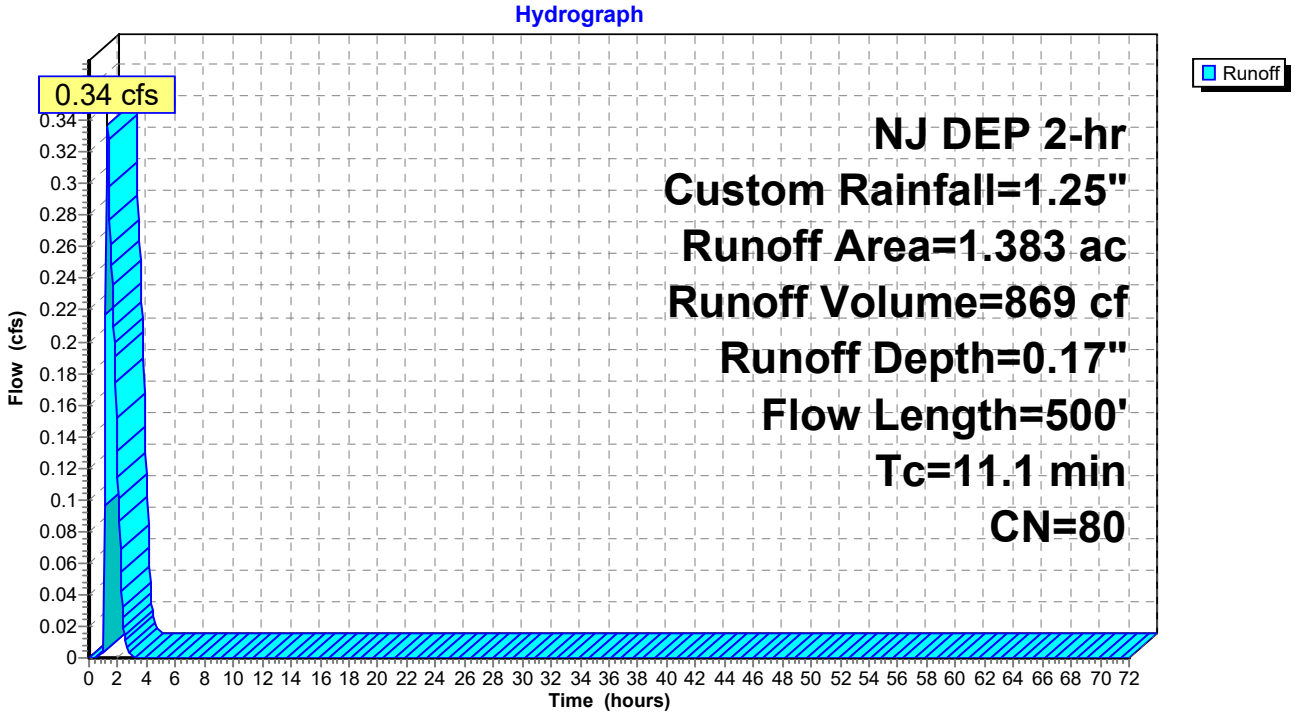
Runoff = 0.34 cfs @ 1.28 hrs, Volume= 869 cf, Depth= 0.17"
Routed to Pond 13P : Basin 7

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.383	80	>75% Grass cover, Good, HSG D
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	80	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	20	0.0070	0.74		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
3.9	400	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
11.1	500	Total			

Subcatchment 15S: Basin 7 - Pervious



Summary for Pond 16P: Basin 9

Inflow Area = 106,722 sf, 44.82% Impervious, Inflow Depth = 0.47" for Custom event
Inflow = 3.14 cfs @ 1.08 hrs, Volume= 4,217 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.93' @ 3.00 hrs Surf.Area= 5,198 sf Storage= 4,217 cf

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

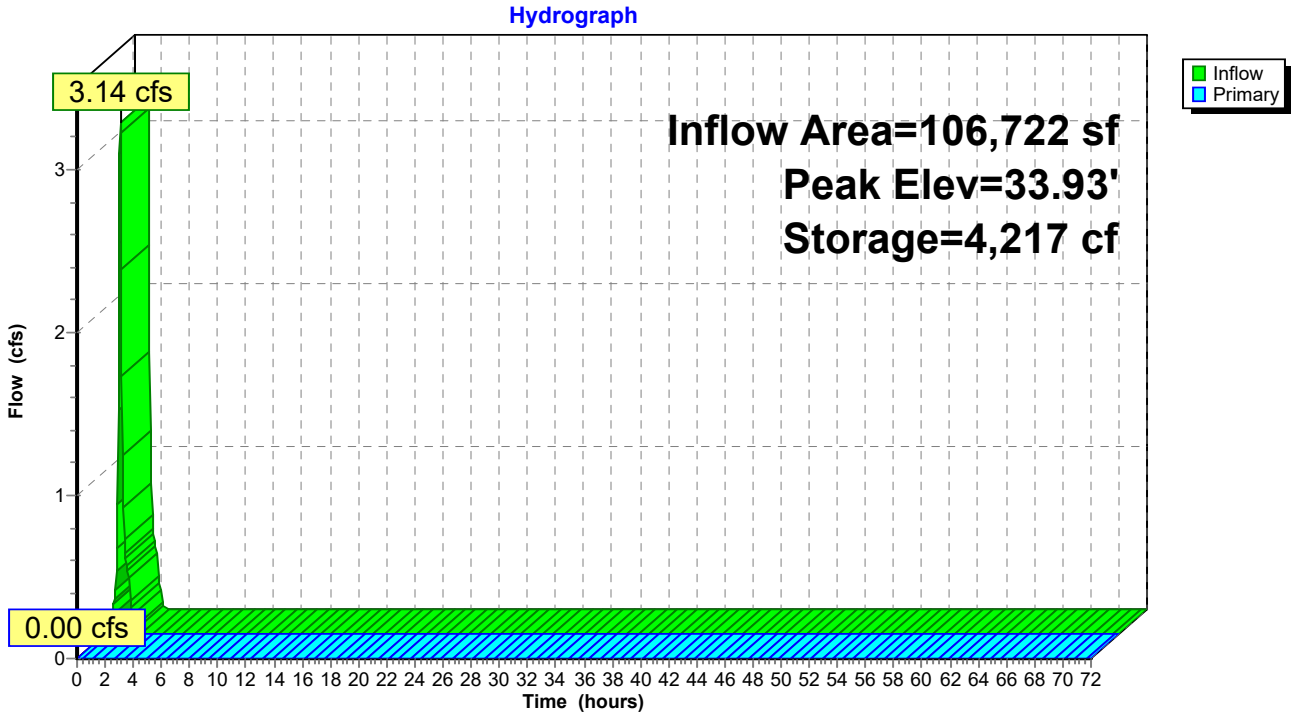
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,175 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,900	0	0
34.00	5,300	4,600	4,600
35.00	6,500	5,900	10,500
36.00	8,000	7,250	17,750
36.50	9,700	4,425	22,175

Device	Routing	Invert	Outlet Devices
#1	Primary	33.93'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=33.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 16P: Basin 9



Summary for Pond 17P: Drywell 80

Inflow Area = 10,400 sf,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.77 cfs @ 1.03 hrs, Volume= 897 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min

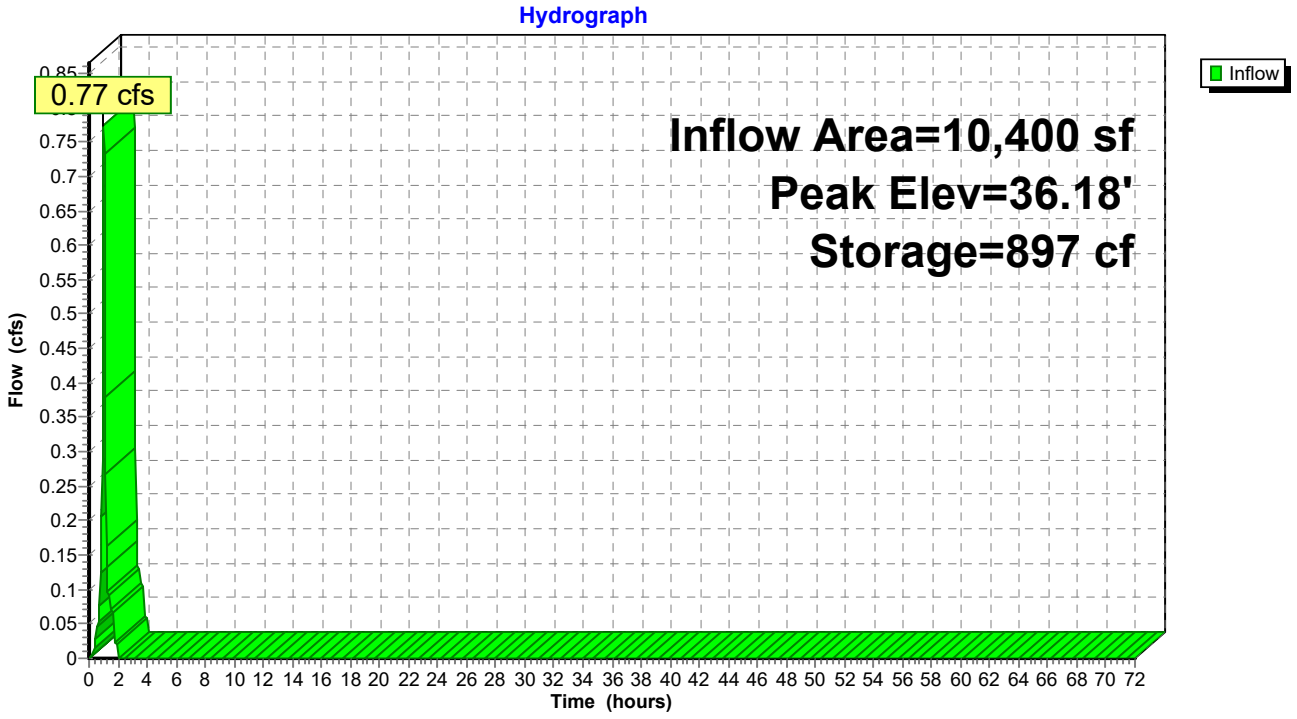
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.18' @ 2.05 hrs Surf.Area= 727 sf Storage= 897 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1A	34.00'	590 cf	**4.00'W x 181.67'L x 3.00'H Field A** 2,180 cf Overall - 706 cf Embedded = 1,474 cf x 40.0% Voids
#2A	34.33'	558 cf	**ADS N-12 24"** x 9 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		1,148 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 17P: Drywell 80



Summary for Subcatchment 17S: Basin 9 - Impervious

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

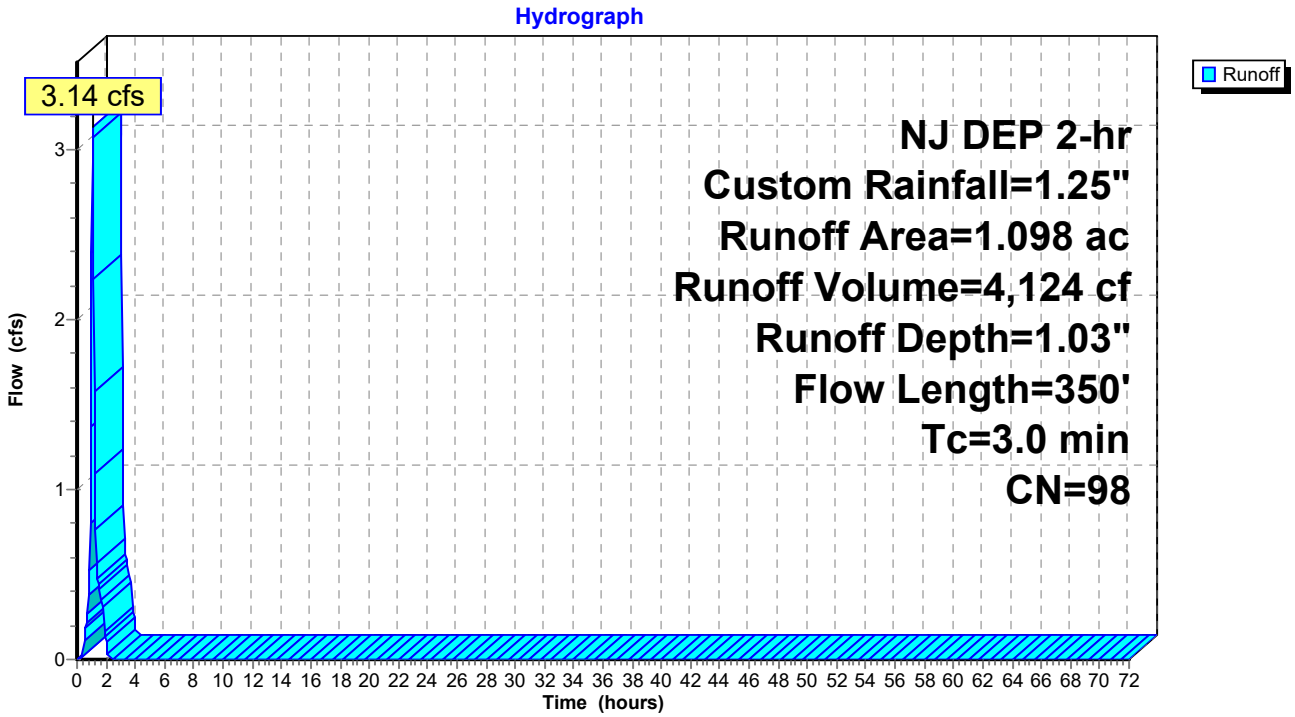
Runoff = 3.14 cfs @ 1.08 hrs, Volume= 4,124 cf, Depth= 1.03"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.098	98	Impervious
	1.098		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.9	100	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.0	350	Total			

Subcatchment 17S: Basin 9 - Impervious



Summary for Pond 18P: Drywell 81

[92] Warning: Device #1 is above defined storage

Inflow Area = 7,800 sf,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.58 cfs @ 1.03 hrs, Volume= 672 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.48' @ 2.05 hrs Surf.Area= 487 sf Storage= 673 cf

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

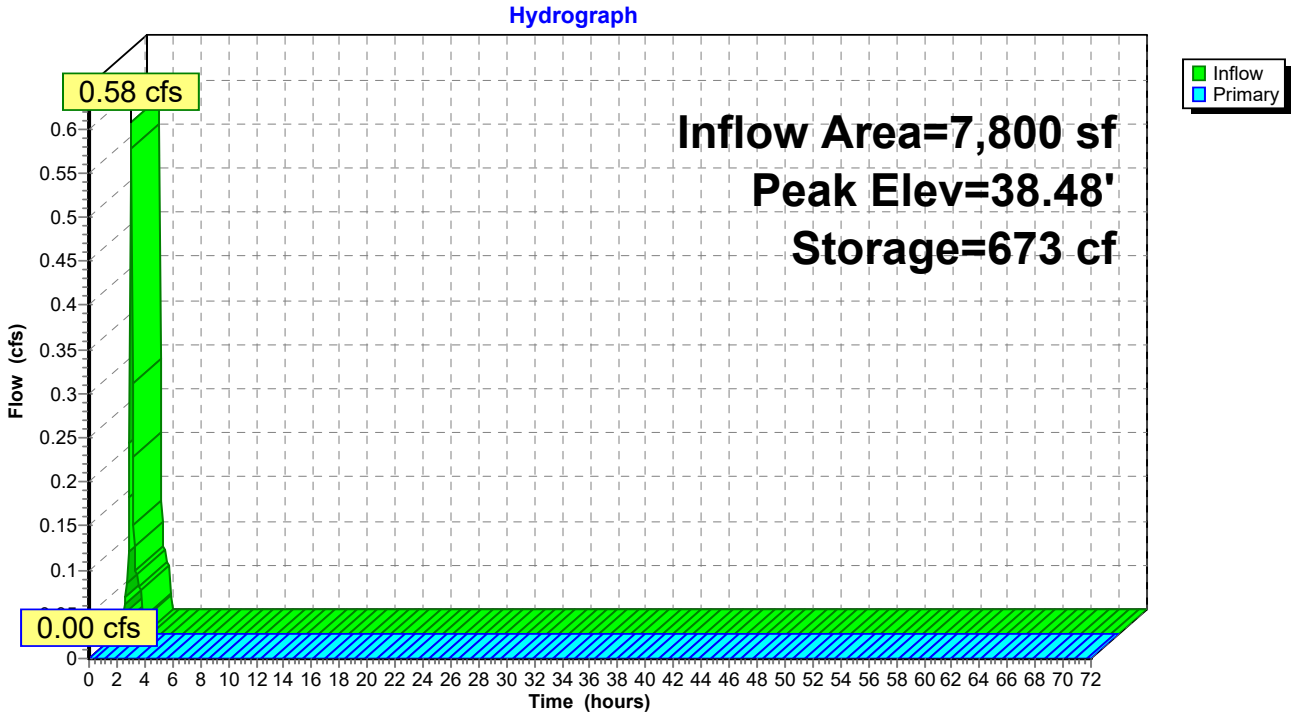
Volume	Invert	Avail.Storage	Storage Description
#1A	36.00'	396 cf	**4.00'W x 121.67'L x 3.00'H Field A** 1,460 cf Overall - 471 cf Embedded = 989 cf x 40.0% Voids
#2A	36.33'	372 cf	**ADS N-12 24"** x 6 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		768 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 18P: Drywell 81



Summary for Subcatchment 18S: Basin 9 - Pervious

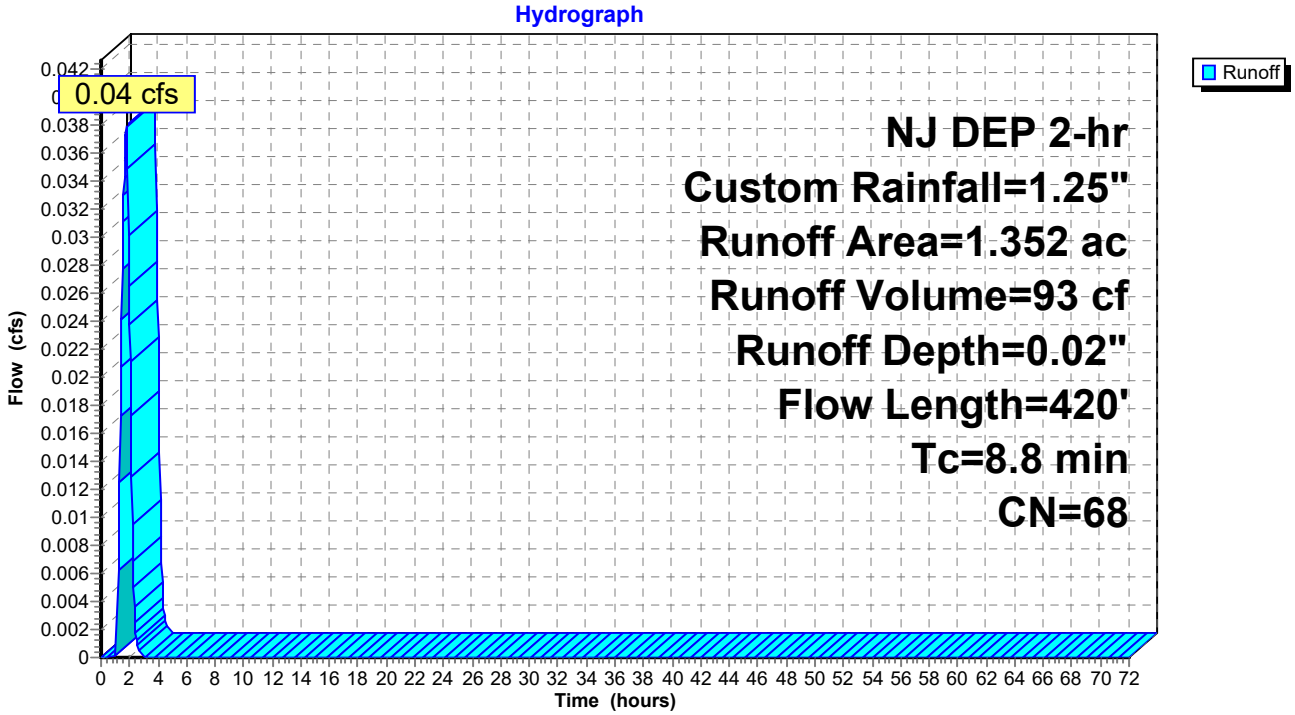
Runoff = 0.04 cfs @ 1.78 hrs, Volume= 93 cf, Depth= 0.02"
Routed to Pond 16P : Basin 9

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.946	80	>75% Grass cover, Good, HSG D
0.406	39	>75% Grass cover, Good, HSG A
1.352	68	Weighted Average
1.352		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
1.7	170	0.0070	1.70		**Shallow Concentrated Flow, C to D** Paved Kv= 20.3 fps
0.5	150	0.0050	4.84	5.94	**Pipe Channel, D to E** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	420	Total			

Subcatchment 18S: Basin 9 - Pervious



Summary for Pond 19P: Basin 10

Inflow Area = 87,643 sf, 42.50% Impervious, Inflow Depth = 0.44" for Custom event
Inflow = 2.46 cfs @ 1.08 hrs, Volume= 3,211 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.48' @ 2.35 hrs Surf.Area= 3,828 sf Storage= 3,211 cf

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

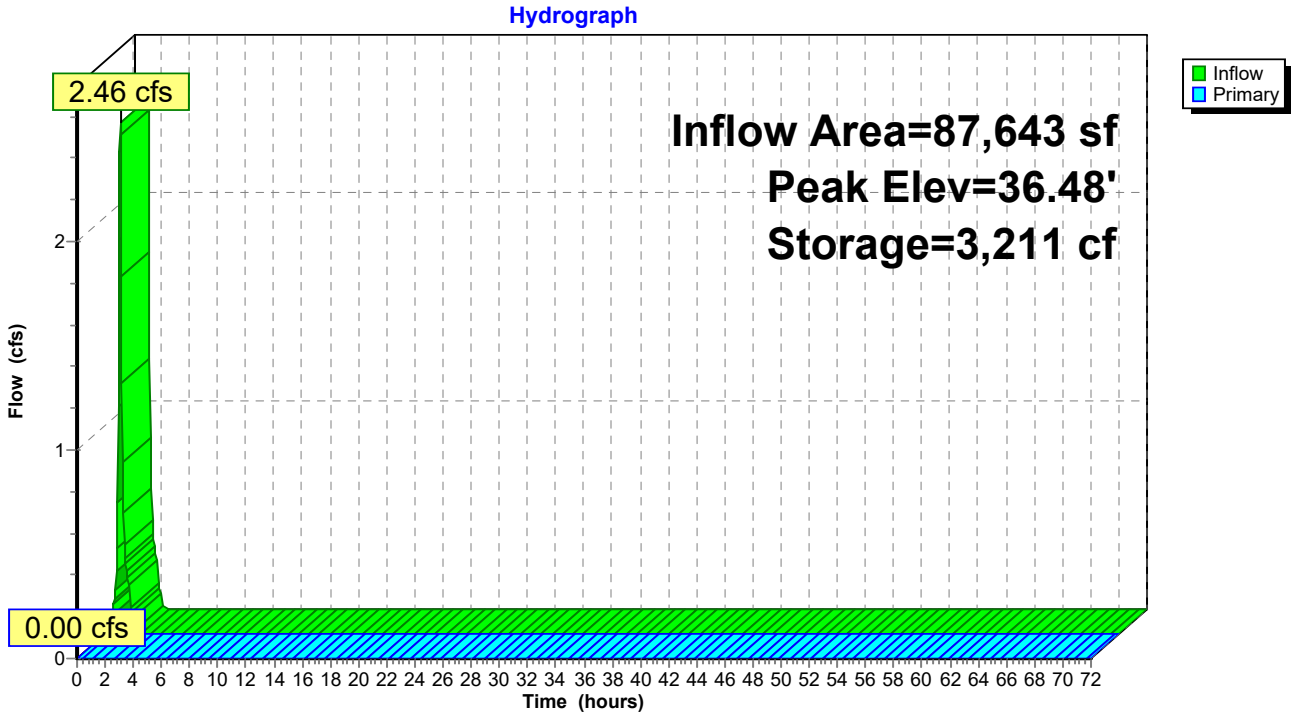
Volume	Invert	Avail.Storage	Storage Description
#1	35.50'	14,500 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.50	2,700	0	0
36.00	3,300	1,500	1,500
37.00	4,400	3,850	5,350
38.00	6,600	5,500	10,850
38.50	8,000	3,650	14,500

Device	Routing	Invert	Outlet Devices
#1	Primary	36.97'	**3.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=35.50' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 19P: Basin 10



Summary for Subcatchment 19S: Rear Bldgs 31-33 & 69-70

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

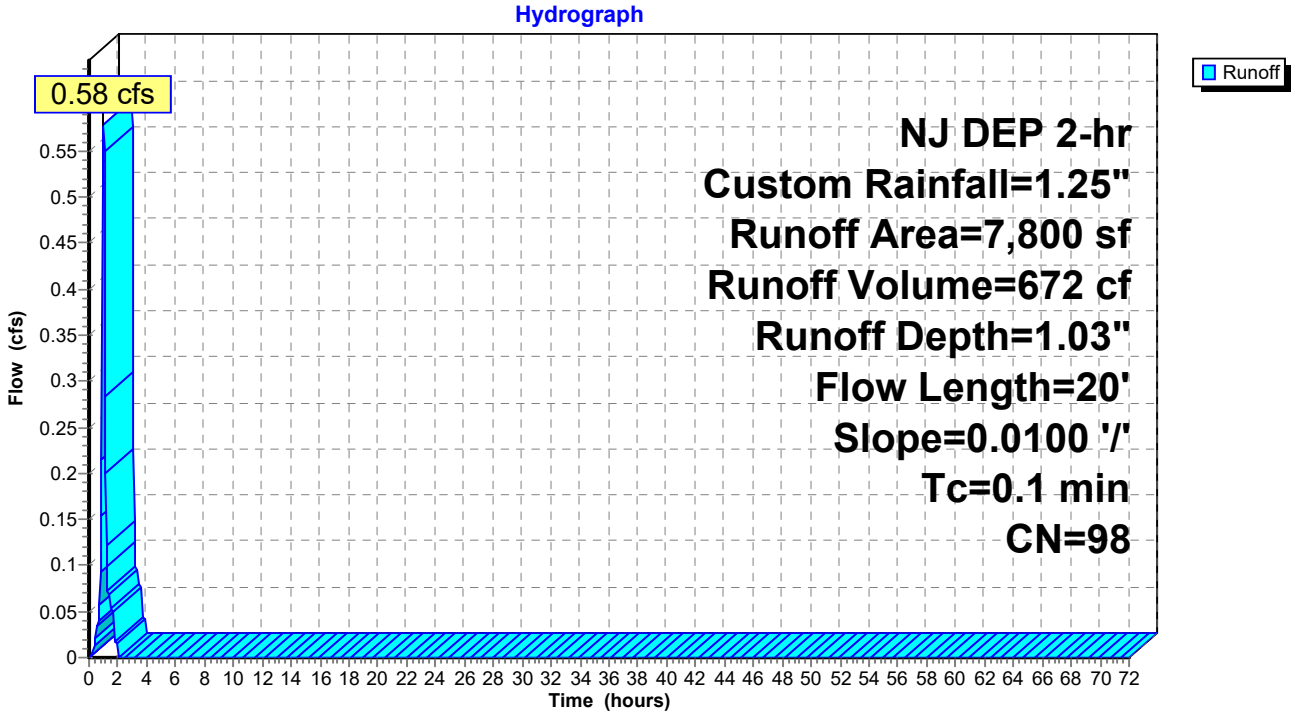
Runoff = 0.58 cfs @ 1.03 hrs, Volume= 672 cf, Depth= 1.03"
Routed to Pond 18P : Drywell 81

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	7,800	98	Roof Area
	7,800		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 19S: Rear Bldgs 31-33 & 69-70



Summary for Subcatchment 20S: Basin 10 - Impervious

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

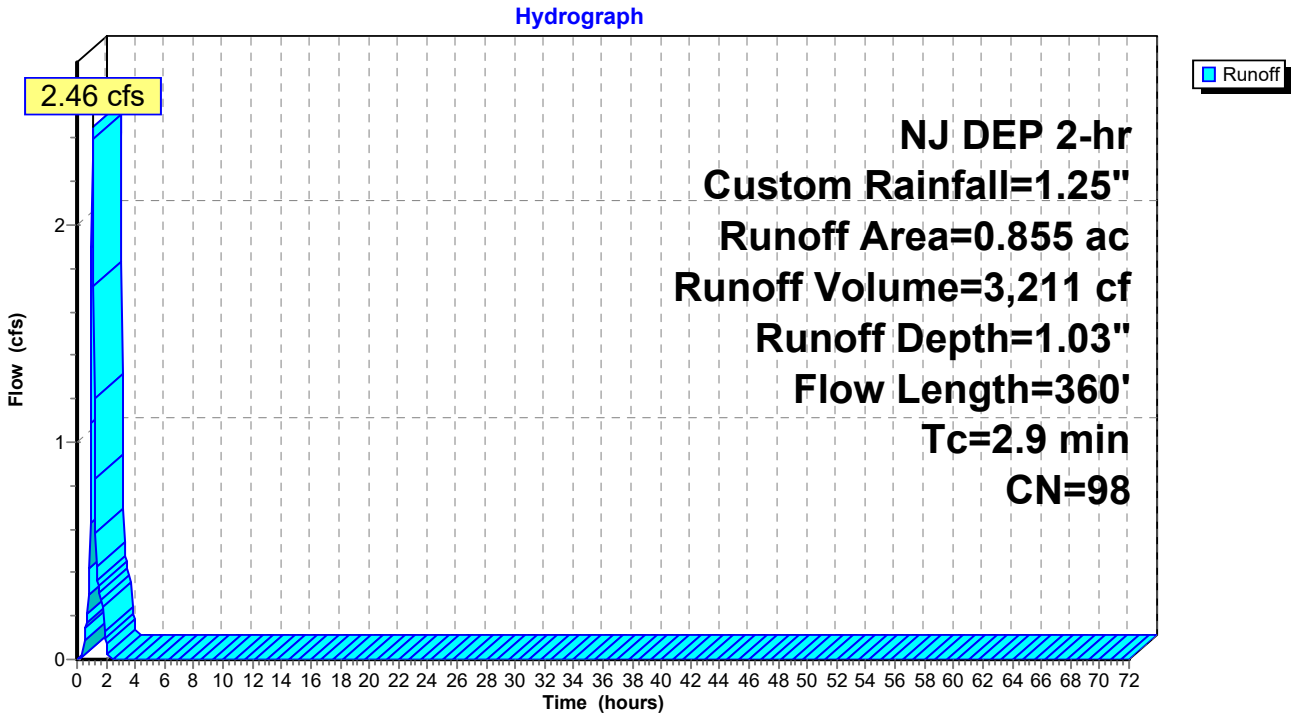
Runoff = 2.46 cfs @ 1.08 hrs, Volume= 3,211 cf, Depth= 1.03"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.855	98	Impervious
	0.855		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.6	60	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	360	Total			

Subcatchment 20S: Basin 10 - Impervious



Summary for Subcatchment 21S: Basin 10 - Pervious

[45] Hint: Runoff=Zero

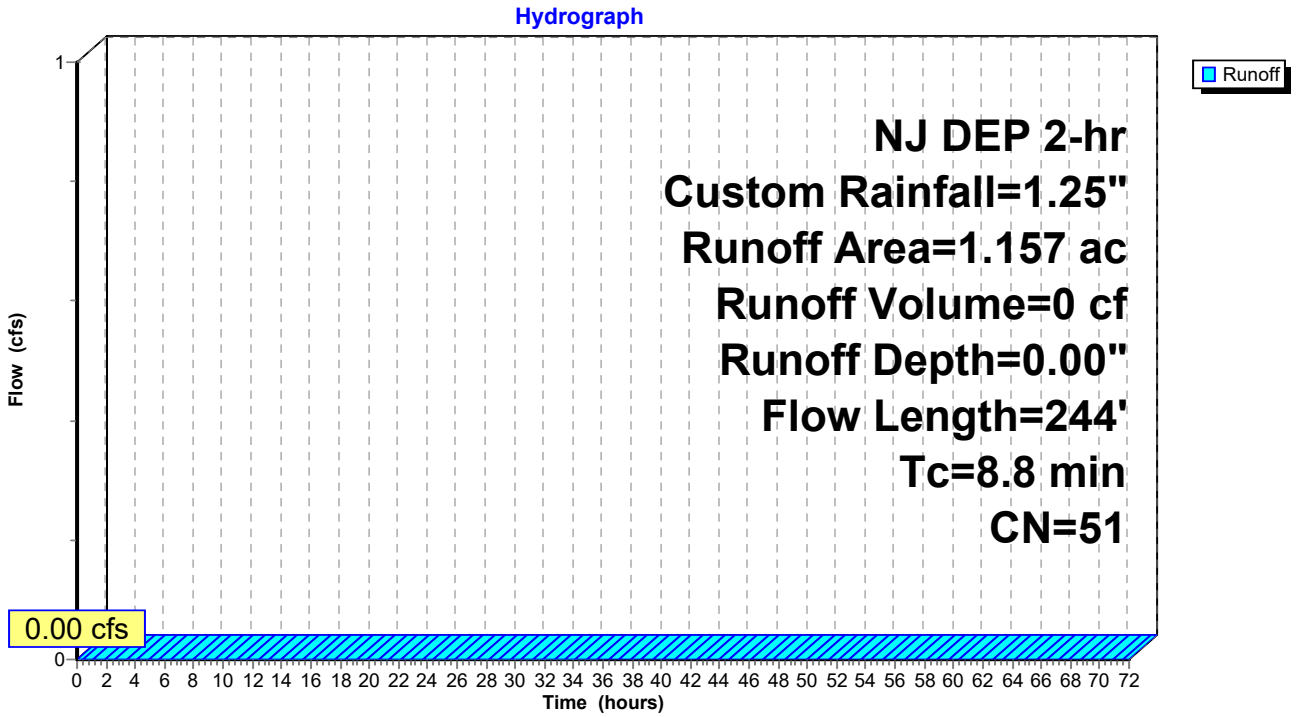
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 19P : Basin 10

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.347	80	>75% Grass cover, Good, HSG D
0.810	39	>75% Grass cover, Good, HSG A
1.157	51	Weighted Average
1.157		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.5	150	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.8	244	Total			

Subcatchment 21S: Basin 10 - Pervious



Summary for Pond 22P: Basin 11

Inflow Area = 113,735 sf, 36.27% Impervious, Inflow Depth = 0.38" for Custom event
Inflow = 2.57 cfs @ 1.09 hrs, Volume= 3,556 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 38.99' @ 2.45 hrs Surf.Area= 4,286 sf Storage= 3,556 cf

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

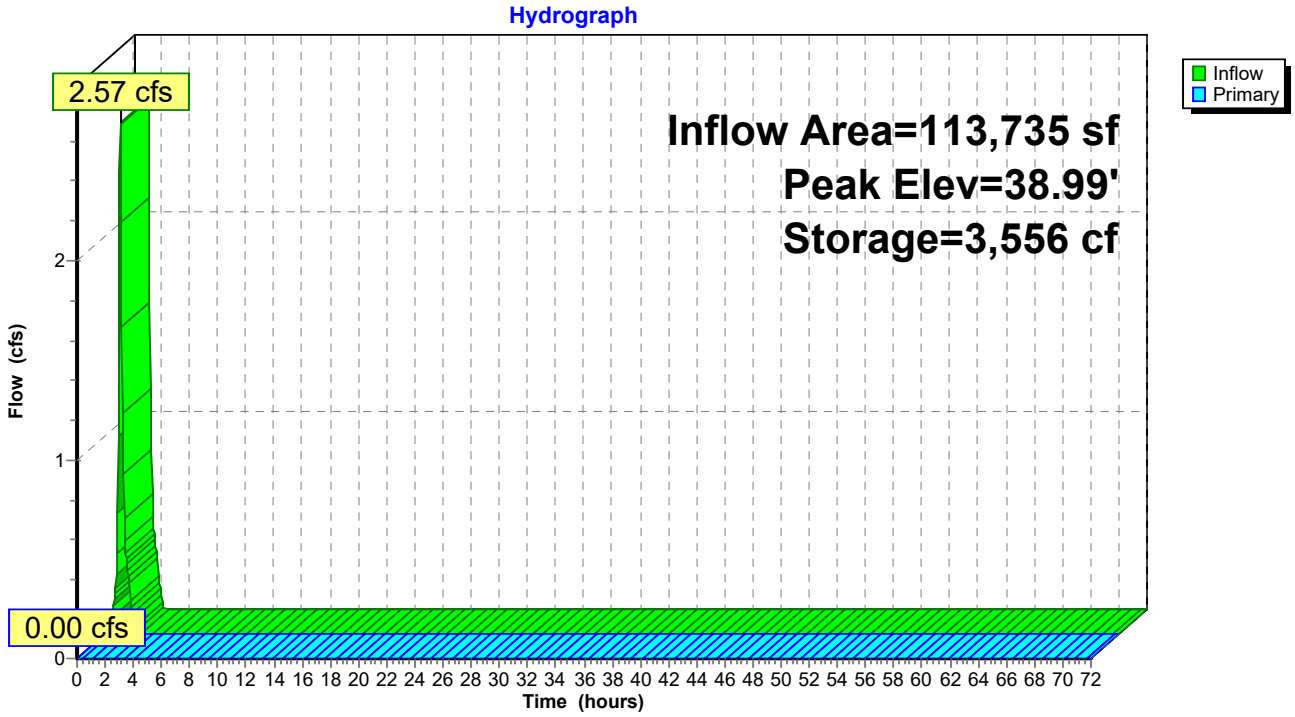
Volume	Invert	Avail.Storage	Storage Description
#1	38.00'	13,300 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
38.00	2,900	0	0
39.00	4,300	3,600	3,600
40.00	6,900	5,600	9,200
40.50	9,500	4,100	13,300

Device	Routing	Invert	Outlet Devices
#1	Primary	38.99'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=38.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 22P: Basin 11



Summary for Subcatchment 22S: Rear Bldgs 75-78 & 85-88

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

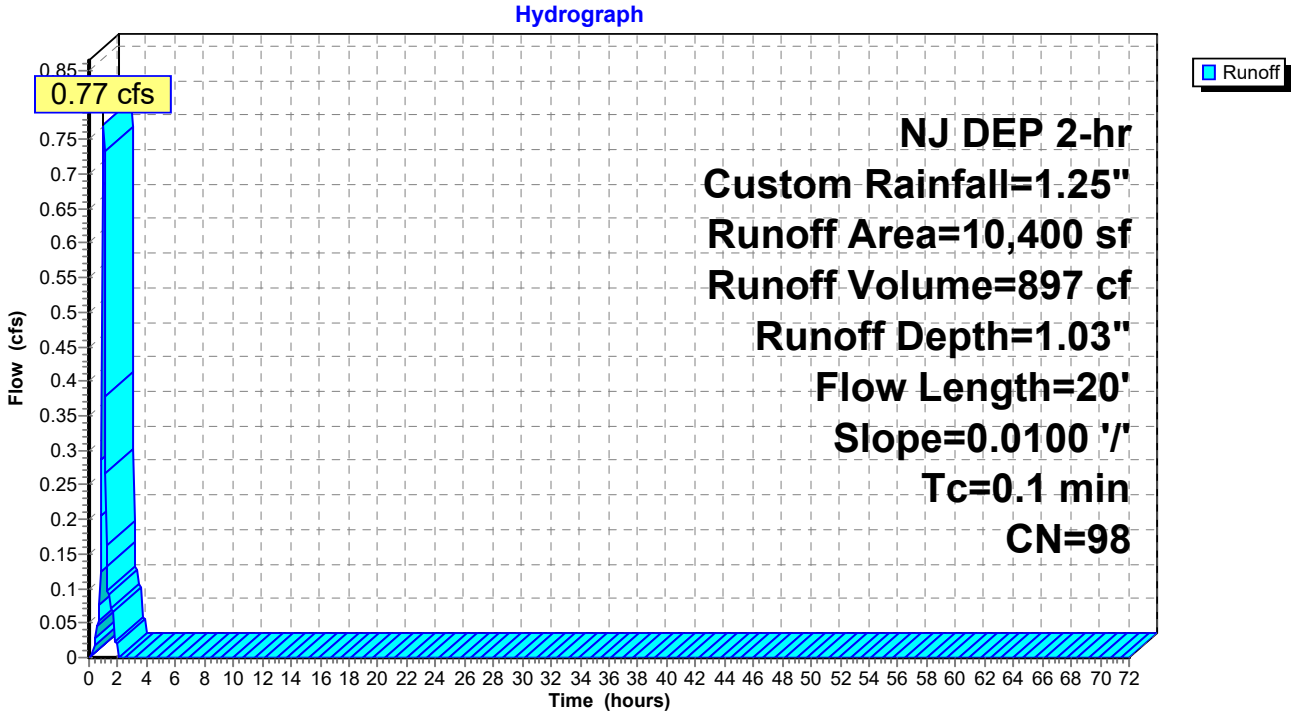
Runoff = 0.77 cfs @ 1.03 hrs, Volume= 897 cf, Depth= 1.03"
Routed to Pond 17P : Drywell 80

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	10,400	98	Rear Buildings
	10,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 22S: Rear Bldgs 75-78 & 85-88



Summary for Pond 23P: Drywell 100

Inflow Area = 2,600 sf,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.19 cfs @ 1.03 hrs, Volume= 224 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min

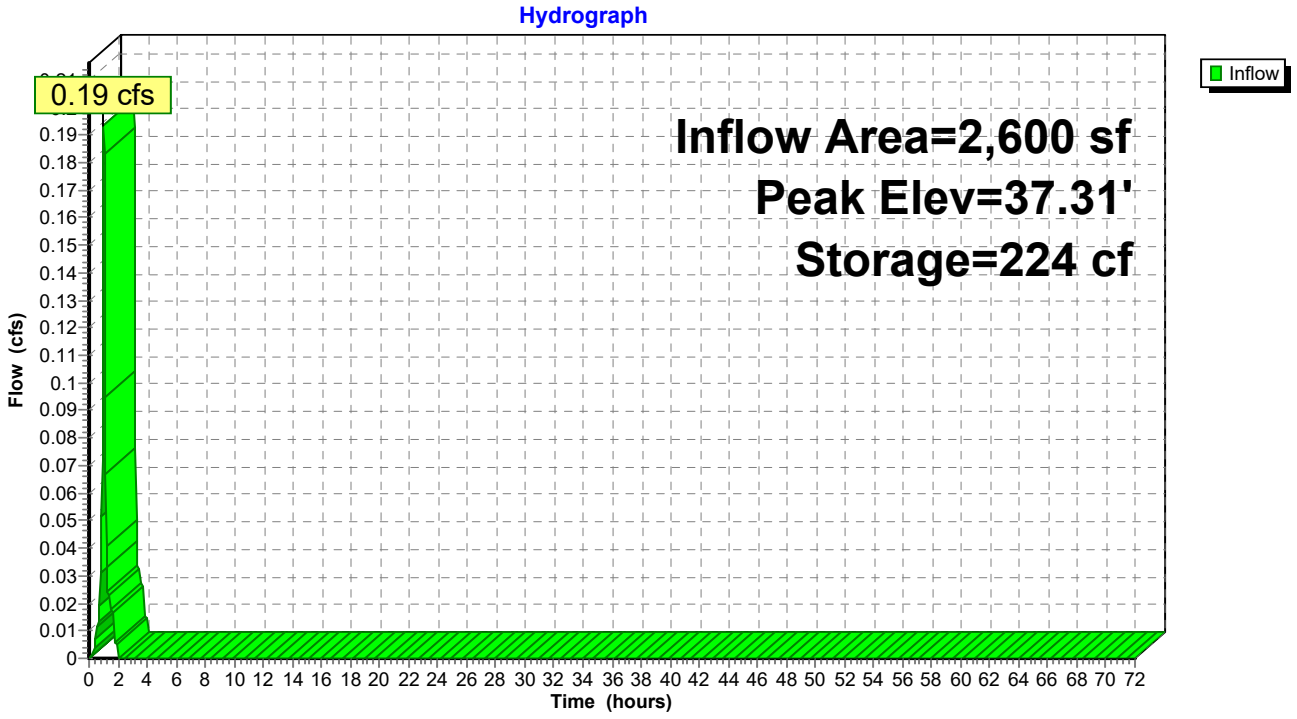
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.31' @ 2.05 hrs Surf.Area= 167 sf Storage= 224 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1A	34.90'	137 cf	**4.00'W x 41.67'L x 3.00'H Field A** 500 cf Overall - 157 cf Embedded = 343 cf x 40.0% Voids
#2A	35.23'	124 cf	**ADS N-12 24"** x 2 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		261 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 23P: Drywell 100



Summary for Subcatchment 23S: Basin 11 - Impervious

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

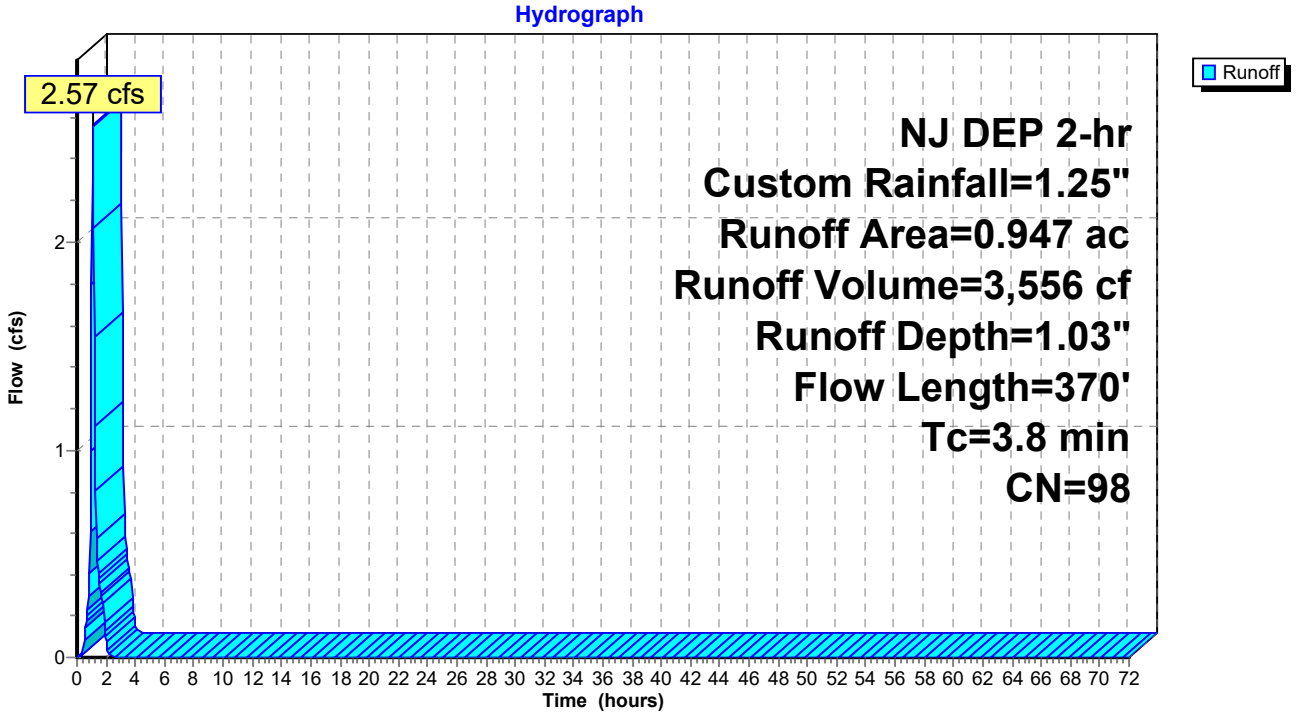
Runoff = 2.57 cfs @ 1.09 hrs, Volume= 3,556 cf, Depth= 1.03"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.947	98	Impervious
	0.947		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.2	70	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.8	370	Total			

Subcatchment 23S: Basin 11 - Impervious



Summary for Subcatchment 24S: Basin 11 - Pervious

[45] Hint: Runoff=Zero

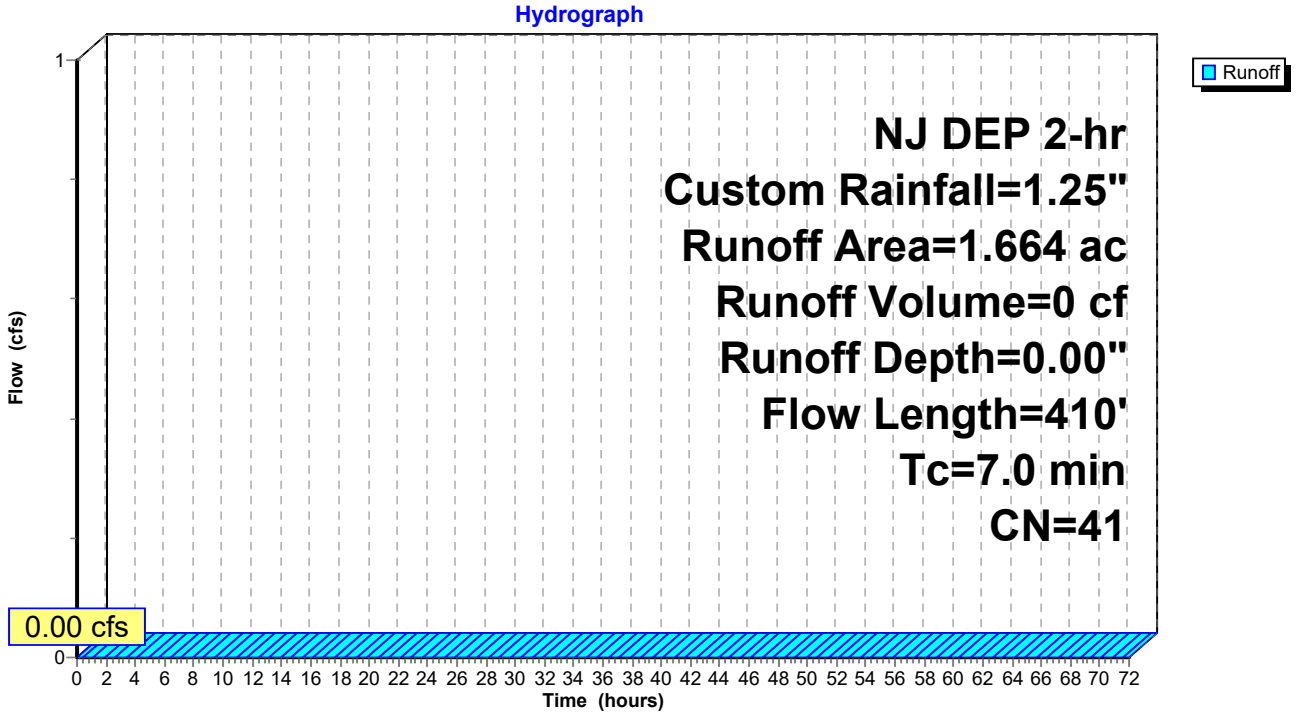
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 22P : Basin 11

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.083	80	>75% Grass cover, Good, HSG D
1.581	39	>75% Grass cover, Good, HSG A
1.664	41	Weighted Average
1.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.0	410	Total			

Subcatchment 24S: Basin 11 - Pervious



Summary for Pond 25P: Basin 12

Inflow Area = 92,391 sf, 21.22% Impervious, Inflow Depth = 0.22" for Custom event
Inflow = 1.29 cfs @ 1.08 hrs, Volume= 1,690 cf
Outflow = 0.00 cfs @ 2.28 hrs, Volume= 22 cf, Atten= 100%, Lag= 72.1 min
Primary = 0.00 cfs @ 2.28 hrs, Volume= 22 cf
Routed to Pond 6P : Basin 2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.26' @ 2.28 hrs Surf.Area= 6,596 sf Storage= 1,690 cf

Plug-Flow detention time= 1,625.6 min calculated for 22 cf (1% of inflow)
Center-of-Mass det. time= 1,586.1 min (1,655.3 - 69.2)

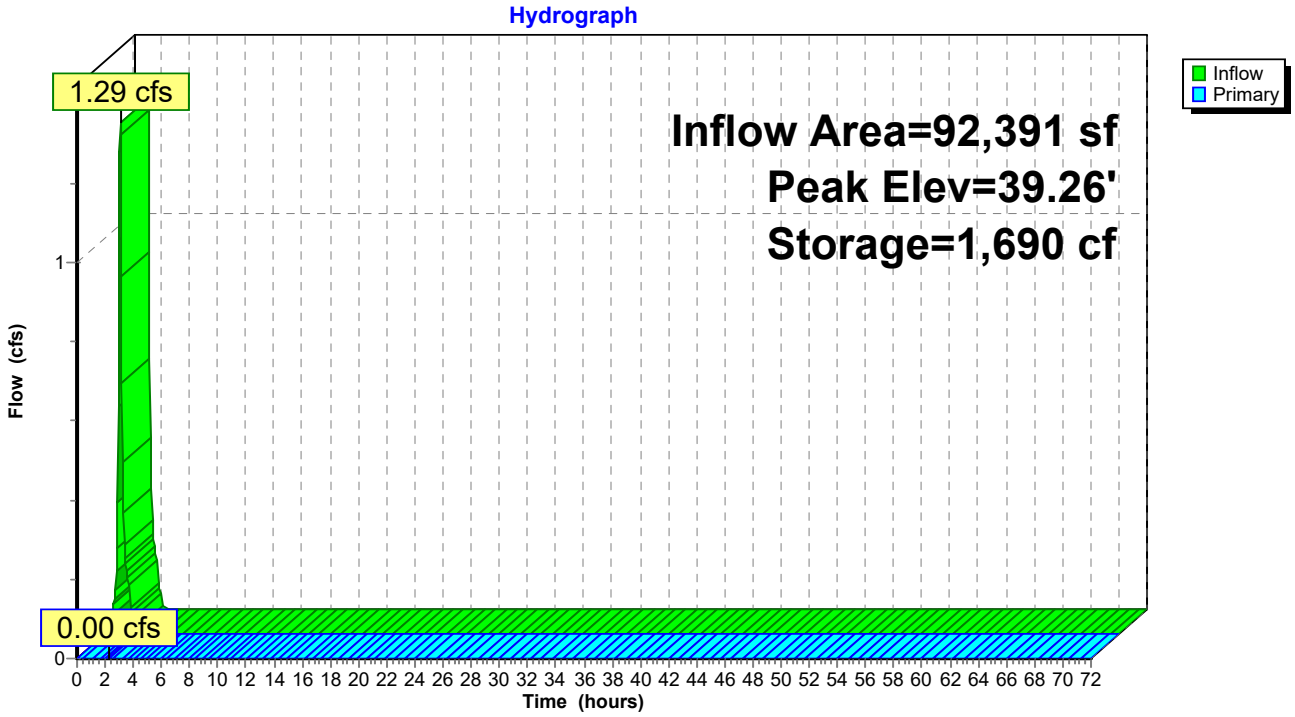
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	31,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	6,200	0	0
40.00	7,700	6,950	6,950
41.00	9,300	8,500	15,450
42.00	11,100	10,200	25,650
42.50	12,800	5,975	31,625

Device	Routing	Invert	Outlet Devices
#1	Primary	39.26'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	42.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.28 hrs HW=39.26' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.22 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 25P: Basin 12



Summary for Subcatchment 25S: Rear Bldgs 79 & 84

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

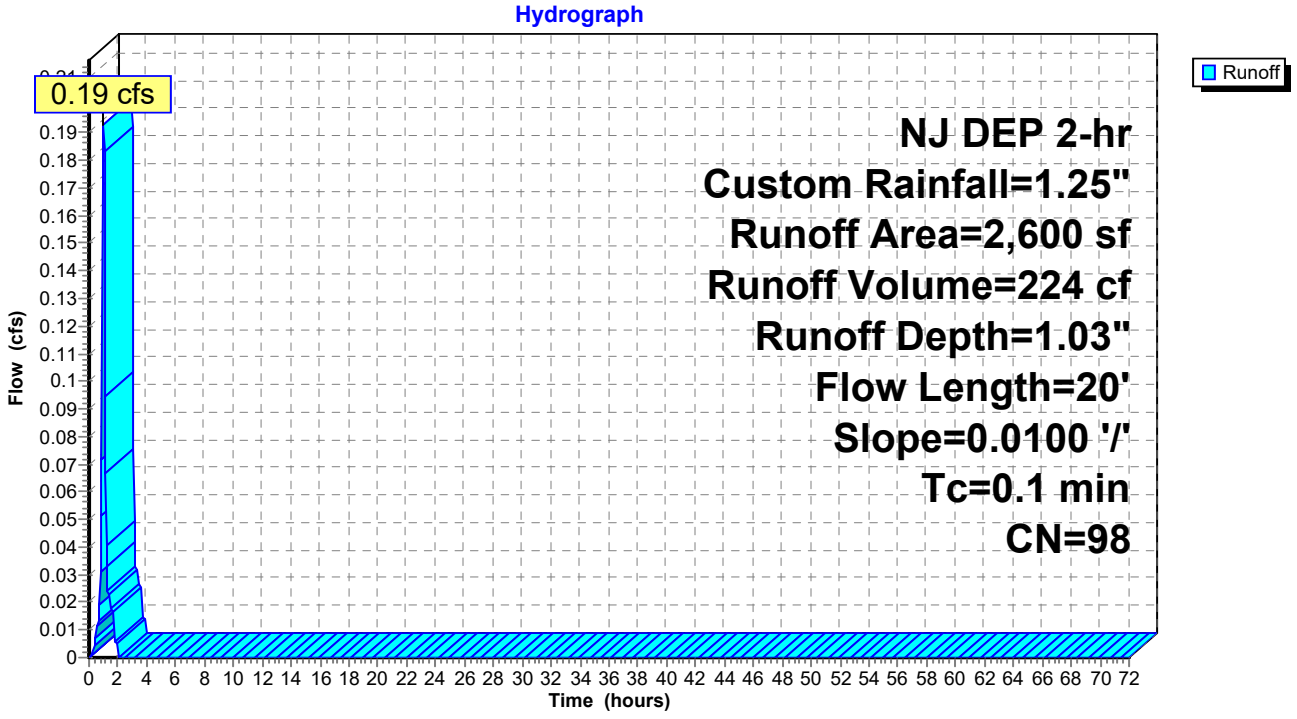
Runoff = 0.19 cfs @ 1.03 hrs, Volume= 224 cf, Depth= 1.03"
Routed to Pond 23P : Drywell 100

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	2,600	98	Roof Area
	2,600		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 25S: Rear Bldgs 79 & 84



Summary for Pond 26P: Existing Impoundment

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Routed to Link 15L : Willis Creek

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.00' @ 0.00 hrs Surf.Area= 1,500 sf Storage= 0 cf

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

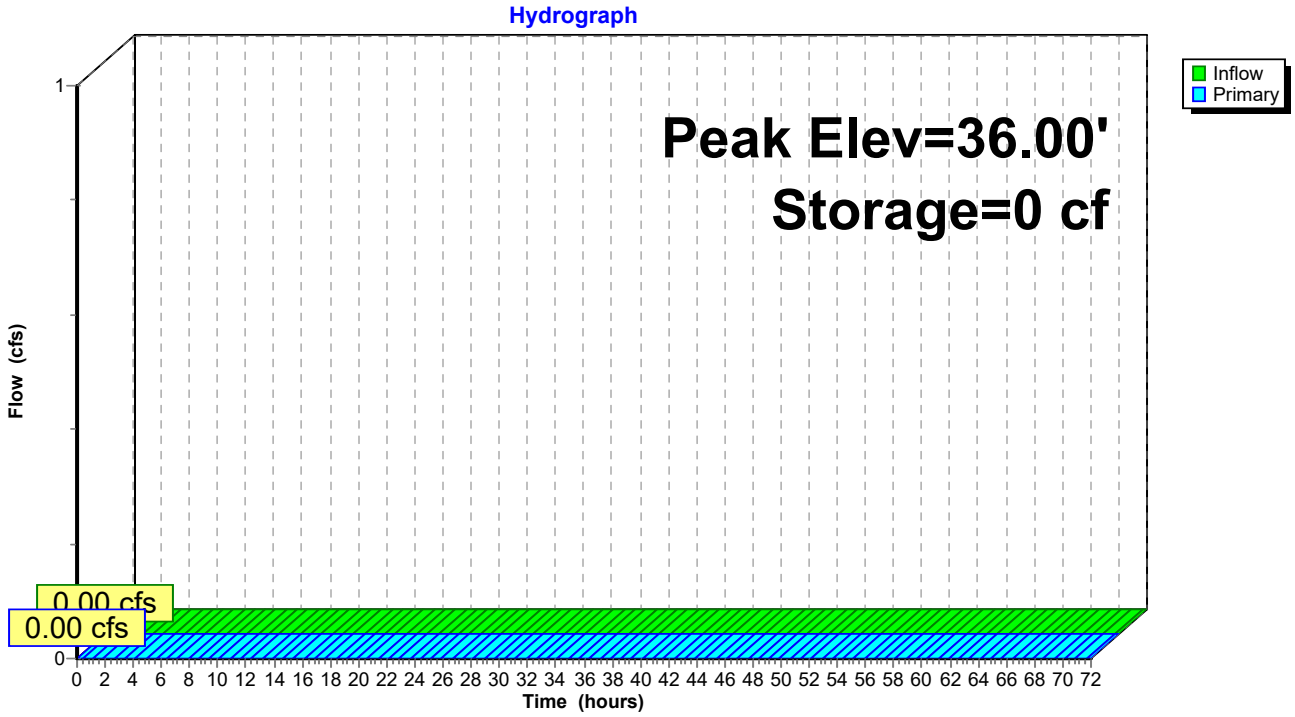
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	53,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	1,500	0	0
37.00	7,000	4,250	4,250
38.00	25,000	16,000	20,250
39.00	42,000	33,500	53,750

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**20.0' long x 30.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 26P: Existing Impoundment



Summary for Subcatchment 26S: Basin 12 - Impervious

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

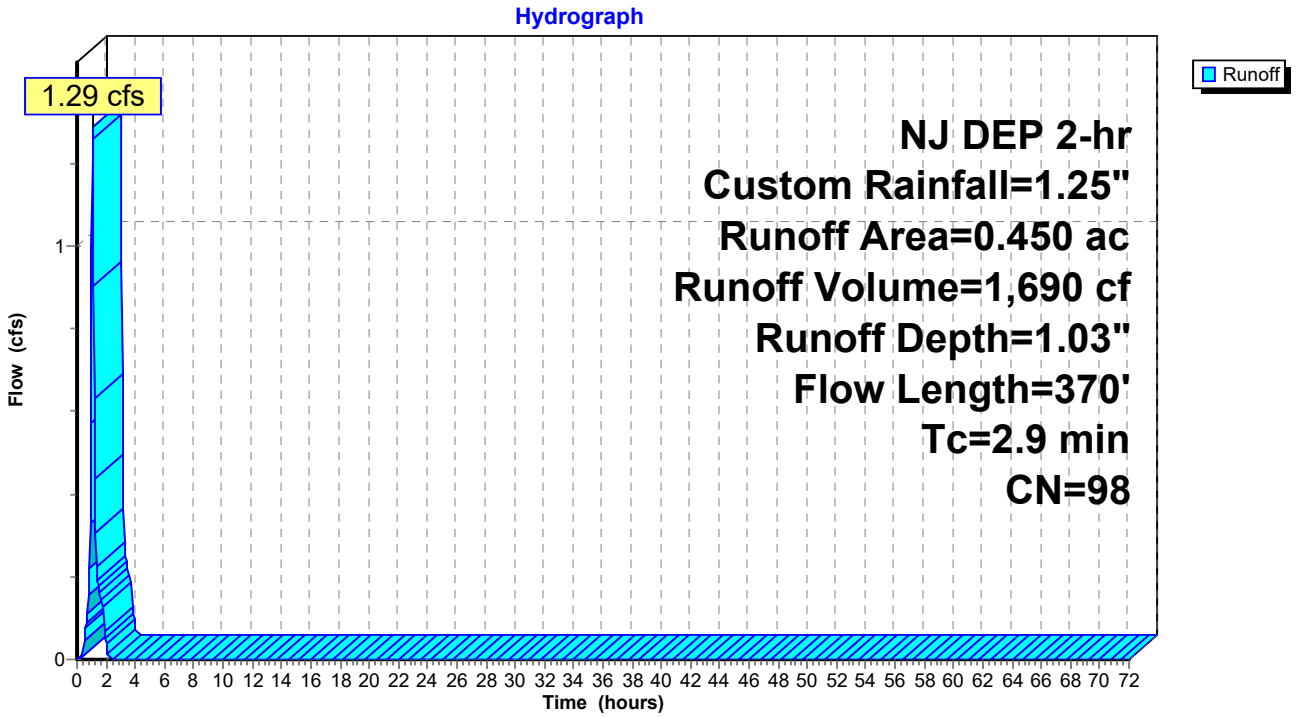
Runoff = 1.29 cfs @ 1.08 hrs, Volume= 1,690 cf, Depth= 1.03"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.450	98	Impervious
	0.450		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.5	50	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.8	220	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.9	370	Total			

Subcatchment 26S: Basin 12 - Impervious



Summary for Subcatchment 27S: Basin 12 - Pervious

[45] Hint: Runoff=Zero

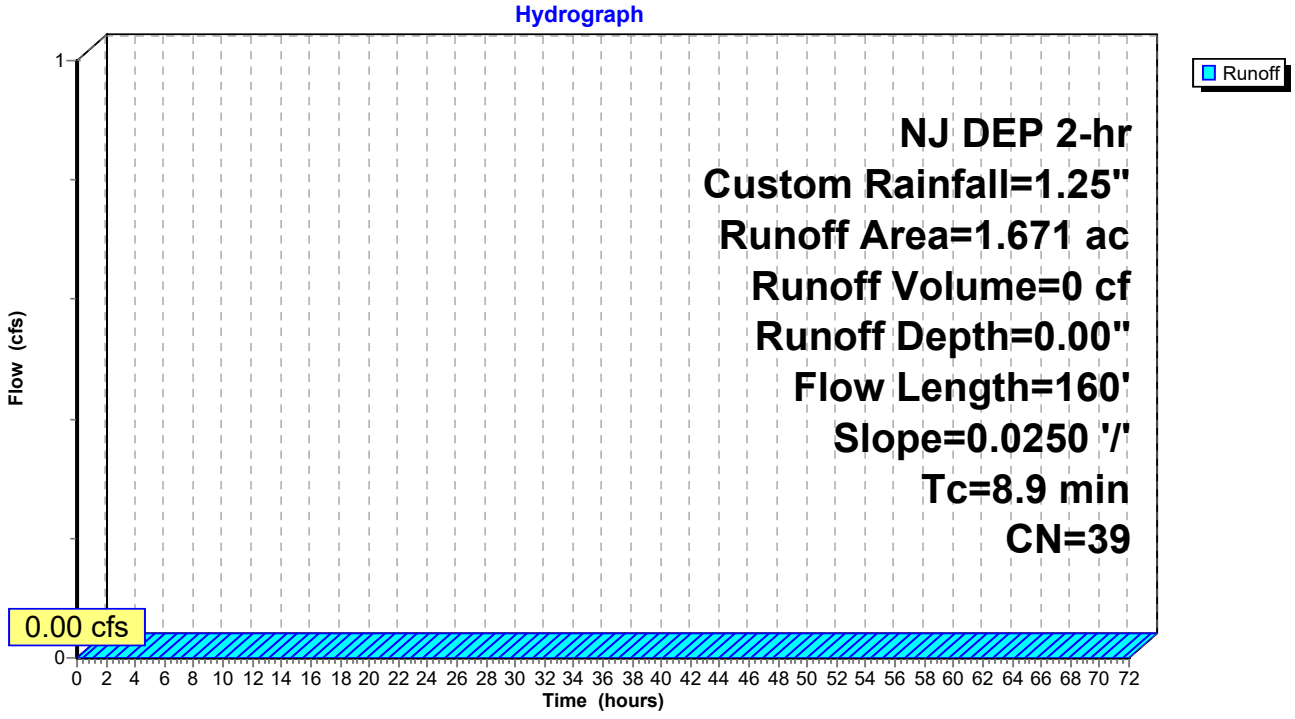
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 25P : Basin 12

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.671	39	>75% Grass cover, Good, HSG A
1.671		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.9	60	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
8.9	160	Total			

Subcatchment 27S: Basin 12 - Pervious



Summary for Pond 29P: Basin 6

Inflow Area = 62,770 sf, 34.14% Impervious, Inflow Depth = 0.36" for Custom event
Inflow = 1.11 cfs @ 1.13 hrs, Volume= 1,894 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.86' @ 2.75 hrs Surf.Area= 2,790 sf Storage= 1,894 cf

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

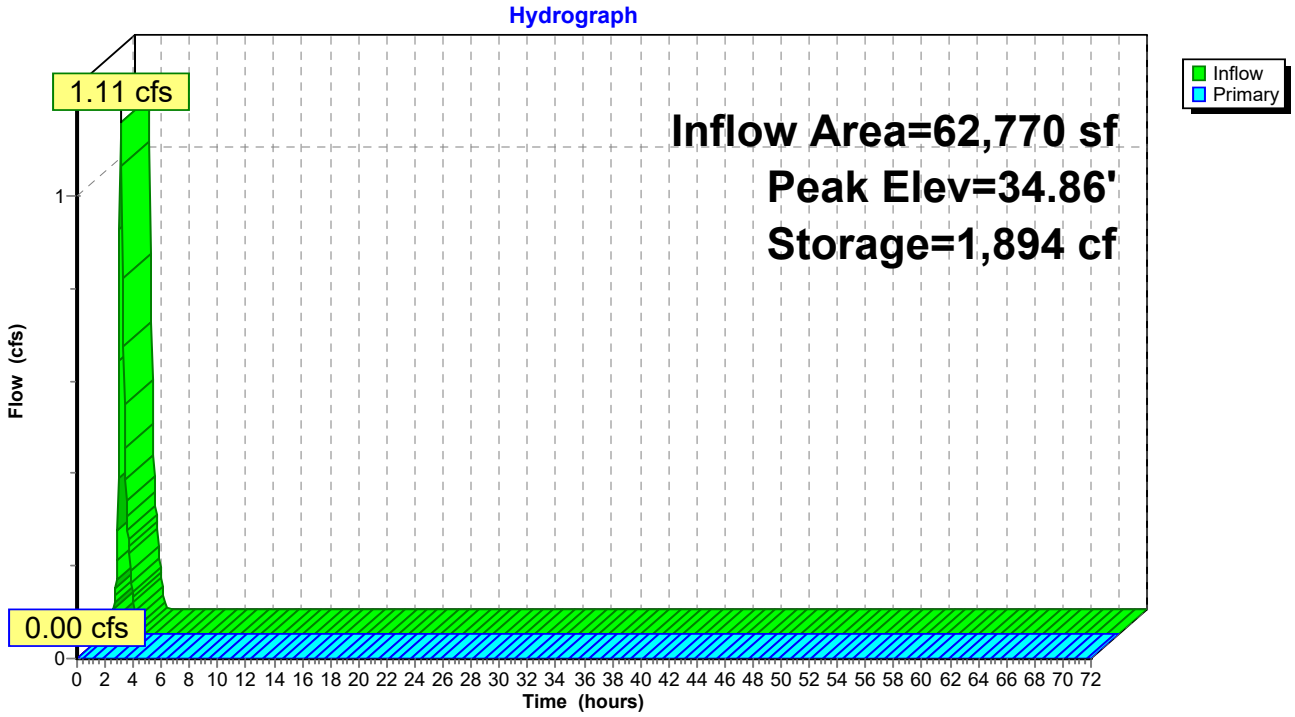
Volume	Invert	Avail.Storage	Storage Description
#1	34.10'	3,970 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.10	2,200	0	0
35.00	2,900	2,295	2,295
35.50	3,800	1,675	3,970

Device	Routing	Invert	Outlet Devices
#1	Primary	34.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=34.10' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 29P: Basin 6



Summary for Subcatchment 30S: Basin 6 - Impervious

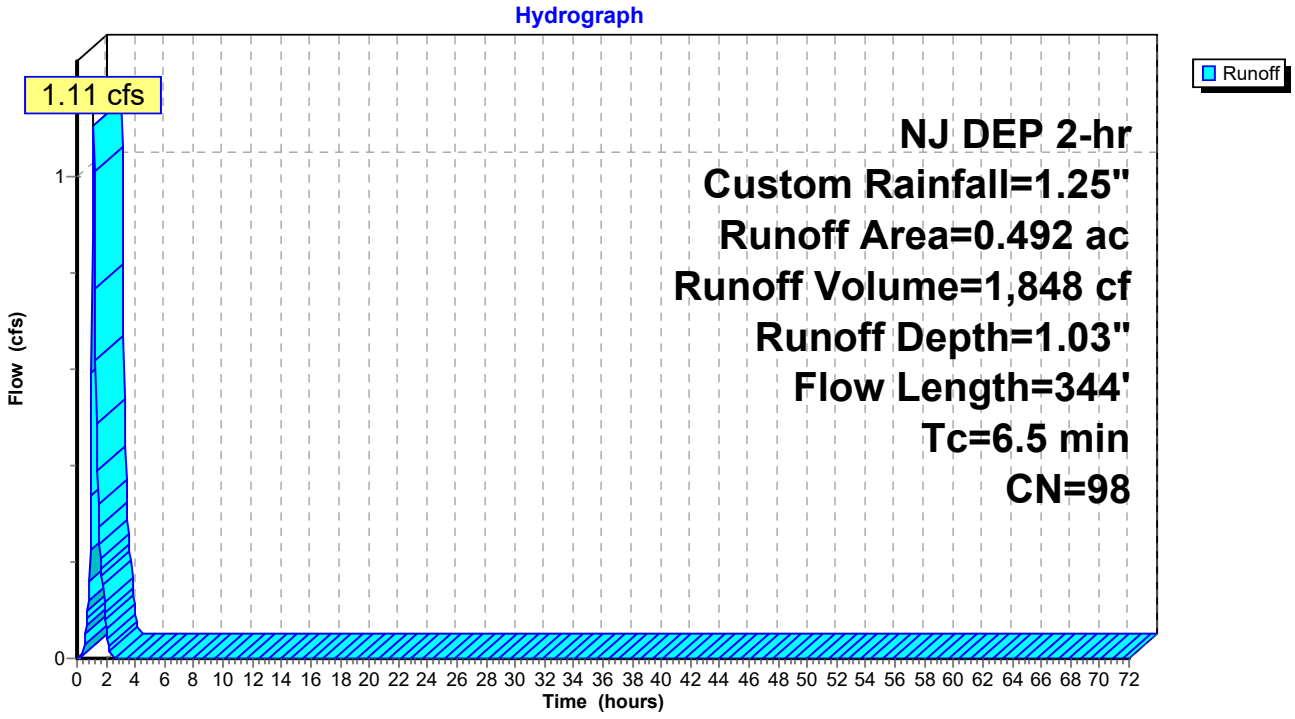
Runoff = 1.11 cfs @ 1.13 hrs, Volume= 1,848 cf, Depth= 1.03"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.492	98	Impervious
	0.492		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 30S: Basin 6 - Impervious



Summary for Subcatchment 32S: Basin 6 - Pervious

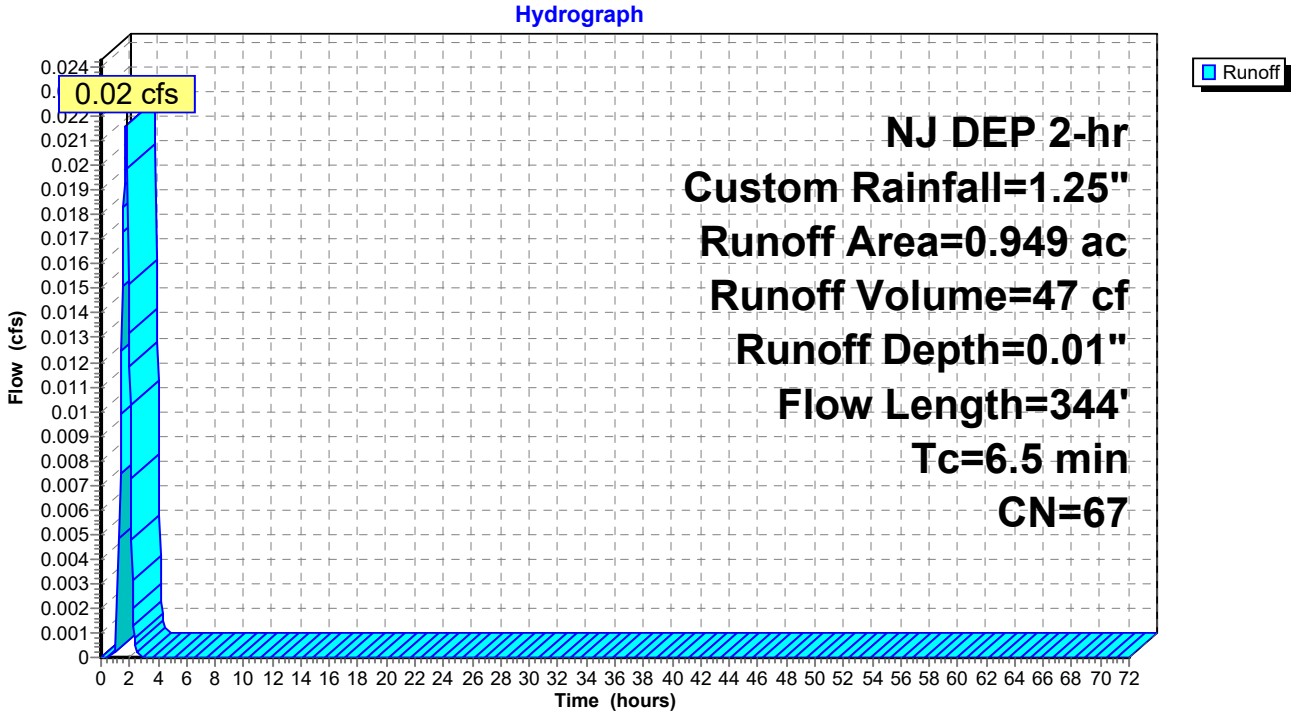
Runoff = 0.02 cfs @ 1.77 hrs, Volume= 47 cf, Depth= 0.01"
Routed to Pond 29P : Basin 6

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.637	80	>75% Grass cover, Good, HSG D
0.312	39	>75% Grass cover, Good, HSG A
0.949	67	Weighted Average
0.949		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	63	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	281	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.5	344	Total			

Subcatchment 32S: Basin 6 - Pervious



Summary for Pond 33P: Basin 8

Inflow Area = 115,129 sf, 26.83% Impervious, Inflow Depth = 0.40" for Custom event
Inflow = 1.99 cfs @ 1.11 hrs, Volume= 3,878 cf
Outflow = 0.00 cfs @ 3.19 hrs, Volume= 6 cf, Atten= 100%, Lag= 124.6 min
Primary = 0.00 cfs @ 3.19 hrs, Volume= 6 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.73' @ 3.19 hrs Surf.Area= 3,105 sf Storage= 3,878 cf

Plug-Flow detention time= 1,031.4 min calculated for 6 cf (0% of inflow)
Center-of-Mass det. time= 977.9 min (1,056.6 - 78.7)

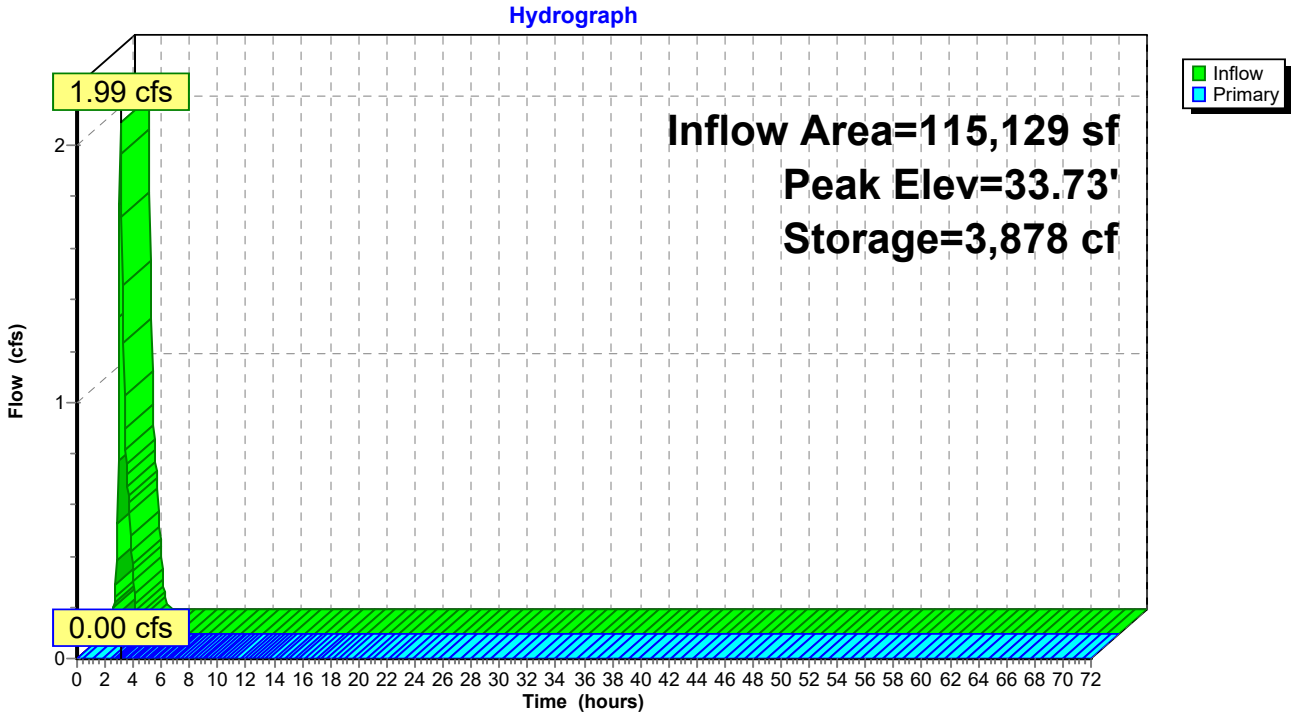
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	17,400 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.00	1,500	0	0
33.00	2,300	1,900	1,900
34.00	3,400	2,850	4,750
35.00	4,500	3,950	8,700
36.00	6,200	5,350	14,050
36.50	7,200	3,350	17,400

Device	Routing	Invert	Outlet Devices
#1	Primary	33.73'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 3.19 hrs HW=33.73' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.14 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 33P: Basin 8



Summary for Subcatchment 34S: Basin 8 - Impervious

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

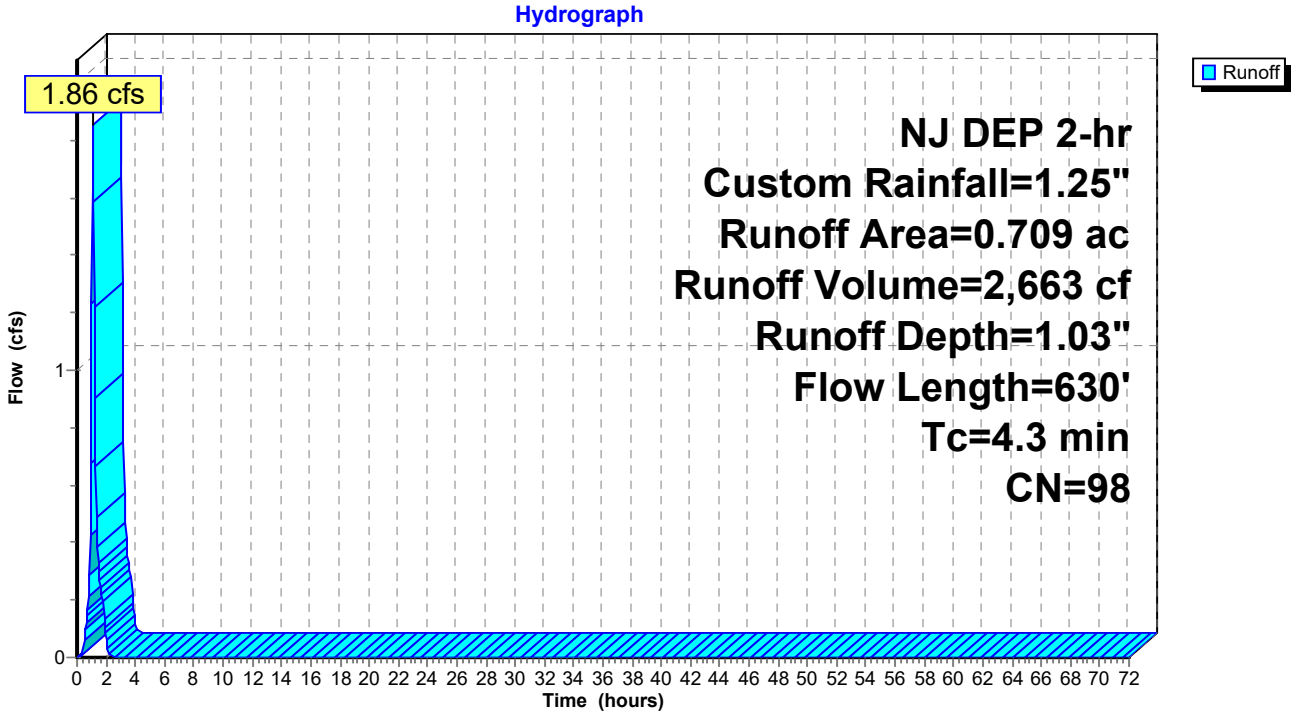
Runoff = 1.86 cfs @ 1.10 hrs, Volume= 2,663 cf, Depth= 1.03"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.709	98	Impervious
	0.709		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.3	130	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.3	630	Total			

Subcatchment 34S: Basin 8 - Impervious



Summary for Subcatchment 35S: Basin 8 - Pervious

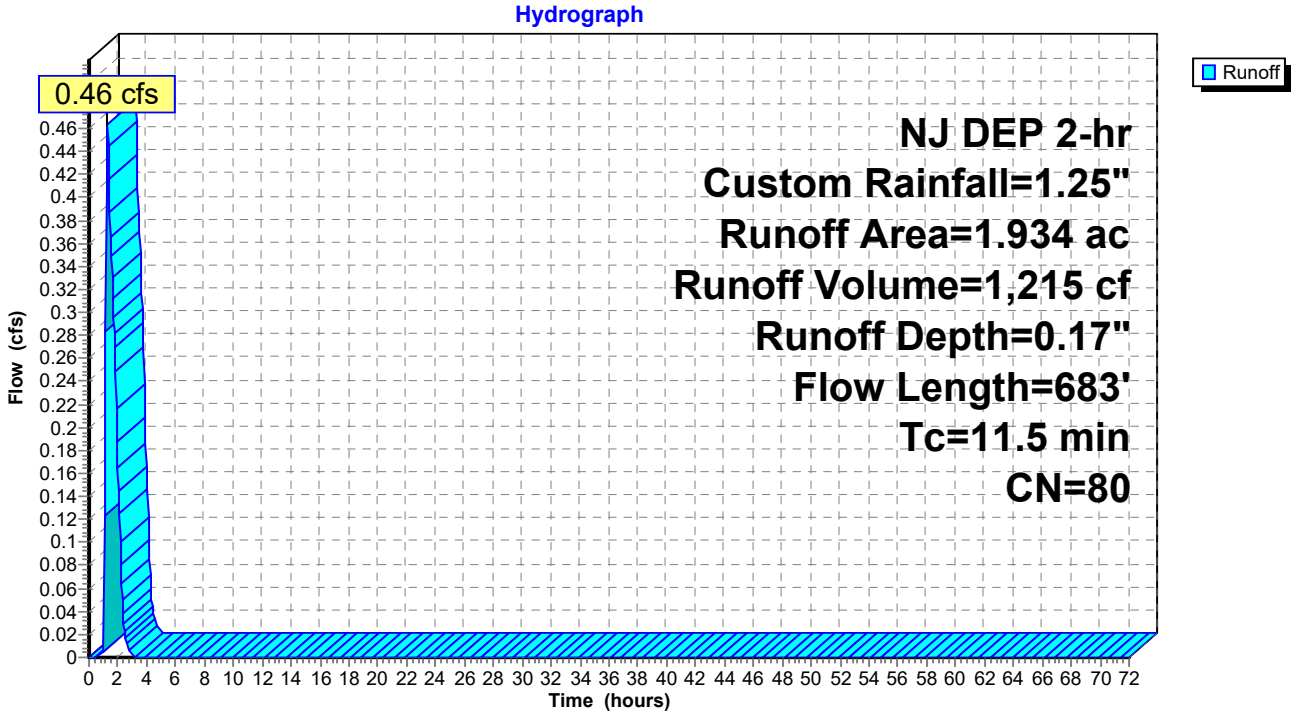
Runoff = 0.46 cfs @ 1.29 hrs, Volume= 1,215 cf, Depth= 0.17"
Routed to Pond 33P : Basin 8

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.934	80	>75% Grass cover, Good, HSG D
1.934		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	94	0.0200	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	89	0.0200	0.99		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.7	500	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
11.5	683	Total			

Subcatchment 35S: Basin 8 - Pervious



Summary for Pond 41P: Basin 13

Inflow Area = 88,950 sf, 32.27% Impervious, Inflow Depth = 0.33" for Custom event
Inflow = 1.67 cfs @ 1.10 hrs, Volume= 2,475 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.50' @ 2.60 hrs Surf.Area= 5,491 sf Storage= 2,475 cf

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

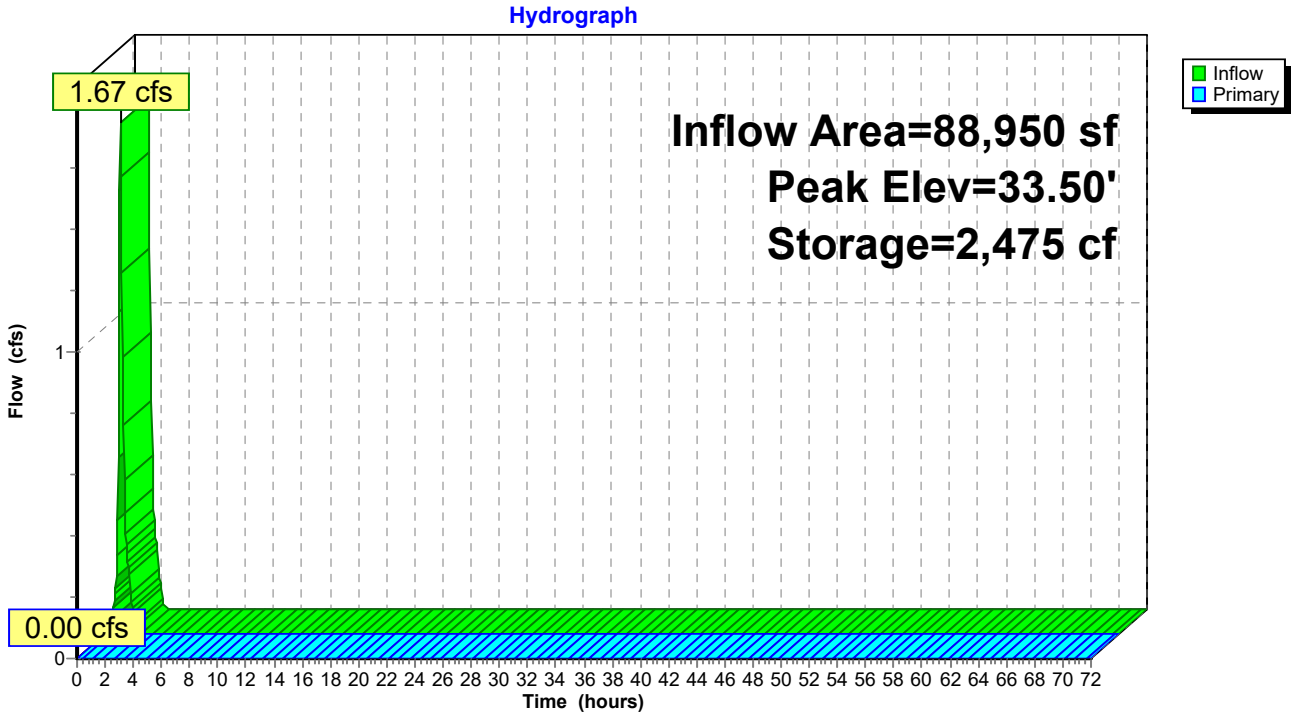
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	23,100 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	4,500	0	0
34.00	6,500	5,500	5,500
35.00	8,700	7,600	13,100
36.00	11,300	10,000	23,100

Device	Routing	Invert	Outlet Devices
#1	Primary	33.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=33.00' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 41P: Basin 13



Summary for Subcatchment 42S: Basin 13 - Impervious

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

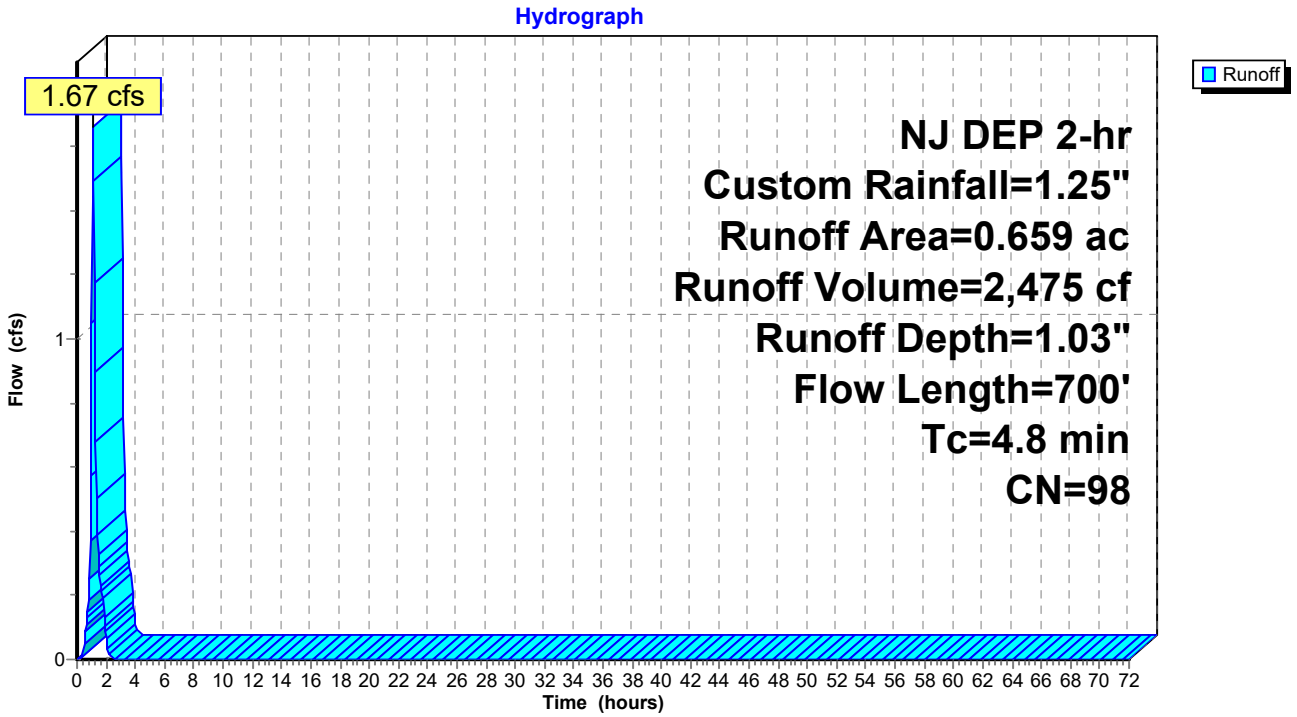
Runoff = 1.67 cfs @ 1.10 hrs, Volume= 2,475 cf, Depth= 1.03"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.659	98	Impervious
	0.659		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0080	1.07		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.8	200	0.0080	1.82		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.4	400	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
4.8	700	Total			

Subcatchment 42S: Basin 13 - Impervious



Summary for Subcatchment 43S: Basin 13 - Pervious

[45] Hint: Runoff=Zero

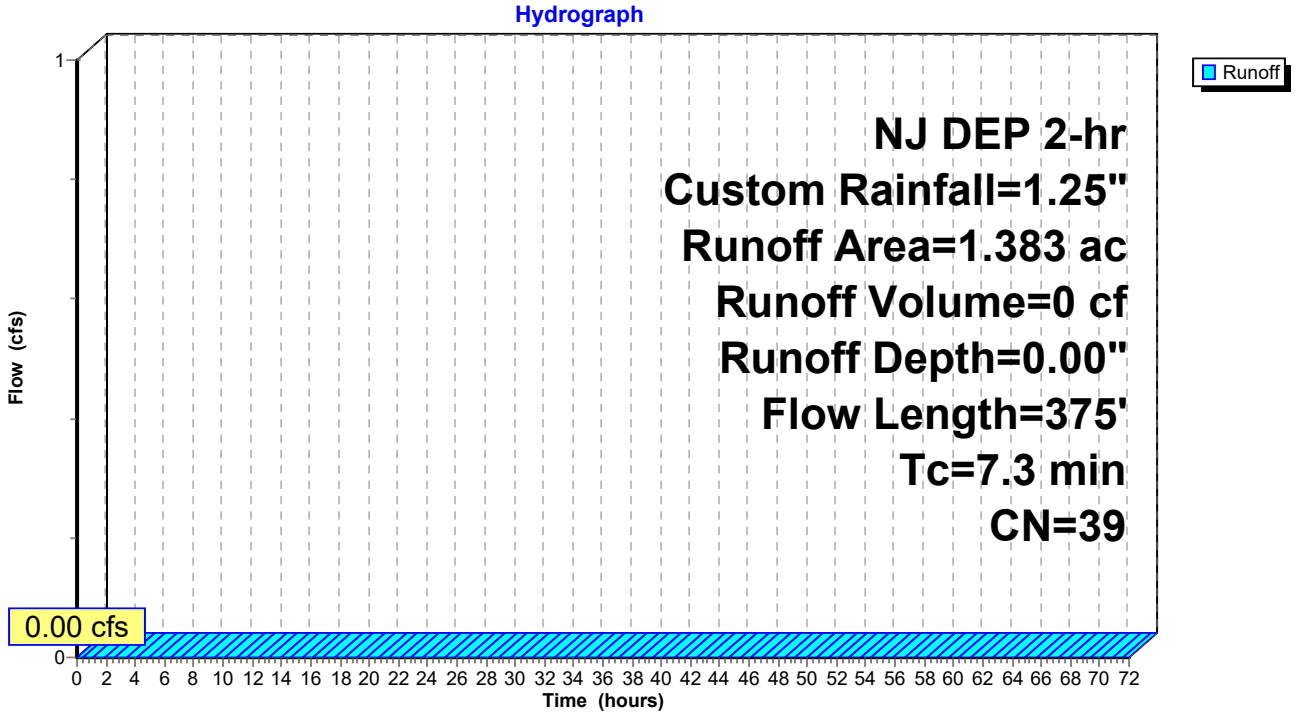
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 41P : Basin 13

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.383	39	>75% Grass cover, Good, HSG A
1.383		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	75	0.0250	0.20		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.0	300	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	375	Total			

Subcatchment 43S: Basin 13 - Pervious



Summary for Subcatchment 44S: County ROW Imp

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

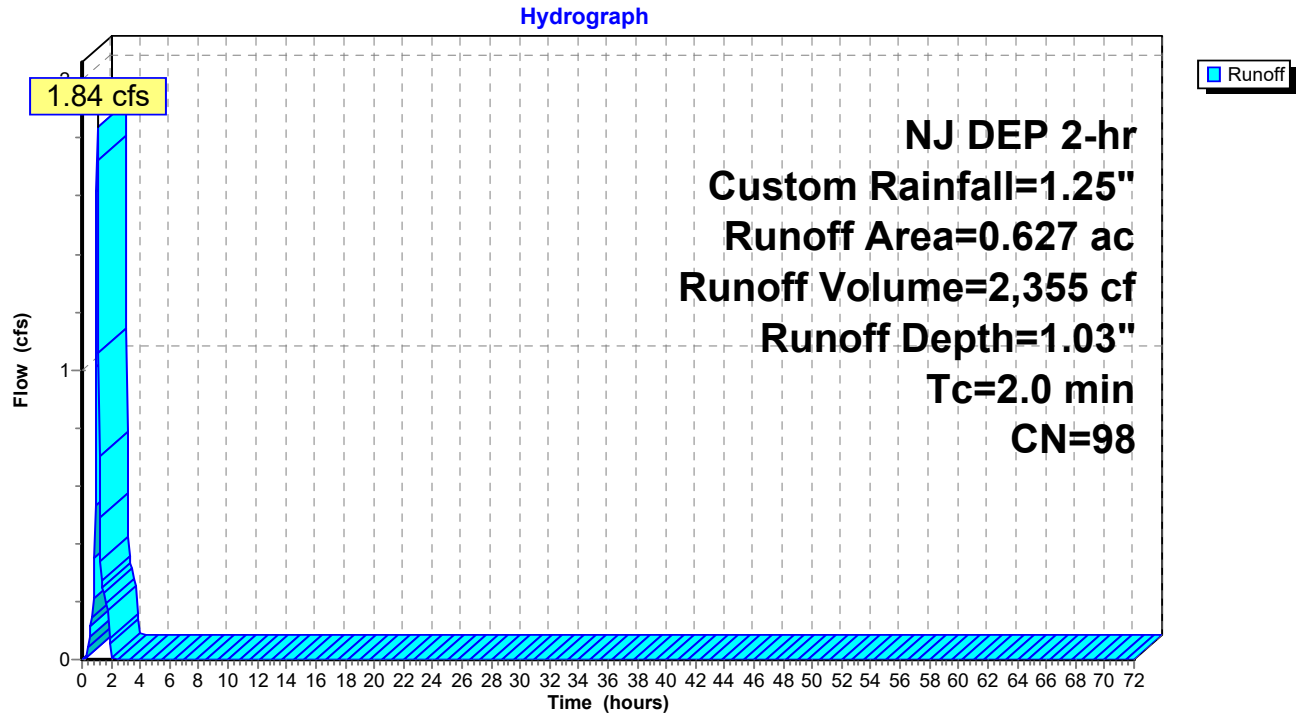
Runoff = 1.84 cfs @ 1.06 hrs, Volume= 2,355 cf, Depth= 1.03"
Routed to Pond 10P : Basin 5

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.627	98	Impervious
	0.627		100.00% Impervious Area

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

Subcatchment 44S: County ROW Imp



Summary for Subcatchment 66: Basin 3 - Pervious

[49] Hint: Tc<2dt may require smaller dt
[45] Hint: Runoff=Zero

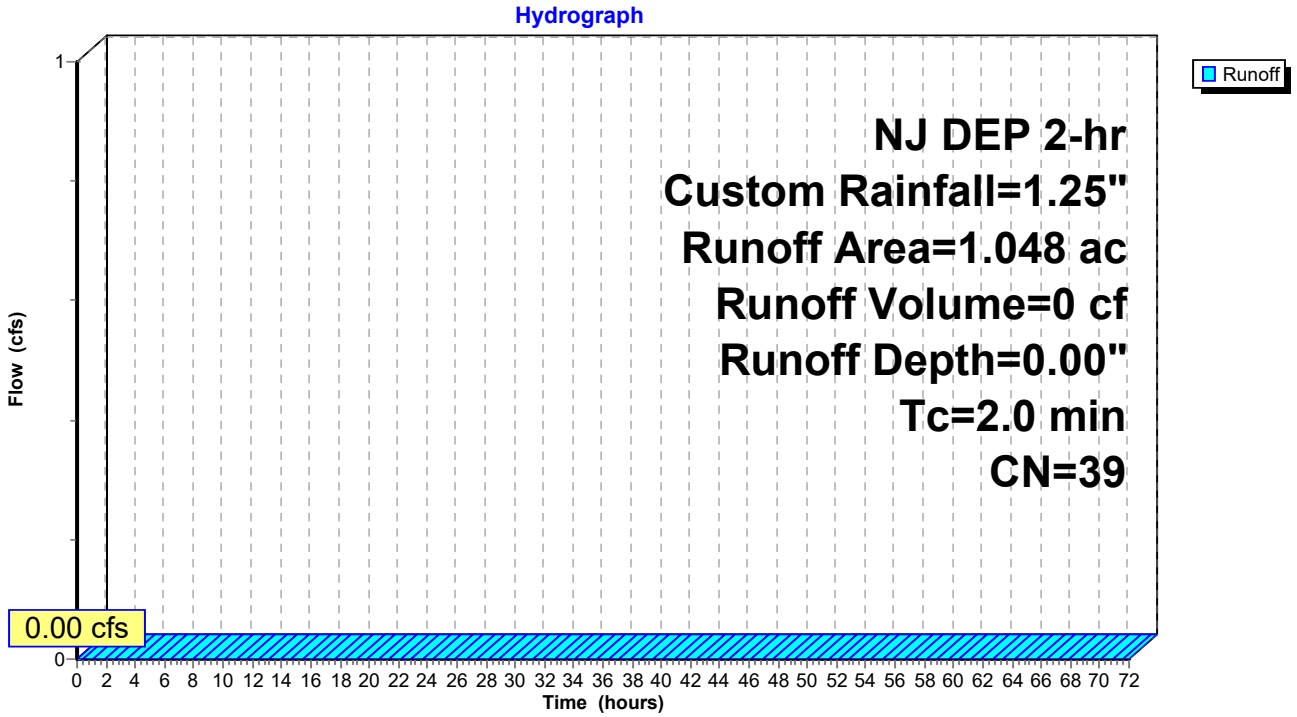
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond 4P : Basin 3

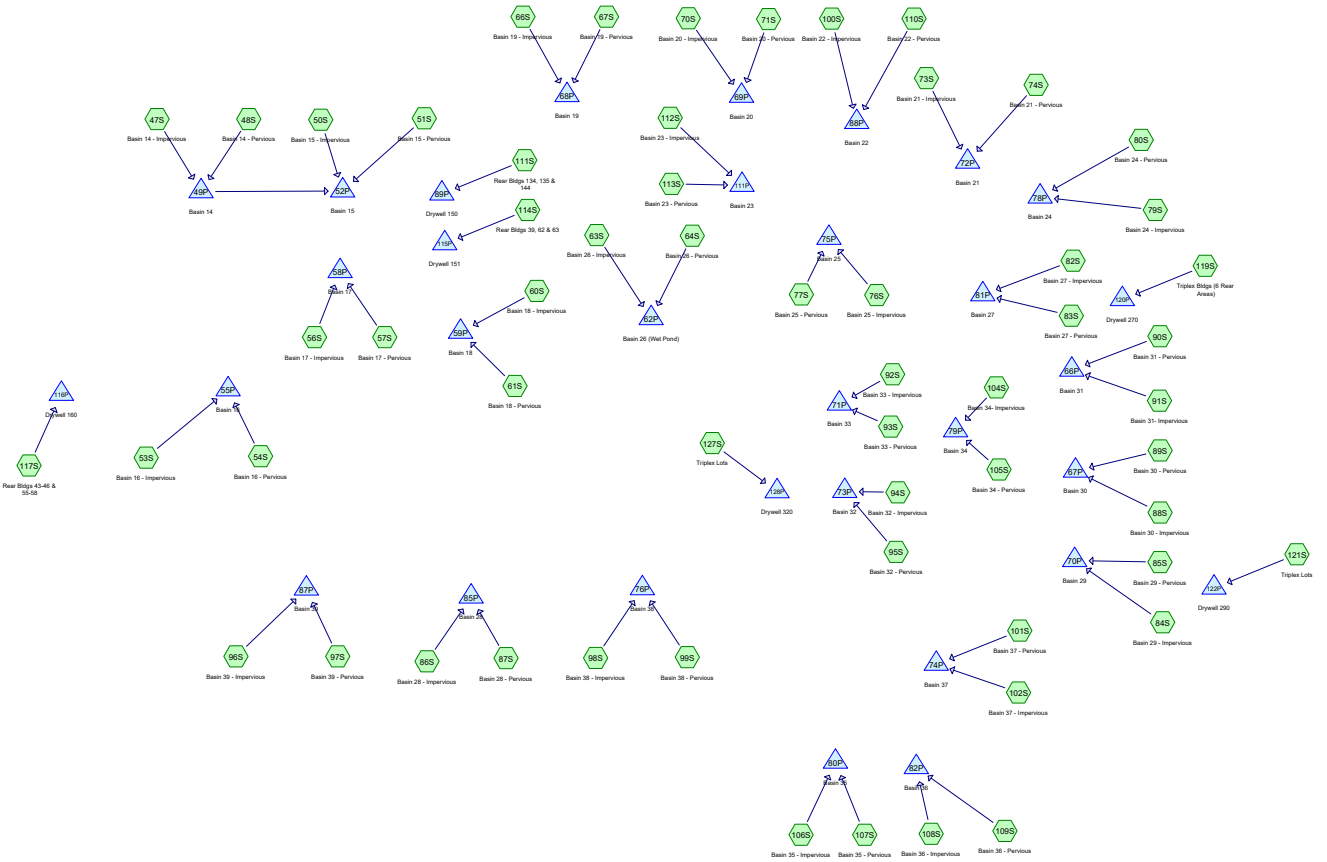
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.048	39	>75% Grass cover, Good, HSG A
1.048		100.00% Pervious Area

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

Subcatchment 66: Basin 3 - Pervious





Subcat Reach Pond Link

Routing Diagram for WQ - TUCKERTON - REV 01
Prepared by ARH Associates, Printed 7/24/2025
HydroCAD® 10.10-7b s/n 01689 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	Custom	NJ DEP 2-hr		Default	2.00	1	1.25	2

Summary for Subcatchment 47S: Basin 14 - Impervious

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

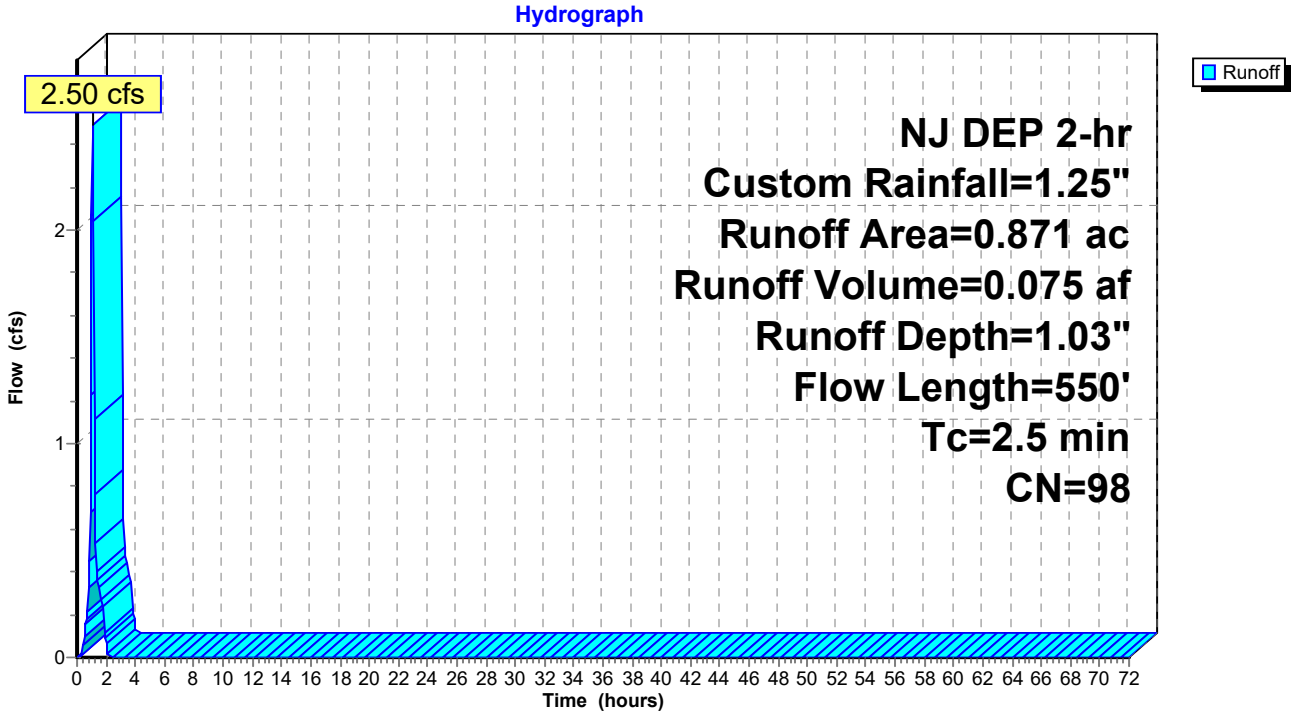
Runoff = 2.50 cfs @ 1.07 hrs, Volume= 0.075 af, Depth= 1.03"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.871	98	Impervious
	0.871		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, A to B** Paved Kv= 20.3 fps
1.5	450	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.5	550	Total			

Subcatchment 47S: Basin 14 - Impervious



Summary for Subcatchment 48S: Basin 14 - Pervious

[45] Hint: Runoff=Zero

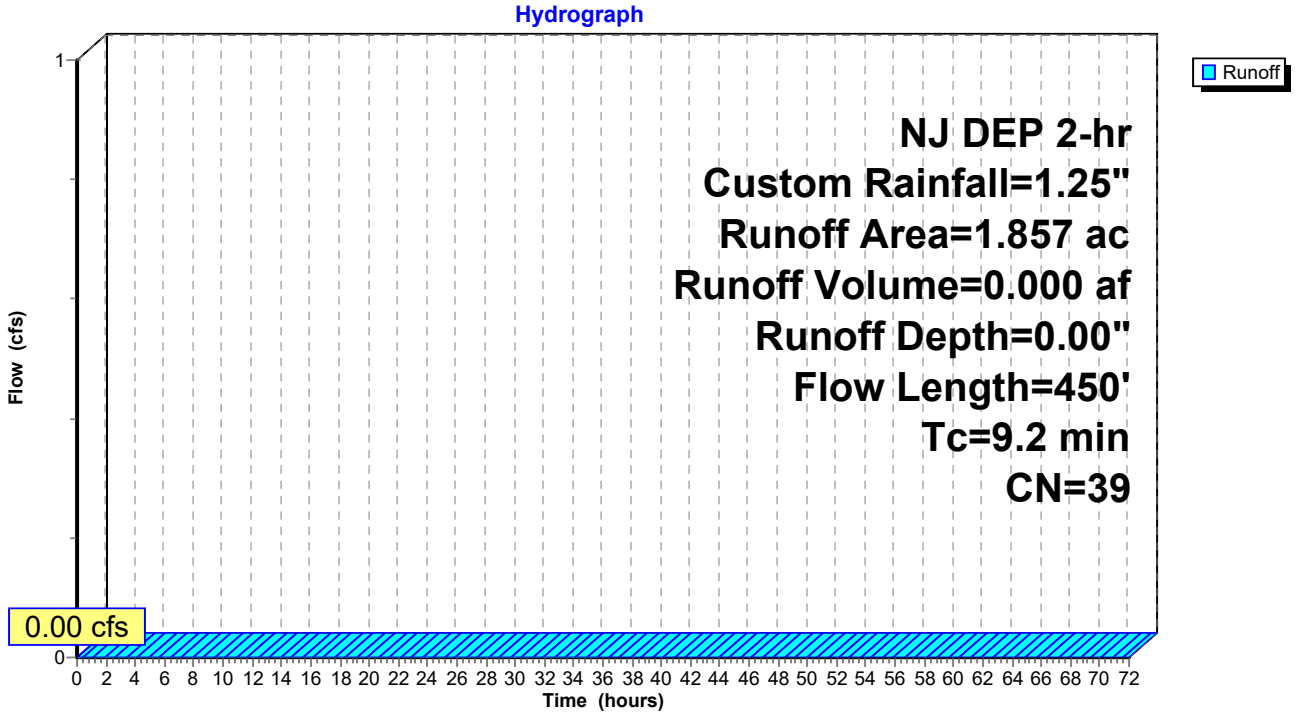
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 49P : Basin 14

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.857	39	>75% Grass cover, Good, HSG A
1.857		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.2	350	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
9.2	450	Total			

Subcatchment 48S: Basin 14 - Pervious



Summary for Pond 49P: Basin 14

Inflow Area = 2.728 ac, 31.93% Impervious, Inflow Depth = 0.33" for Custom event
Inflow = 2.50 cfs @ 1.07 hrs, Volume= 0.075 af
Outflow = 0.00 cfs @ 2.25 hrs, Volume= 0.001 af, Atten= 100%, Lag= 70.5 min
Primary = 0.00 cfs @ 2.25 hrs, Volume= 0.001 af
Routed to Pond 52P : Basin 15

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.16' @ 2.25 hrs Surf.Area= 8,446 sf Storage= 3,271 cf

Plug-Flow detention time= 1,102.2 min calculated for 0.001 af (1% of inflow)
Center-of-Mass det. time= 1,062.9 min (1,131.4 - 68.6)

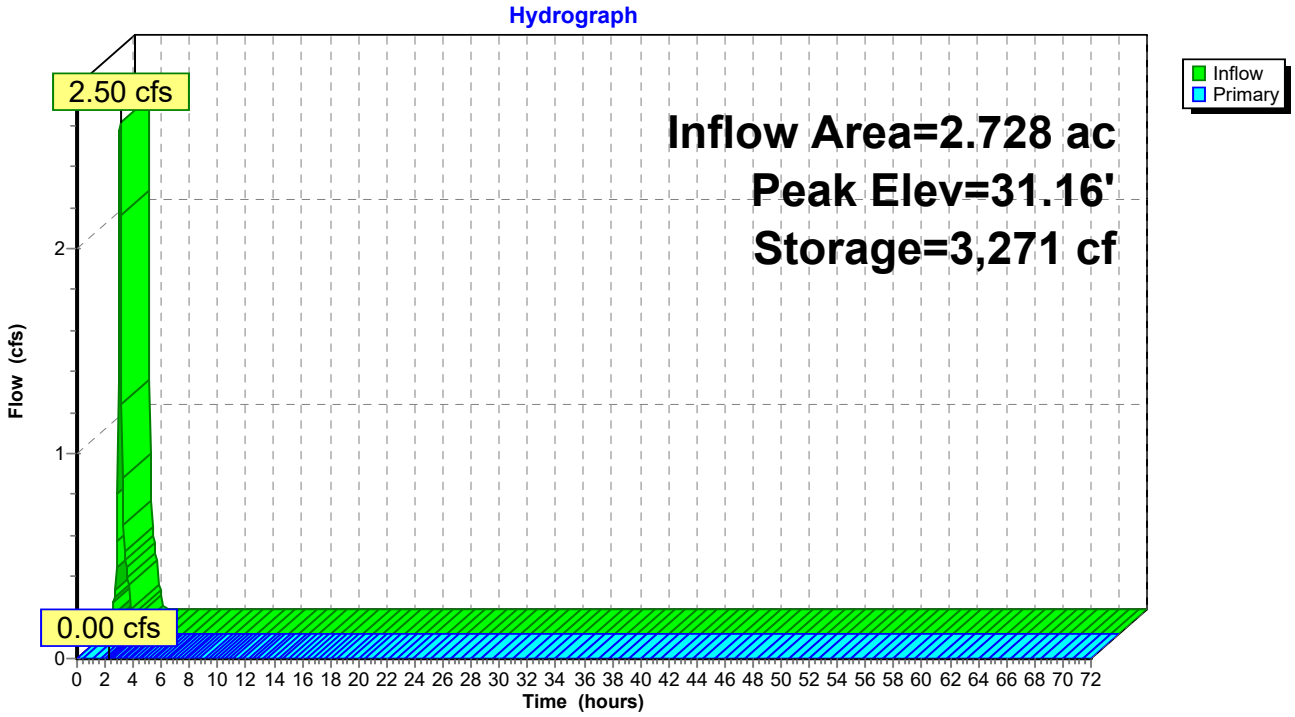
Volume	Invert	Avail.Storage	Storage Description
#1	30.76'	79,158 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.76	7,800	0	0
31.00	8,100	1,908	1,908
32.00	10,200	9,150	11,058
33.00	12,400	11,300	22,358
34.00	14,500	13,450	35,808
35.00	16,700	15,600	51,408
36.00	19,000	17,850	69,258
36.50	20,600	9,900	79,158

Device	Routing	Invert	Outlet Devices
#1	Primary	31.16'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.25 hrs HW=31.16' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.23 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 49P: Basin 14



Summary for Subcatchment 50S: Basin 15 - Impervious

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

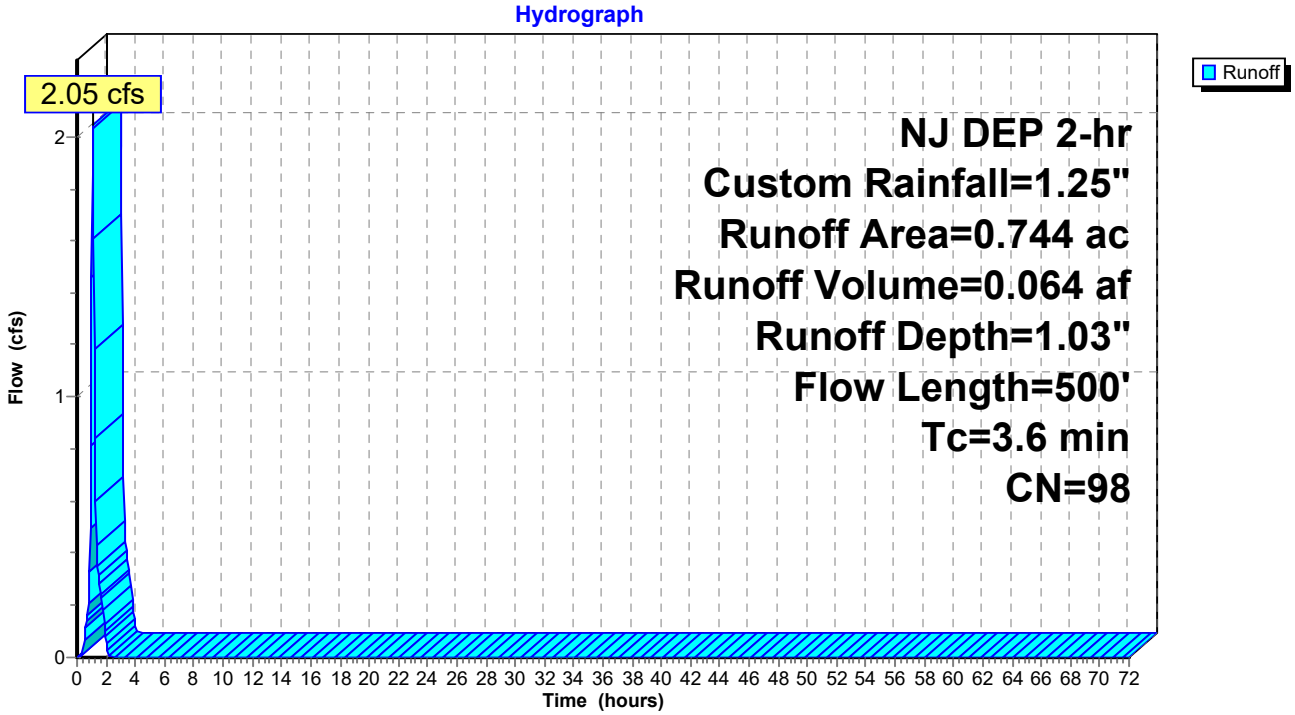
Runoff = 2.05 cfs @ 1.09 hrs, Volume= 0.064 af, Depth= 1.03"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.744	98	Impervious
	0.744		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.6	500	Total			

Subcatchment 50S: Basin 15 - Impervious



Summary for Subcatchment 51S: Basin 15 - Pervious

[45] Hint: Runoff=Zero

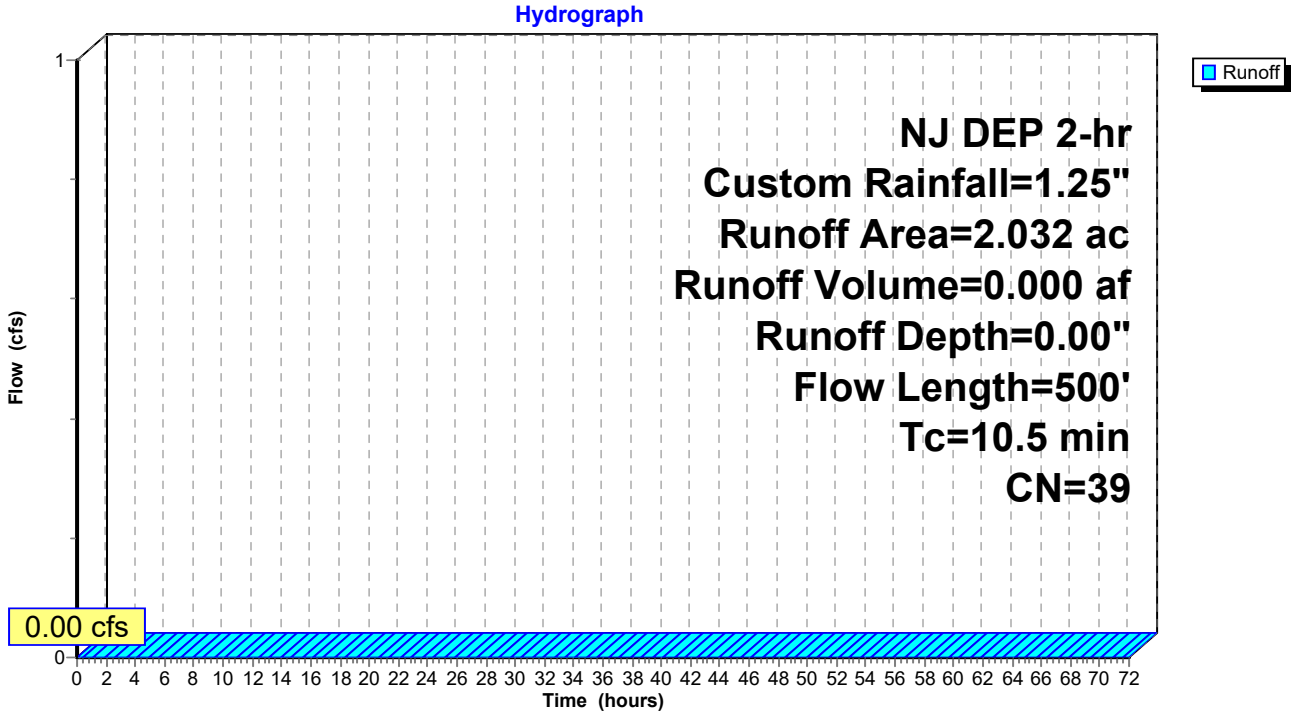
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 52P : Basin 15

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.032	39	>75% Grass cover, Good, HSG A
2.032		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
1.0	300	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.5	500	Total			

Subcatchment 51S: Basin 15 - Pervious



Summary for Pond 52P: Basin 15

Inflow Area = 5.504 ac, 29.34% Impervious, Inflow Depth = 0.14" for Custom event
Inflow = 2.05 cfs @ 1.09 hrs, Volume= 0.065 af
Outflow = 0.00 cfs @ 30.66 hrs, Volume= 0.000 af, Atten= 100%, Lag= 1,774.5 min
Primary = 0.00 cfs @ 30.66 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.86' @ 30.66 hrs Surf.Area= 3,820 sf Storage= 2,810 cf

Plug-Flow detention time= 2,357.8 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 2,306.3 min (2,385.9 - 79.6)

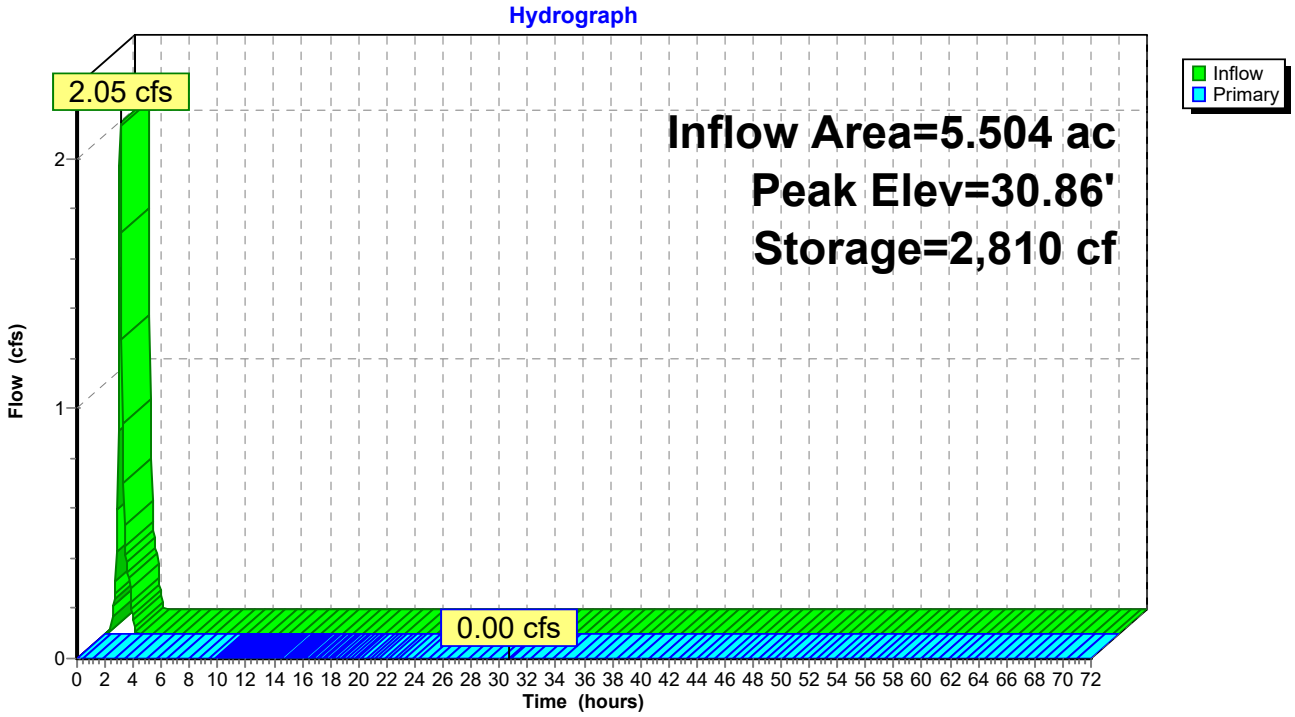
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	38,150 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	2,700	0	0
31.00	4,000	3,350	3,350
32.00	5,500	4,750	8,100
33.00	7,100	6,300	14,400
34.00	8,800	7,950	22,350
35.00	10,800	9,800	32,150
35.50	13,200	6,000	38,150

Device	Routing	Invert	Outlet Devices
#1	Primary	30.86'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 30.66 hrs HW=30.86' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.15 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 52P: Basin 15



Summary for Subcatchment 53S: Basin 16 - Impervious

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

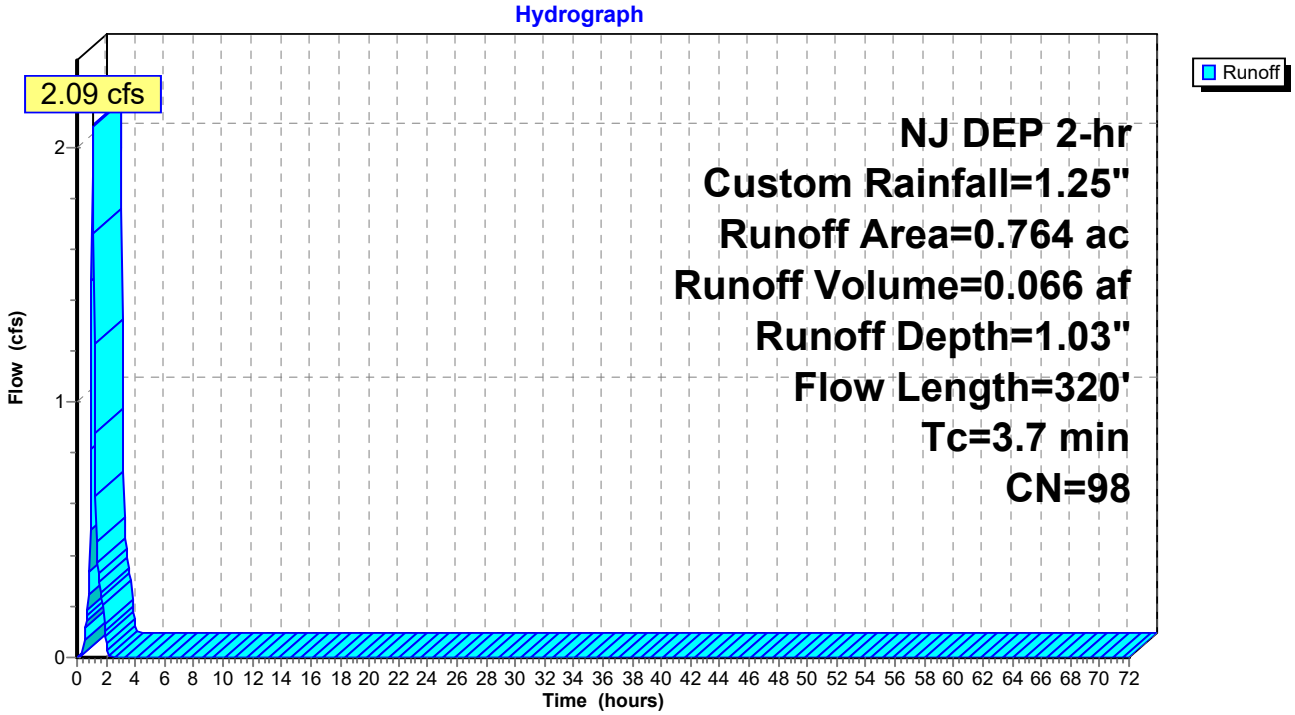
Runoff = 2.09 cfs @ 1.09 hrs, Volume= 0.066 af, Depth= 1.03"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.764	98	Impervious
	0.764		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
2.0	200	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	20	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.7	320	Total			

Subcatchment 53S: Basin 16 - Impervious



Summary for Subcatchment 54S: Basin 16 - Pervious

[45] Hint: Runoff=Zero

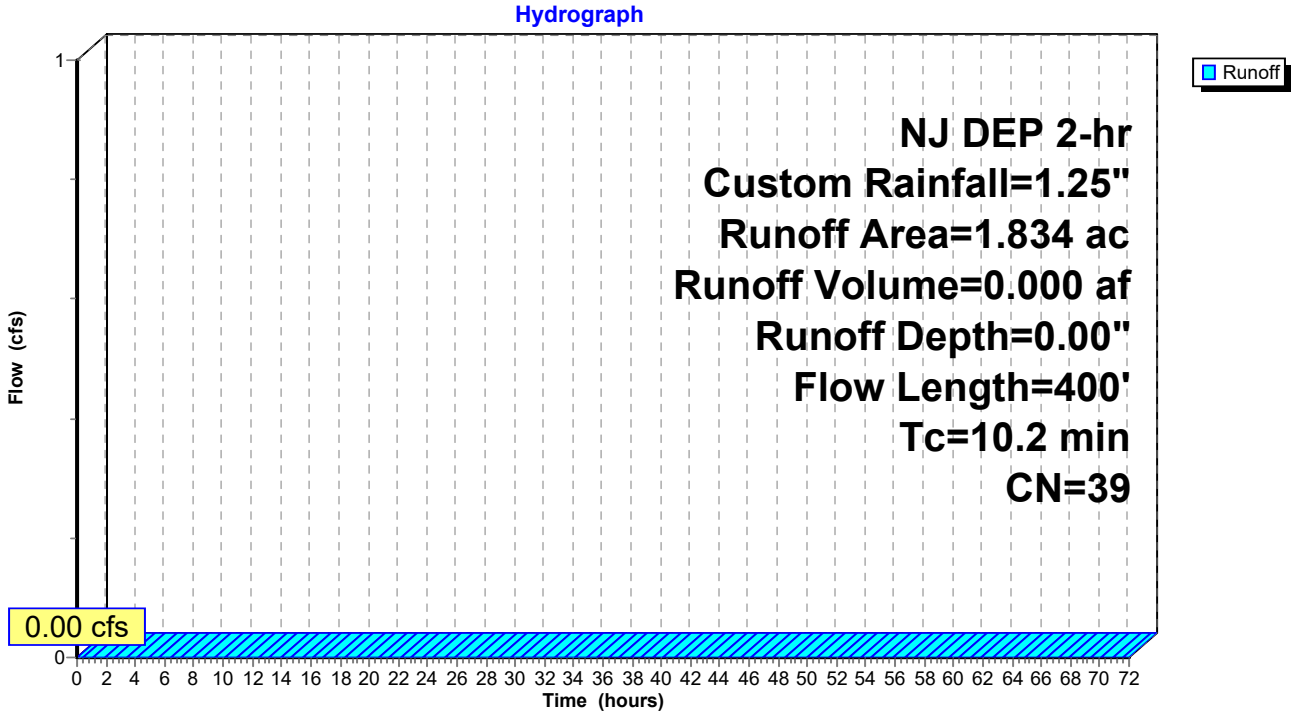
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 55P : Basin 16

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.834	39	>75% Grass cover, Good, HSG A
1.834		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 54S: Basin 16 - Pervious



Summary for Pond 55P: Basin 16

Inflow Area = 2.598 ac, 29.41% Impervious, Inflow Depth = 0.30" for Custom event
Inflow = 2.09 cfs @ 1.09 hrs, Volume= 0.066 af
Outflow = 0.00 cfs @ 2.27 hrs, Volume= 0.000 af, Atten= 100%, Lag= 71.0 min
Primary = 0.00 cfs @ 2.27 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.19' @ 2.27 hrs Surf.Area= 3,128 sf Storage= 2,869 cf

Plug-Flow detention time= 119.9 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 72.0 min (142.4 - 70.4)

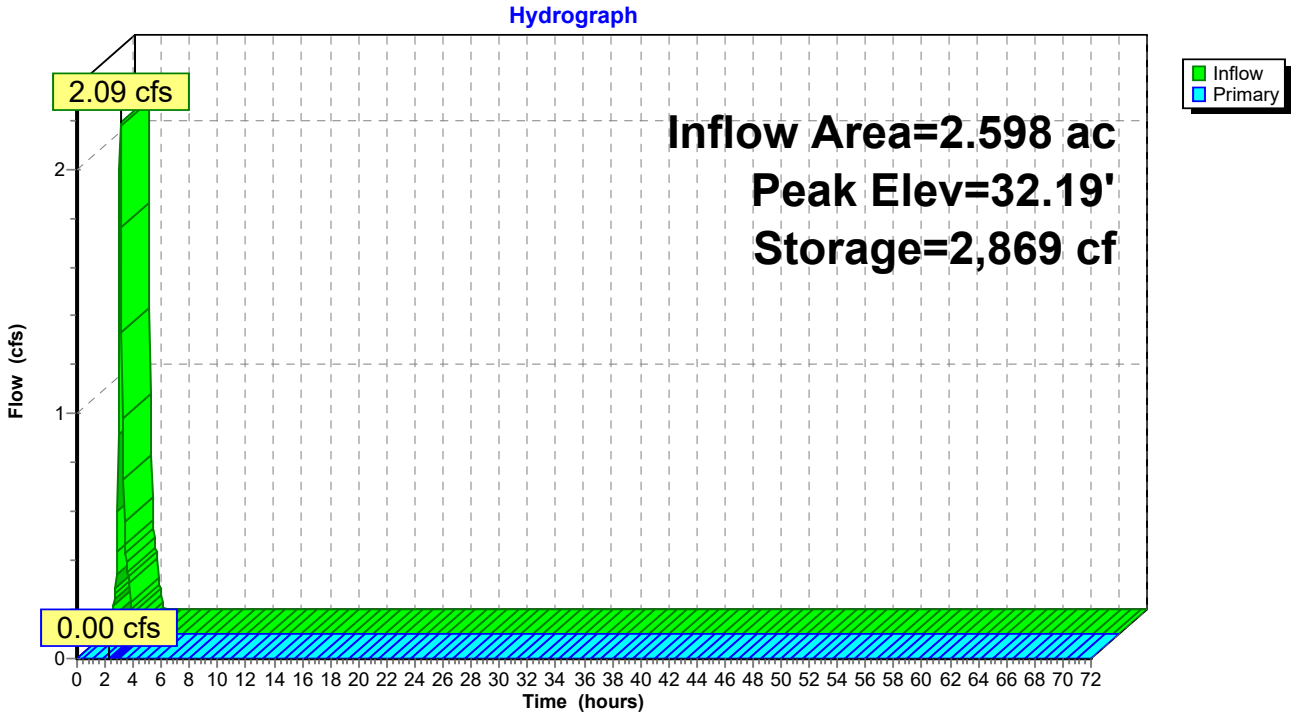
Volume	Invert	Avail.Storage	Storage Description
#1	31.10'	8,070 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.10	2,200	0	0
32.00	2,900	2,295	2,295
33.00	4,100	3,500	5,795
33.50	5,000	2,275	8,070

Device	Routing	Invert	Outlet Devices
#1	Primary	32.19'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.27 hrs HW=32.19' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.05 fps)

Pond 55P: Basin 16



Summary for Subcatchment 56S: Basin 17 - Impervious

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

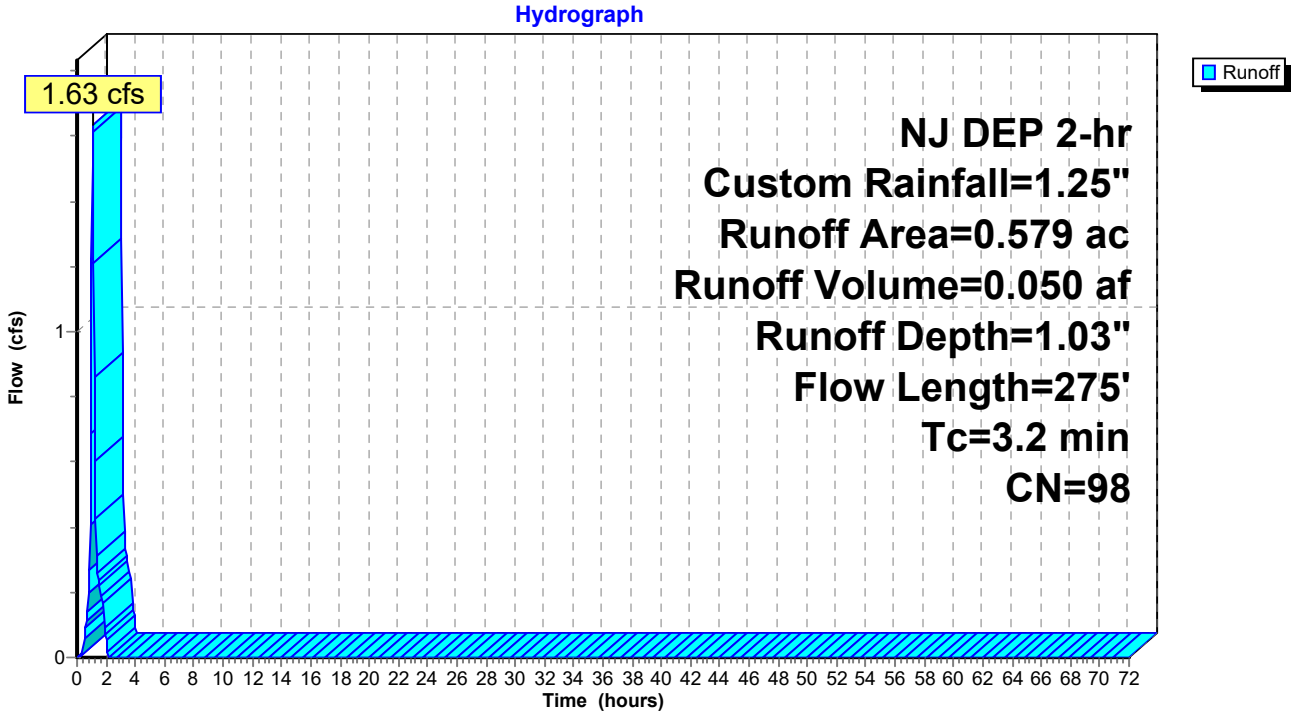
Runoff = 1.63 cfs @ 1.08 hrs, Volume= 0.050 af, Depth= 1.03"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.579	98	Impervious
	0.579		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	25	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	275	Total			

Subcatchment 56S: Basin 17 - Impervious



Summary for Subcatchment 57S: Basin 17 - Pervious

[49] Hint: Tc<2dt may require smaller dt
[45] Hint: Runoff=Zero

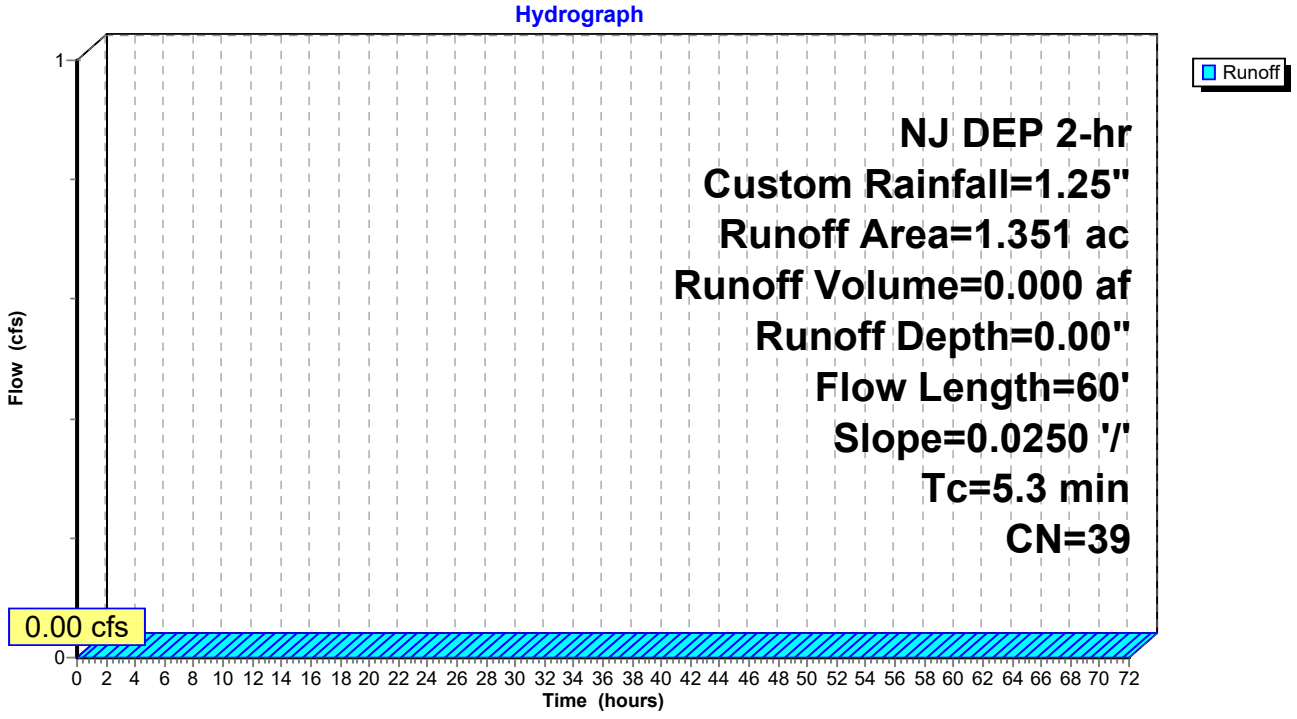
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 58P : Basin 17

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.351	39	>75% Grass cover, Good, HSG A
1.351		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	60	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"

Subcatchment 57S: Basin 17 - Pervious



Summary for Pond 58P: Basin 17

Inflow Area = 1.930 ac, 30.00% Impervious, Inflow Depth = 0.31" for Custom event
Inflow = 1.63 cfs @ 1.08 hrs, Volume= 0.050 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 28.39' @ 2.40 hrs Surf.Area= 3,528 sf Storage= 2,174 cf

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

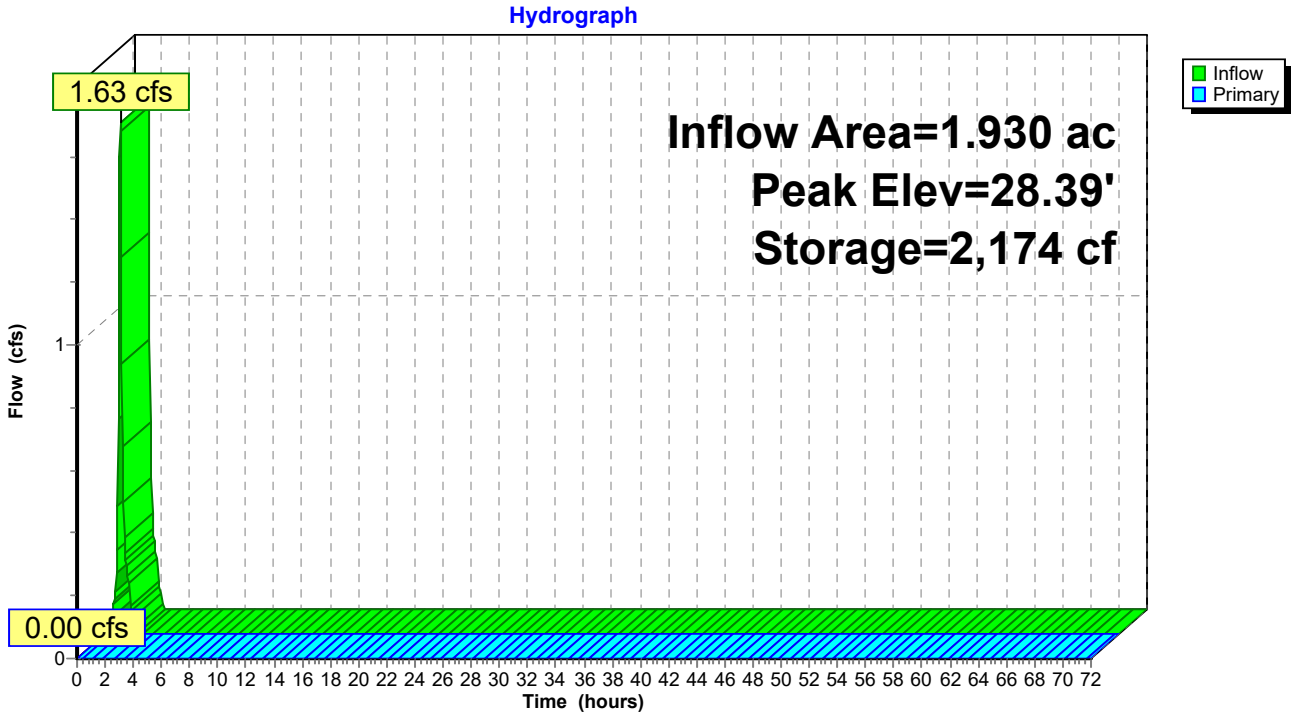
Volume	Invert	Avail.Storage	Storage Description
#1	27.70'	12,210 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
27.70	2,800	0	0
28.00	3,100	885	885
29.00	4,200	3,650	4,535
30.00	5,400	4,800	9,335
30.50	6,100	2,875	12,210

Device	Routing	Invert	Outlet Devices
#1	Primary	28.39'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=27.70' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 58P: Basin 17



Summary for Pond 59P: Basin 18

Inflow Area = 2.768 ac, 29.01% Impervious, Inflow Depth = 0.30" for Custom event
Inflow = 2.33 cfs @ 1.06 hrs, Volume= 0.069 af
Outflow = 0.00 cfs @ 2.30 hrs, Volume= 0.000 af, Atten= 100%, Lag= 74.2 min
Primary = 0.00 cfs @ 2.30 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 26.76' @ 2.30 hrs Surf.Area= 5,661 sf Storage= 3,016 cf

Plug-Flow detention time= 2,169.0 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 2,120.7 min (2,188.7 - 68.1)

Volume	Invert	Avail.Storage	Storage Description
#1	26.20'	25,000 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

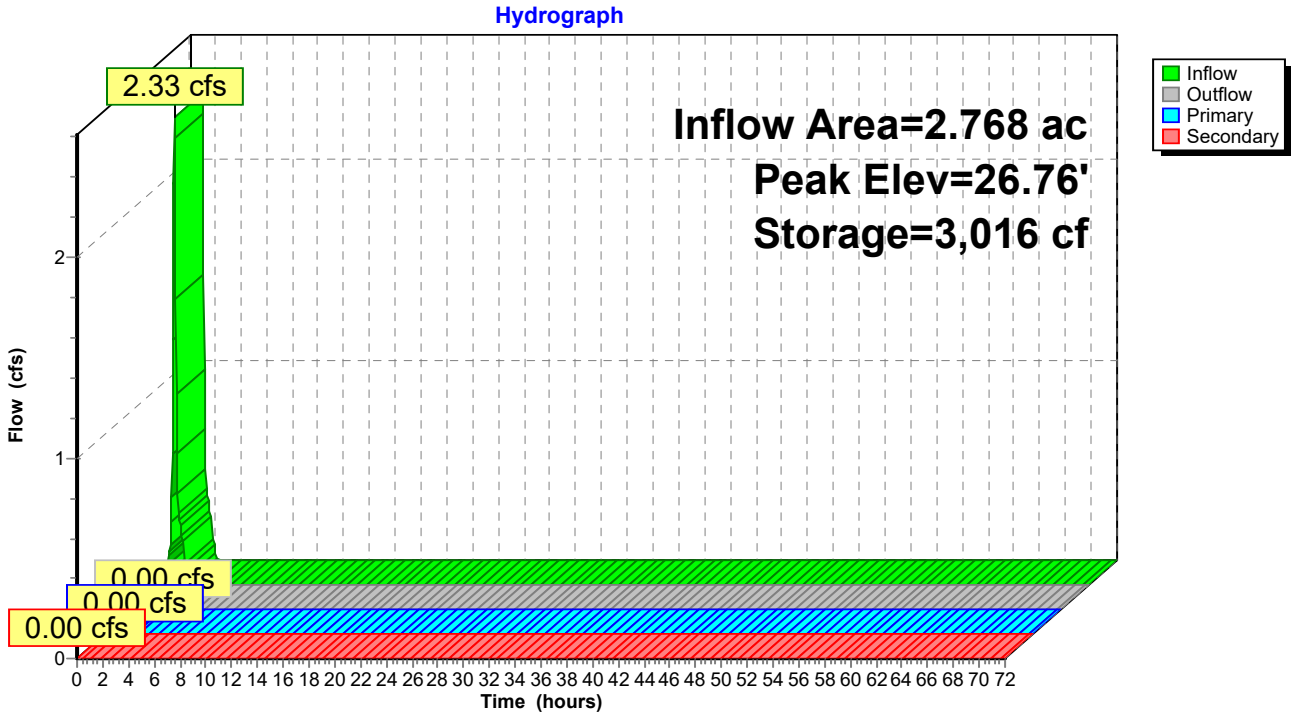
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
26.20	5,100	0	0
27.00	5,900	4,400	4,400
28.00	7,600	6,750	11,150
29.00	9,400	8,500	19,650
29.50	12,000	5,350	25,000

Device	Routing	Invert	Outlet Devices
#1	Primary	26.76'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Secondary	28.50'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.00 cfs @ 2.30 hrs HW=26.76' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.08 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.20' (Free Discharge)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 59P: Basin 18



Summary for Subcatchment 60S: Basin 18 - Impervious

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

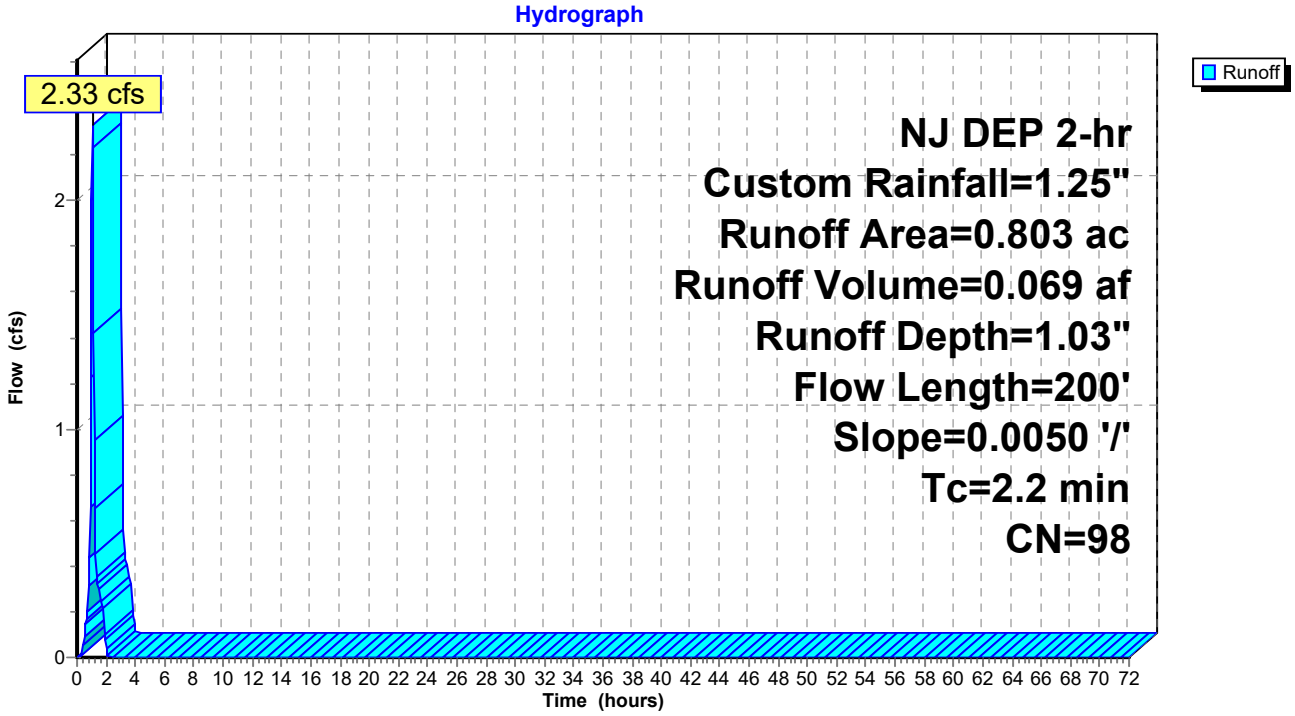
Runoff = 2.33 cfs @ 1.06 hrs, Volume= 0.069 af, Depth= 1.03"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.803	98	Impervious
	0.803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	100	0.0050	0.89		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.2	200	Total			

Subcatchment 60S: Basin 18 - Impervious



Summary for Subcatchment 61S: Basin 18 - Pervious

[45] Hint: Runoff=Zero

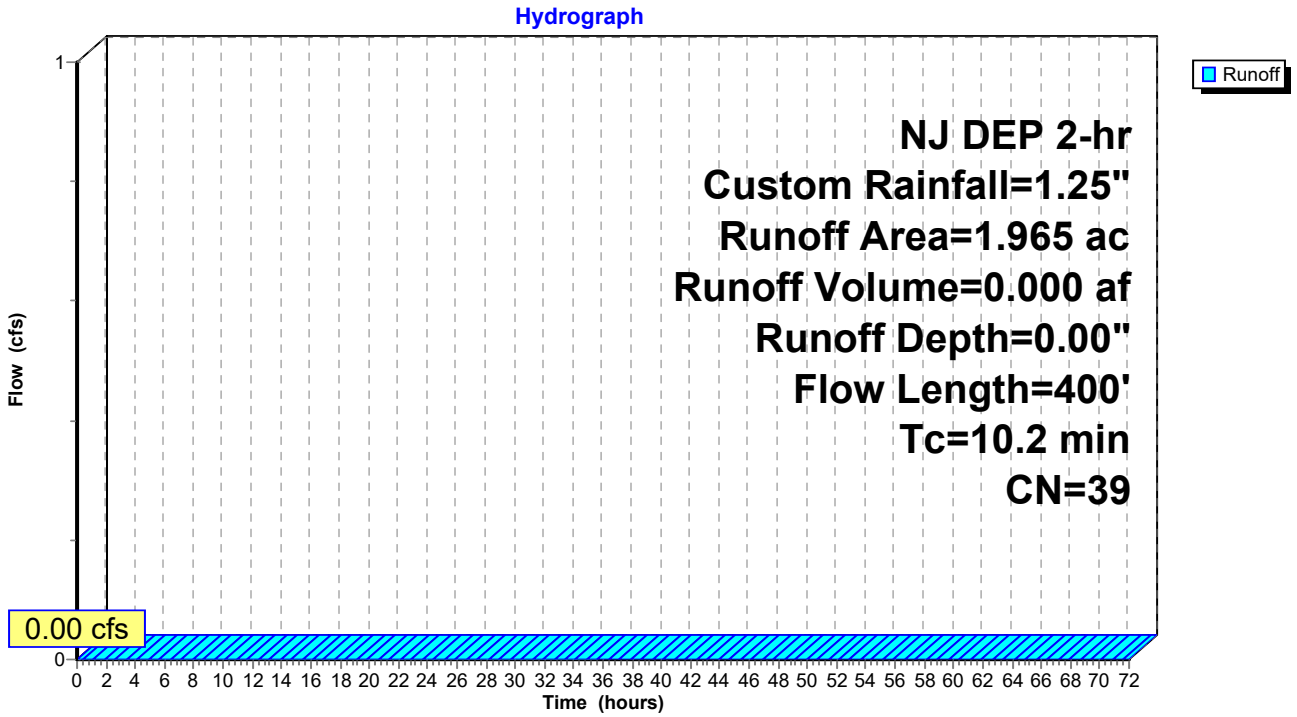
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 59P : Basin 18

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.965	39	>75% Grass cover, Good, HSG A
1.965		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0250	0.21		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.5	100	0.0250	1.11		**Shallow Concentrated Flow, B to C** Short Grass Pasture Kv= 7.0 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
10.2	400	Total			

Subcatchment 61S: Basin 18 - Pervious



Summary for Pond 62P: Basin 26 (Wet Pond)

Inflow Area = 1.943 ac, 55.53% Impervious, Inflow Depth = 0.57" for Custom event
Inflow = 3.08 cfs @ 1.08 hrs, Volume= 0.093 af
Outflow = 0.01 cfs @ 2.18 hrs, Volume= 0.033 af, Atten= 100%, Lag= 65.9 min
Primary = 0.01 cfs @ 2.18 hrs, Volume= 0.033 af
Routed to nonexistent node 87L

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Starting Elev= 22.50' Surf.Area= 74,250 sf Storage= 254,370 cf
Peak Elev= 22.55' @ 2.18 hrs Surf.Area= 74,655 sf Storage= 258,395 cf (4,025 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,973.7 min (2,043.0 - 69.3)

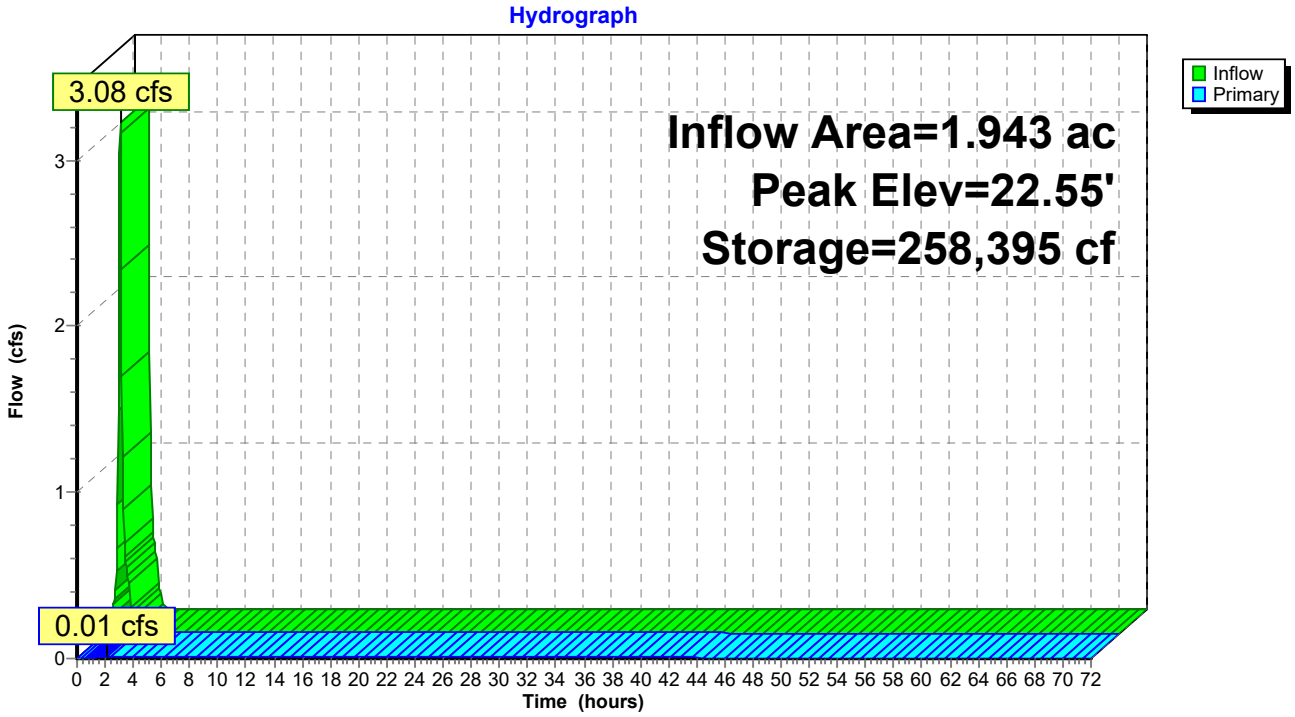
Volume	Invert	Avail.Storage	Storage Description
#1	18.00'	511,395 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		511,395 cf	x 1.50 = 767,093 cf Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.00	29,000	0	0
19.00	32,000	30,500	30,500
20.00	35,000	33,500	64,000
21.00	38,000	36,500	100,500
21.01	43,000	405	100,905
22.00	47,000	44,550	145,455
23.00	52,000	49,500	194,955
24.00	57,000	54,500	249,455
24.01	63,000	600	250,055
25.00	69,000	65,340	315,395
26.00	76,000	72,500	387,895
27.00	84,000	80,000	467,895
27.50	90,000	43,500	511,395

Device	Routing	Invert	Outlet Devices
#1	Primary	22.50'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	26.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 2.18 hrs HW=22.55' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.01 cfs @ 0.79 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 62P: Basin 26 (Wet Pond)



Summary for Subcatchment 63S: Basin 26 - Impervious

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

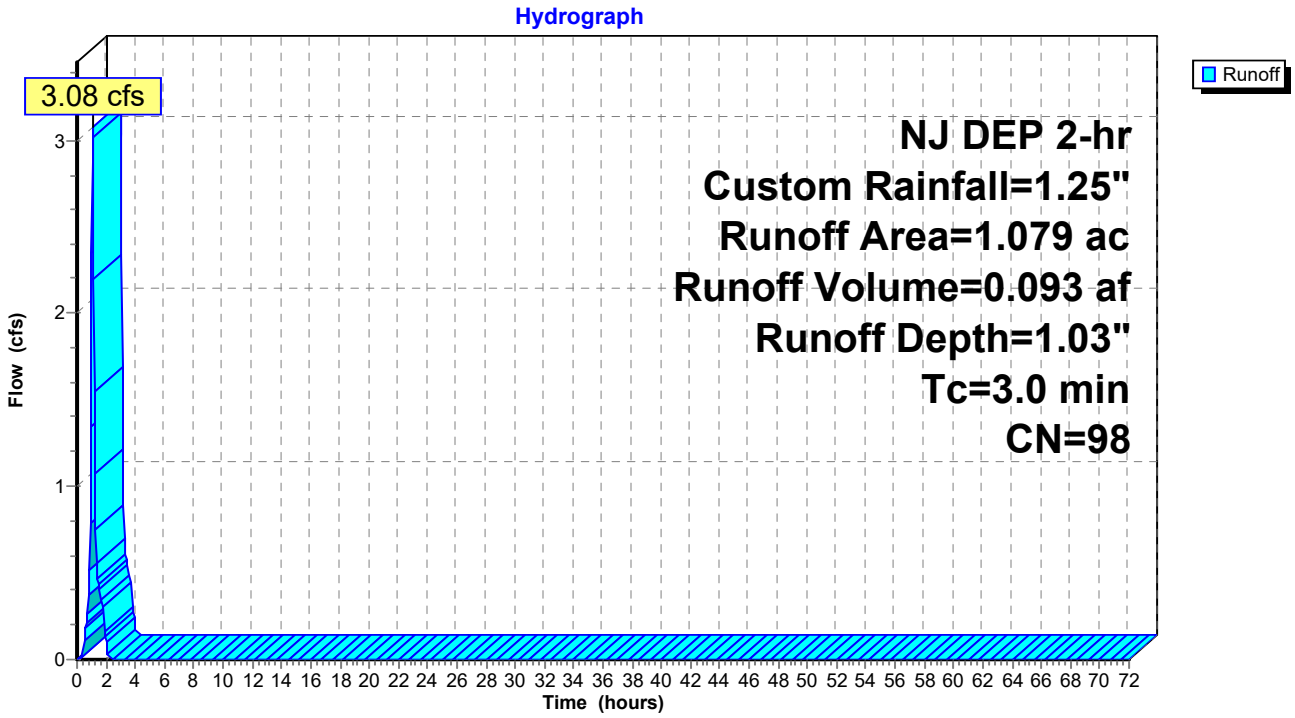
Runoff = 3.08 cfs @ 1.08 hrs, Volume= 0.093 af, Depth= 1.03"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.079	98	Impervious
	1.079		100.00% Impervious Area

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

Subcatchment 63S: Basin 26 - Impervious



Summary for Subcatchment 64S: Basin 26 - Pervious

[45] Hint: Runoff=Zero

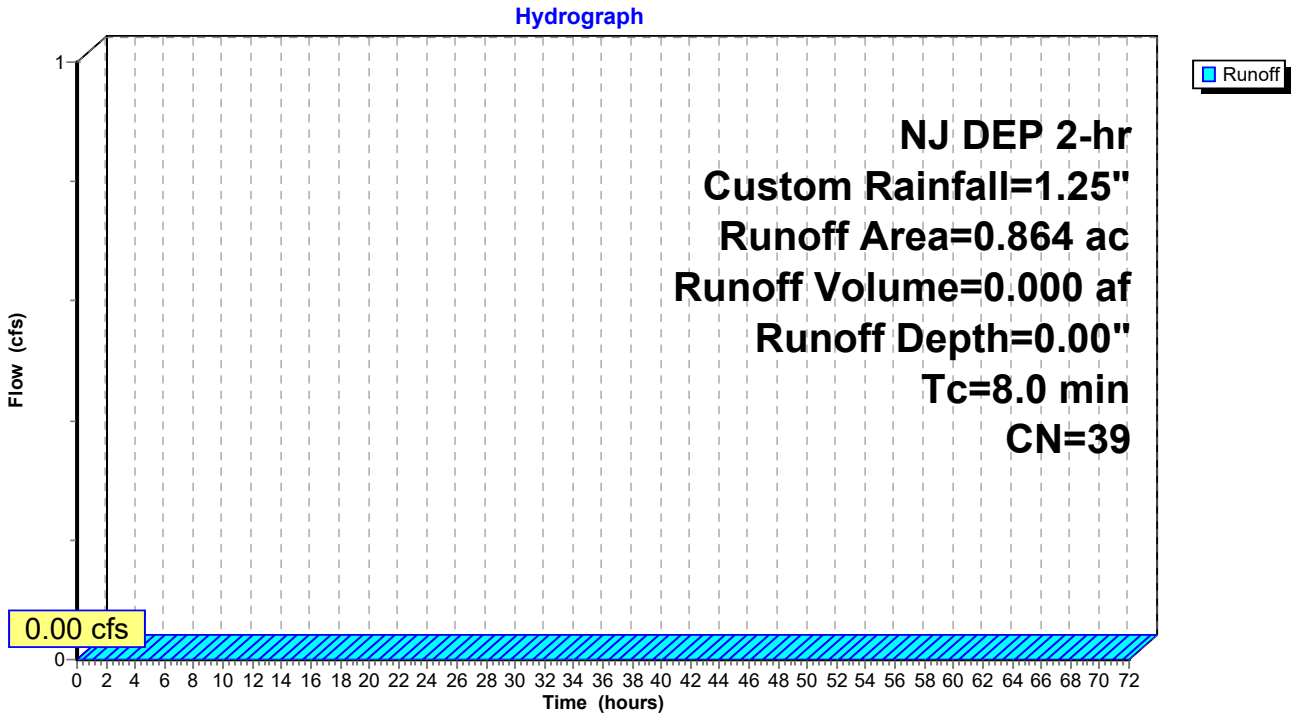
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 62P : Basin 26 (Wet Pond)

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.864	39	>75% Grass cover, Good, HSG A
0.864		100.00% Pervious Area

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

Subcatchment 64S: Basin 26 - Pervious



Summary for Pond 66P: Basin 31

Inflow Area = 2.682 ac, 24.94% Impervious, Inflow Depth = 0.26" for Custom event
Inflow = 2.17 cfs @ 1.03 hrs, Volume= 0.058 af
Outflow = 0.00 cfs @ 2.05 hrs, Volume= 0.000 af, Atten= 100%, Lag= 61.4 min
Primary = 0.00 cfs @ 2.05 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.66' @ 2.05 hrs Surf.Area= 4,391 sf Storage= 2,512 cf

Plug-Flow detention time= 1,566.4 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 1,523.0 min (1,587.8 - 64.7)

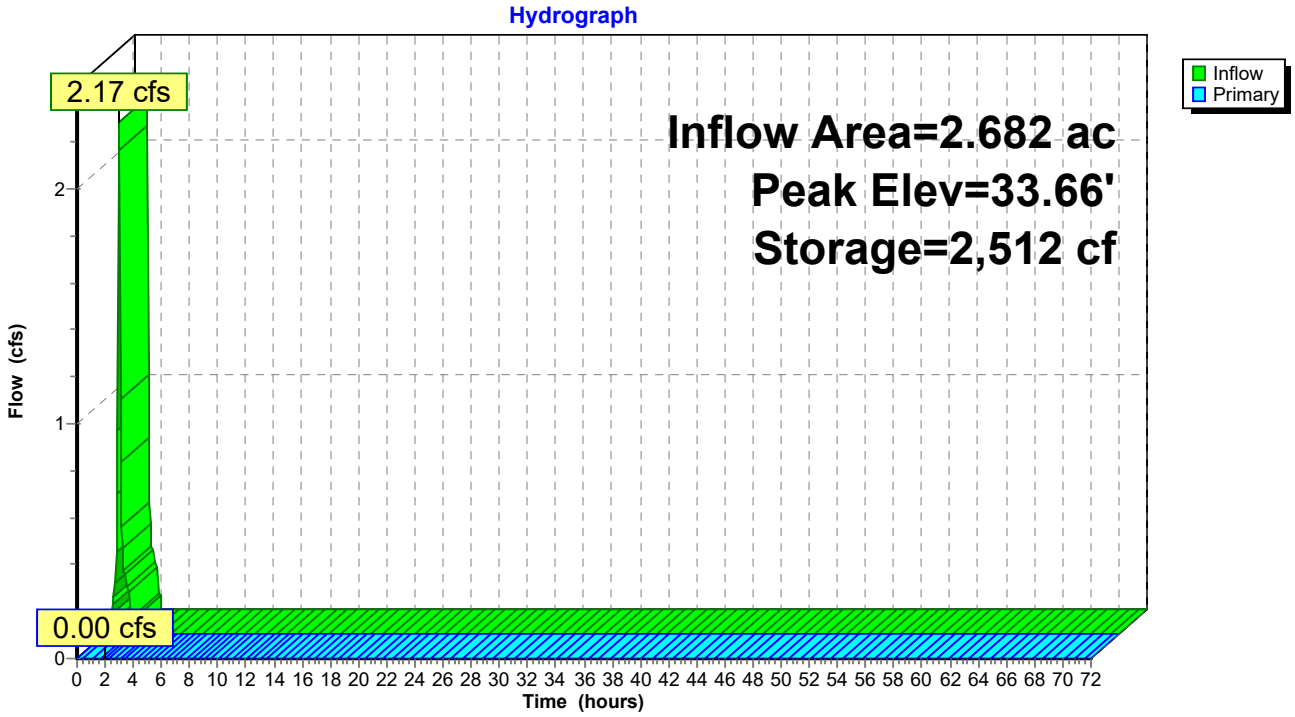
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	13,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,200	0	0
34.00	5,000	4,100	4,100
35.00	6,900	5,950	10,050
35.50	8,000	3,725	13,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.66'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.80'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.05 hrs HW=33.66' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.15 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 66P: Basin 31



Summary for Subcatchment 66S: Basin 19 - Impervious

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

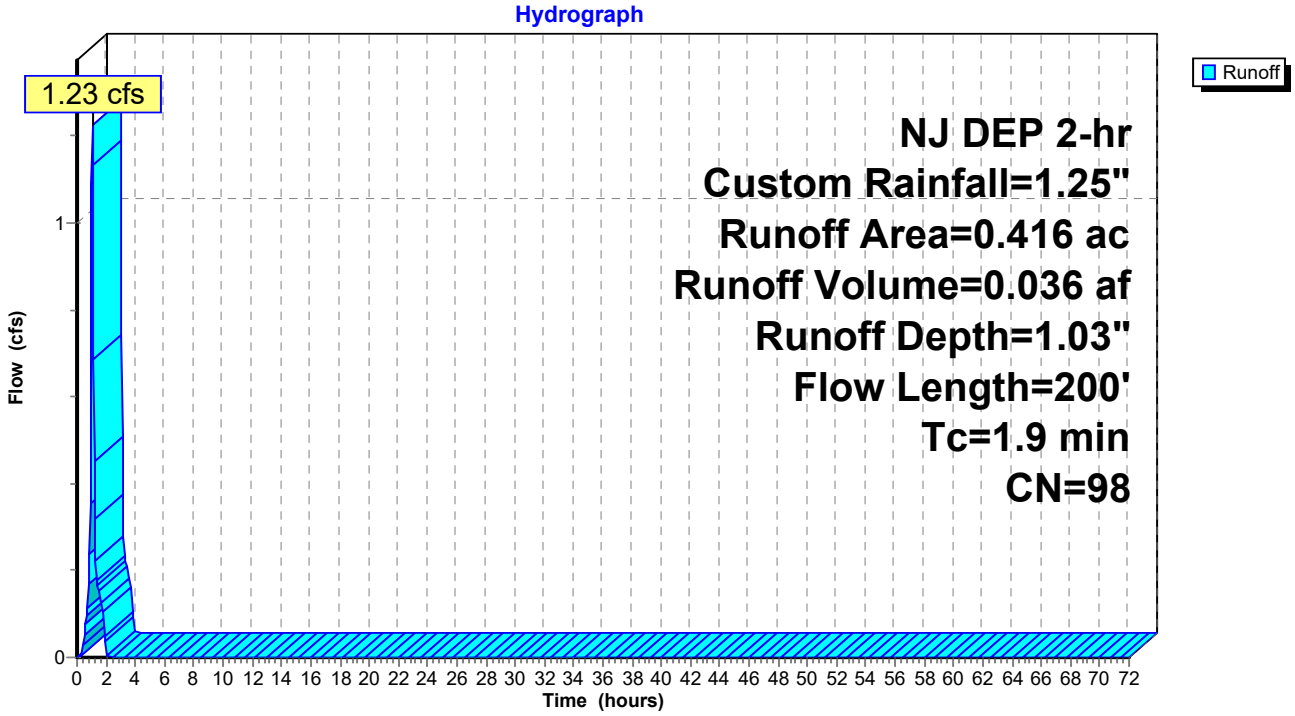
Runoff = 1.23 cfs @ 1.06 hrs, Volume= 0.036 af, Depth= 1.03"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.416	98	Impervious
	0.416		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.3	100	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
1.9	200	Total			

Subcatchment 66S: Basin 19 - Impervious



Summary for Pond 67P: Basin 30

Inflow Area = 2.661 ac, 20.63% Impervious, Inflow Depth = 0.21" for Custom event
Inflow = 1.57 cfs @ 1.08 hrs, Volume= 0.047 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.51' @ 2.40 hrs Surf.Area= 4,458 sf Storage= 2,062 cf

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

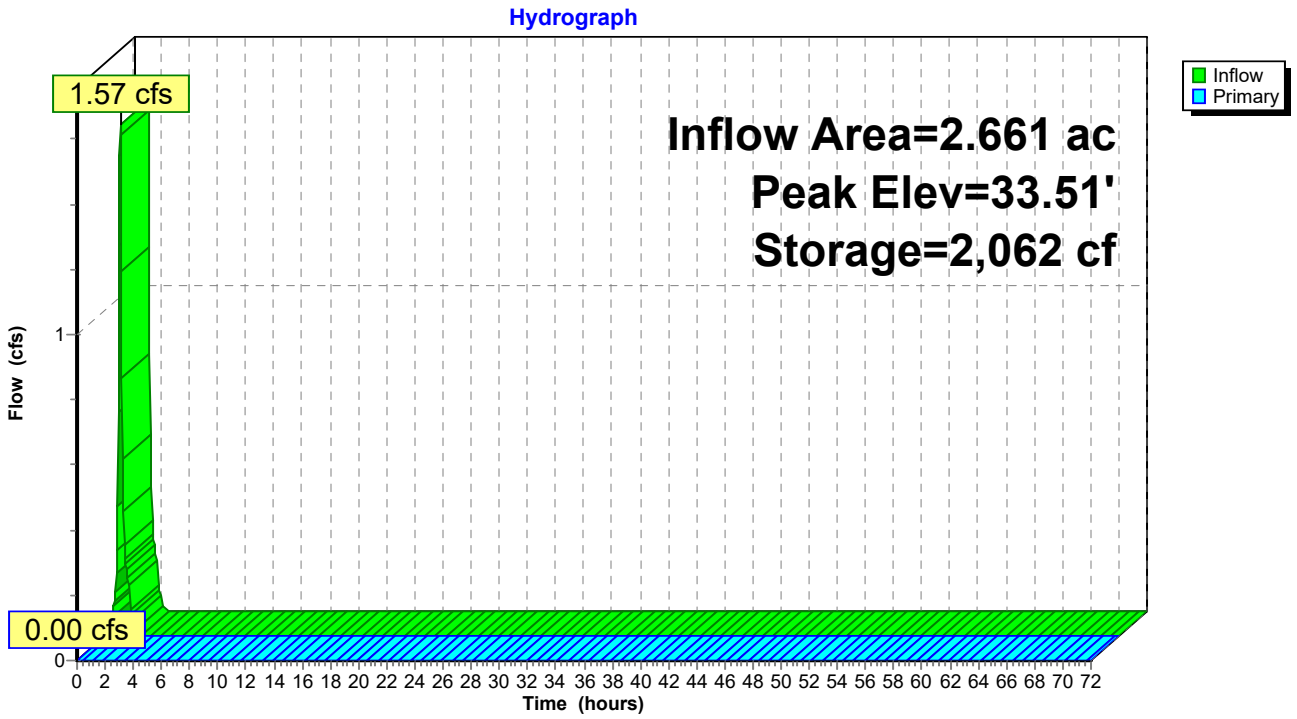
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	22,775 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,700	0	0
34.00	5,200	4,450	4,450
35.00	6,900	6,050	10,500
36.00	8,500	7,700	18,200
36.50	9,800	4,575	22,775

Device	Routing	Invert	Outlet Devices
#1	Primary	33.51'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=33.00' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 67P: Basin 30



Summary for Subcatchment 67S: Basin 19 - Pervious

[45] Hint: Runoff=Zero

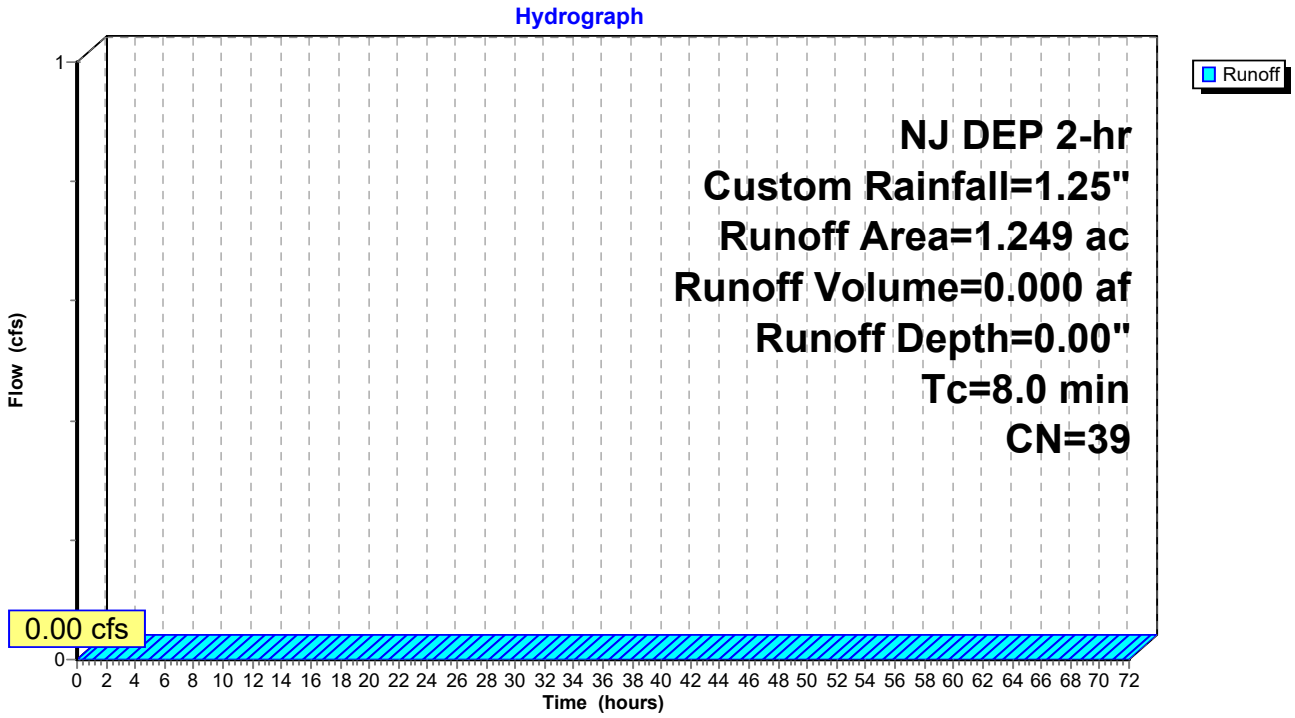
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 68P : Basin 19

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.249	39	>75% Grass cover, Good, HSG A
1.249		100.00% Pervious Area

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

Subcatchment 67S: Basin 19 - Pervious



Summary for Pond 68P: Basin 19

Inflow Area = 1.665 ac, 24.98% Impervious, Inflow Depth = 0.26" for Custom event
Inflow = 1.23 cfs @ 1.06 hrs, Volume= 0.036 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 37.67' @ 2.25 hrs Surf.Area= 1,733 sf Storage= 1,562 cf

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

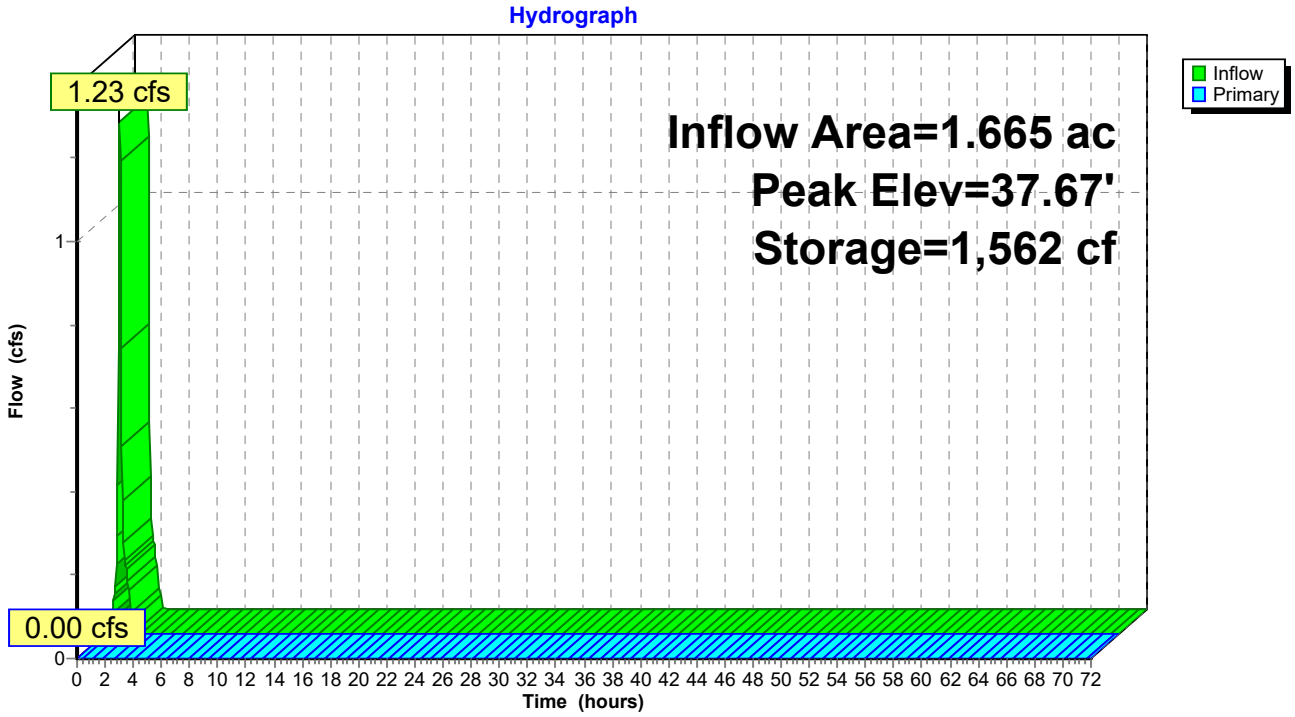
Volume	Invert	Avail.Storage	Storage Description
#1	36.70'	11,600 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.70	1,400	0	0
37.00	1,600	450	450
38.00	1,800	1,700	2,150
39.00	2,100	1,950	4,100
40.00	2,700	2,400	6,500
41.00	3,600	3,150	9,650
41.50	4,200	1,950	11,600

Device	Routing	Invert	Outlet Devices
#1	Primary	37.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	41.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.70' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 68P: Basin 19



Summary for Pond 69P: Basin 20

Inflow Area = 2.458 ac, 29.98% Impervious, Inflow Depth = 0.31" for Custom event
Inflow = 2.40 cfs @ 1.03 hrs, Volume= 0.064 af
Outflow = 0.00 cfs @ 2.05 hrs, Volume= 0.000 af, Atten= 100%, Lag= 61.4 min
Primary = 0.00 cfs @ 2.05 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 35.84' @ 2.05 hrs Surf.Area= 4,169 sf Storage= 2,768 cf

Plug-Flow detention time= 1,738.7 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 1,695.4 min (1,760.1 - 64.7)

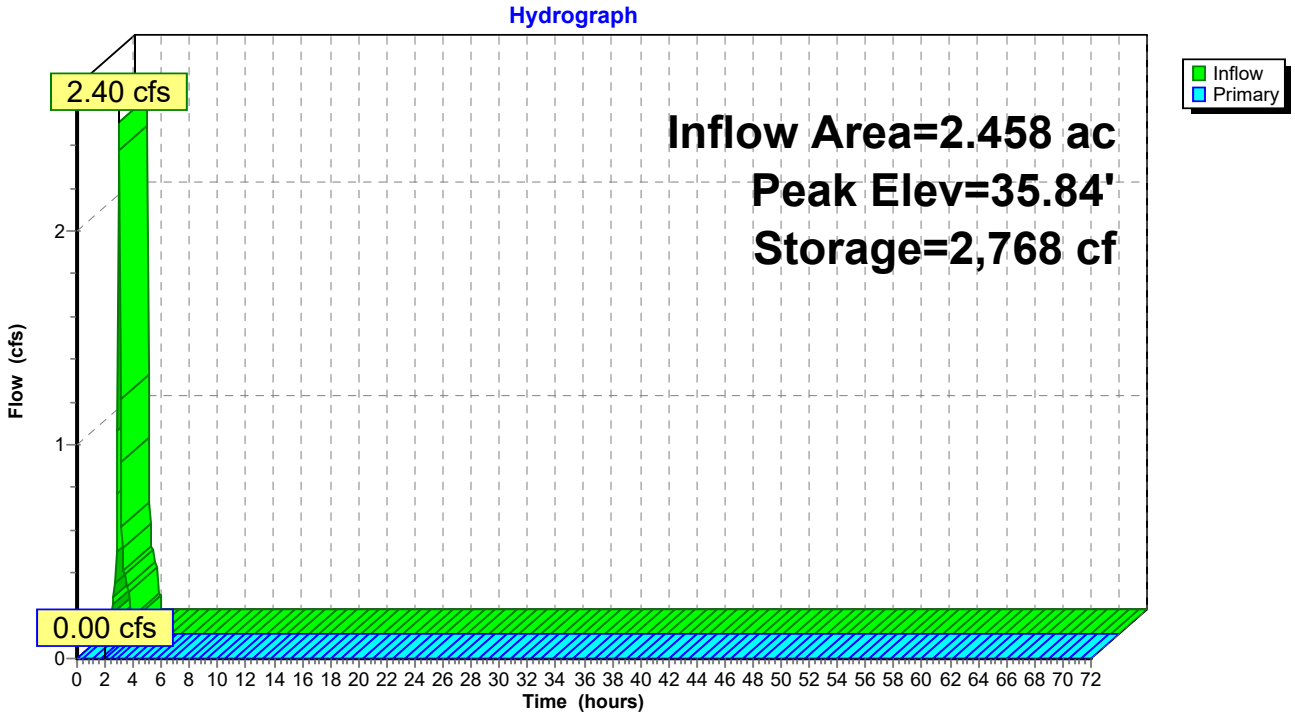
Volume	Invert	Avail.Storage	Storage Description
#1	35.00'	13,425 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
35.00	2,400	0	0
36.00	4,500	3,450	3,450
37.00	7,300	5,900	9,350
37.50	9,000	4,075	13,425

Device	Routing	Invert	Outlet Devices
#1	Primary	35.84'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.05 hrs HW=35.84' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.17 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 69P: Basin 20



Summary for Pond 70P: Basin 29

Inflow Area = 2.615 ac, 22.91% Impervious, Inflow Depth = 0.24" for Custom event
Inflow = 1.71 cfs @ 1.08 hrs, Volume= 0.052 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.46' @ 2.40 hrs Surf.Area= 5,282 sf Storage= 2,250 cf

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

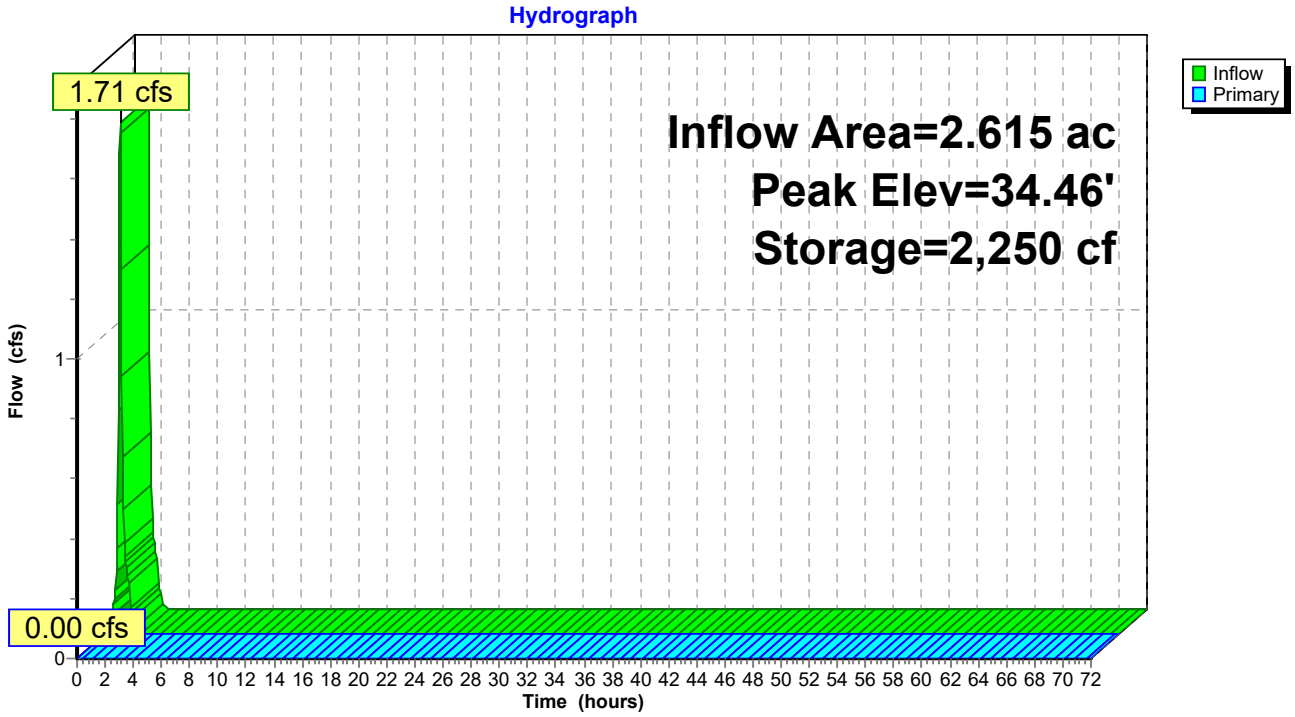
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	8,900 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,500	0	0
35.00	6,200	5,350	5,350
35.50	8,000	3,550	8,900

Device	Routing	Invert	Outlet Devices
#1	Primary	34.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=34.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 70P: Basin 29



Summary for Subcatchment 70S: Basin 20 - Impervious

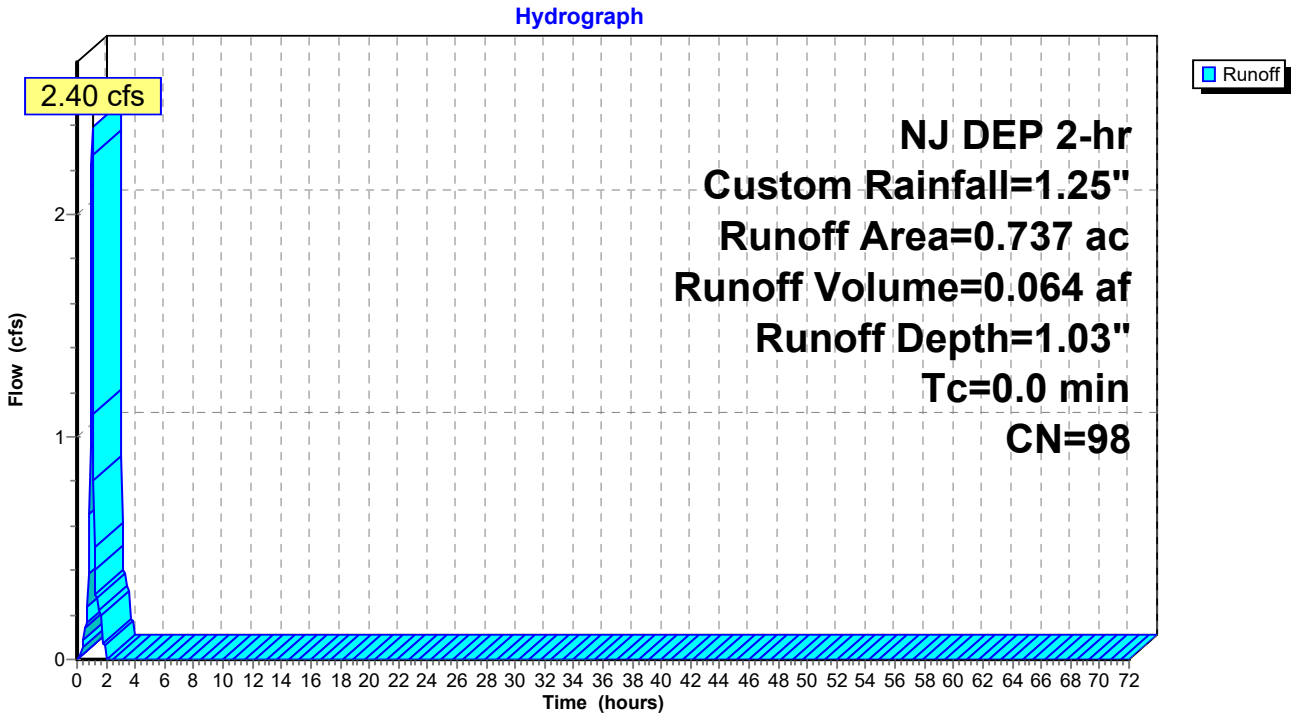
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.40 cfs @ 1.03 hrs, Volume= 0.064 af, Depth= 1.03"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.737	98	Impervious
	0.737		100.00% Impervious Area

Subcatchment 70S: Basin 20 - Impervious



Summary for Pond 71P: Basin 33

Inflow Area = 2.602 ac, 30.02% Impervious, Inflow Depth = 0.31" for Custom event
Inflow = 2.23 cfs @ 1.08 hrs, Volume= 0.067 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.67' @ 2.40 hrs Surf.Area= 4,900 sf Storage= 2,933 cf

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

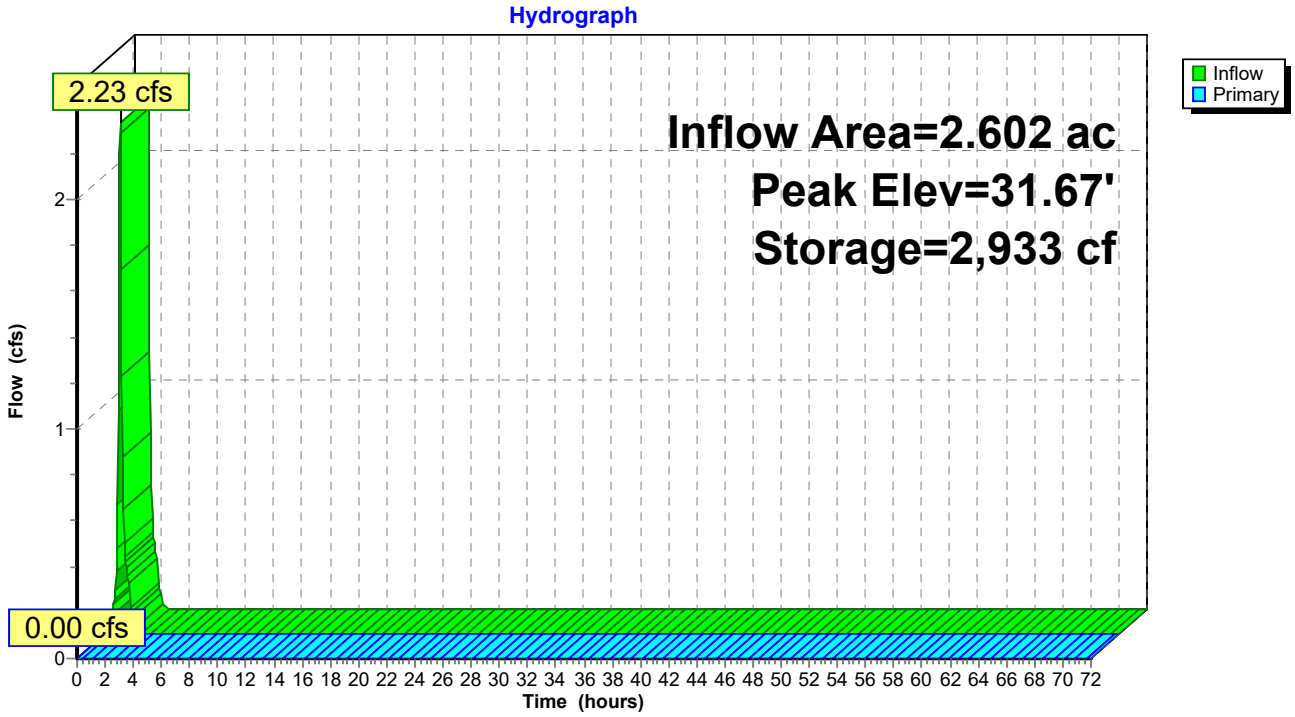
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	41,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,900	0	0
32.00	5,400	4,650	4,650
33.00	7,200	6,300	10,950
34.00	9,400	8,300	19,250
35.00	11,000	10,200	29,450
36.00	13,000	12,000	41,450

Device	Routing	Invert	Outlet Devices
#1	Primary	31.67'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 71P: Basin 33



Summary for Subcatchment 71S: Basin 20 - Pervious

[45] Hint: Runoff=Zero

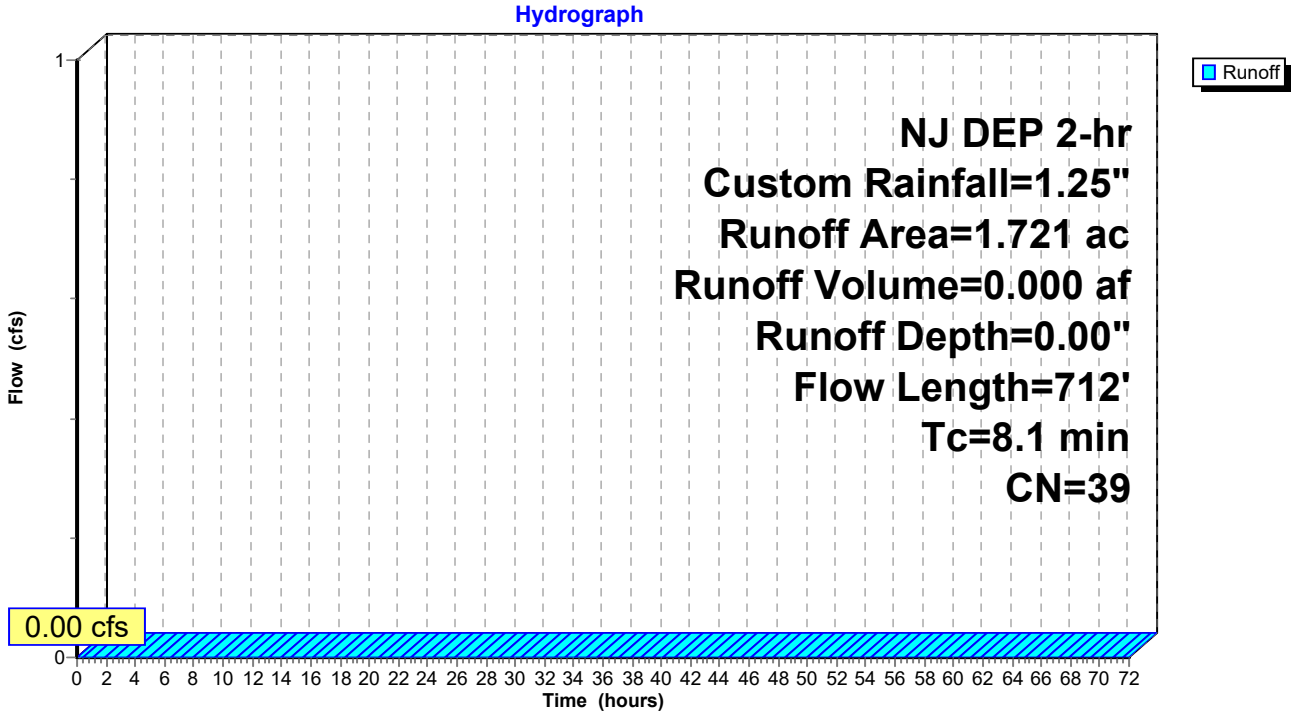
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 69P : Basin 20

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.721	39	>75% Grass cover, Good, HSG A
1.721		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
2.2	650	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
8.1	712	Total			

Subcatchment 71S: Basin 20 - Pervious



Summary for Pond 72P: Basin 21

Inflow Area = 2.579 ac, 19.31% Impervious, Inflow Depth = 0.20" for Custom event
Inflow = 1.40 cfs @ 1.09 hrs, Volume= 0.043 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.86' @ 2.40 hrs Surf.Area= 1,885 sf Storage= 1,870 cf

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

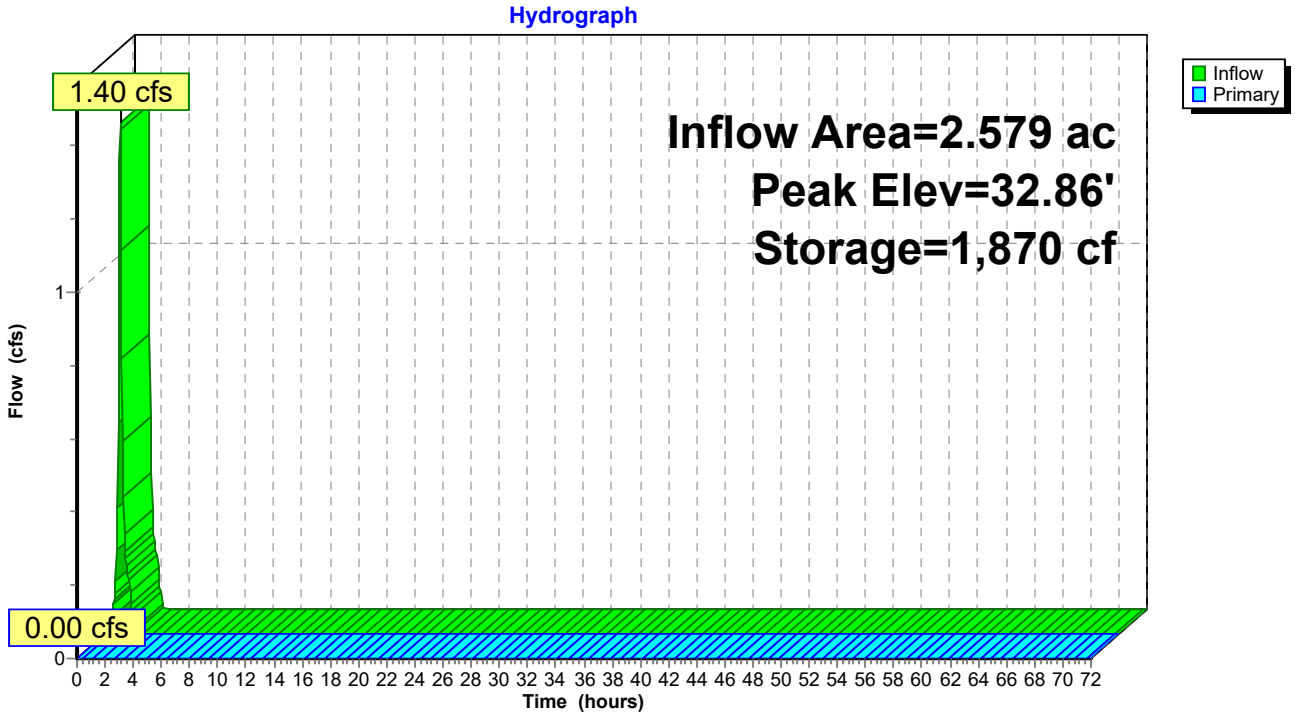
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	6,325 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.50	1,000	0	0
32.00	1,200	550	550
33.00	2,000	1,600	2,150
34.00	3,000	2,500	4,650
34.50	3,700	1,675	6,325

Device	Routing	Invert	Outlet Devices
#1	Primary	32.86'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.50' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 72P: Basin 21



Summary for Pond 73P: Basin 32

Inflow Area = 2.874 ac, 20.98% Impervious, Inflow Depth = 0.22" for Custom event
Inflow = 1.72 cfs @ 1.08 hrs, Volume= 0.052 af
Outflow = 0.00 cfs @ 2.36 hrs, Volume= 0.000 af, Atten= 100%, Lag= 76.6 min
Primary = 0.00 cfs @ 2.36 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.27' @ 2.36 hrs Surf.Area= 8,562 sf Storage= 2,265 cf

Plug-Flow detention time= 2,081.3 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 2,037.5 min (2,106.8 - 69.3)

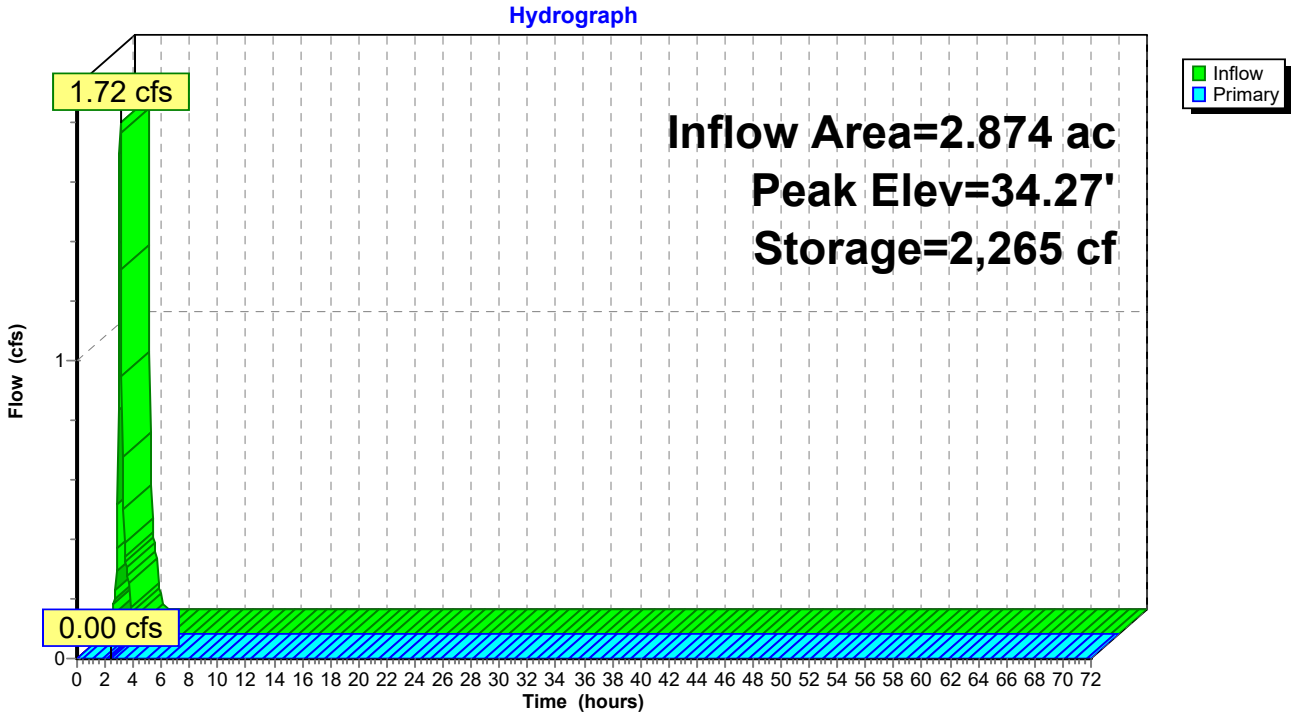
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	73,925 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	8,100	0	0
35.00	9,800	8,950	8,950
36.00	11,700	10,750	19,700
37.00	13,800	12,750	32,450
38.00	16,200	15,000	47,450
39.00	18,000	17,100	64,550
39.50	19,500	9,375	73,925

Device	Routing	Invert	Outlet Devices
#1	Primary	34.27'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	38.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.36 hrs HW=34.27' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.15 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 73P: Basin 32



Summary for Subcatchment 73S: Basin 21 - Impervious

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

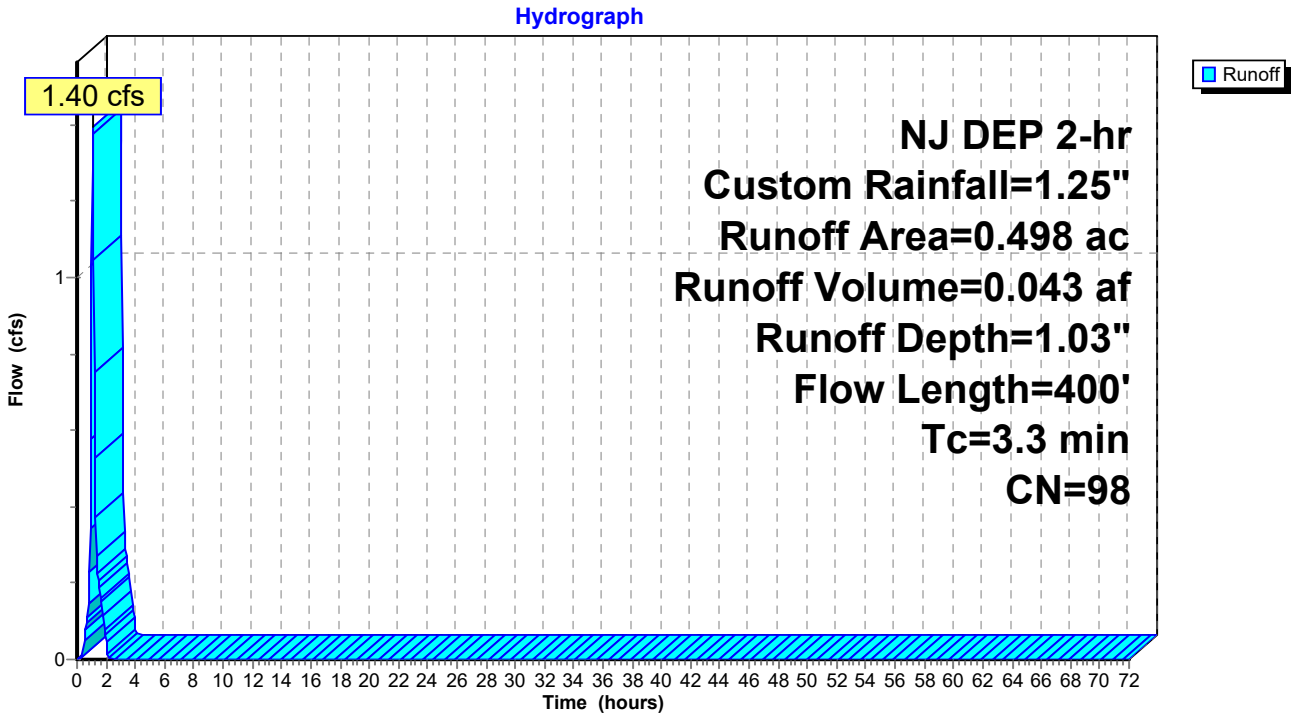
Runoff = 1.40 cfs @ 1.09 hrs, Volume= 0.043 af, Depth= 1.03"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.498	98	Impervious
	0.498		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.0	100	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.7	200	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.3	400	Total			

Subcatchment 73S: Basin 21 - Impervious



Summary for Pond 74P: Basin 37

Inflow Area = 1.050 ac, 23.62% Impervious, Inflow Depth = 0.24" for Custom event
Inflow = 0.71 cfs @ 1.08 hrs, Volume= 0.021 af
Outflow = 0.00 cfs @ 2.29 hrs, Volume= 0.000 af, Atten= 100%, Lag= 72.7 min
Primary = 0.00 cfs @ 2.29 hrs, Volume= 0.000 af
Routed to nonexistent node 86L

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.25' @ 2.29 hrs Surf.Area= 3,903 sf Storage= 931 cf

Plug-Flow detention time= 1,028.3 min calculated for 0.000 af (1% of inflow)
Center-of-Mass det. time= 988.4 min (1,057.7 - 69.3)

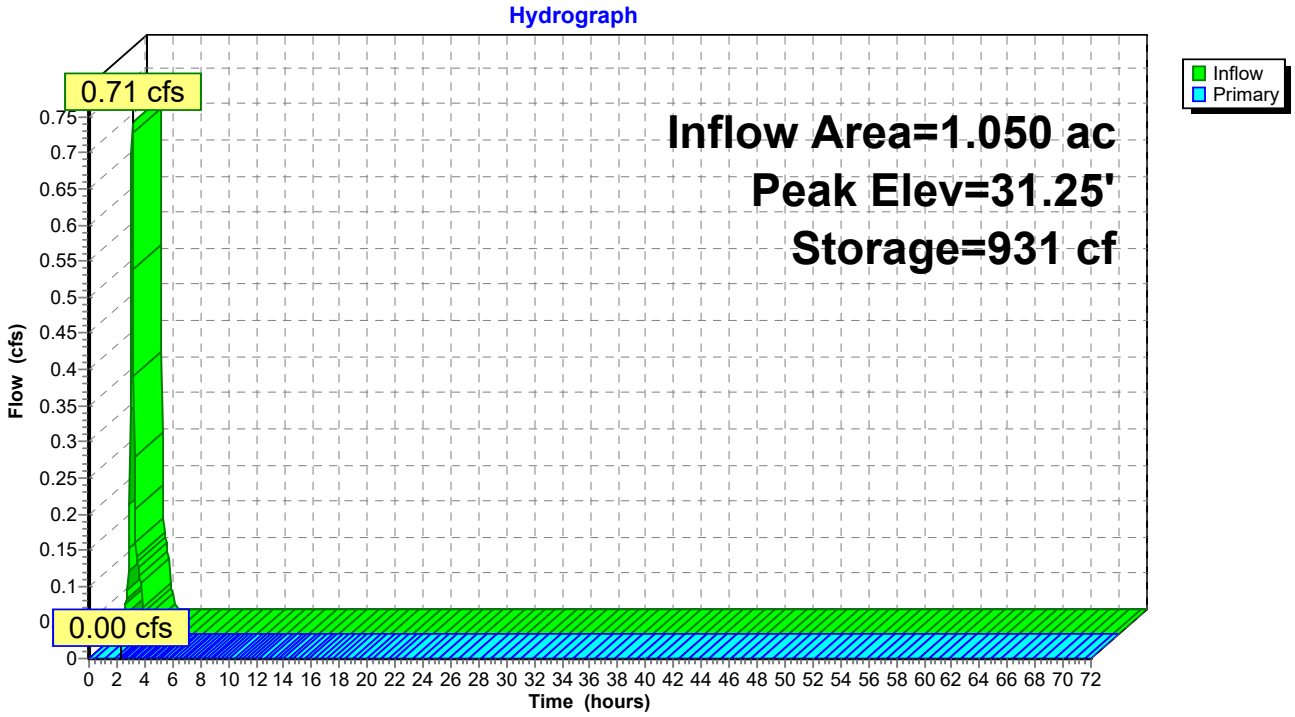
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	22,725 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	3,500	0	0
32.00	5,100	4,300	4,300
33.00	6,800	5,950	10,250
34.00	8,800	7,800	18,050
34.50	9,900	4,675	22,725

Device	Routing	Invert	Outlet Devices
#1	Primary	31.25'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	34.00'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.29 hrs HW=31.25' (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.14 fps)
└—**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 74P: Basin 37



Summary for Subcatchment 74S: Basin 21 - Pervious

[45] Hint: Runoff=Zero

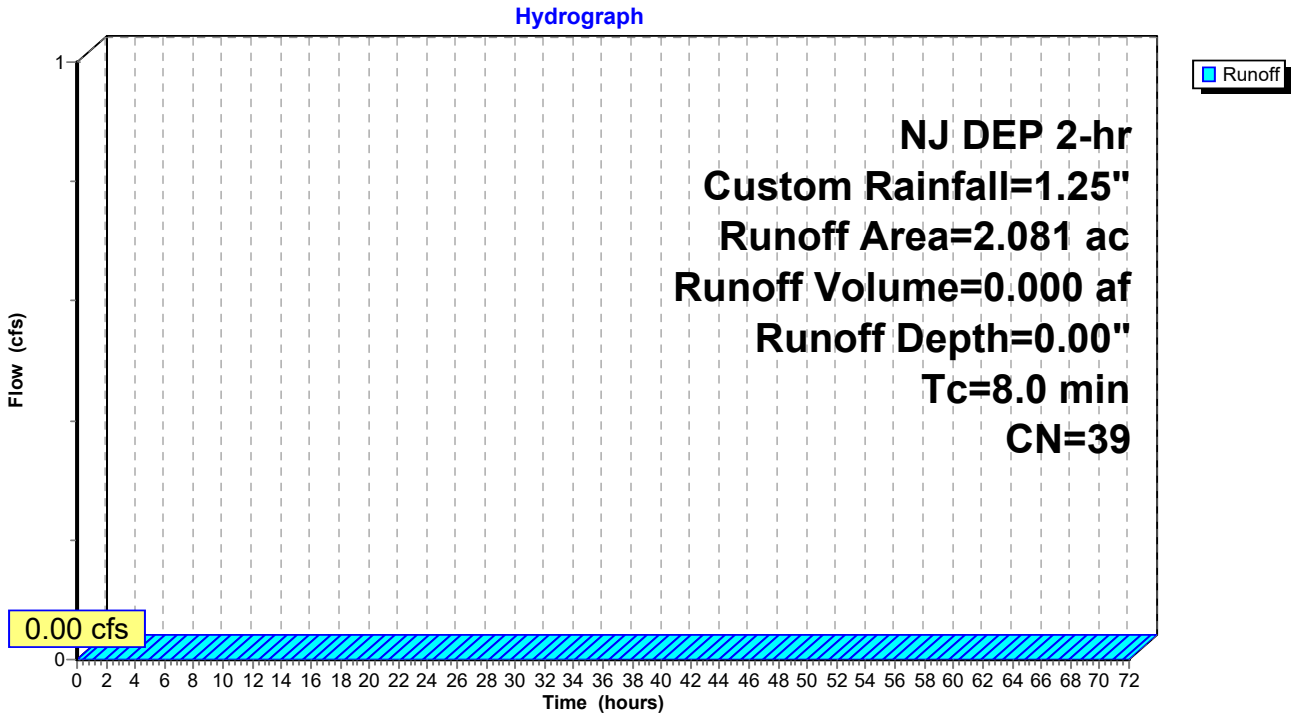
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 72P : Basin 21

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.081	39	>75% Grass cover, Good, HSG A
2.081		100.00% Pervious Area

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

Subcatchment 74S: Basin 21 - Pervious



Summary for Pond 75P: Basin 25

Inflow Area = 2.615 ac, 34.99% Impervious, Inflow Depth = 0.36" for Custom event
Inflow = 2.61 cfs @ 1.08 hrs, Volume= 0.079 af
Outflow = 0.00 cfs @ 2.35 hrs, Volume= 0.000 af, Atten= 100%, Lag= 76.1 min
Primary = 0.00 cfs @ 2.35 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 24.60' @ 2.35 hrs Surf.Area= 9,144 sf Storage= 3,436 cf

Plug-Flow detention time= 2,089.5 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 2,042.3 min (2,111.6 - 69.3)

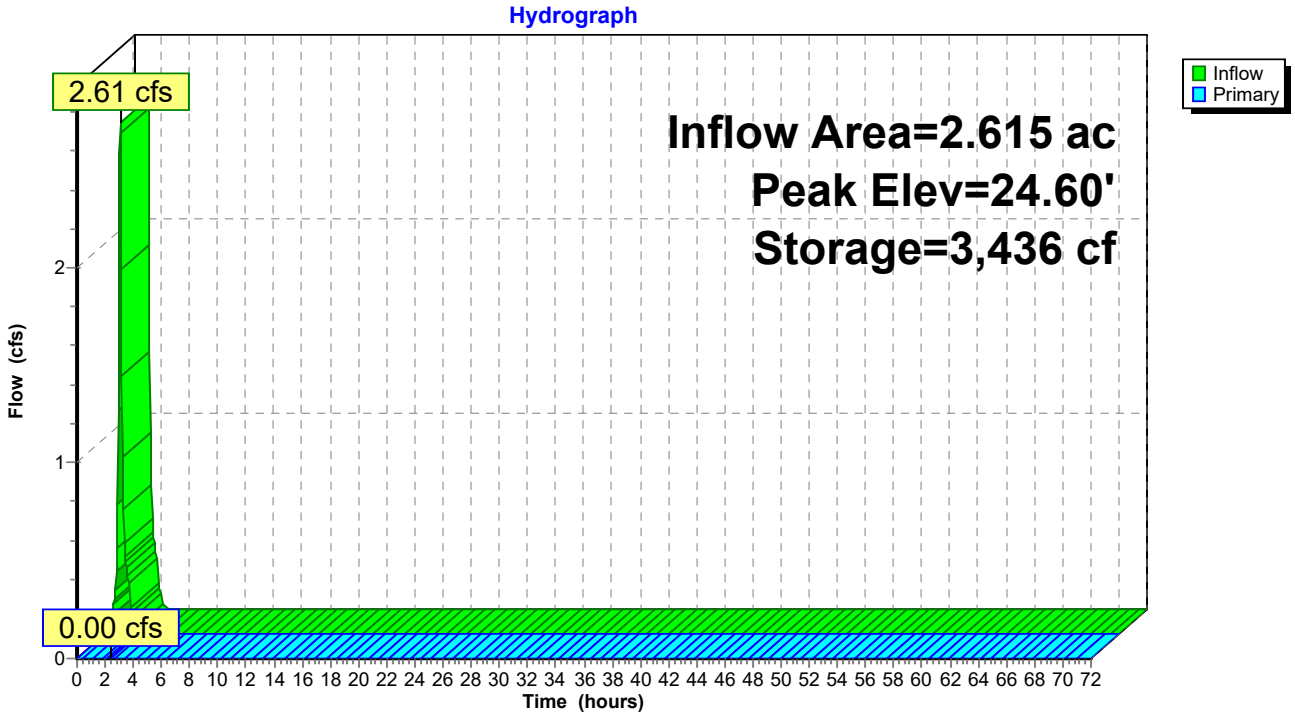
Volume	Invert	Avail.Storage	Storage Description
#1	24.22'	48,287 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.22	8,900	0	0
25.00	9,400	7,137	7,137
26.00	10,000	9,700	16,837
27.00	12,000	11,000	27,837
28.00	13,800	12,900	40,737
28.50	16,400	7,550	48,287

Device	Routing	Invert	Outlet Devices
#1	Primary	24.60'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.10'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.35 hrs HW=24.60' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.10 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 75P: Basin 25



Summary for Pond 76P: Basin 38

Inflow Area = 1.797 ac, 28.16% Impervious, Inflow Depth = 0.29" for Custom event
Inflow = 1.46 cfs @ 1.07 hrs, Volume= 0.044 af
Outflow = 0.00 cfs @ 2.25 hrs, Volume= 0.000 af, Atten= 100%, Lag= 70.9 min
Primary = 0.00 cfs @ 2.25 hrs, Volume= 0.000 af
Routed to nonexistent node 86L

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.36' @ 2.25 hrs Surf.Area= 5,554 sf Storage= 1,900 cf

Plug-Flow detention time= 1,681.4 min calculated for 0.000 af (1% of inflow)
Center-of-Mass det. time= 1,641.9 min (1,710.2 - 68.2)

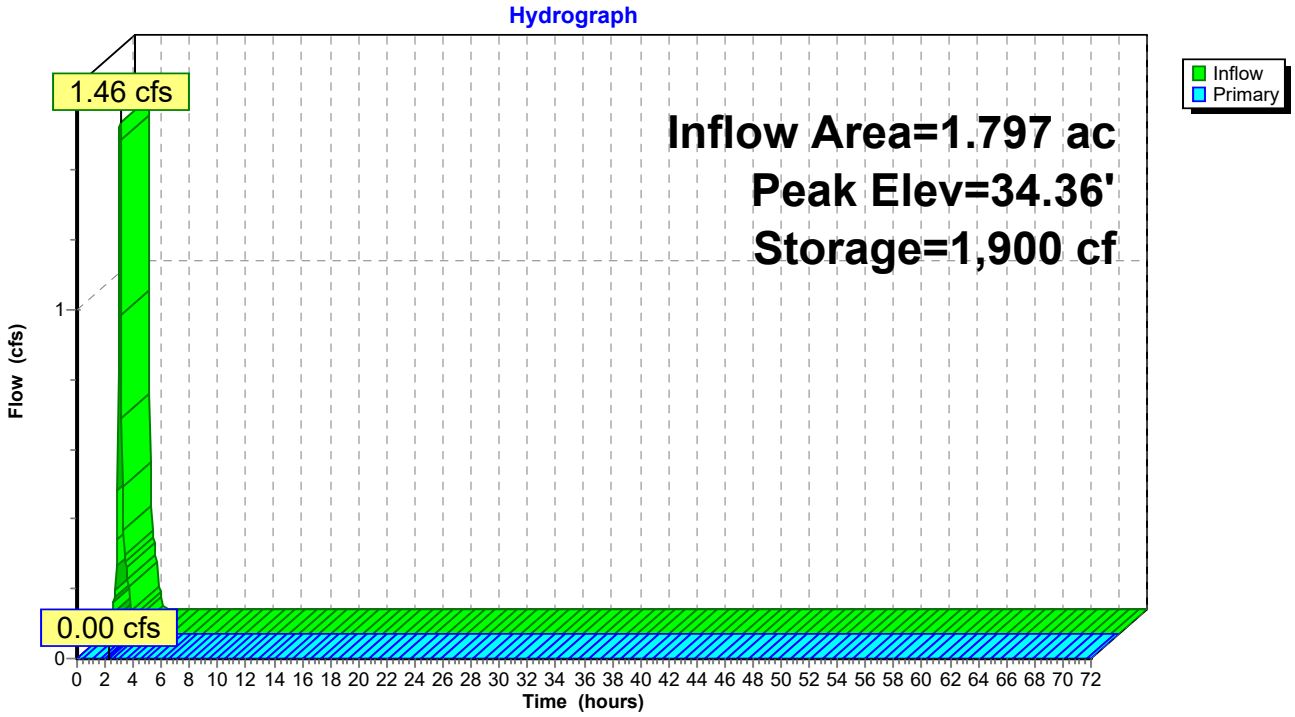
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	18,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	4,900	0	0
35.00	6,700	5,800	5,800
36.00	9,000	7,850	13,650
36.50	10,200	4,800	18,450

Device	Routing	Invert	Outlet Devices
#1	Primary	34.36'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.25 hrs HW=34.36' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.00 cfs @ 0.20 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 76P: Basin 38



Summary for Subcatchment 76S: Basin 25 - Impervious

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

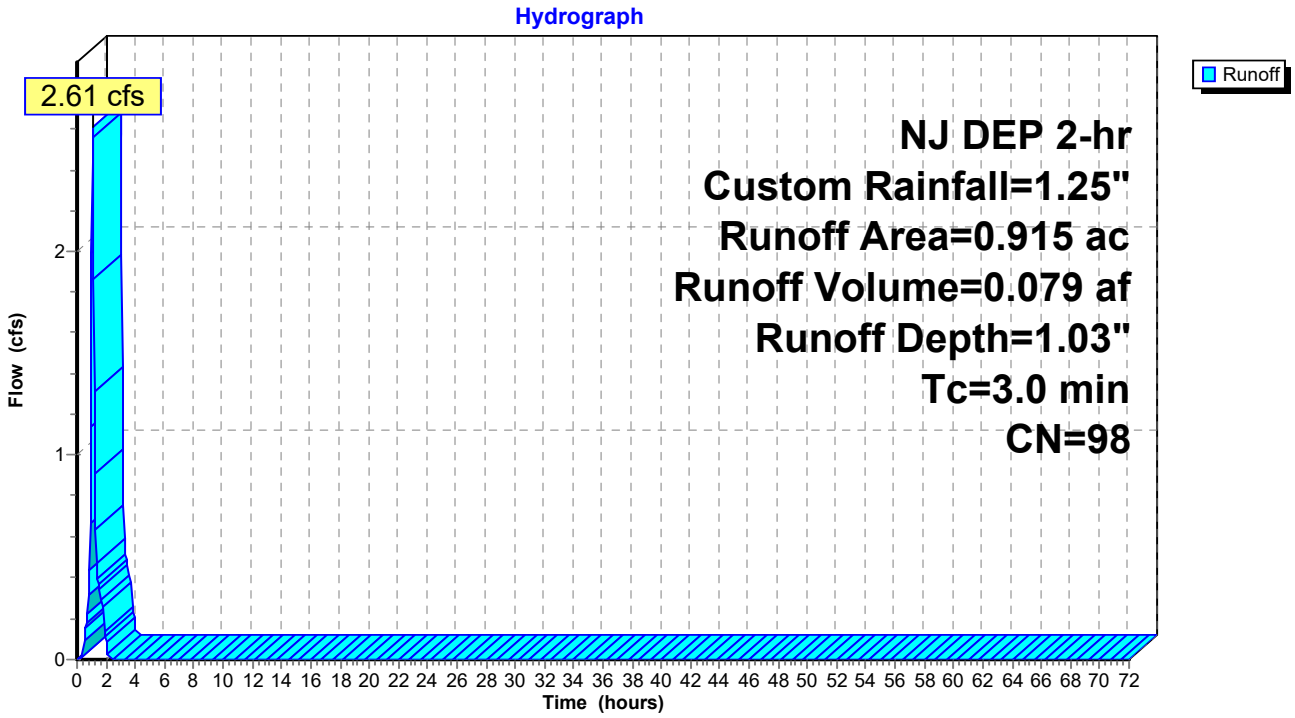
Runoff = 2.61 cfs @ 1.08 hrs, Volume= 0.079 af, Depth= 1.03"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.915	98	Impervious
	0.915		100.00% Impervious Area

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

Subcatchment 76S: Basin 25 - Impervious



Summary for Subcatchment 77S: Basin 25 - Pervious

[45] Hint: Runoff=Zero

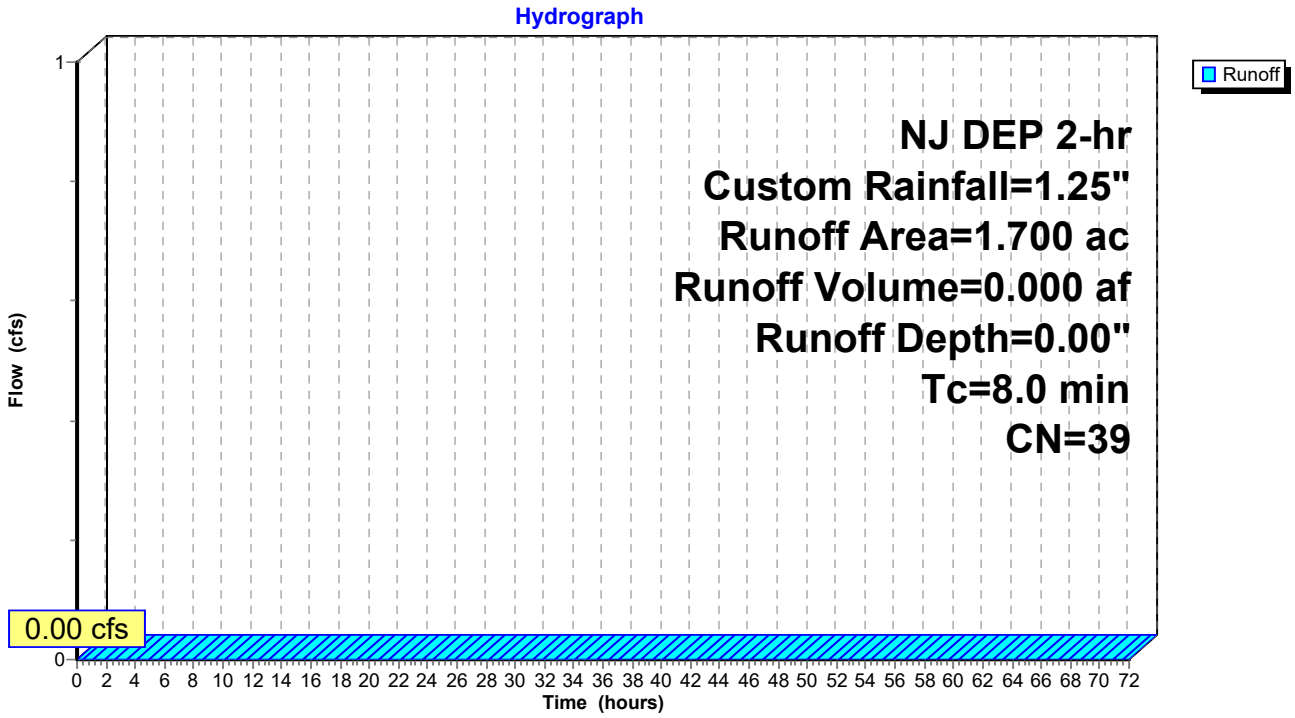
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 75P : Basin 25

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.700	39	>75% Grass cover, Good, HSG A
1.700		100.00% Pervious Area

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

Subcatchment 77S: Basin 25 - Pervious



Summary for Pond 78P: Basin 24

Inflow Area = 2.540 ac, 35.00% Impervious, Inflow Depth = 0.36" for Custom event
Inflow = 2.54 cfs @ 1.08 hrs, Volume= 0.077 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 30.71' @ 2.40 hrs Surf.Area= 5,356 sf Storage= 3,339 cf

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

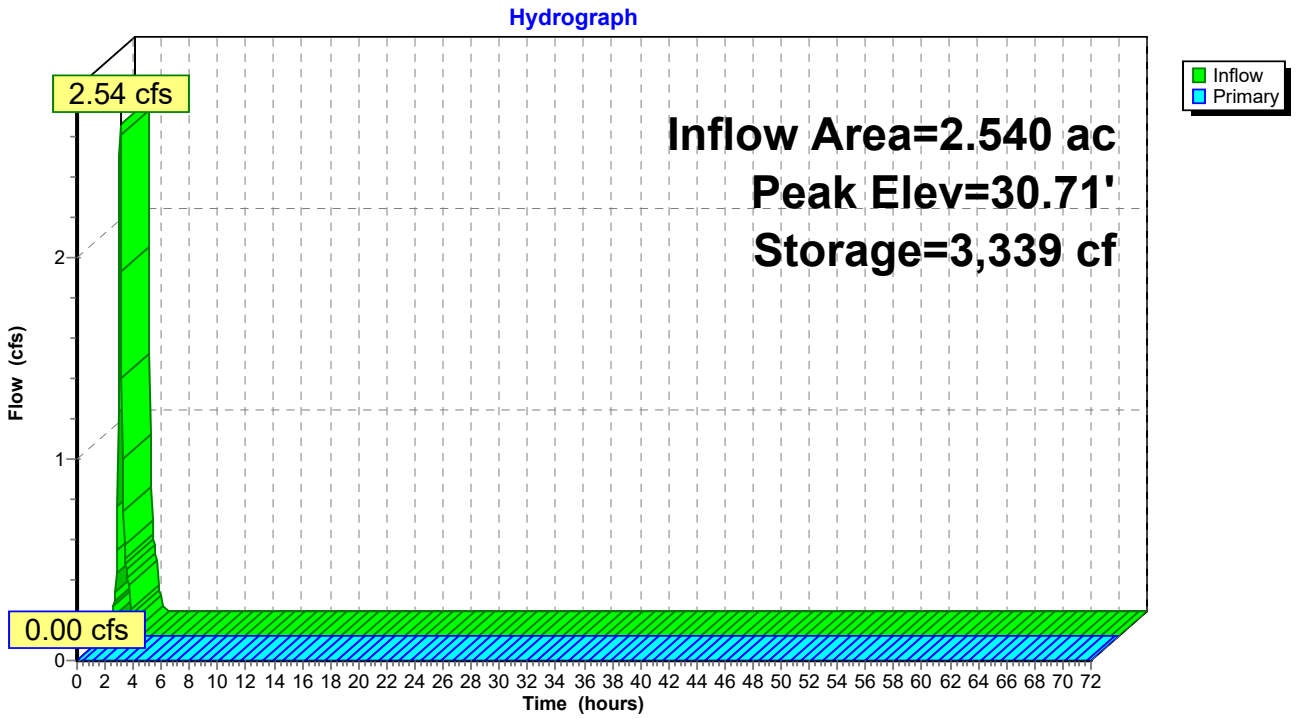
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	16,275 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.00	4,000	0	0
31.00	5,900	4,950	4,950
32.00	8,000	6,950	11,900
32.50	9,500	4,375	16,275

Device	Routing	Invert	Outlet Devices
#1	Primary	30.72'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=30.00' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 78P: Basin 24



Summary for Pond 79P: Basin 34

Inflow Area = 2.597 ac, 29.03% Impervious, Inflow Depth = 0.30" for Custom event
Inflow = 2.15 cfs @ 1.08 hrs, Volume= 0.065 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.46' @ 2.40 hrs Surf.Area= 6,747 sf Storage= 2,832 cf

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

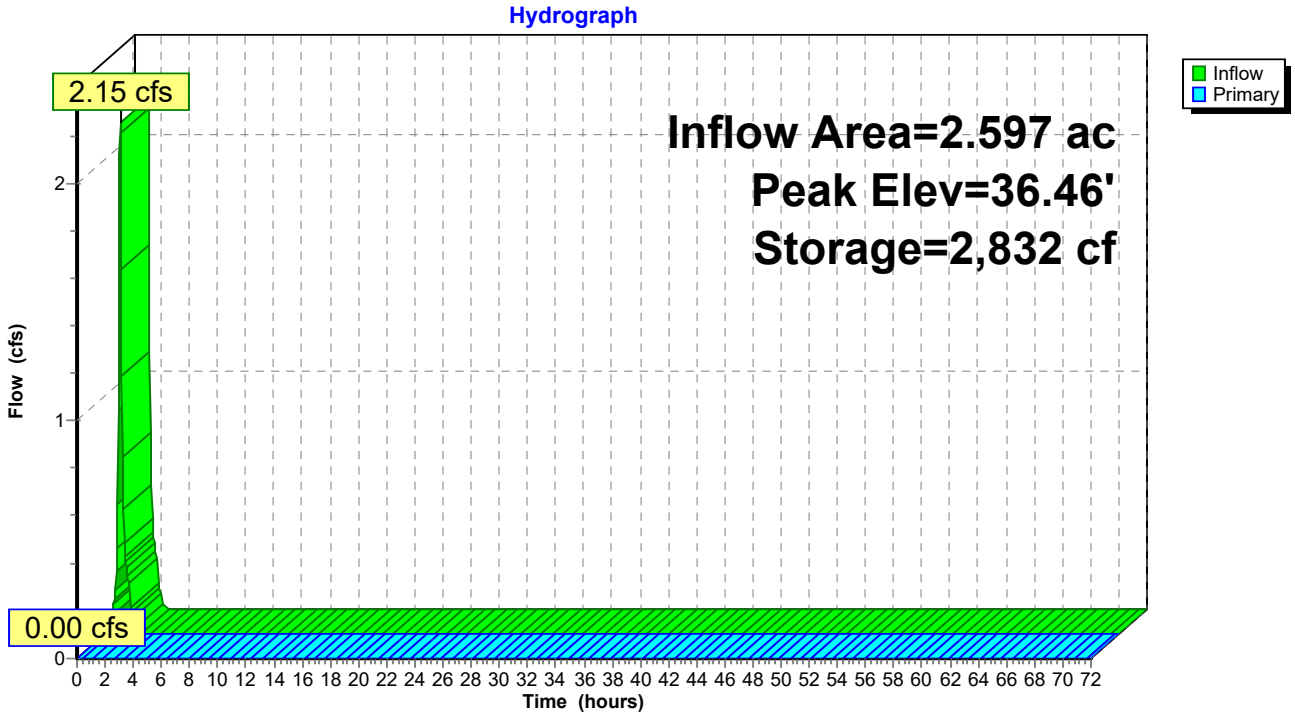
Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	11,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
36.00	5,700	0	0
37.00	8,000	6,850	6,850
37.50	9,400	4,350	11,200

Device	Routing	Invert	Outlet Devices
#1	Primary	36.46'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=36.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 79P: Basin 34



Summary for Subcatchment 79S: Basin 24 - Impervious

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

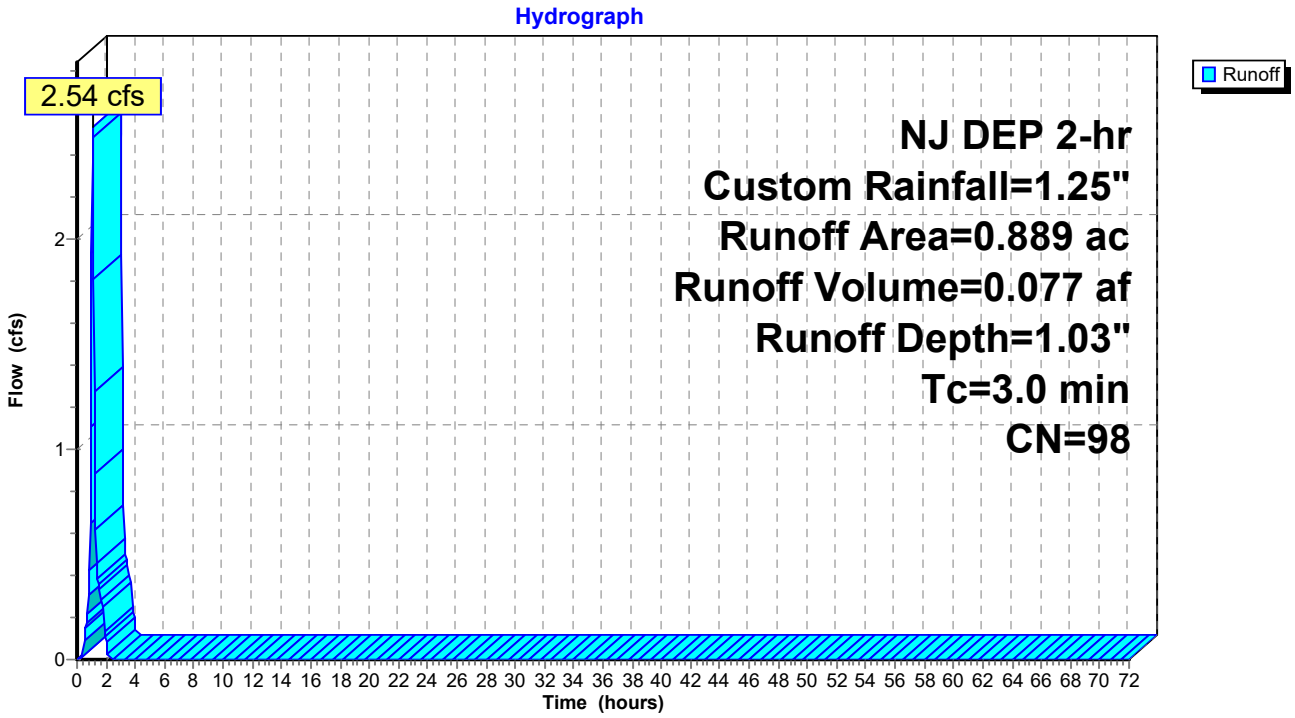
Runoff = 2.54 cfs @ 1.08 hrs, Volume= 0.077 af, Depth= 1.03"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.889	98	Impervious
	0.889		100.00% Impervious Area

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

Subcatchment 79S: Basin 24 - Impervious



Summary for Pond 80P: Basin 35

Inflow Area = 14.918 ac, 10.66% Impervious, Inflow Depth = 0.11" for Custom event
Inflow = 4.26 cfs @ 1.09 hrs, Volume= 0.137 af
Outflow = 0.01 cfs @ 2.27 hrs, Volume= 0.000 af, Atten= 100%, Lag= 70.6 min
Primary = 0.01 cfs @ 2.27 hrs, Volume= 0.000 af
Routed to nonexistent node 77P

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 39.88' @ 2.27 hrs Surf.Area= 7,662 sf Storage= 5,972 cf

Plug-Flow detention time= 126.7 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 78.6 min (149.5 - 70.9)

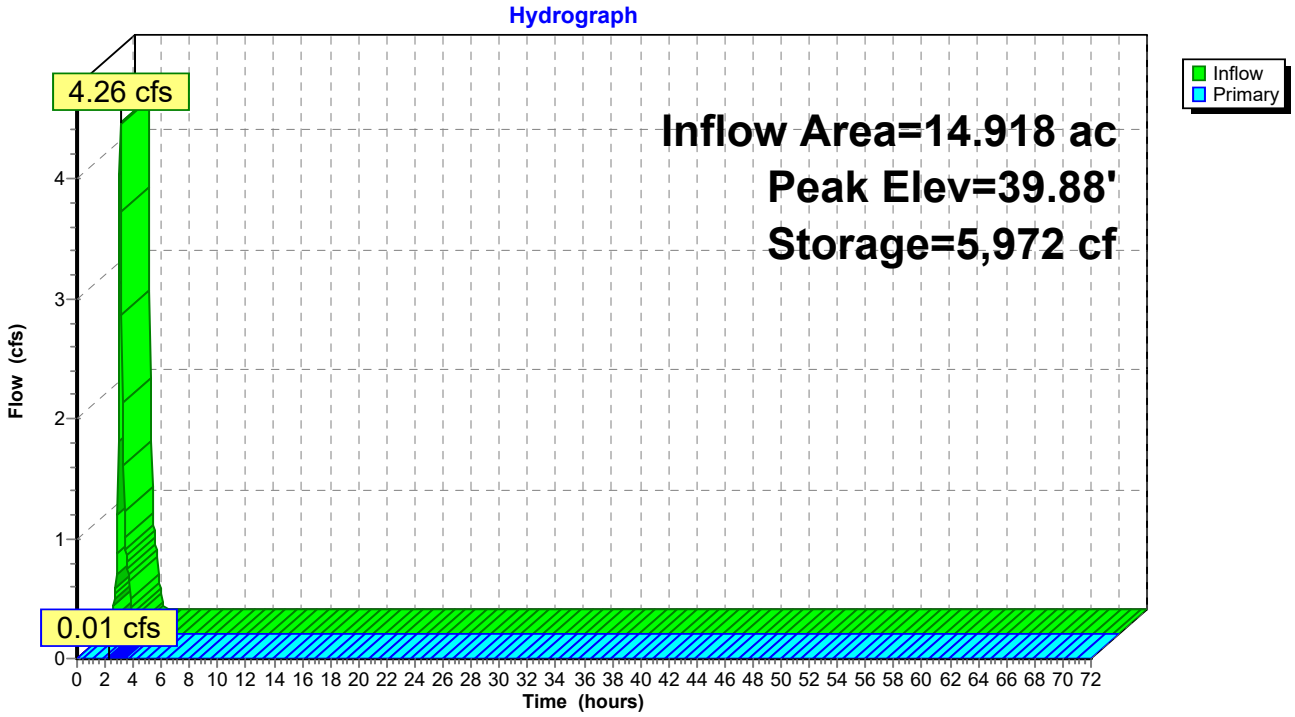
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	21,200 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	5,900	0	0
40.00	7,900	6,900	6,900
41.00	10,000	8,950	15,850
41.50	11,400	5,350	21,200

Device	Routing	Invert	Outlet Devices
#1	Primary	39.88'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.27 hrs HW=39.88' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.09 fps)

Pond 80P: Basin 35



Summary for Subcatchment 80S: Basin 24 - Pervious

[45] Hint: Runoff=Zero

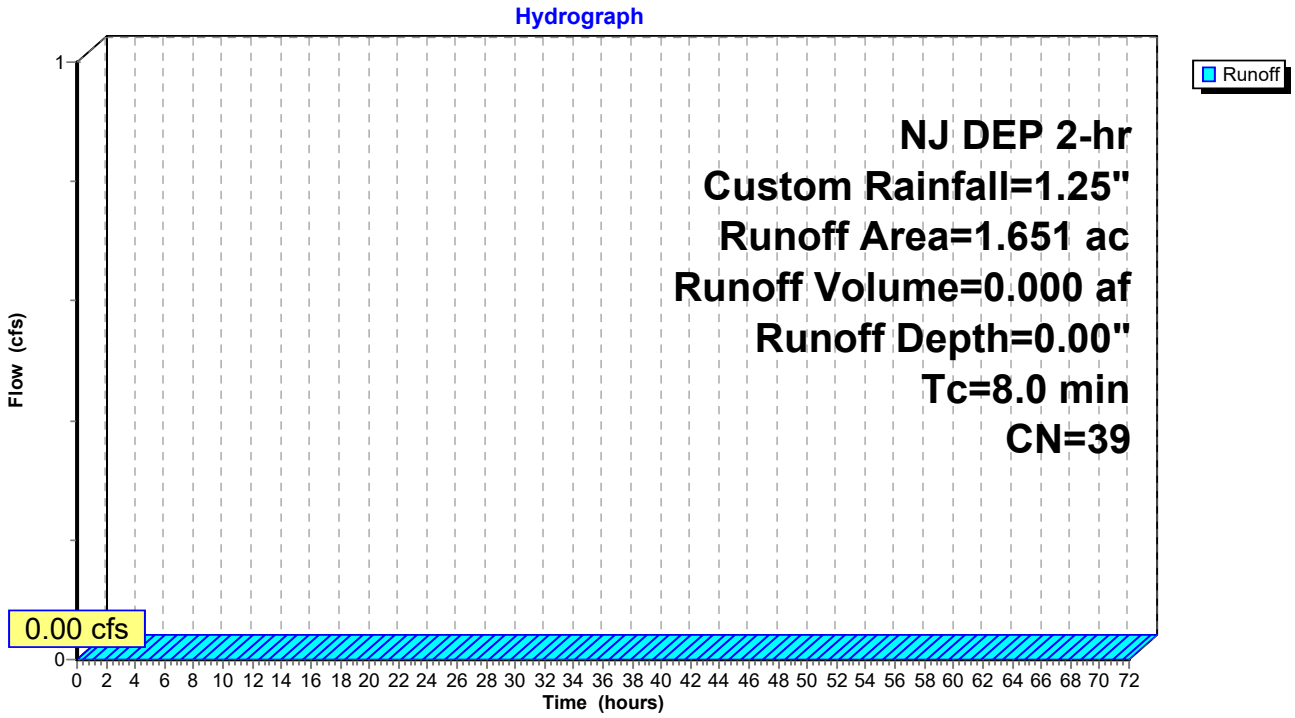
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 78P : Basin 24

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.651	39	>75% Grass cover, Good, HSG A
1.651		100.00% Pervious Area

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

Subcatchment 80S: Basin 24 - Pervious



Summary for Pond 81P: Basin 27

Inflow Area = 2.640 ac, 14.43% Impervious, Inflow Depth = 0.15" for Custom event
Inflow = 1.09 cfs @ 1.08 hrs, Volume= 0.033 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.90' @ 2.40 hrs Surf.Area= 3,798 sf Storage= 1,431 cf

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

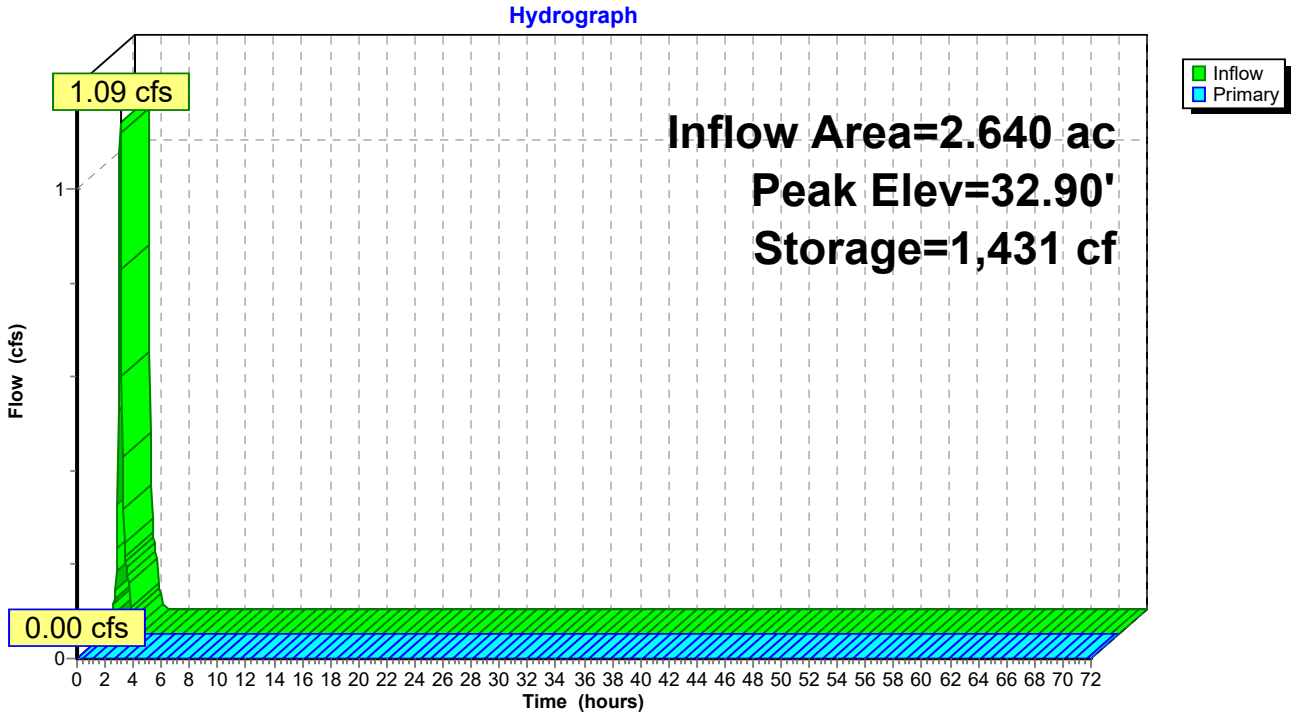
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	9,875 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
32.50	3,400	0	0
33.00	3,900	1,825	1,825
34.00	5,800	4,850	6,675
34.50	7,000	3,200	9,875

Device	Routing	Invert	Outlet Devices
#1	Primary	32.90'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.50' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 81P: Basin 27



Summary for Pond 82P: Basin 36

Inflow Area = 1.697 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 4.04 cfs @ 1.10 hrs, Volume= 0.146 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 77P

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.27' @ 2.95 hrs Surf.Area= 6,059 sf Storage= 6,373 cf

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

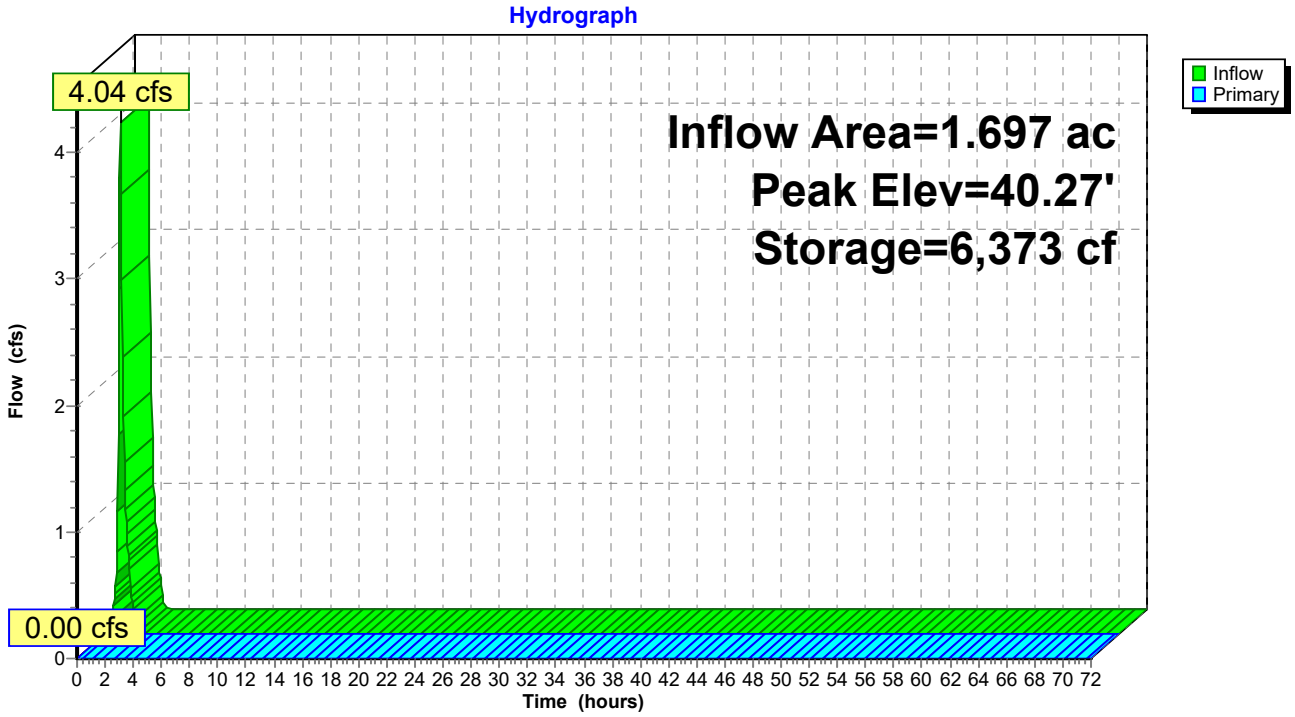
Volume	Invert	Avail.Storage	Storage Description
#1	39.00'	15,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
39.00	4,000	0	0
40.00	5,600	4,800	4,800
41.00	7,300	6,450	11,250
41.50	8,200	3,875	15,125

Device	Routing	Invert	Outlet Devices
#1	Primary	40.27'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=39.00' (Free Discharge)
↑—**1=Orifice/Grate** (Controls 0.00 cfs)

Pond 82P: Basin 36



Summary for Subcatchment 82S: Basin 27 - Impervious

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

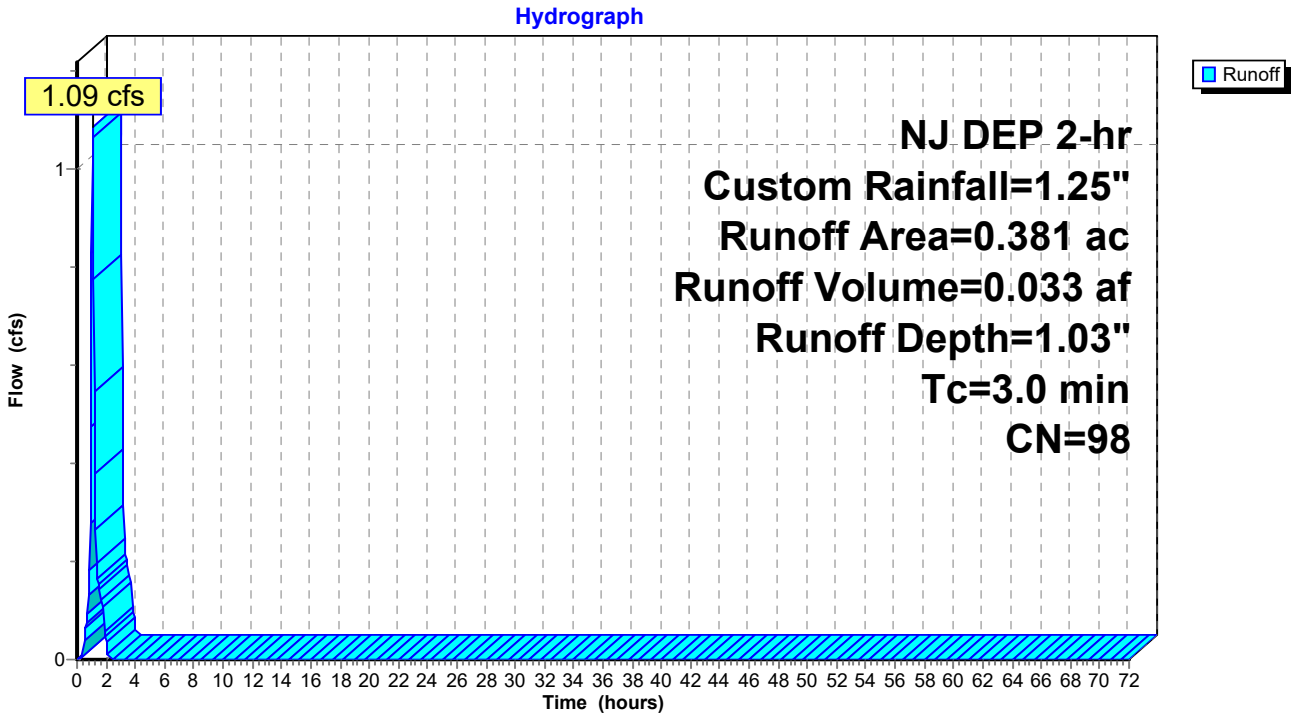
Runoff = 1.09 cfs @ 1.08 hrs, Volume= 0.033 af, Depth= 1.03"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.381	98	
	0.381		100.00% Impervious Area

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

Subcatchment 82S: Basin 27 - Impervious



Summary for Subcatchment 83S: Basin 27 - Pervious

[45] Hint: Runoff=Zero

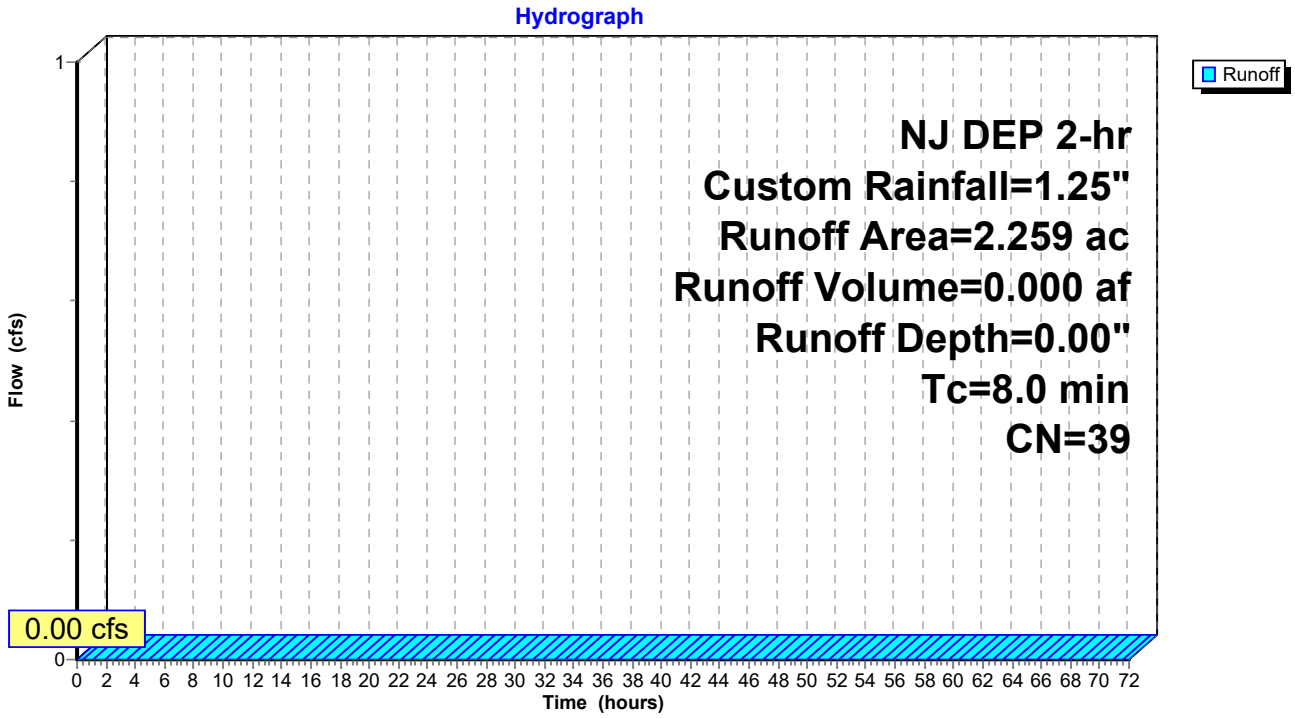
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 81P : Basin 27

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.259	39	>75% Grass cover, Good, HSG A
2.259		100.00% Pervious Area

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

Subcatchment 83S: Basin 27 - Pervious



Summary for Subcatchment 84S: Basin 29 - Impervious

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

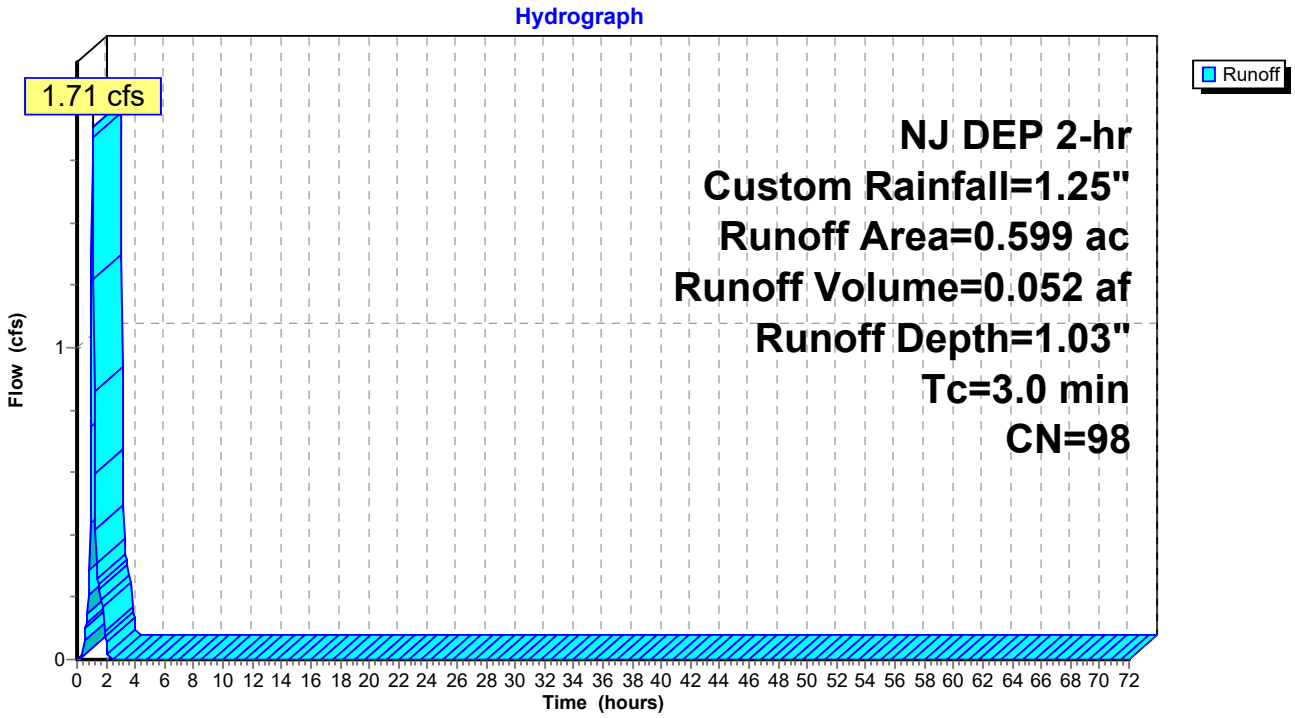
Runoff = 1.71 cfs @ 1.08 hrs, Volume= 0.052 af, Depth= 1.03"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.599	98	Impervious
	0.599		100.00% Impervious Area

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

Subcatchment 84S: Basin 29 - Impervious



Summary for Pond 85P: Basin 28

Inflow Area = 1.744 ac, 35.03% Impervious, Inflow Depth = 0.36" for Custom event
Inflow = 1.73 cfs @ 1.08 hrs, Volume= 0.053 af
Outflow = 0.01 cfs @ 2.14 hrs, Volume= 0.000 af, Atten= 99%, Lag= 63.4 min
Primary = 0.01 cfs @ 2.14 hrs, Volume= 0.000 af
Routed to nonexistent node 86L

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 29.40' @ 2.14 hrs Surf.Area= 3,082 sf Storage= 2,291 cf

Plug-Flow detention time= 109.2 min calculated for 0.000 af (0% of inflow)
Center-of-Mass det. time= 63.8 min (133.4 - 69.6)

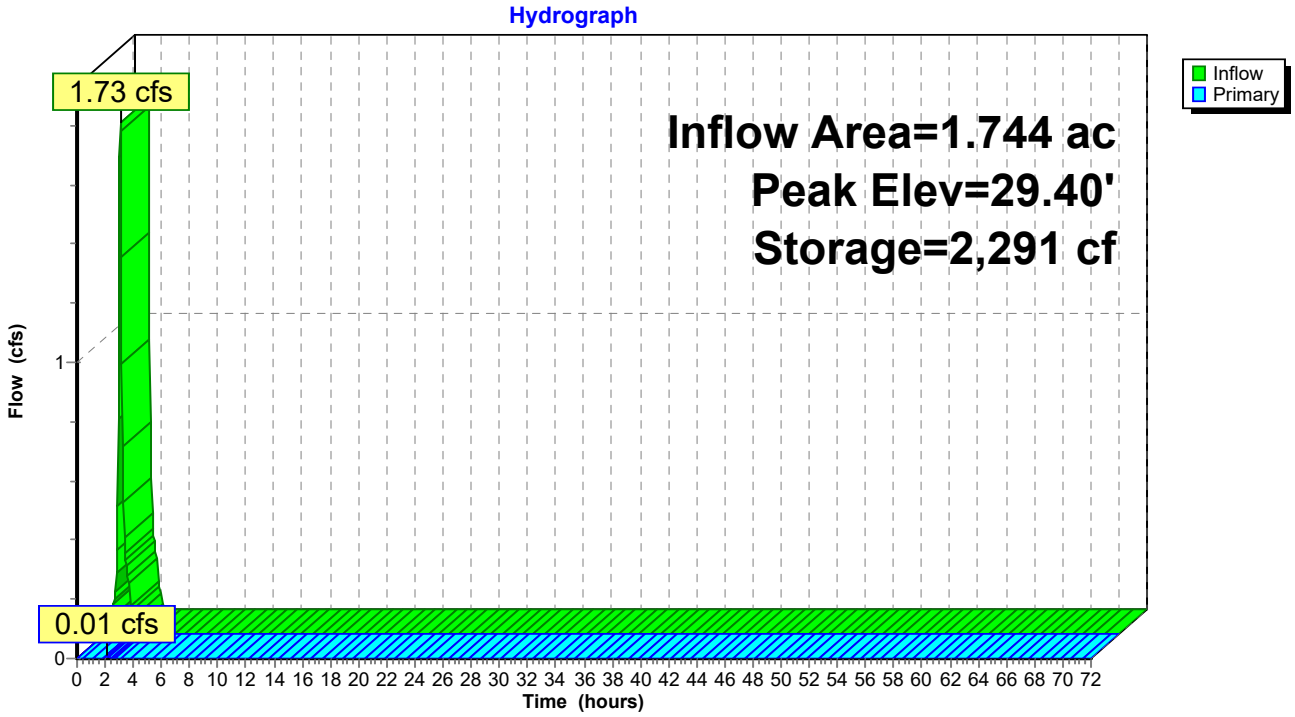
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	6,450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
28.50	2,000	0	0
29.00	2,600	1,150	1,150
30.00	3,800	3,200	4,350
30.50	4,600	2,100	6,450

Device	Routing	Invert	Outlet Devices
#1	Primary	29.40'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 2.14 hrs HW=29.40' (Free Discharge)
↑—**1=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.12 fps)

Pond 85P: Basin 28



Summary for Subcatchment 85S: Basin 29 - Pervious

[45] Hint: Runoff=Zero

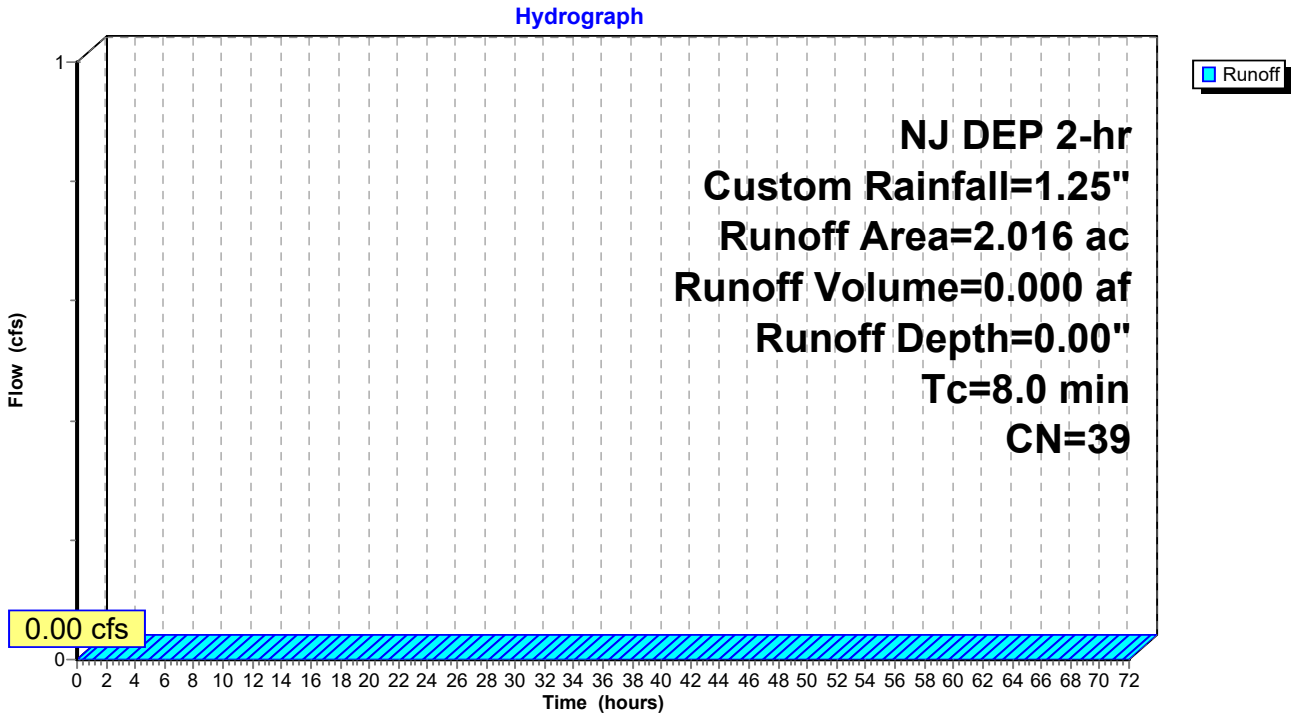
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 70P : Basin 29

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.016	39	>75% Grass cover, Good, HSG A
2.016		100.00% Pervious Area

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

Subcatchment 85S: Basin 29 - Pervious



Summary for Subcatchment 86S: Basin 28 - Impervious

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

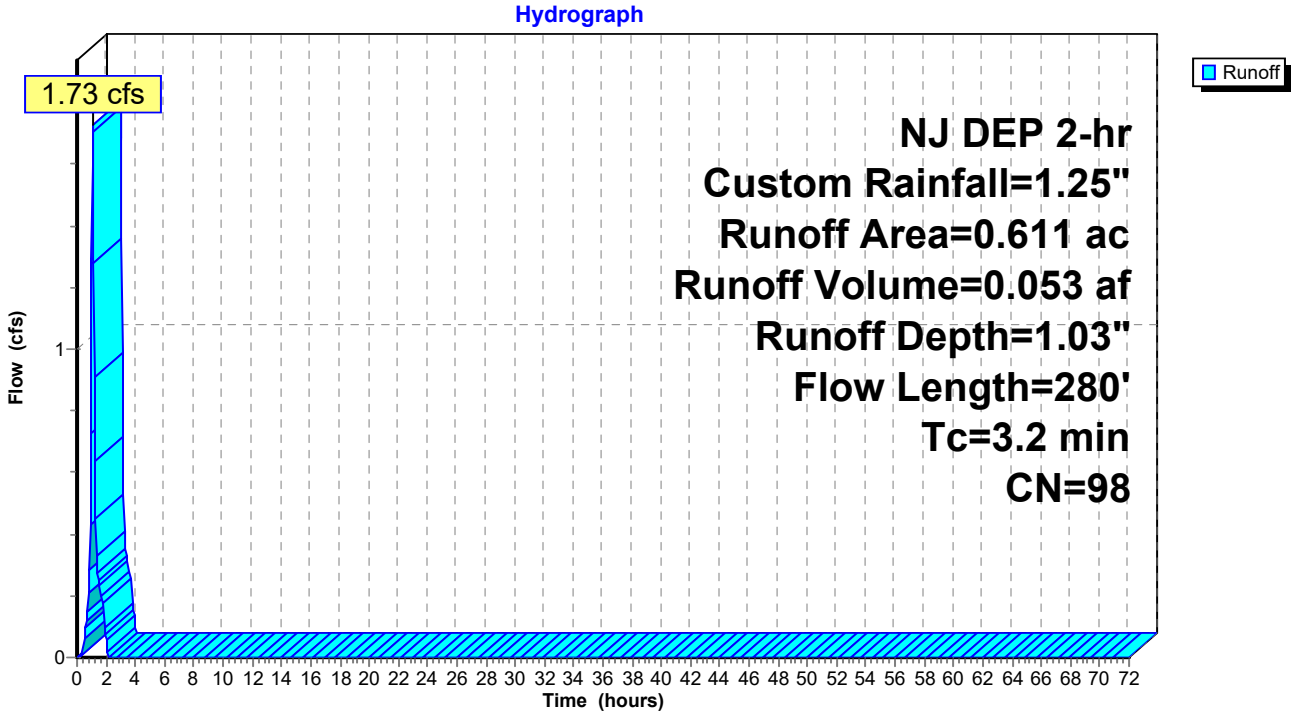
Runoff = 1.73 cfs @ 1.08 hrs, Volume= 0.053 af, Depth= 1.03"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.611	98	Impervious
	0.611		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
1.5	150	0.0070	1.70		**Shallow Concentrated Flow, B to C** Paved Kv= 20.3 fps
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
3.2	280	Total			

Subcatchment 86S: Basin 28 - Impervious



Summary for Pond 87P: Basin 39

Inflow Area = 2.597 ac, 42.97% Impervious, Inflow Depth = 0.44" for Custom event
Inflow = 3.19 cfs @ 1.08 hrs, Volume= 0.096 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 86L

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 31.39' @ 2.40 hrs Surf.Area= 4,167 sf Storage= 4,191 cf

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

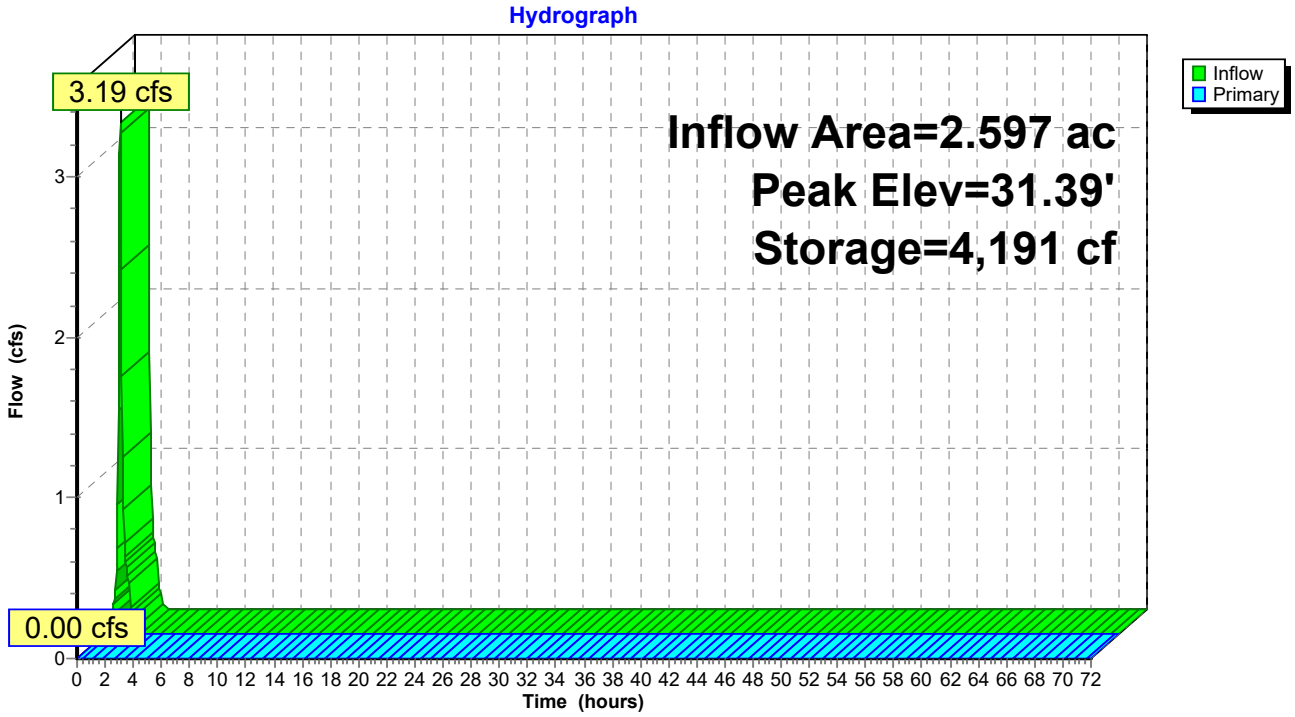
Volume	Invert	Avail.Storage	Storage Description
#1	30.24'	15,610 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
30.24	3,300	0	0
31.00	3,700	2,660	2,660
32.00	4,900	4,300	6,960
33.00	6,000	5,450	12,410
33.50	6,800	3,200	15,610

Device	Routing	Invert	Outlet Devices
#1	Primary	31.98'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=30.24' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 87P: Basin 39



Summary for Subcatchment 87S: Basin 28 - Pervious

[45] Hint: Runoff=Zero

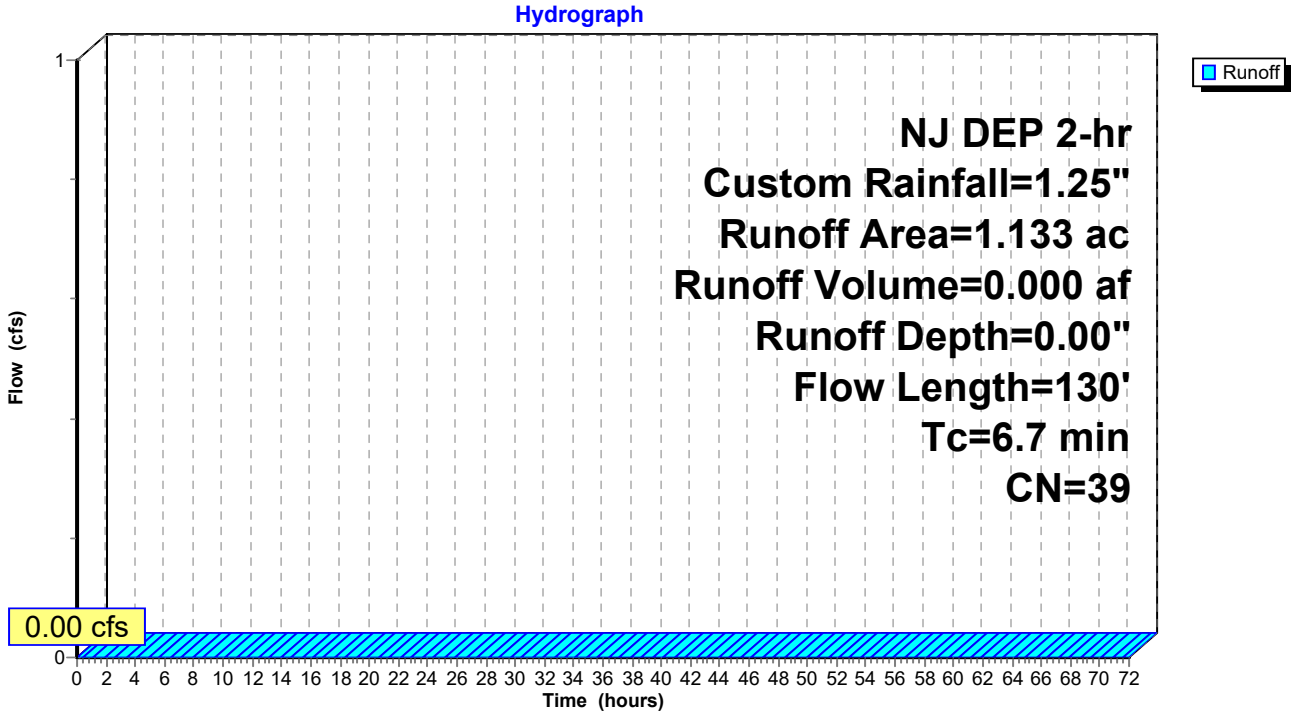
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 85P : Basin 28

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.133	39	>75% Grass cover, Good, HSG A
1.133		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	70	0.0250	0.19		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
0.6	30	0.0070	0.80		**Sheet Flow, B to C** Smooth surfaces n= 0.011 P2= 4.04"
0.1	30	0.0050	4.84	5.94	**Pipe Channel, C to D** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
6.7	130	Total			

Subcatchment 87S: Basin 28 - Pervious



Summary for Pond 88P: Basin 22

Inflow Area = 2.491 ac, 29.99% Impervious, Inflow Depth = 0.31" for Custom event
Inflow = 2.13 cfs @ 1.08 hrs, Volume= 0.064 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.95' @ 2.40 hrs Surf.Area= 3,535 sf Storage= 2,805 cf

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

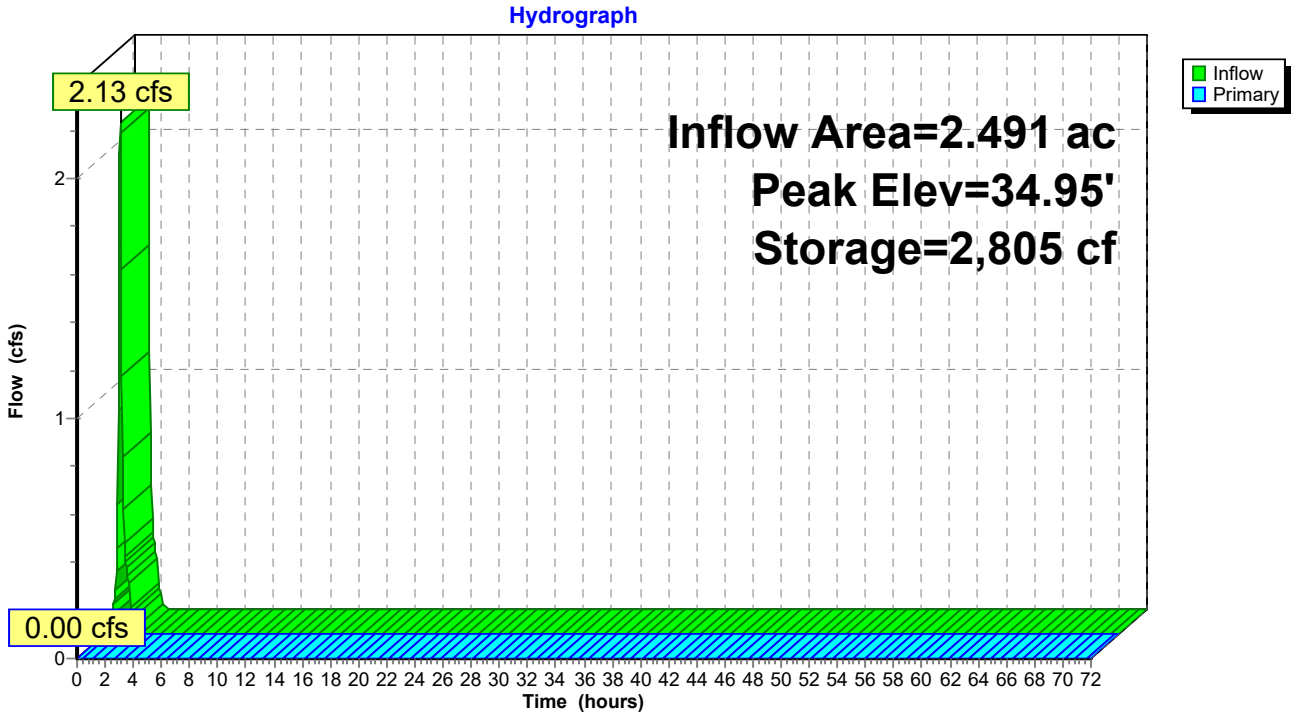
Volume	Invert	Avail.Storage	Storage Description
#1	34.00'	12,050 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.00	2,400	0	0
35.00	3,600	3,000	3,000
36.00	6,600	5,100	8,100
36.50	9,200	3,950	12,050

Device	Routing	Invert	Outlet Devices
#1	Primary	34.95'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.70'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=34.00' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

Pond 88P: Basin 22



Summary for Subcatchment 88S: Basin 30 - Impervious

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

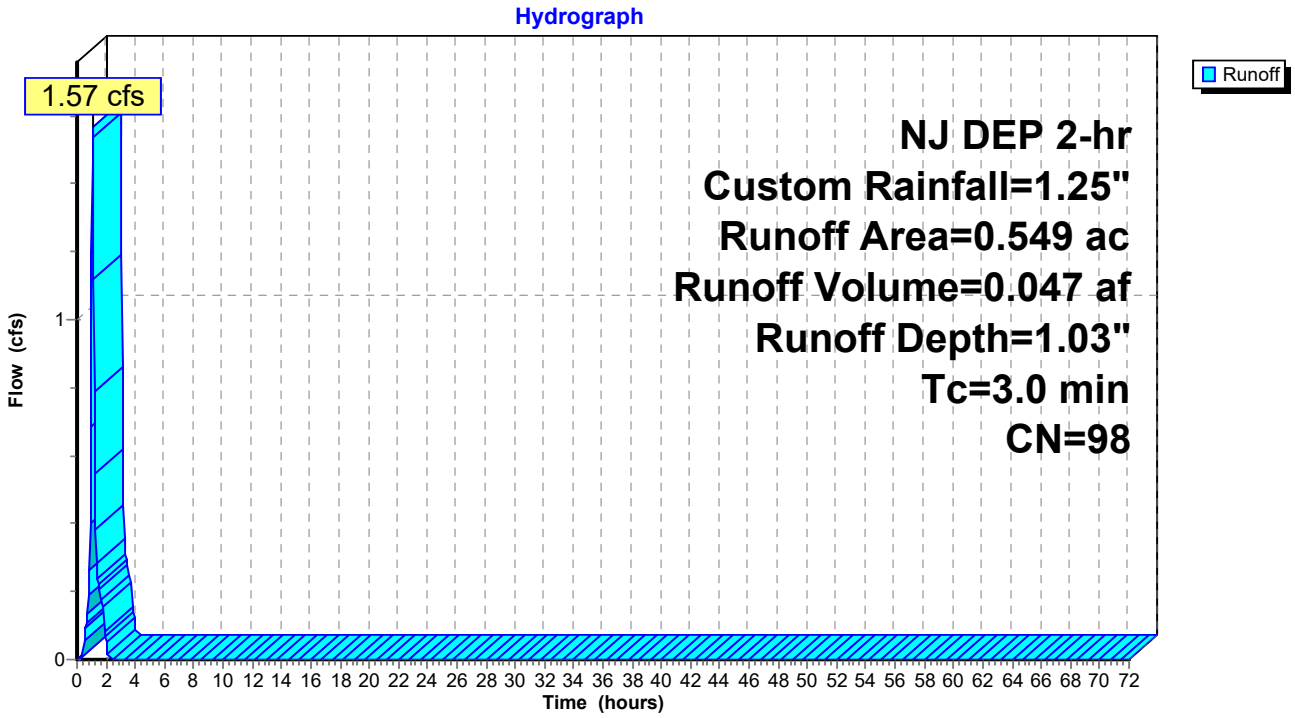
Runoff = 1.57 cfs @ 1.08 hrs, Volume= 0.047 af, Depth= 1.03"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.549	98	Impervious
	0.549		100.00% Impervious Area

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

Subcatchment 88S: Basin 30 - Impervious



Summary for Pond 89P: Drywell 150

Inflow Area = 0.090 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.29 cfs @ 1.03 hrs, Volume= 0.008 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

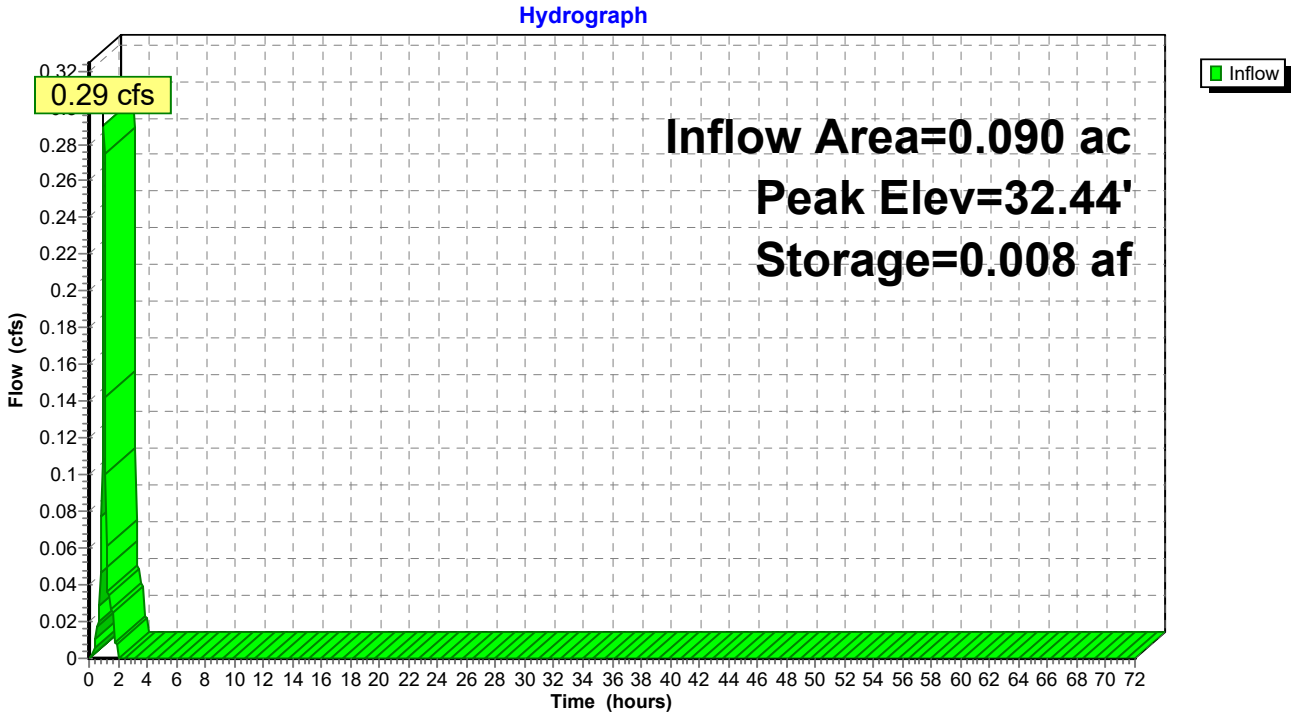
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 32.44' @ 2.05 hrs Surf.Area= 0.006 ac Storage= 0.008 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	30.00'	0.005 af	**4.00'W x 61.67'L x 3.00'H Field A** 0.017 af Overall - 0.005 af Embedded = 0.012 af x 40.0% Voids
#2A	30.33'	0.004 af	**ADS N-12 24"** x 3 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.009 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 89P: Drywell 150



Summary for Subcatchment 89S: Basin 30 - Pervious

[45] Hint: Runoff=Zero

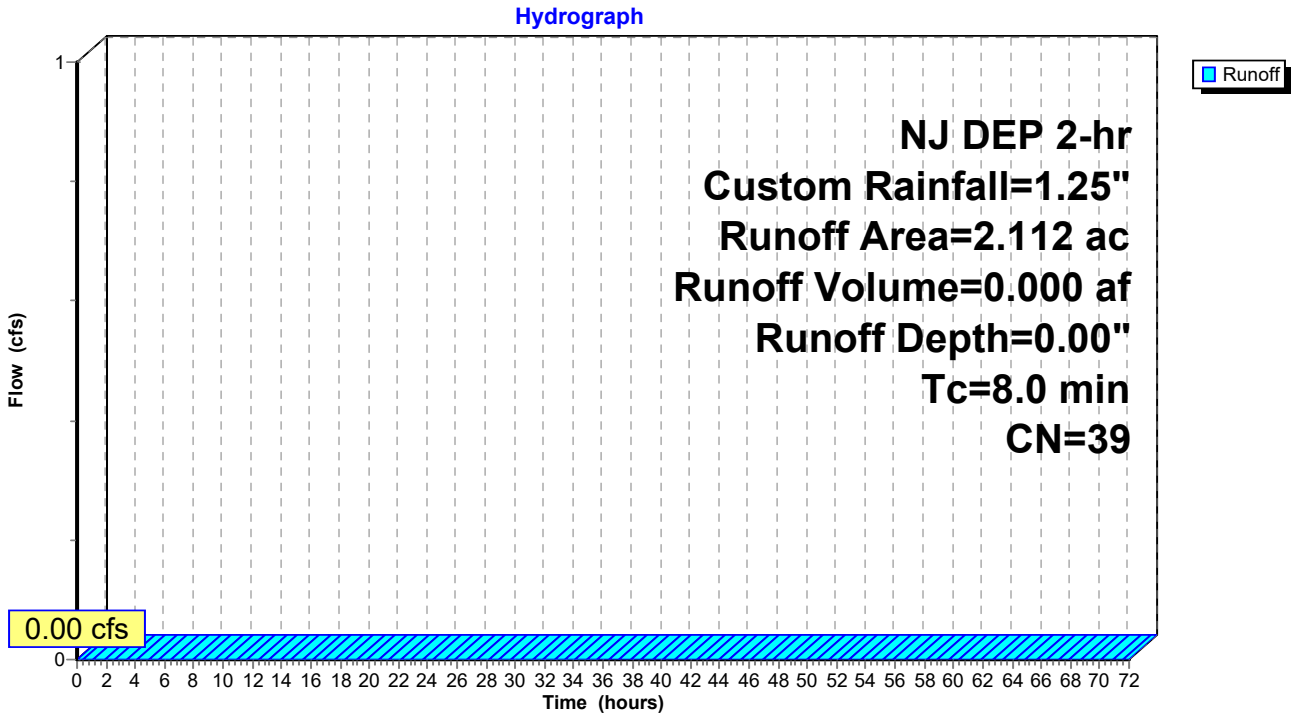
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 67P : Basin 30

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.112	39	>75% Grass cover, Good, HSG A
2.112		100.00% Pervious Area

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

Subcatchment 89S: Basin 30 - Pervious



Summary for Subcatchment 90S: Basin 31 - Pervious

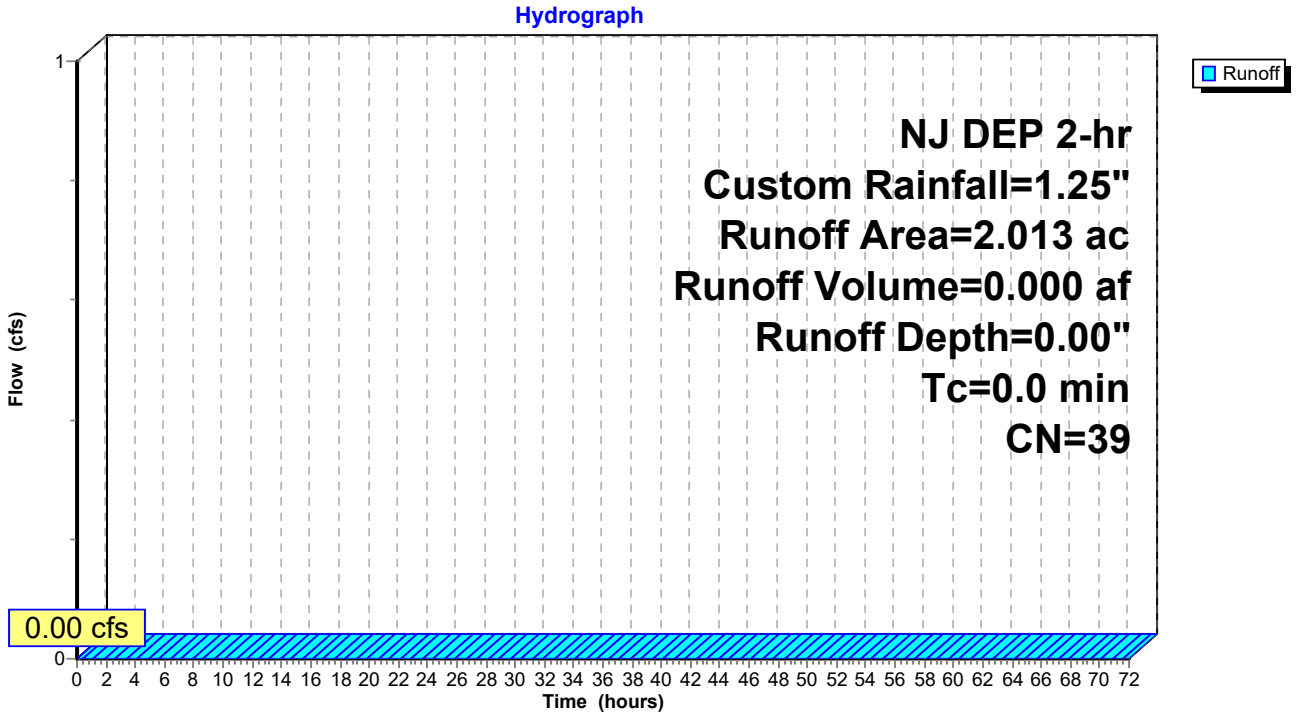
[46] Hint: Tc=0 (Instant runoff peak depends on dt)
[45] Hint: Runoff=Zero

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.013	39	>75% Grass cover, Good, HSG A
2.013		100.00% Pervious Area

Subcatchment 90S: Basin 31 - Pervious



Summary for Subcatchment 91S: Basin 31- Impervious

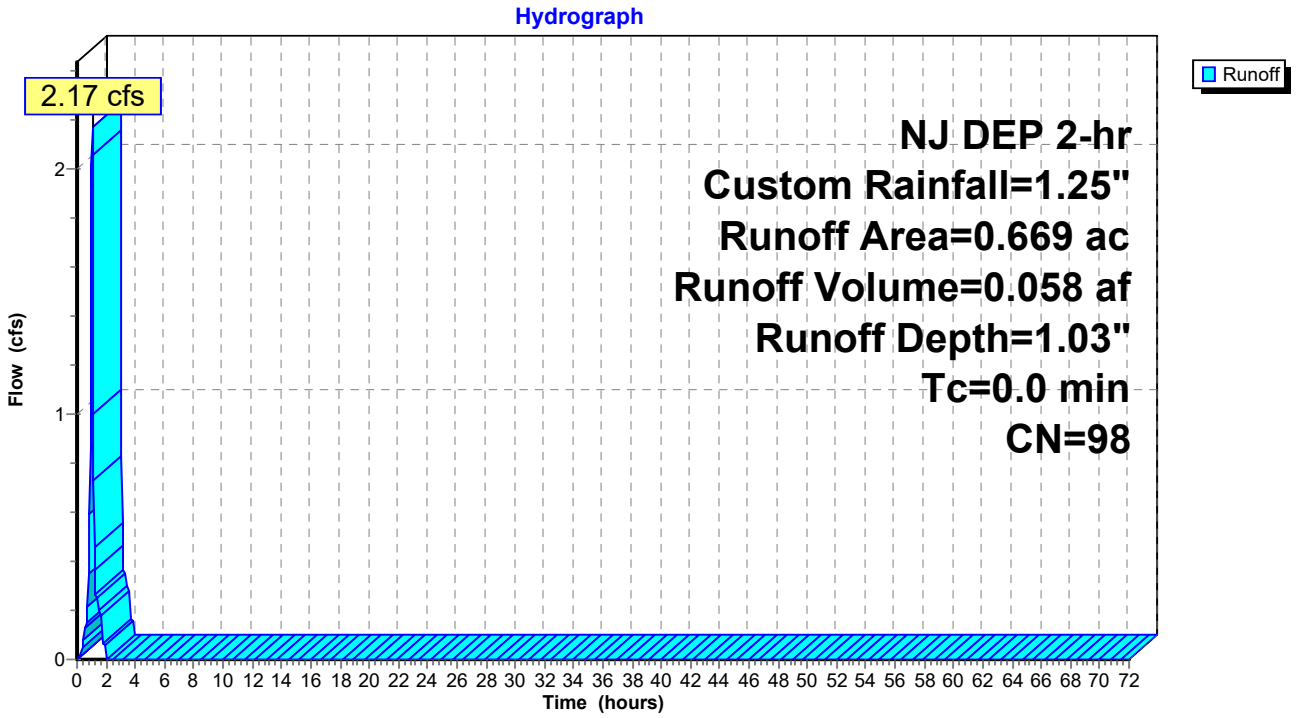
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.17 cfs @ 1.03 hrs, Volume= 0.058 af, Depth= 1.03"
Routed to Pond 66P : Basin 31

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.669	98	Impervious
	0.669		100.00% Impervious Area

Subcatchment 91S: Basin 31- Impervious



Summary for Subcatchment 92S: Basin 33 - Impervious

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

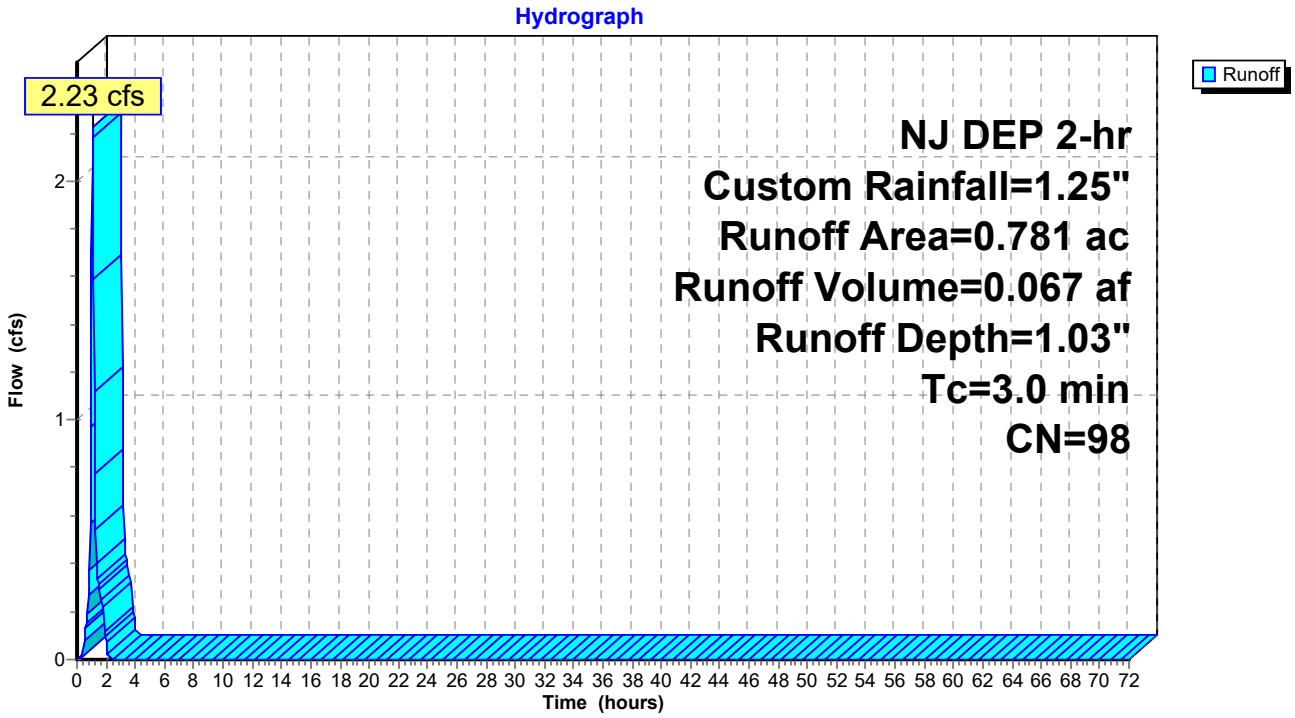
Runoff = 2.23 cfs @ 1.08 hrs, Volume= 0.067 af, Depth= 1.03"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.781	98	Impervious
	0.781		100.00% Impervious Area

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

Subcatchment 92S: Basin 33 - Impervious



Summary for Subcatchment 93S: Basin 33 - Pervious

[45] Hint: Runoff=Zero

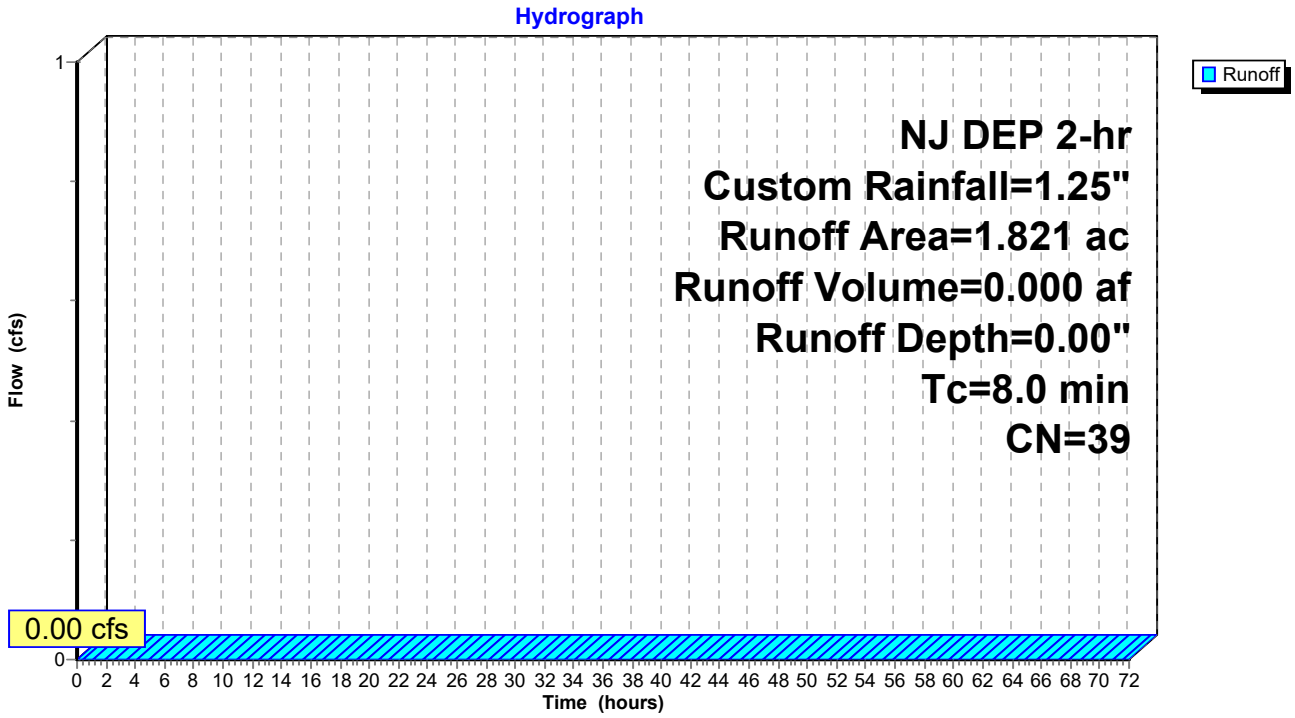
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 71P : Basin 33

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.821	39	>75% Grass cover, Good, HSG A
1.821		100.00% Pervious Area

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

Subcatchment 93S: Basin 33 - Pervious



Summary for Subcatchment 94S: Basin 32 - Impervious

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

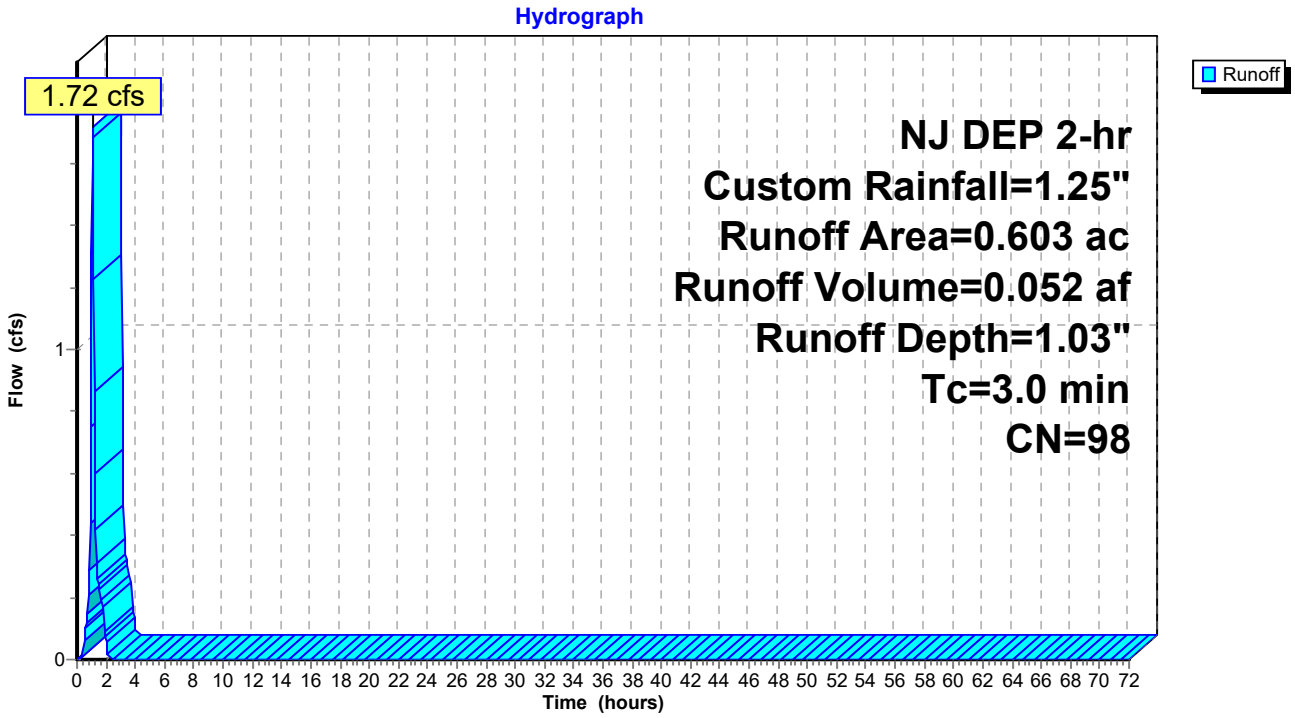
Runoff = 1.72 cfs @ 1.08 hrs, Volume= 0.052 af, Depth= 1.03"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.603	98	Impervious
	0.603		100.00% Impervious Area

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

Subcatchment 94S: Basin 32 - Impervious



Summary for Subcatchment 95S: Basin 32 - Pervious

[45] Hint: Runoff=Zero

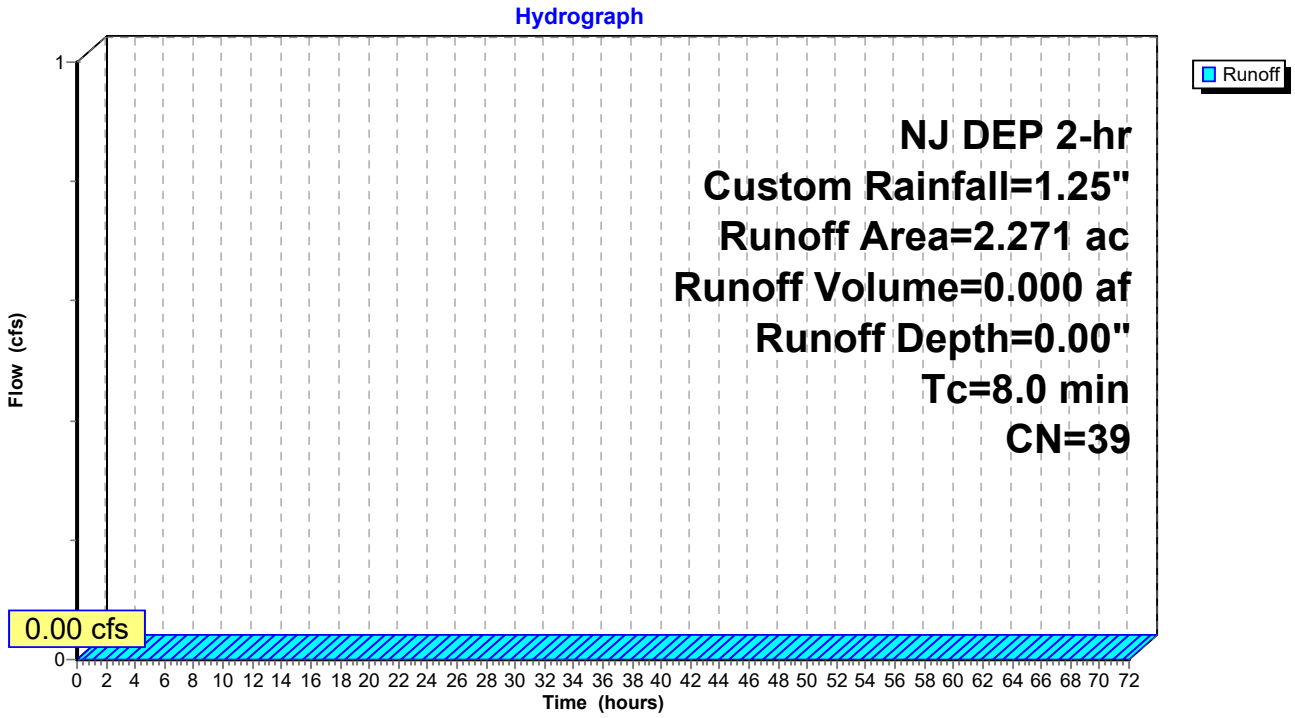
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 73P : Basin 32

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
2.271	39	>75% Grass cover, Good, HSG A
2.271		100.00% Pervious Area

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

Subcatchment 95S: Basin 32 - Pervious



Summary for Subcatchment 96S: Basin 39 - Impervious

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

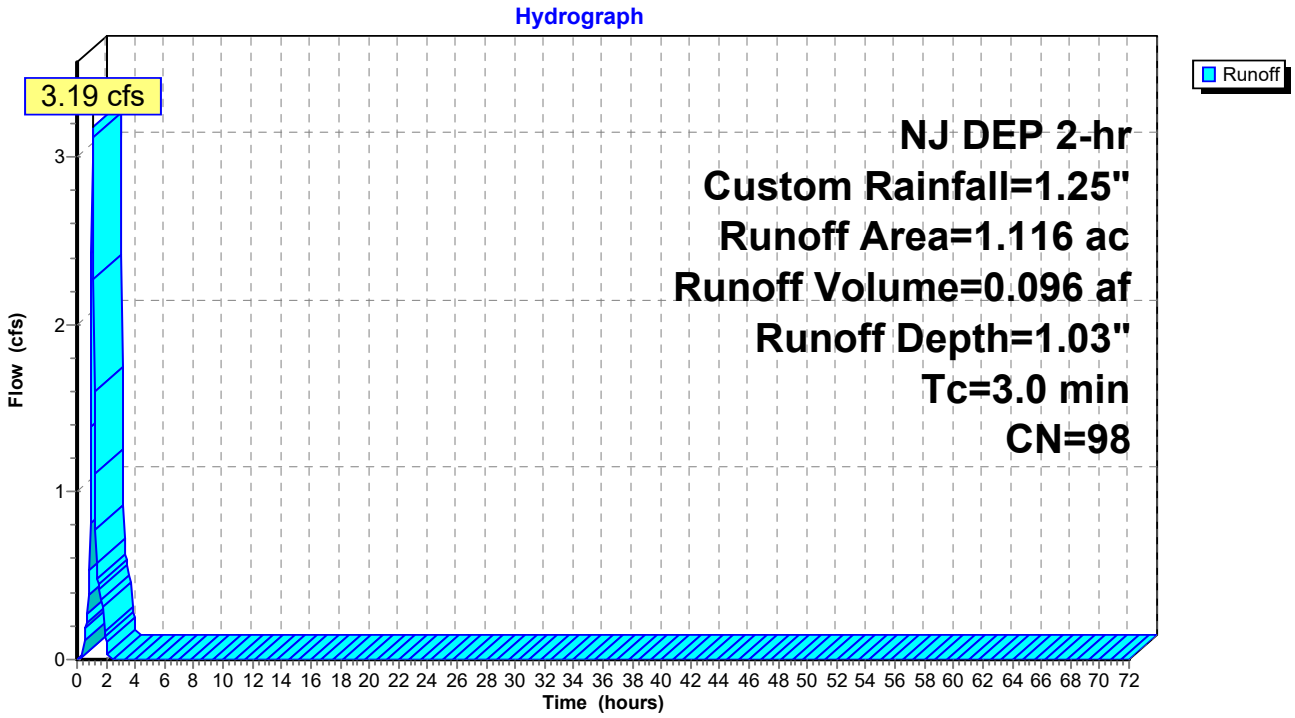
Runoff = 3.19 cfs @ 1.08 hrs, Volume= 0.096 af, Depth= 1.03"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.116	98	Impervious
	1.116		100.00% Impervious Area

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

Subcatchment 96S: Basin 39 - Impervious



Summary for Subcatchment 97S: Basin 39 - Pervious

[45] Hint: Runoff=Zero

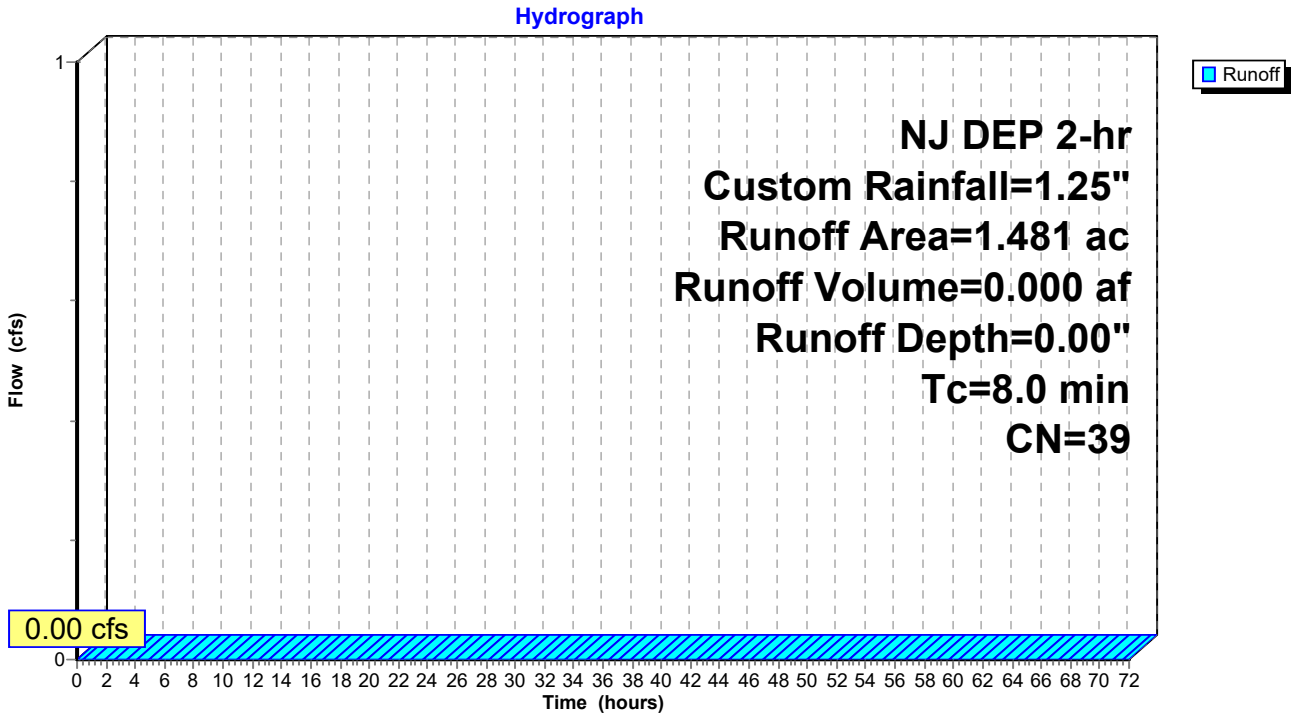
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 87P : Basin 39

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.481	39	>75% Grass cover, Good, HSG A
1.481		100.00% Pervious Area

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

Subcatchment 97S: Basin 39 - Pervious



Summary for Subcatchment 98S: Basin 38 - Impervious

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

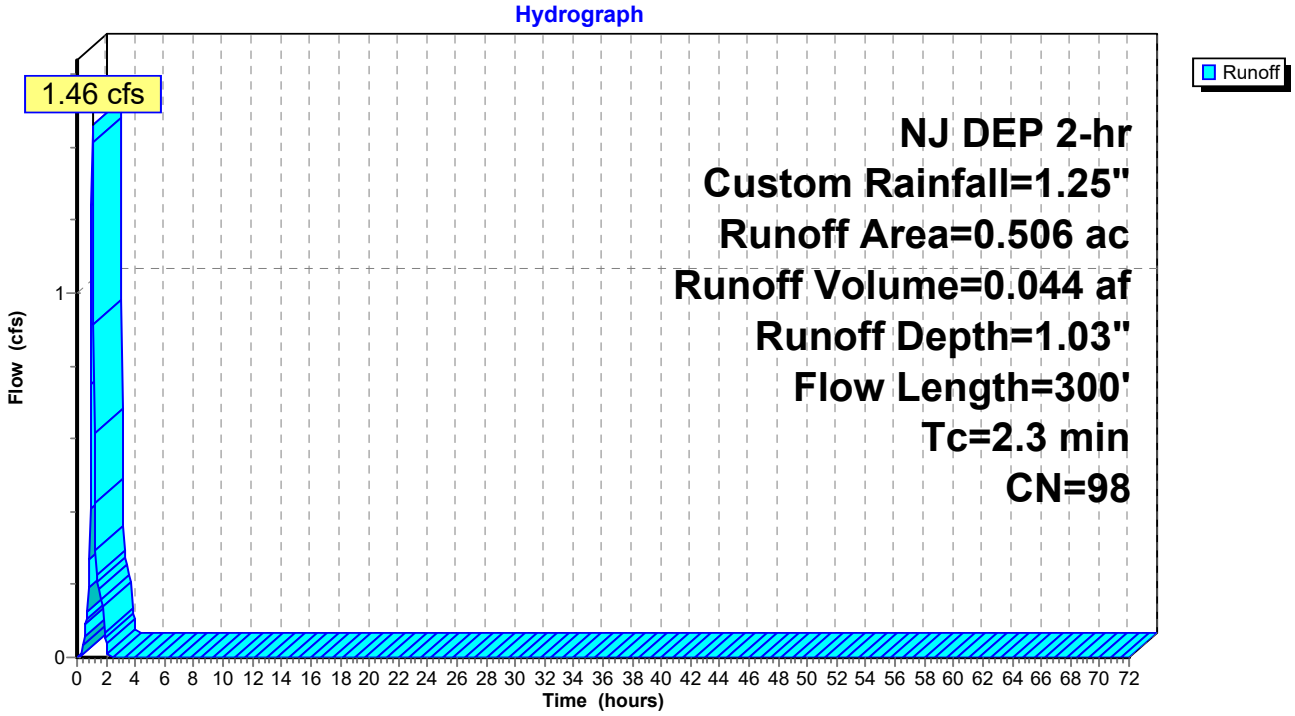
Runoff = 1.46 cfs @ 1.07 hrs, Volume= 0.044 af, Depth= 1.03"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.506	98	Impervious
	0.506		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0070	1.02		**Sheet Flow, A to B** Smooth surfaces n= 0.011 P2= 4.04"
0.7	200	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
2.3	300	Total			

Subcatchment 98S: Basin 38 - Impervious



Summary for Subcatchment 99S: Basin 38 - Pervious

[45] Hint: Runoff=Zero

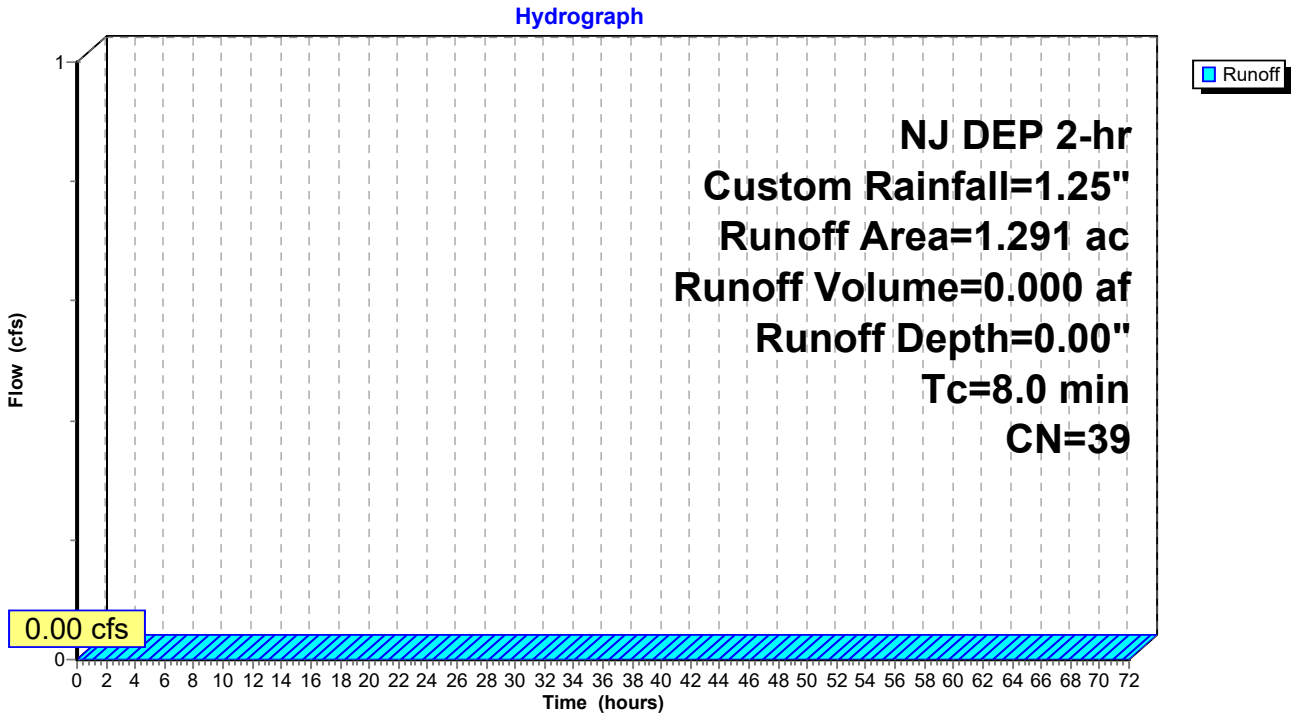
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 76P : Basin 38

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.291	39	>75% Grass cover, Good, HSG A
1.291		100.00% Pervious Area

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

Subcatchment 99S: Basin 38 - Pervious



Summary for Subcatchment 100S: Basin 22 - Impervious

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

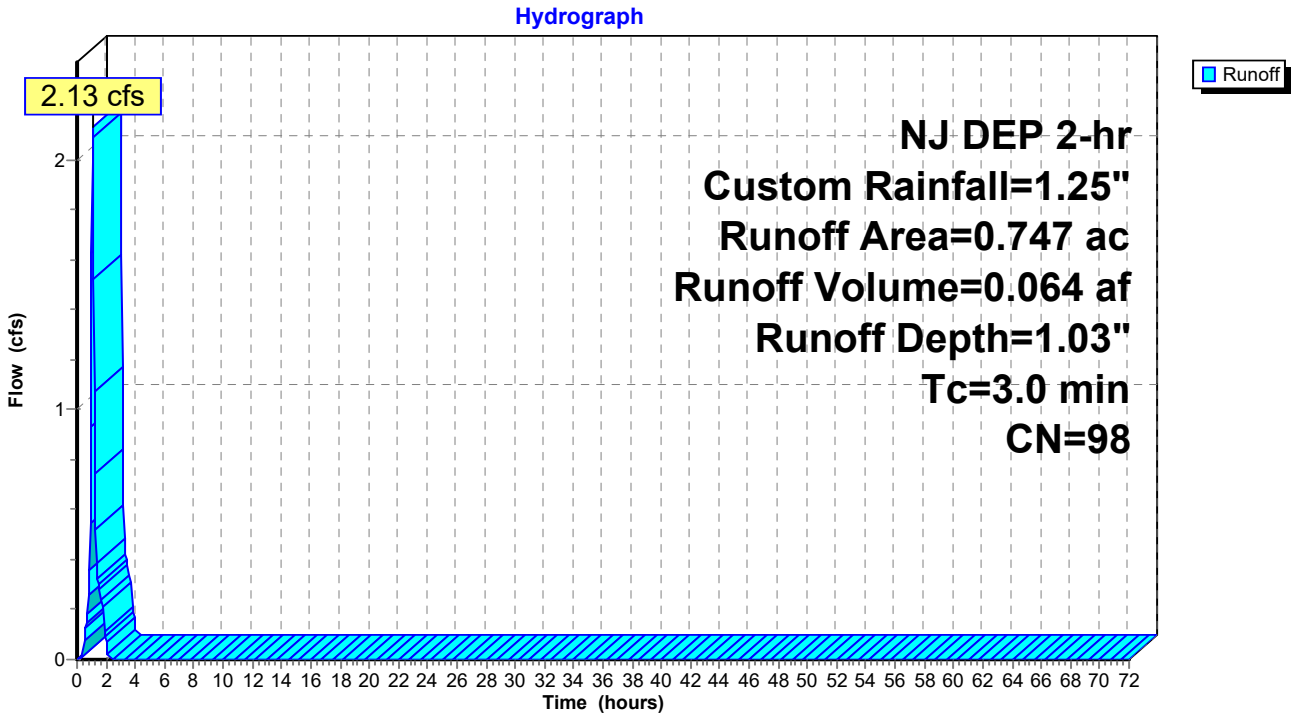
Runoff = 2.13 cfs @ 1.08 hrs, Volume= 0.064 af, Depth= 1.03"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.747	98	Impervious
	0.747		100.00% Impervious Area

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

Subcatchment 100S: Basin 22 - Impervious



Summary for Subcatchment 101S: Basin 37 - Pervious

[49] Hint: Tc<2dt may require smaller dt
[45] Hint: Runoff=Zero

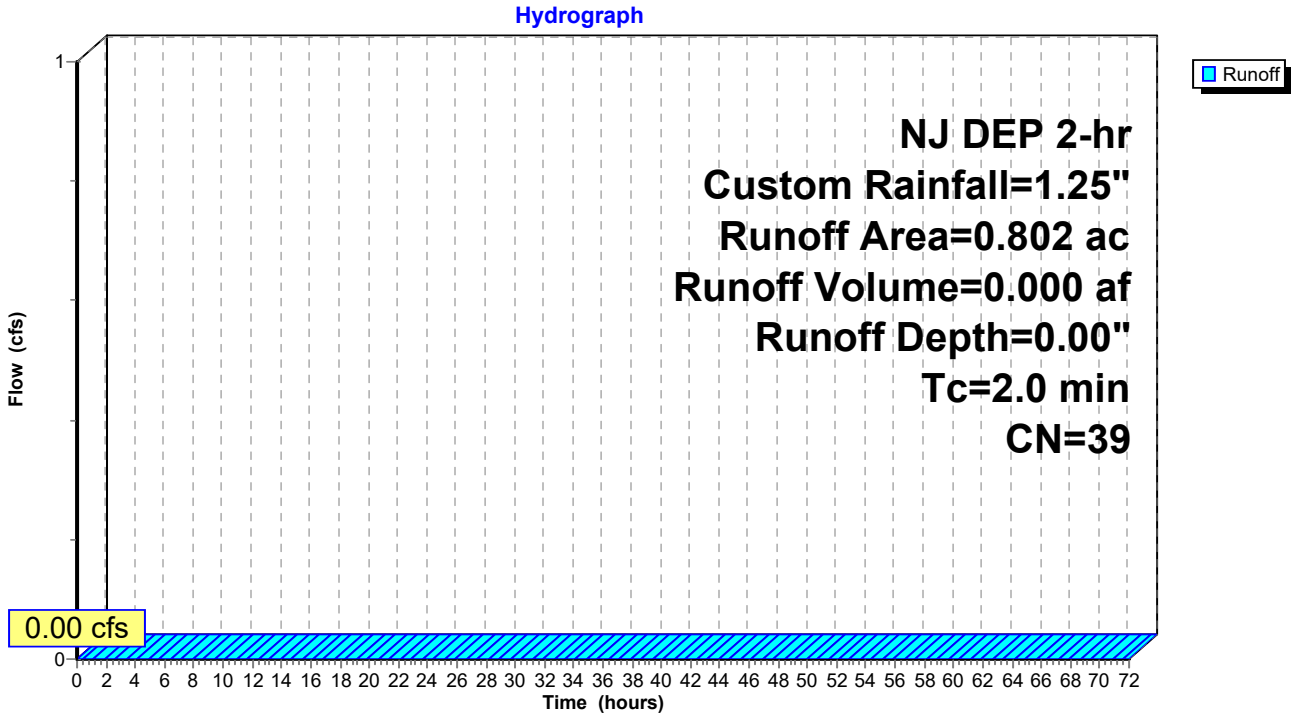
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.802	39	>75% Grass cover, Good, HSG A
0.802		100.00% Pervious Area

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

Subcatchment 101S: Basin 37 - Pervious



Summary for Subcatchment 102S: Basin 37 - Impervious

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

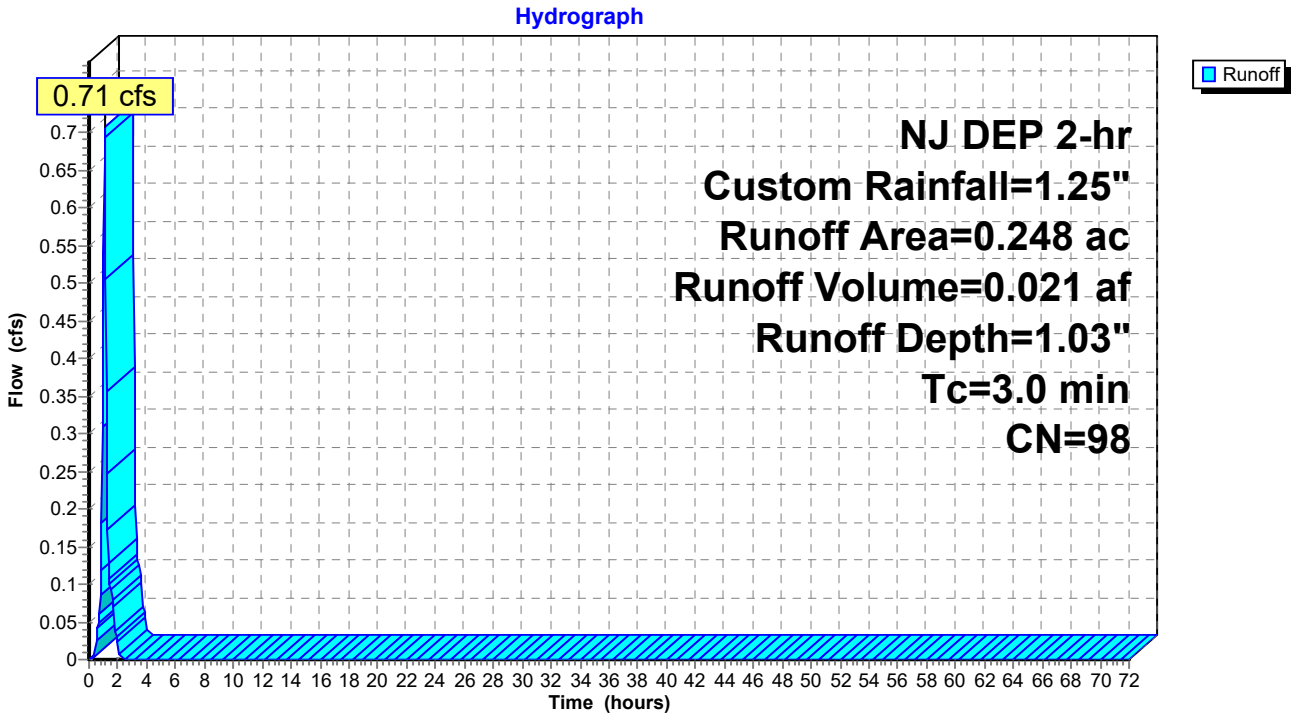
Runoff = 0.71 cfs @ 1.08 hrs, Volume= 0.021 af, Depth= 1.03"
Routed to Pond 74P : Basin 37

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.248	98	Impervious
	0.248		100.00% Impervious Area

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

Subcatchment 102S: Basin 37 - Impervious



Summary for Subcatchment 104S: Basin 34- Impervious

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

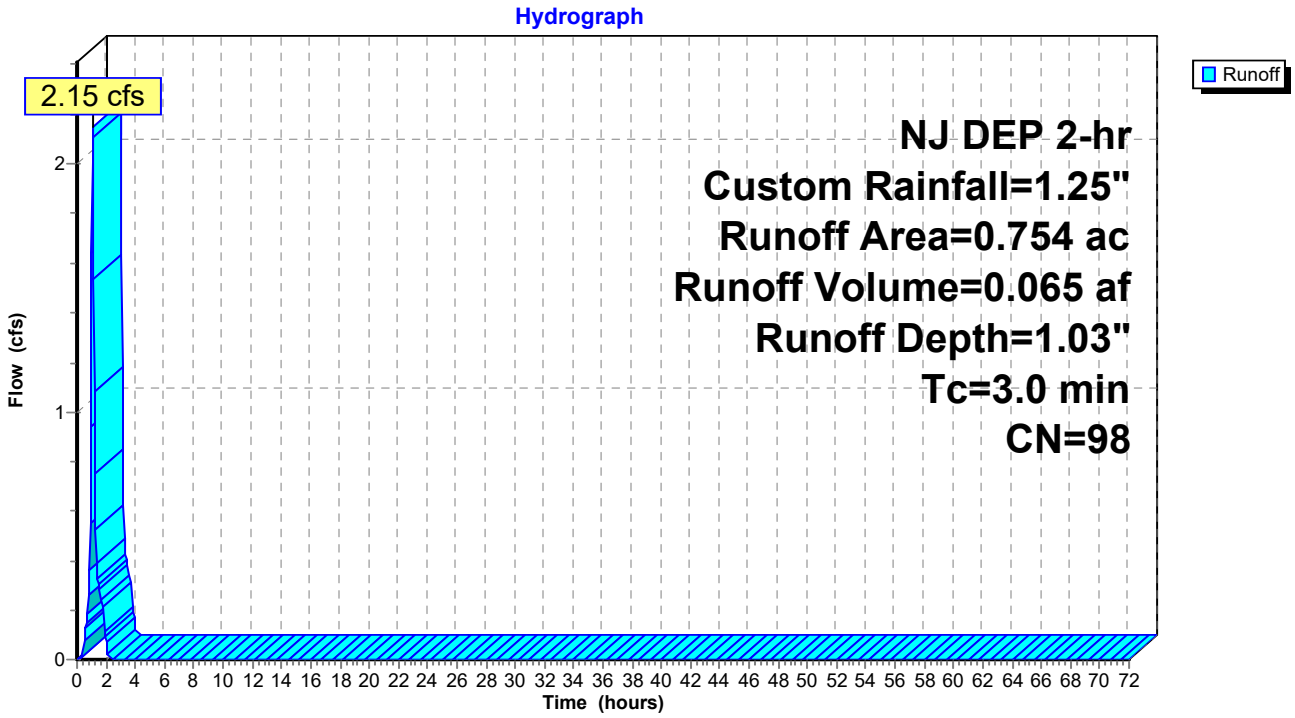
Runoff = 2.15 cfs @ 1.08 hrs, Volume= 0.065 af, Depth= 1.03"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.754	98	Impervious
	0.754		100.00% Impervious Area

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

Subcatchment 104S: Basin 34- Impervious



Summary for Subcatchment 105S: Basin 34 - Pervious

[45] Hint: Runoff=Zero

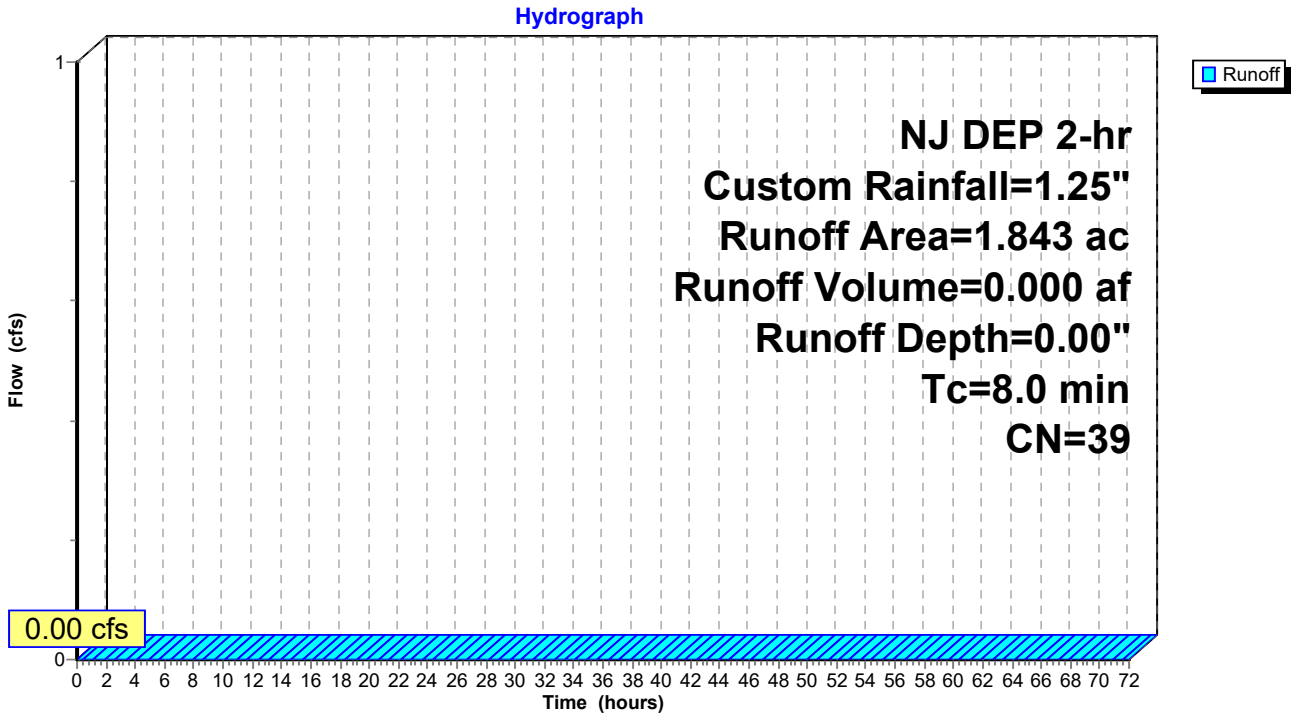
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 79P : Basin 34

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.843	39	>75% Grass cover, Good, HSG A
1.843		100.00% Pervious Area

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

Subcatchment 105S: Basin 34 - Pervious



Summary for Subcatchment 106S: Basin 35 - Impervious

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

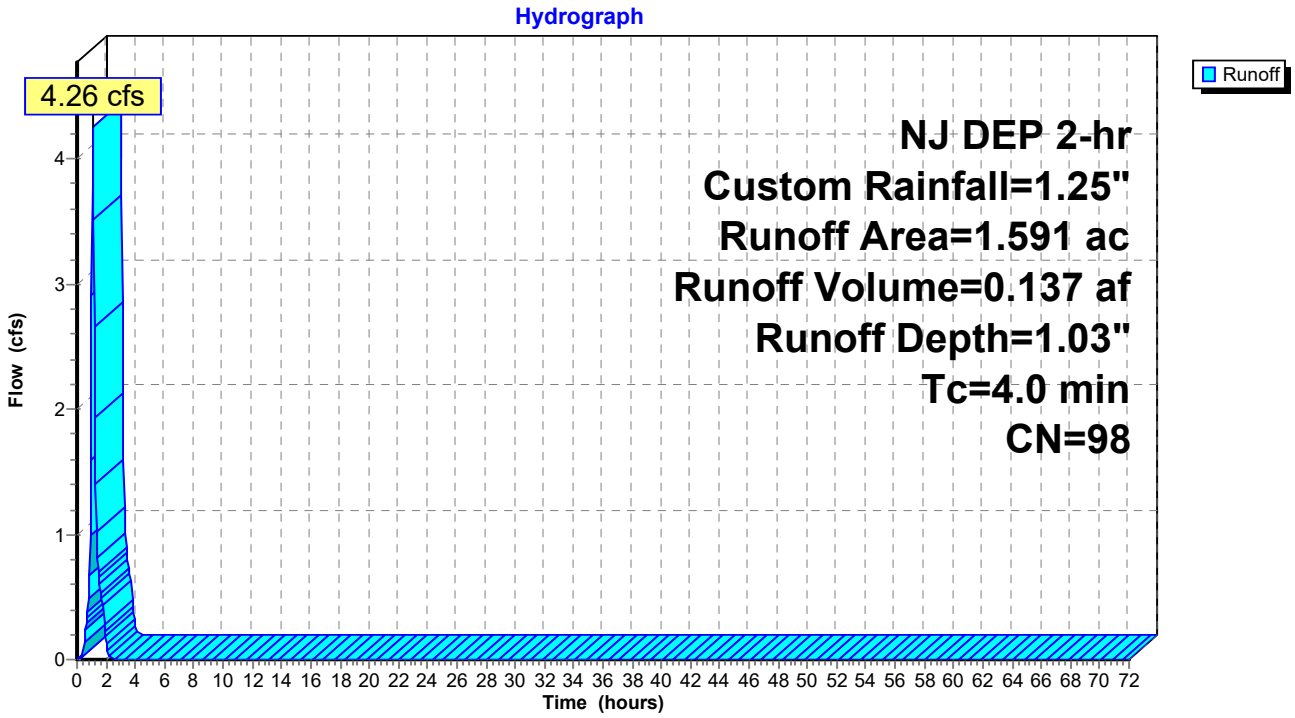
Runoff = 4.26 cfs @ 1.09 hrs, Volume= 0.137 af, Depth= 1.03"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	1.591	98	Impervious
	1.591		100.00% Impervious Area

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

Subcatchment 106S: Basin 35 - Impervious



Summary for Subcatchment 107S: Basin 35 - Pervious

[45] Hint: Runoff=Zero

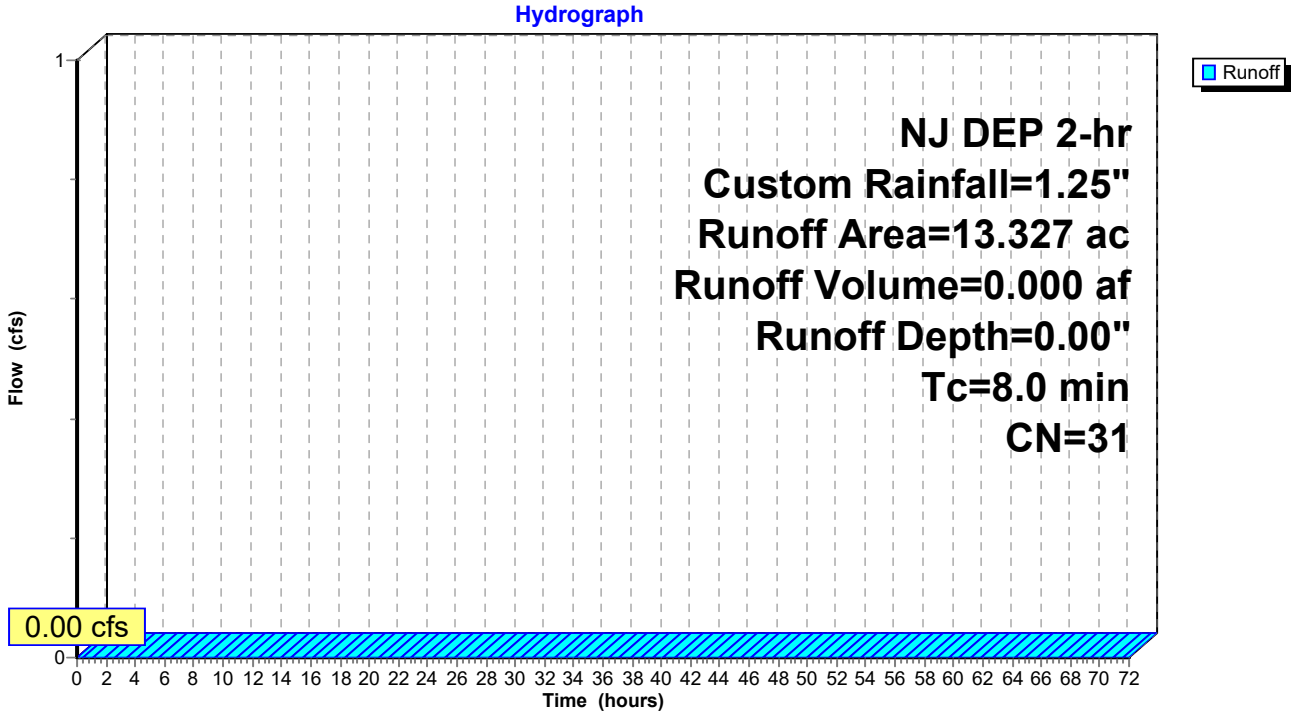
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 80P : Basin 35

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
0.907	39	>75% Grass cover, Good, HSG A
12.420	30	Woods, Good, HSG A
13.327	31	Weighted Average
13.327		100.00% Pervious Area

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

Subcatchment 107S: Basin 35 - Pervious



Summary for Subcatchment 108S: Basin 36 - Impervious

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

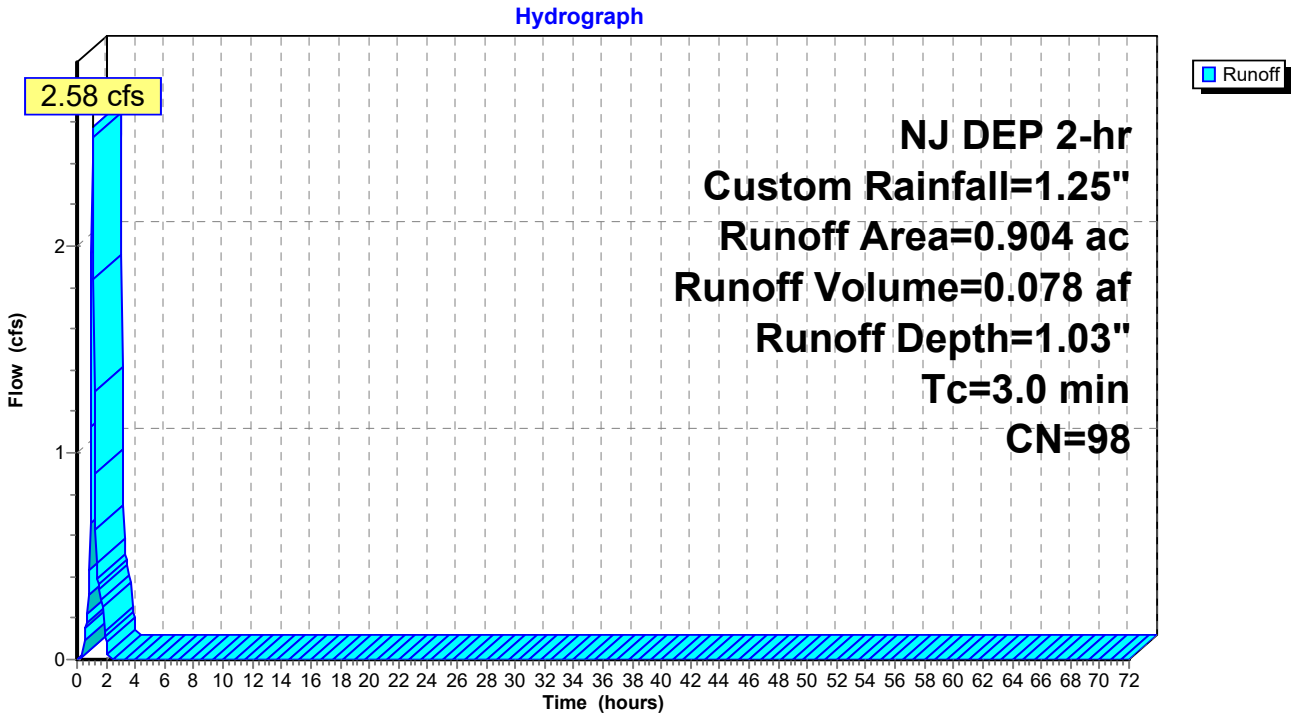
Runoff = 2.58 cfs @ 1.08 hrs, Volume= 0.078 af, Depth= 1.03"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.904	98	Impervious
	0.904		100.00% Impervious Area

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

Subcatchment 108S: Basin 36 - Impervious



Summary for Subcatchment 109S: Basin 36 - Pervious

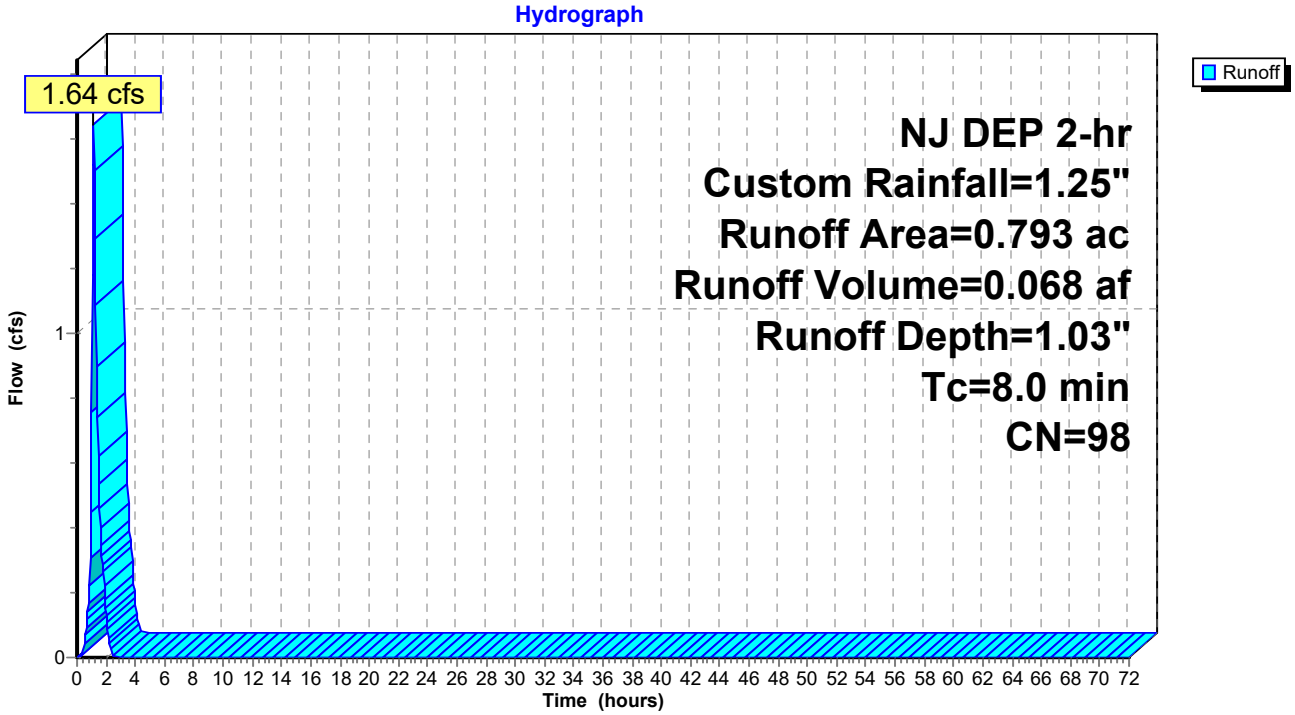
Runoff = 1.64 cfs @ 1.15 hrs, Volume= 0.068 af, Depth= 1.03"
Routed to Pond 82P : Basin 36

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.793	98	Impervious
	0.793		100.00% Impervious Area

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

Subcatchment 109S: Basin 36 - Pervious



Summary for Subcatchment 110S: Basin 22 - Pervious

[45] Hint: Runoff=Zero

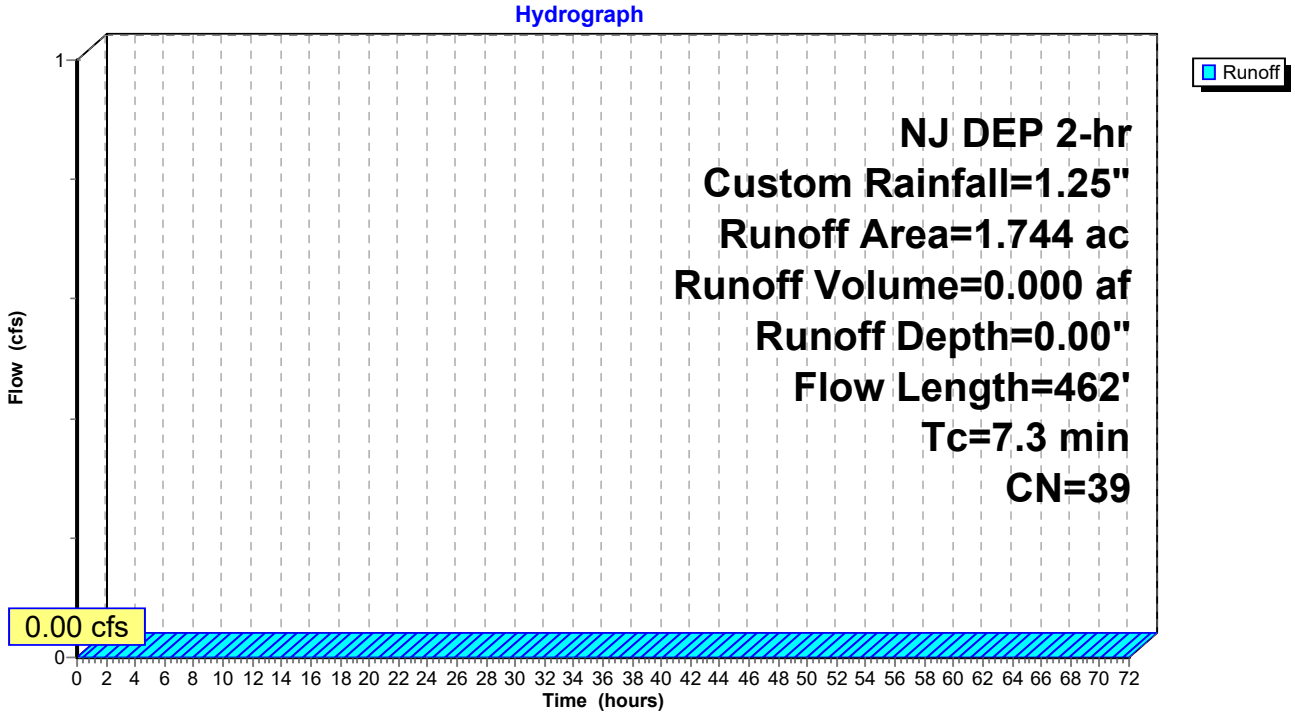
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 88P : Basin 22

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.744	39	>75% Grass cover, Good, HSG A
1.744		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	62	0.0200	0.17		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 4.04"
1.4	400	0.0050	4.84	5.94	**Pipe Channel, B to C** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.010
7.3	462	Total			

Subcatchment 110S: Basin 22 - Pervious



Summary for Pond 111P: Basin 23

Inflow Area = 2.499 ac, 35.01% Impervious, Inflow Depth = 0.36" for Custom event
Inflow = 2.50 cfs @ 1.08 hrs, Volume= 0.075 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 33.80' @ 2.40 hrs Surf.Area= 4,566 sf Storage= 3,286 cf

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

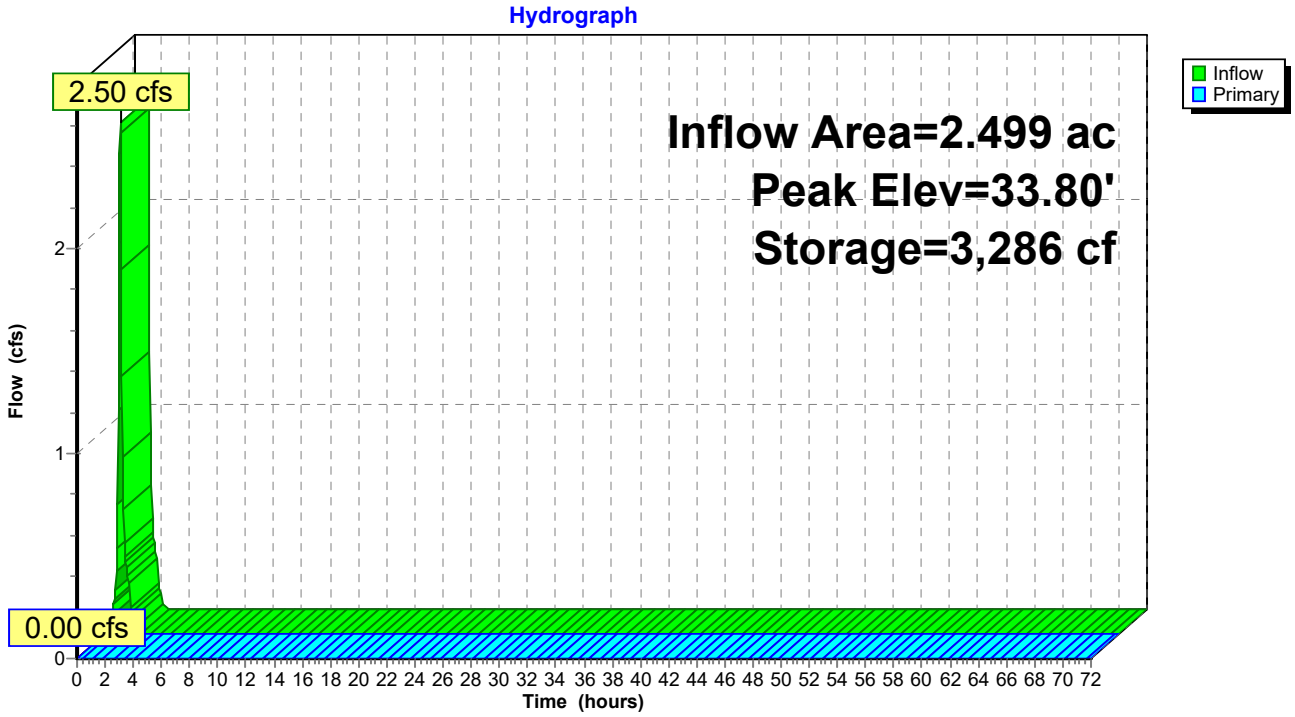
Volume	Invert	Avail.Storage	Storage Description
#1	33.00'	31,750 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
33.00	3,600	0	0
34.00	4,800	4,200	4,200
35.00	6,000	5,400	9,600
36.00	7,900	6,950	16,550
37.00	10,700	9,300	25,850
37.50	12,900	5,900	31,750

Device	Routing	Invert	Outlet Devices
#1	Primary	34.69'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	36.20'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=33.00' (Free Discharge)
└**1=Orifice/Grate** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 111P: Basin 23



Summary for Subcatchment 111S: Rear Bldgs 134, 135 & 144

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

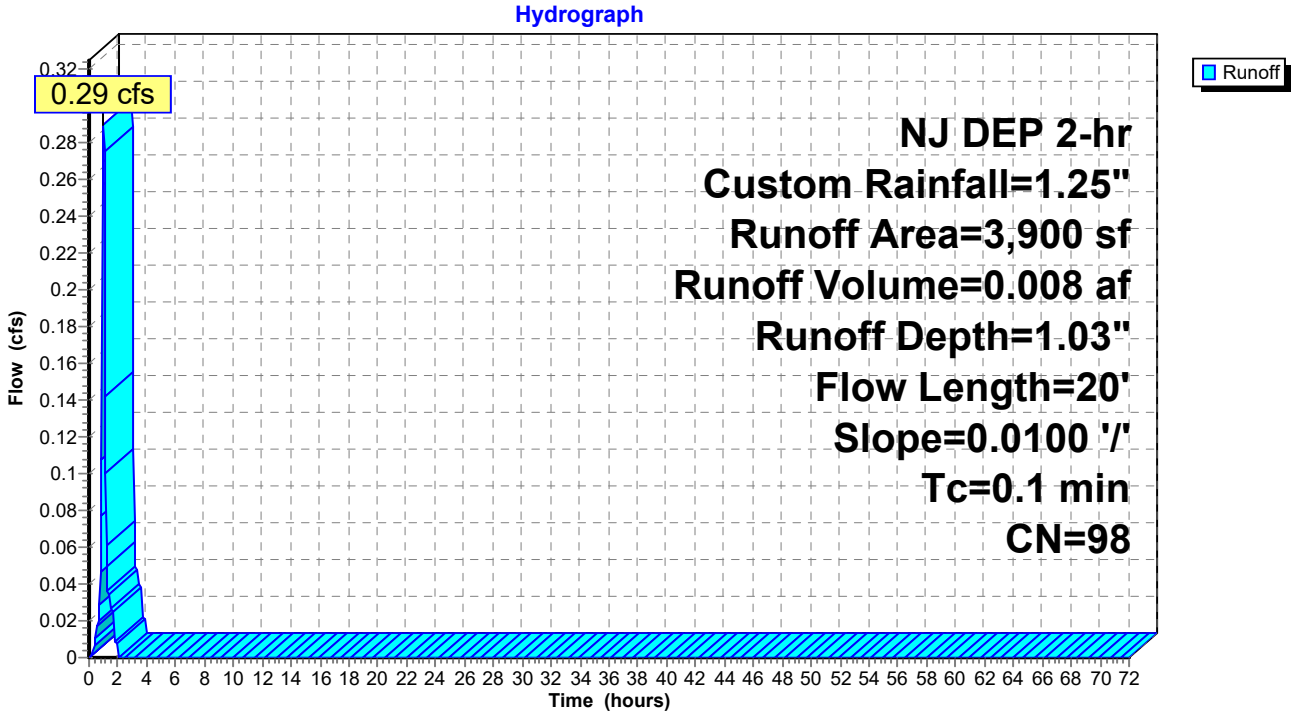
Runoff = 0.29 cfs @ 1.03 hrs, Volume= 0.008 af, Depth= 1.03"
Routed to Pond 89P : Drywell 150

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 111S: Rear Bldgs 134, 135 & 144



Summary for Subcatchment 112S: Basin 23 - Impervious

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

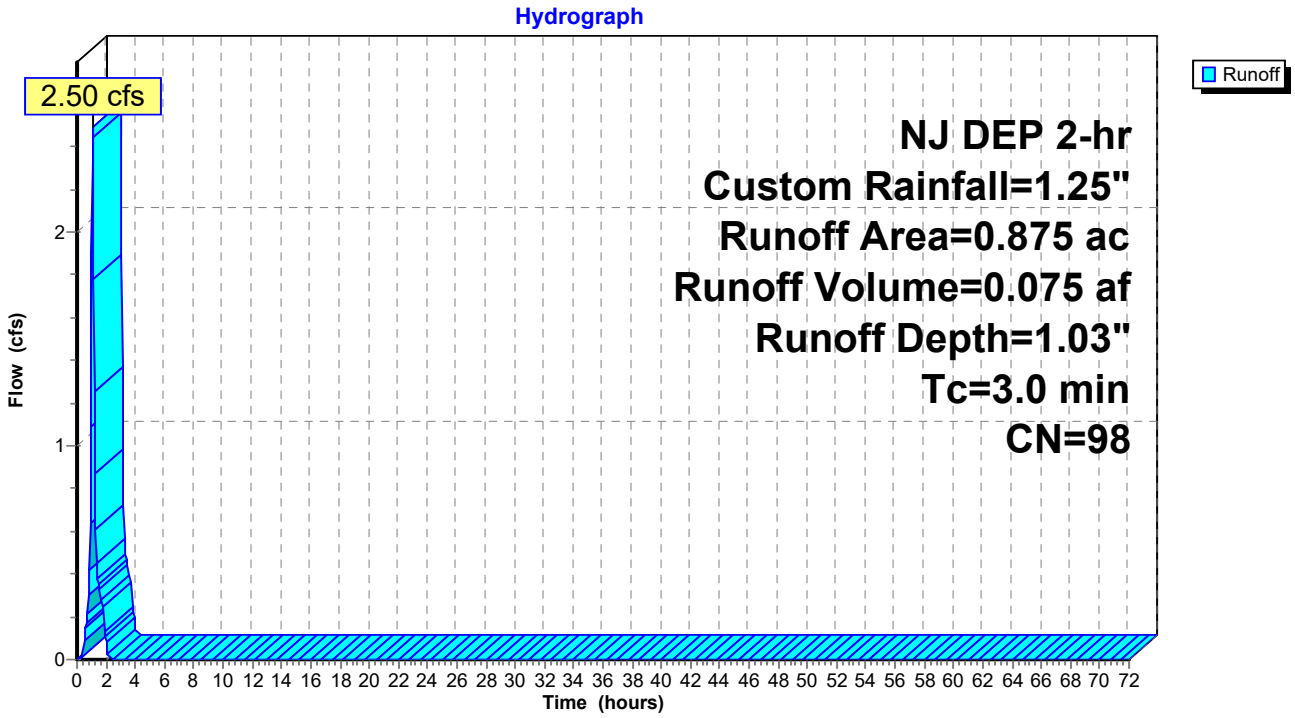
Runoff = 2.50 cfs @ 1.08 hrs, Volume= 0.075 af, Depth= 1.03"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (ac)	CN	Description
*	0.875	98	Impervious
	0.875		100.00% Impervious Area

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

Subcatchment 112S: Basin 23 - Impervious



Summary for Subcatchment 113S: Basin 23 - Pervious

[45] Hint: Runoff=Zero

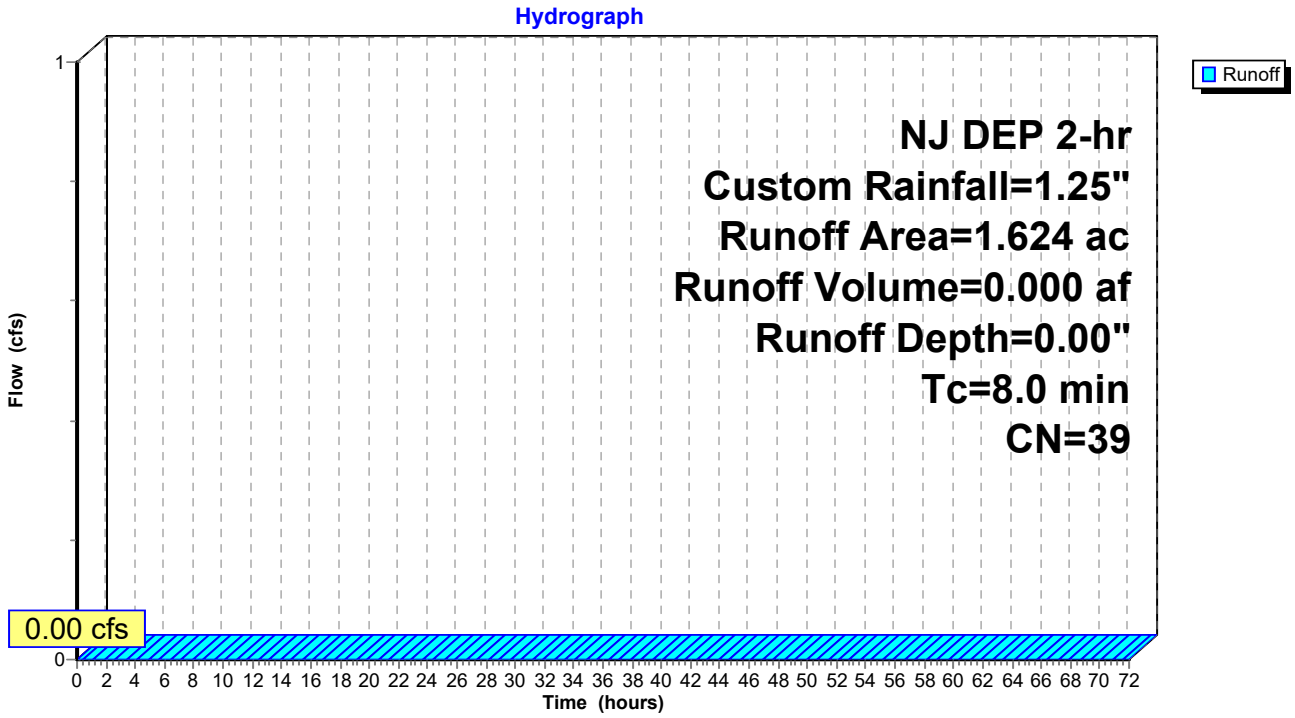
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
Routed to Pond 111P : Basin 23

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

Area (ac)	CN	Description
1.624	39	>75% Grass cover, Good, HSG A
1.624		100.00% Pervious Area

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

Subcatchment 113S: Basin 23 - Pervious



Summary for Subcatchment 114S: Rear Bldgs 39, 62 & 63

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

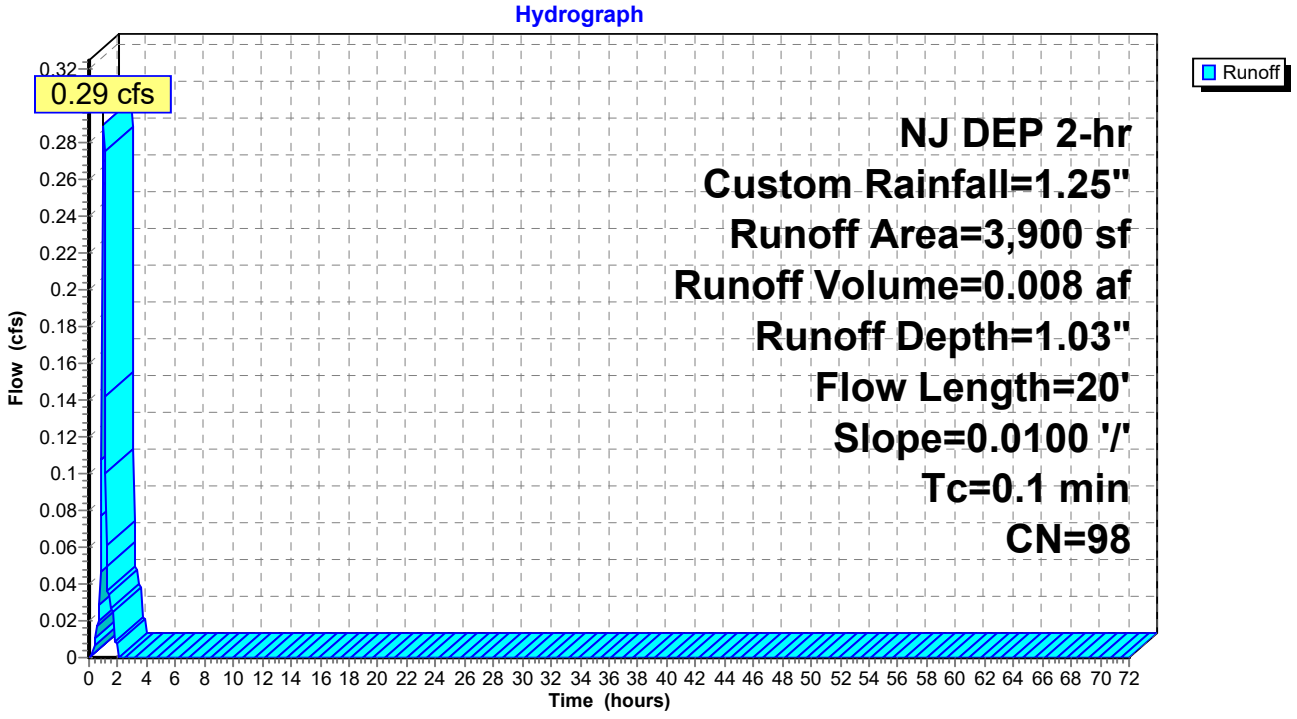
Runoff = 0.29 cfs @ 1.03 hrs, Volume= 0.008 af, Depth= 1.03"
Routed to Pond 115P : Drywell 151

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	3,900	98	Roof Area
	3,900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 114S: Rear Bldgs 39, 62 & 63



Summary for Pond 115P: Drywell 151

Inflow Area = 0.090 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.29 cfs @ 1.03 hrs, Volume= 0.008 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

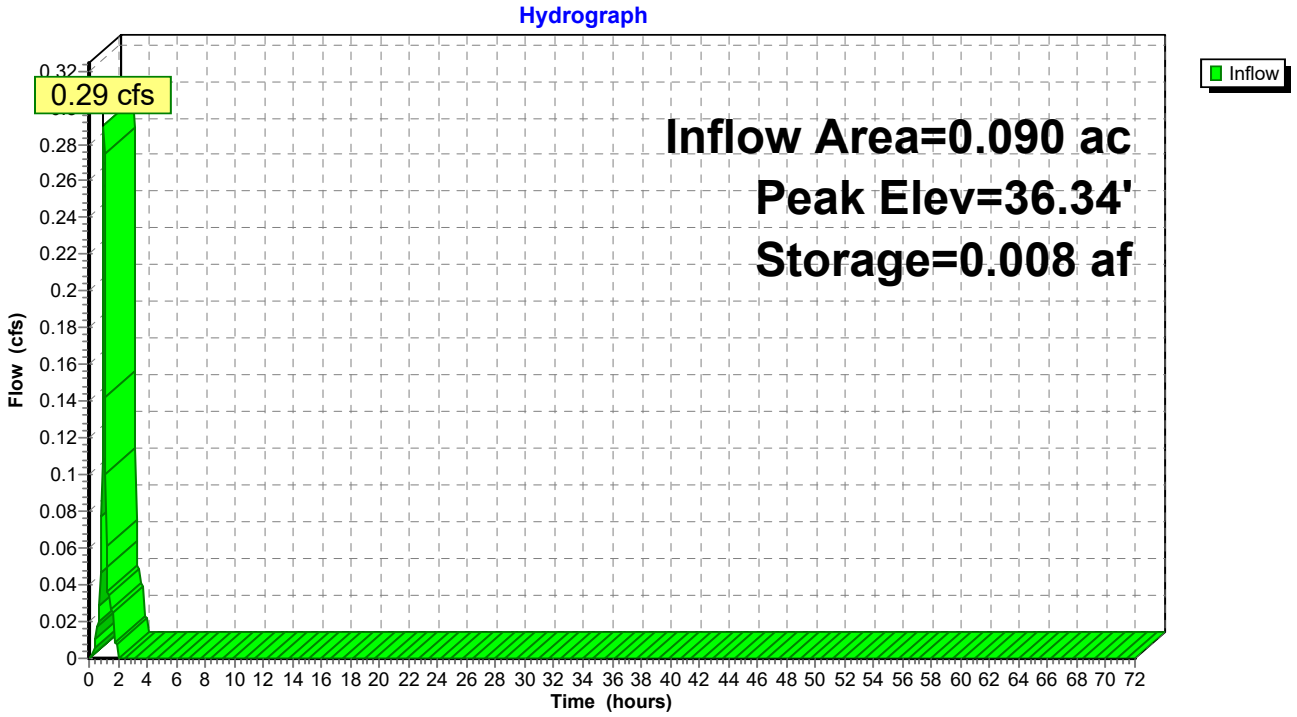
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 36.34' @ 2.05 hrs Surf.Area= 0.006 ac Storage= 0.008 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	33.90'	0.005 af	**4.00'W x 61.67'L x 3.00'H Field A** 0.017 af Overall - 0.005 af Embedded = 0.012 af x 40.0% Voids
#2A	34.23'	0.004 af	**ADS N-12 24"** x 3 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.009 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 115P: Drywell 151



Summary for Pond 116P: Drywell 160

Inflow Area = 0.328 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 1.06 cfs @ 1.03 hrs, Volume= 0.028 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

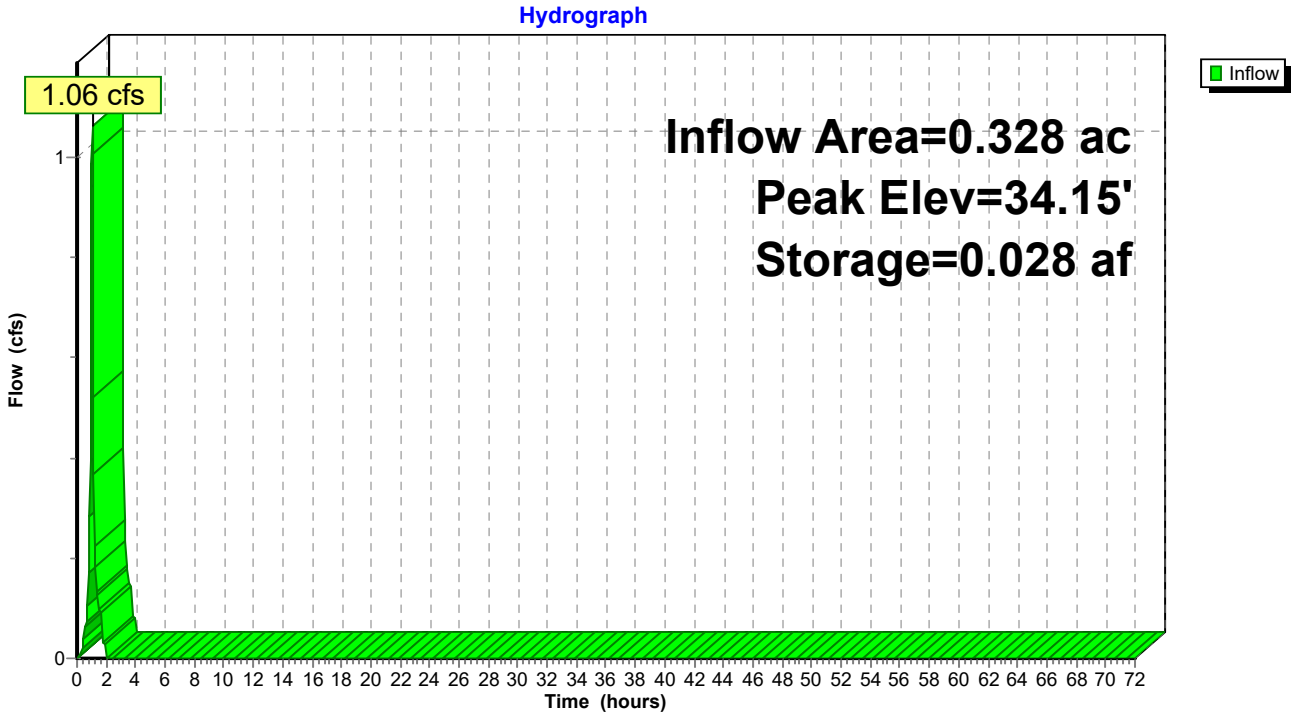
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.15' @ 2.05 hrs Surf.Area= 0.022 ac Storage= 0.028 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	31.90'	0.018 af	**4.00'W x 241.67'L x 3.00'H Field A** 0.067 af Overall - 0.022 af Embedded = 0.045 af x 40.0% Voids
#2A	32.23'	0.017 af	**ADS N-12 24"** x 12 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.035 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 116P: Drywell 160



Summary for Subcatchment 117S: Rear Bldgs 43-46 & 55-58

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

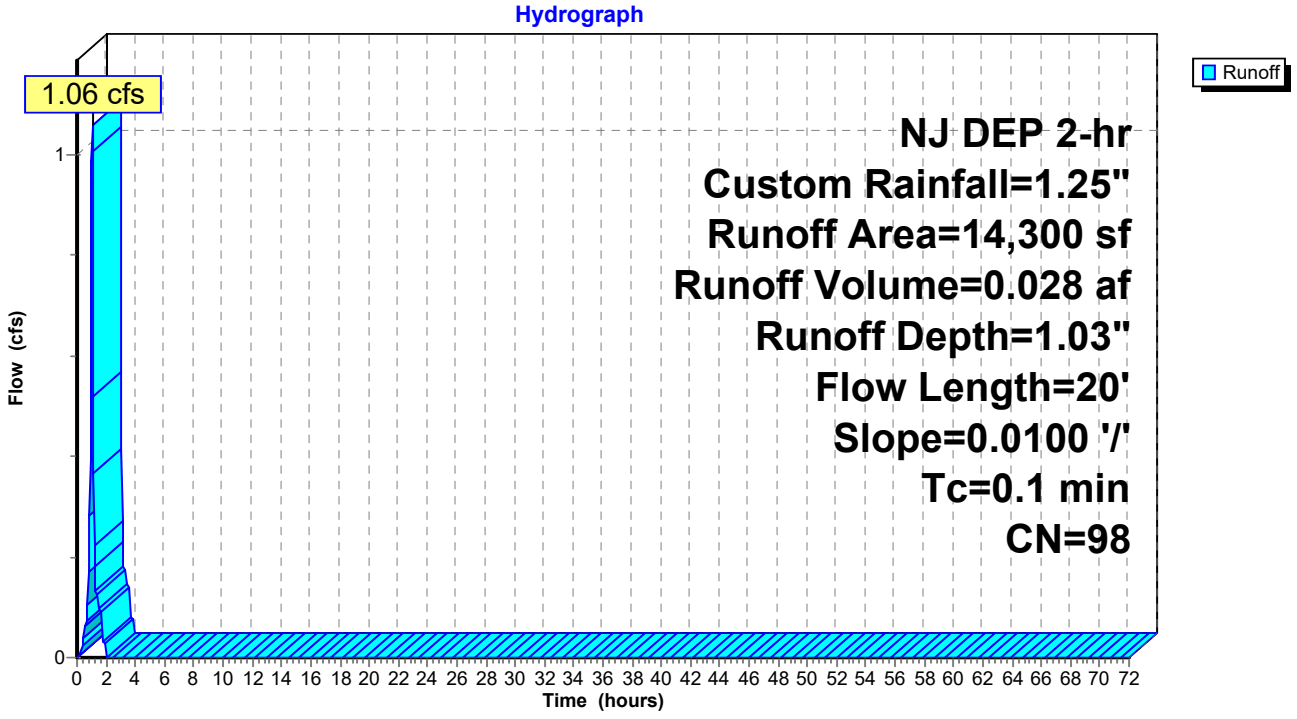
Runoff = 1.06 cfs @ 1.03 hrs, Volume= 0.028 af, Depth= 1.03"
Routed to Pond 116P : Drywell 160

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	14,300	98	Roof Area
	14,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 117S: Rear Bldgs 43-46 & 55-58



Summary for Subcatchment 119S: Triplex Bldgs (6 Rear Areas)

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

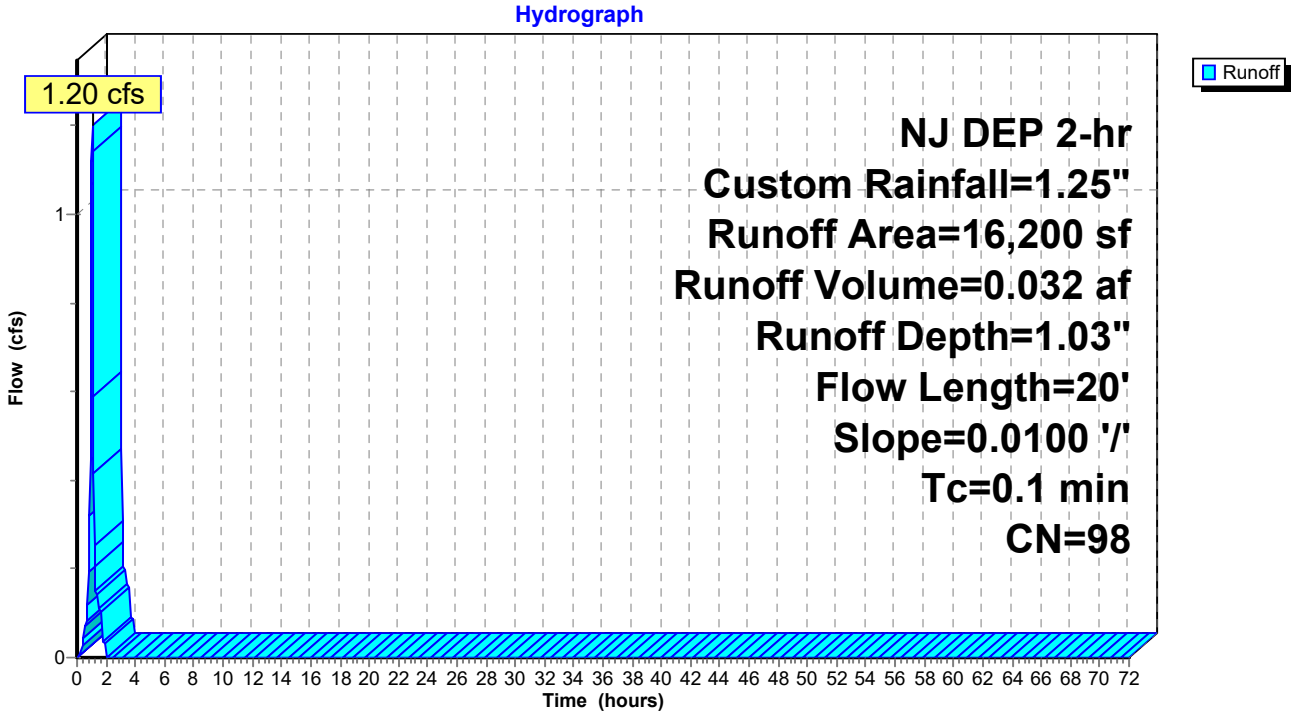
Runoff = 1.20 cfs @ 1.03 hrs, Volume= 0.032 af, Depth= 1.03"
Routed to Pond 120P : Drywell 270

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 119S: Triplex Bldgs (6 Rear Areas)



Summary for Pond 120P: Drywell 270

Inflow Area = 0.372 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 1.20 cfs @ 1.03 hrs, Volume= 0.032 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

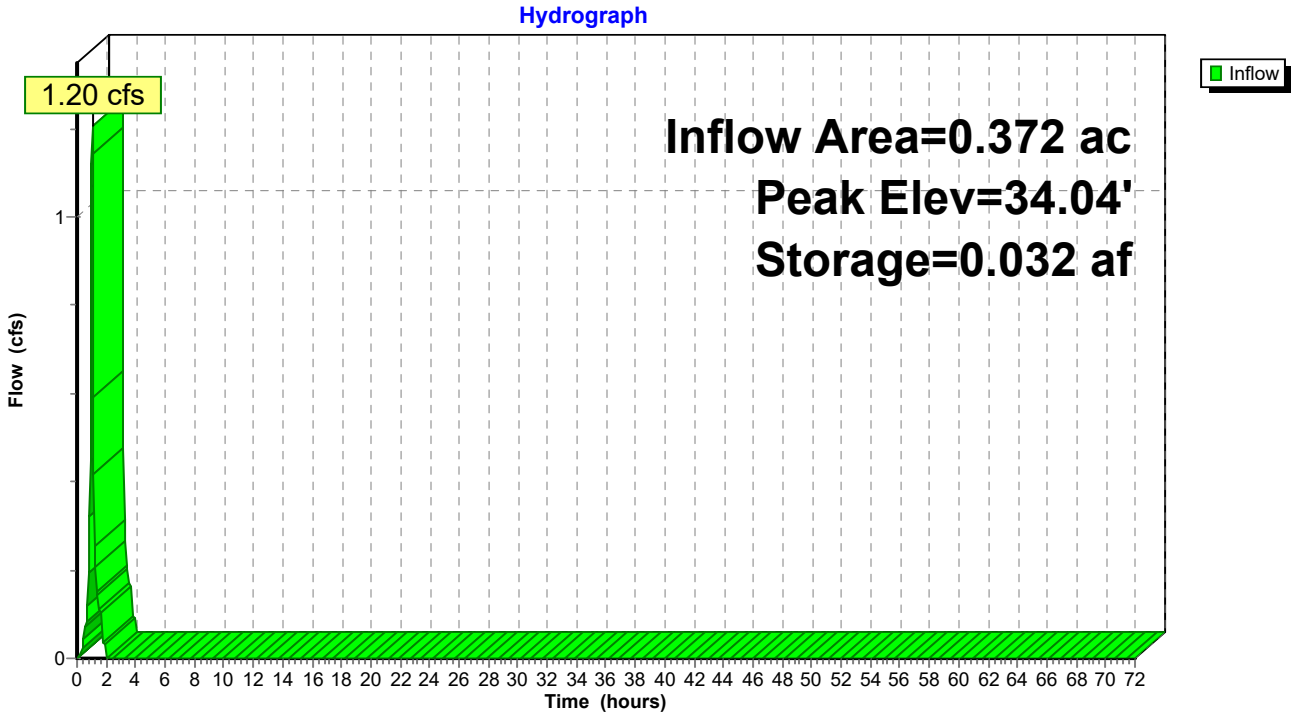
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.04' @ 2.05 hrs Surf.Area= 0.030 ac Storage= 0.032 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	32.10'	0.024 af	**4.00'W x 321.67'L x 3.00'H Field A** 0.089 af Overall - 0.029 af Embedded = 0.060 af x 40.0% Voids
#2A	32.43'	0.023 af	**ADS N-12 24"** x 16 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 120P: Drywell 270



Summary for Subcatchment 121S: Triplex Lots

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

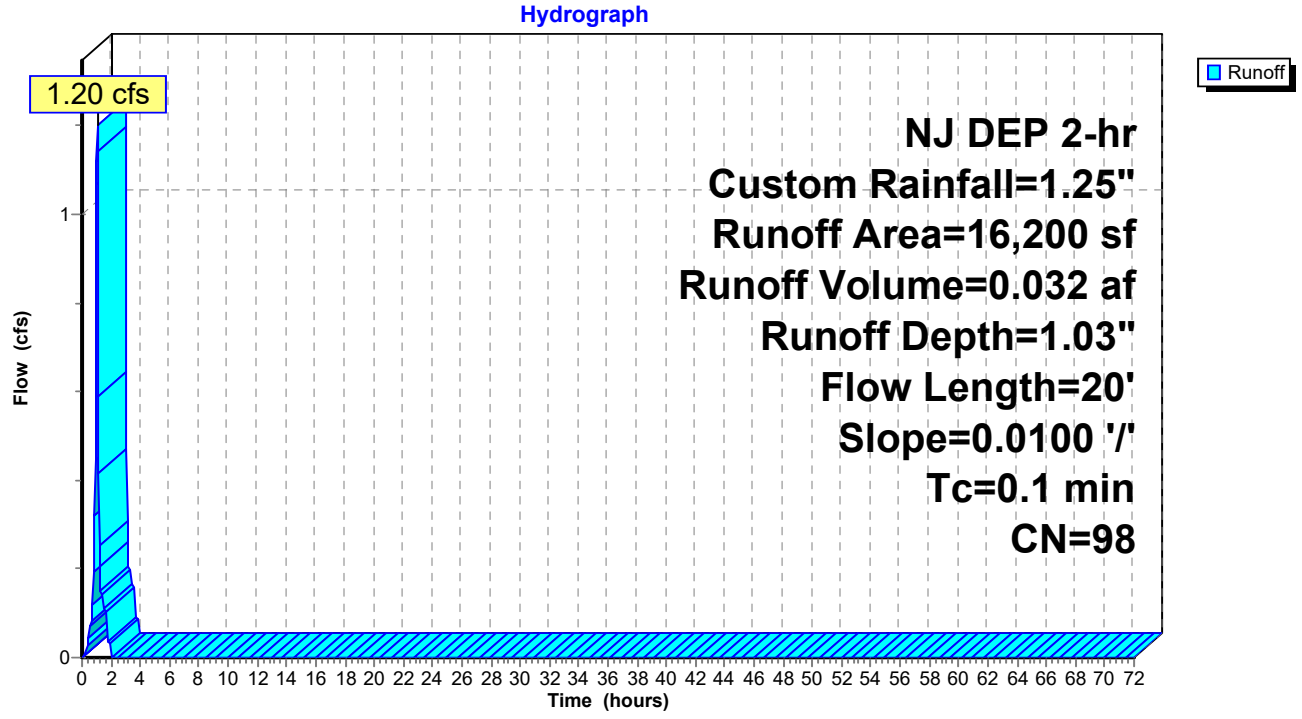
Runoff = 1.20 cfs @ 1.03 hrs, Volume= 0.032 af, Depth= 1.03"
Routed to Pond 122P : Drywell 290

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	16,200	98	Roof Area
	16,200		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 121S: Triplex Lots



Summary for Pond 122P: Drywell 290

Inflow Area = 0.372 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 1.20 cfs @ 1.03 hrs, Volume= 0.032 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

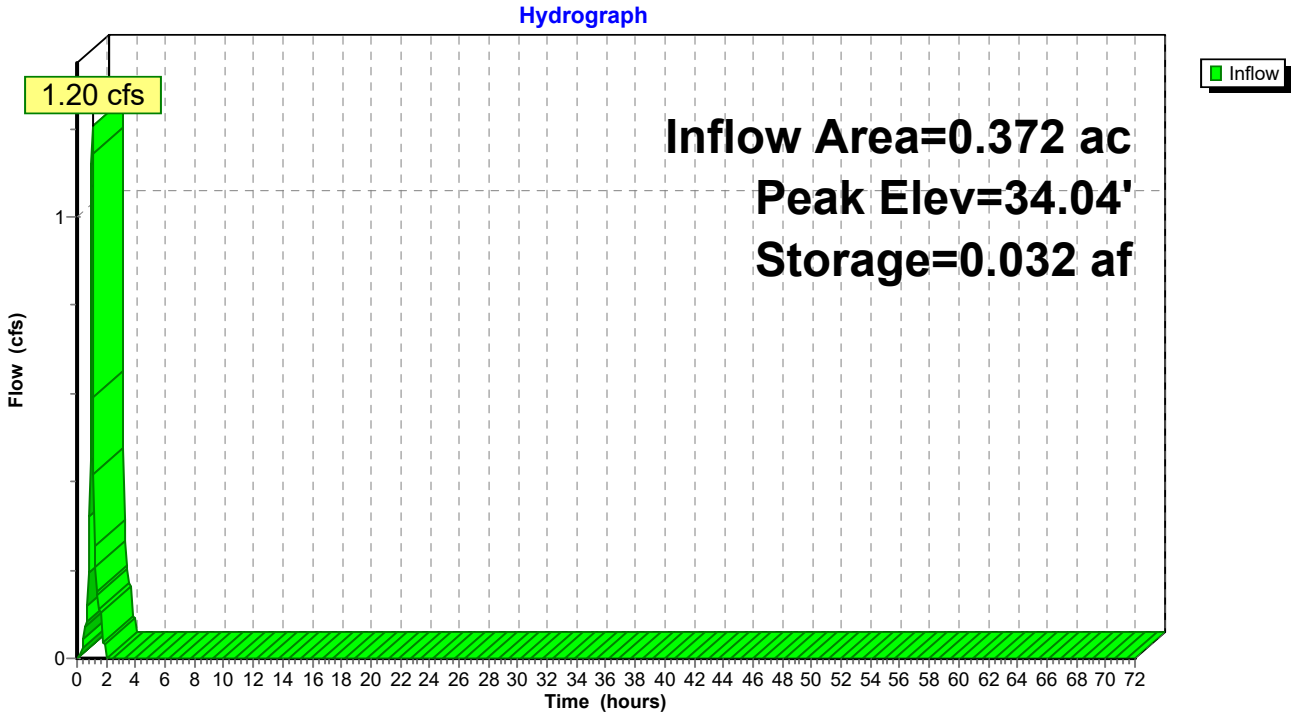
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 34.04' @ 2.05 hrs Surf.Area= 0.030 ac Storage= 0.032 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	32.10'	0.024 af	**4.00'W x 321.67'L x 3.00'H Field A** 0.089 af Overall - 0.029 af Embedded = 0.060 af x 40.0% Voids
#2A	32.43'	0.023 af	**ADS N-12 24"** x 16 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.047 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 122P: Drywell 290



Summary for Subcatchment 127S: Triplex Lots

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

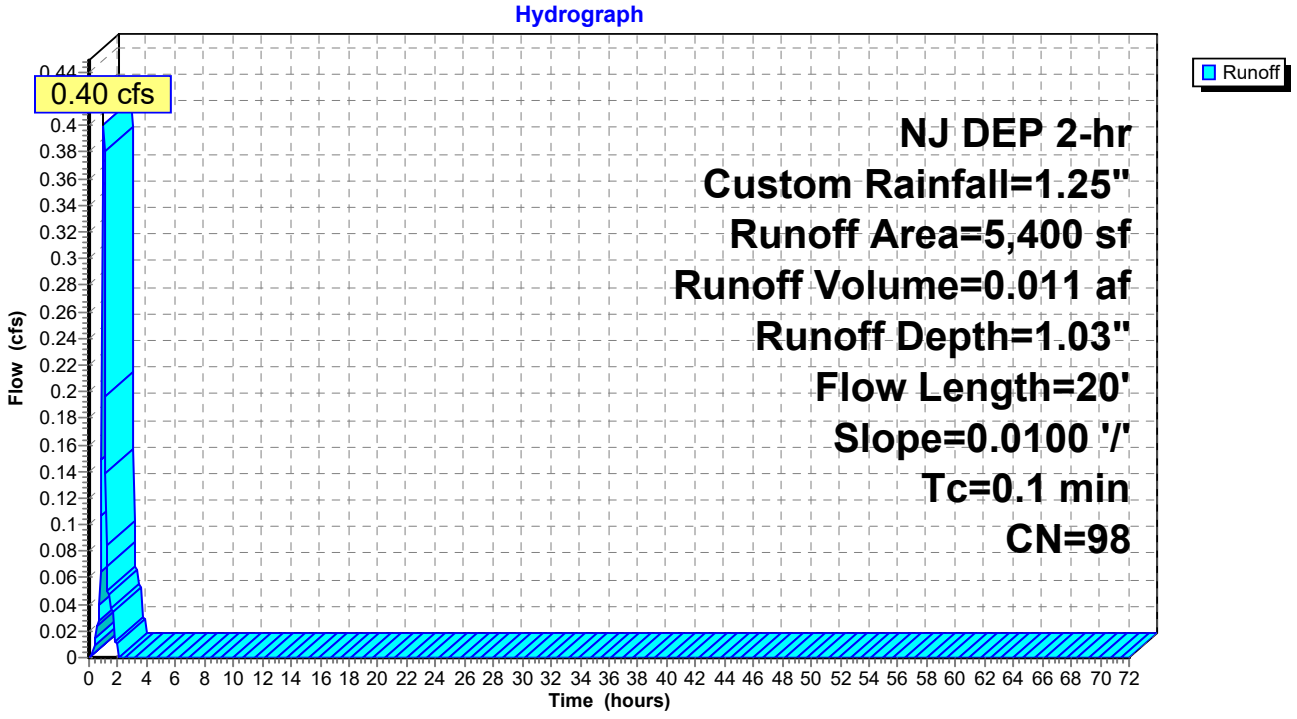
Runoff = 0.40 cfs @ 1.03 hrs, Volume= 0.011 af, Depth= 1.03"
Routed to Pond 128P : Drywell 320

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NJ DEP 2-hr Custom Rainfall=1.25"

	Area (sf)	CN	Description
*	5,400	98	Roof Area
	5,400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	4.50	1.57	**Pipe Channel, A to B** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.010

Subcatchment 127S: Triplex Lots



Summary for Pond 128P: Drywell 320

Inflow Area = 0.124 ac,100.00% Impervious, Inflow Depth = 1.03" for Custom event
Inflow = 0.40 cfs @ 1.03 hrs, Volume= 0.011 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min

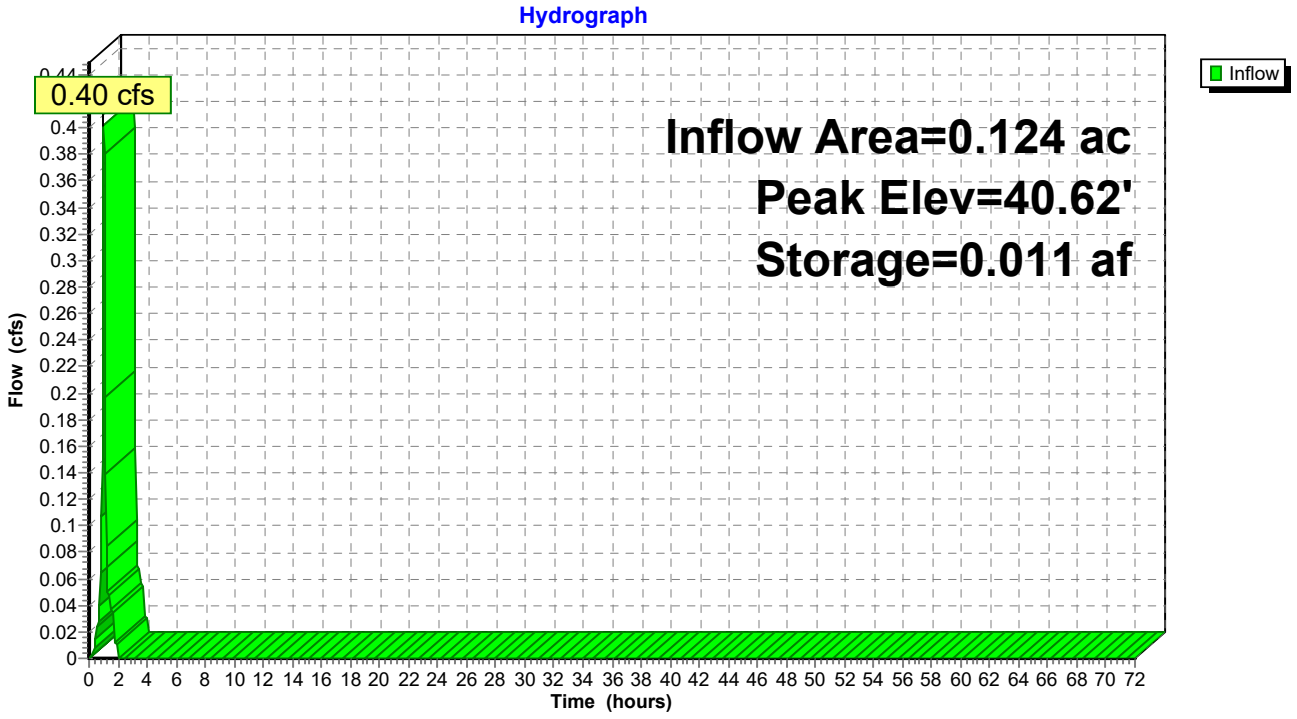
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 40.62' @ 2.05 hrs Surf.Area= 0.007 ac Storage= 0.011 af

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

Volume	Invert	Avail.Storage	Storage Description
#1A	38.00'	0.006 af	**4.00'W x 81.67'L x 3.00'H Field A** 0.022 af Overall - 0.007 af Embedded = 0.015 af x 40.0% Voids
#2A	38.33'	0.006 af	**ADS N-12 24"** x 4 Inside #1 Inside= 23.8"W x 23.8"H => 3.10 sf x 20.00'L = 62.0 cf Outside= 28.0"W x 28.0"H => 3.92 sf x 20.00'L = 78.4 cf
		0.012 af	Total Available Storage

Storage Group A created with Chamber Wizard

Pond 128P: Drywell 320



Appendix G – Groundwater Recharge Calculations

Project Name	Description	Analysis Date	BMP or LID Type
Venue at Summers Corner	Residential Development	04/25/25	Infiltration Basin 25

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	6600.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	24.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	36.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	2	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.60	in
ERWC Modified to consider dEXC	EDRWC	0.12	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.09	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.58	in
Inches of Rainfall to capture	Pdesign	0.72	in
Recharge Provided Avg. over Imp. Area		25.8	in
Runoff Captured Avg. over imp. Area		26.0	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.02	unitless
BMP Volume	VBMP	13,200	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	1,872,749	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	273,234	sq.ft
Root Zone Water Capacity	RWC	2.63	in
RWC Modified to consider dEXC	DRWC	0.53	in
Climatic Factor	C-factor	1.54	no units
Average Annual P	Pavg	47.9	in
Recharge Requirement over Imp. Area	dr	15.7	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		587,856	cu.ft
Avg BMP Recharge Efficiency		99.3%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.3%	%
%Runoff Infiltrated		69.3%	%
%Runoff Recharged		13.1%	%
%Rainfall Recharged		10.3%	%

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses.

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
Venue at Summers Corner	Residential Development	04/25/25	Infiltration Basin 3

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	22000.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	66.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	78.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	2	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.60	in
ERWC Modified to consider dEXC	EDRWC	0.00	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.00	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	2.97	in
Inches of Rainfall to capture	Pdesign	3.21	in
Recharge Provided Avg. over Imp. Area		37.5	in
Runoff Captured Avg. over imp. Area		37.5	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.07	unitless
BMP Volume	VBMP	121,000	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	1,872,749	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	304,920	sq.ft
Root Zone Water Capacity	RWC	2.63	in
RWC Modified to consider dEXC	DRWC	0.00	in
Climatic Factor	C-factor	1.54	no units
Average Annual P	Pavg	47.9	in
Recharge Requirement over Imp. Area	dr	15.7	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		953,114	cu.ft
Avg BMP Recharge Efficiency		100.0%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.3%	%
%Runoff Infiltrated		100.0%	%
%Runoff Recharged		21.3%	%
%Rainfall Recharged		16.6%	%

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses.

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
Venue at Summers Corner	Residential Development	04/25/25	Infiltration Basin 18

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	4600.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	24.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	36.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	2	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.60	in
ERWC Modified to consider dEXC	EDRWC	0.12	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.09	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.44	in
Inches of Rainfall to capture	Pdesign	0.55	in
Recharge Provided Avg. over Imp. Area		21.8	in
Runoff Captured Avg. over imp. Area		22.0	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.02	unitless
BMP Volume	VBMP	9,200	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	1,872,749	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	261,360	sq.ft
Root Zone Water Capacity	RWC	2.63	in
RWC Modified to consider dEXC	DRWC	0.53	in
Climatic Factor	C-factor	1.54	no units
Average Annual P	Pavg	47.9	in
Recharge Requirement over Imp. Area	dr	15.7	in

System Performance Calculated Parameters

Parameter		Value	Unit
Annual BMP Recharge Volume		475,255	cu.ft
Avg BMP Recharge Efficiency		99.4%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.3%	%
%Runoff Infiltrated		58.5%	%
%Runoff Recharged		10.6%	%
%Rainfall Recharged		8.3%	%

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses.

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

New Jersey Groundwater Recharge Spreadsheet Version 2.0 November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
OCEAN CO., OCEAN TWP	47.9	1.54

Project Name:	**Venue at Summers Corner**
Description:	**Residential Development**
Analysis Date:	**04/25/25**

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	72.96	Woods	Downer	16.0	4,227,771
2	23.74	Open space	Downer	16.1	1,383,455
3	0.392	Impervious areas	Downer	0.0	-
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	97.1			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				15.9	5,611,226

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	32.94	Impervious areas	Downer	0.0	-
2	64.152	Open space	Downer	16.1	3,738,477
3					
4	0				
5	0				
6	0				
7	0				
8	0				
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
Total =	97.1			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				10.6	3,738,477

Annual Recharge Requirements Calculation ↓

% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft) 1,434,866
Post-Development Annual Recharge Deficit=	***1,872,749***	(cubic feet)

Recharge Efficiency Parameters Calculations (area averages)

RWC=	#N/A	(in)	DRWC=	#N/A	(in)
ERWC =	#N/A	(in)	EDRWC=	#N/A	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Appendix H – Groundwater Mounding Calculations

BASIN 1

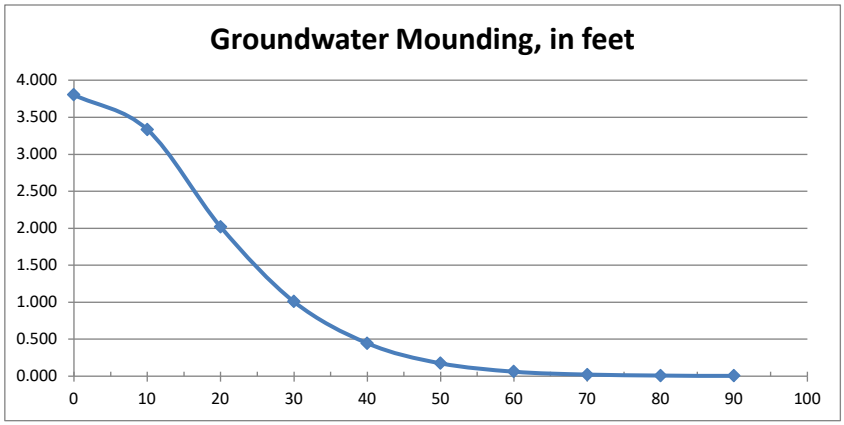
Input Values

10.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
50.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
15.000	x	1/2 length of basin (x direction, in feet)
70.000	y	1/2 width of basin (y direction, in feet)
1.10	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

13.804	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
3.804	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
3.804	0
3.333	10
2.019	20
1.008	30
0.442	40
0.172	50
0.060	60
0.020	70
0.007	80
0.003	90

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

BASIN 4

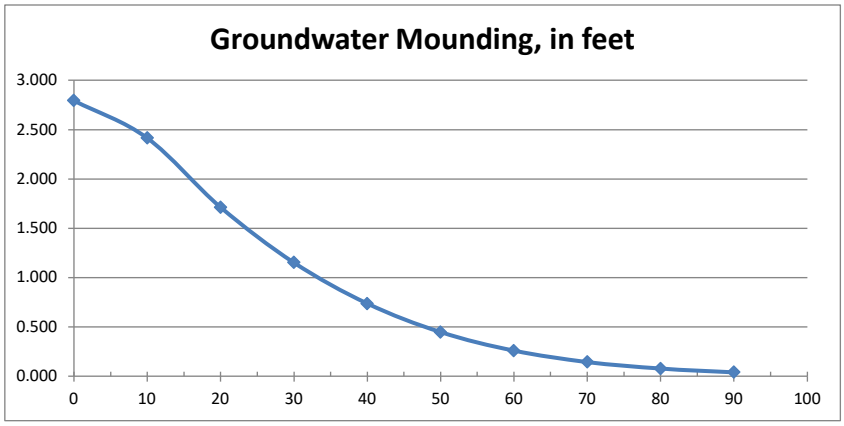
Input Values

5.00	R	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
45.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
10.000	x	1/2 length of basin (x direction, in feet)
85.000	y	1/2 width of basin (y direction, in feet)
3.10	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.793	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.793	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.793	0
2.414	10
1.711	20
1.151	30
0.735	40
0.446	50
0.258	60
0.142	70
0.075	80
0.039	90

Re-Calculate Now



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BASIN 5

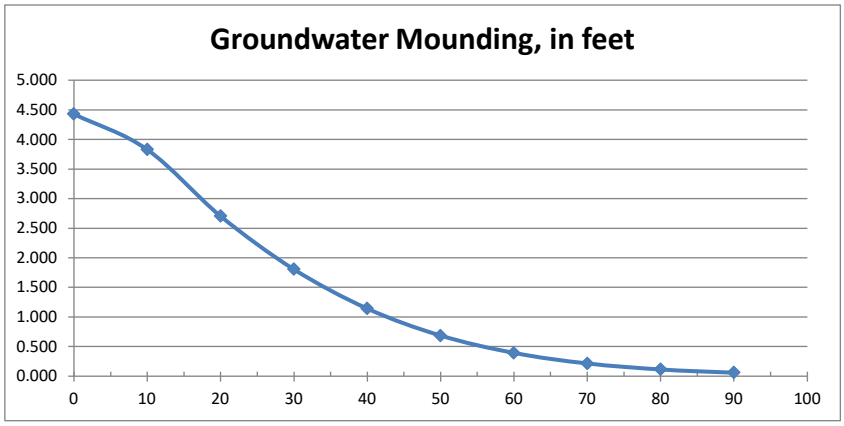
Input Values

10.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
50.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
10.000	x	1/2 length of basin (x direction, in feet)
45.000	y	1/2 width of basin (y direction, in feet)
2.79	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

14.431	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
4.431	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
4.431	0
3.830	10
2.704	20
1.806	30
1.142	40
0.685	50
0.391	60
0.213	70
0.112	80
0.058	90

Re-Calculate Now



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BASIN 6

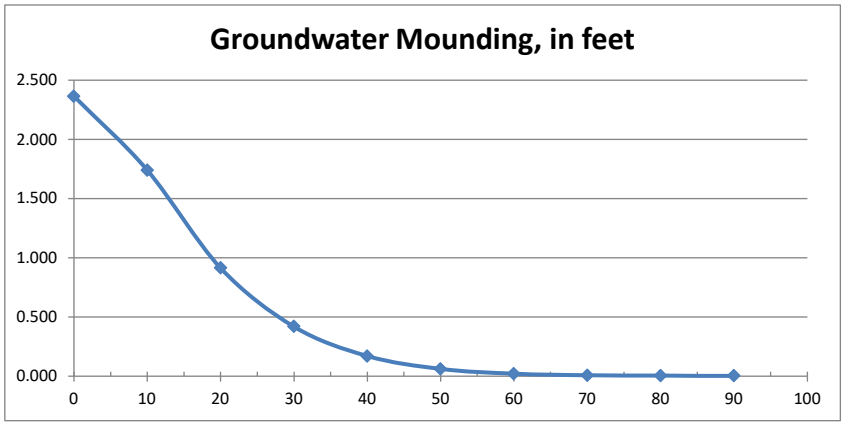
Input Values

2.30	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
11.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
8.000	x	1/2 length of basin (x direction, in feet)
68.750	y	1/2 width of basin (y direction, in feet)
4.49	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.365	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.365	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.365	0
1.740	10
0.914	20
0.419	30
0.169	40
0.060	50
0.020	60
0.007	70
0.003	80
0.002	90

Re-Calculate Now



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BASIN 8

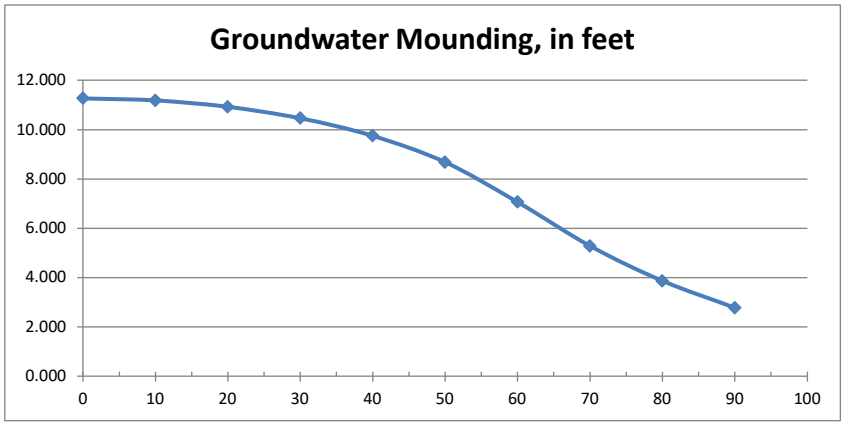
Input Values

10.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
50.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
60.000	x	1/2 length of basin (x direction, in feet)
22.000	y	1/2 width of basin (y direction, in feet)
6.12	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

21.265	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
11.265	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
11.265	0
11.181	10
10.922	20
10.460	30
9.745	40
8.674	50
7.061	60
5.274	70
3.860	80
2.767	90

Re-Calculate Now



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BASIN 9

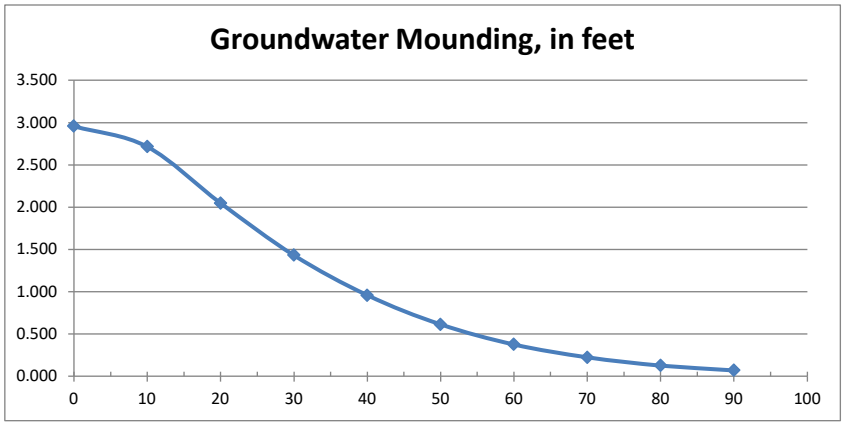
Input Values

4.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
50.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
15.000	x	1/2 length of basin (x direction, in feet)
65.000	y	1/2 width of basin (y direction, in feet)
3.24	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.957	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.957	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.957	0
2.715	10
2.046	20
1.430	30
0.956	40
0.611	50
0.374	60
0.220	70
0.125	80
0.068	90

Re-Calculate Now



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BASIN 12

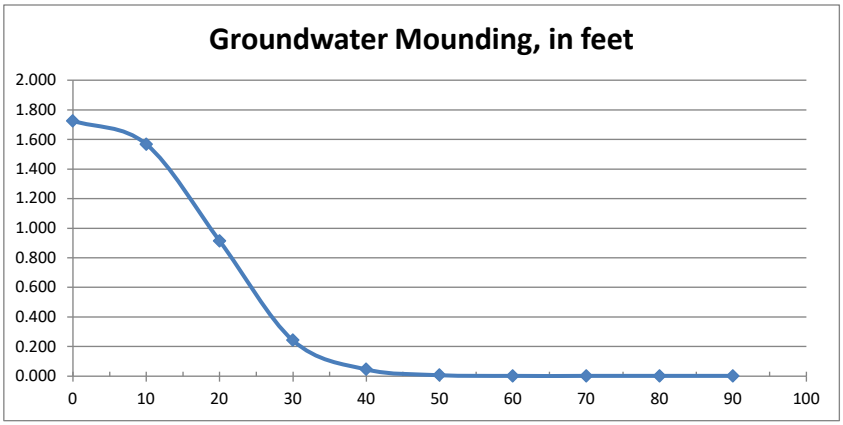
Input Values

7.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
35.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
20.000	x	1/2 length of basin (x direction, in feet)
77.500	y	1/2 width of basin (y direction, in feet)
0.47	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.725	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.725	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.725	0
1.568	10
0.914	20
0.242	30
0.045	40
0.006	50
0.001	60
0.001	70
0.001	80
0.001	90

Re-Calculate Now



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BASIN 13

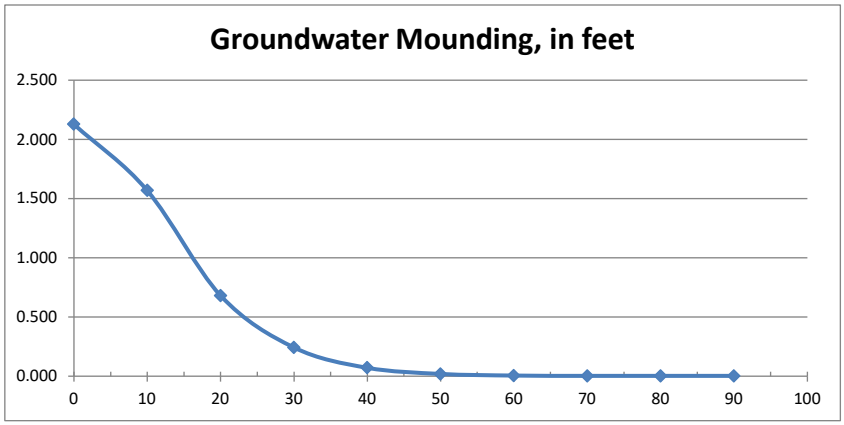
Input Values

8.00	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
40.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
10.000	x	1/2 length of basin (x direction, in feet)
112.500	y	1/2 width of basin (y direction, in feet)
0.83	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.128	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.128	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.128	0
1.569	10
0.680	20
0.241	30
0.070	40
0.017	50
0.004	60
0.002	70
0.001	80
0.001	90

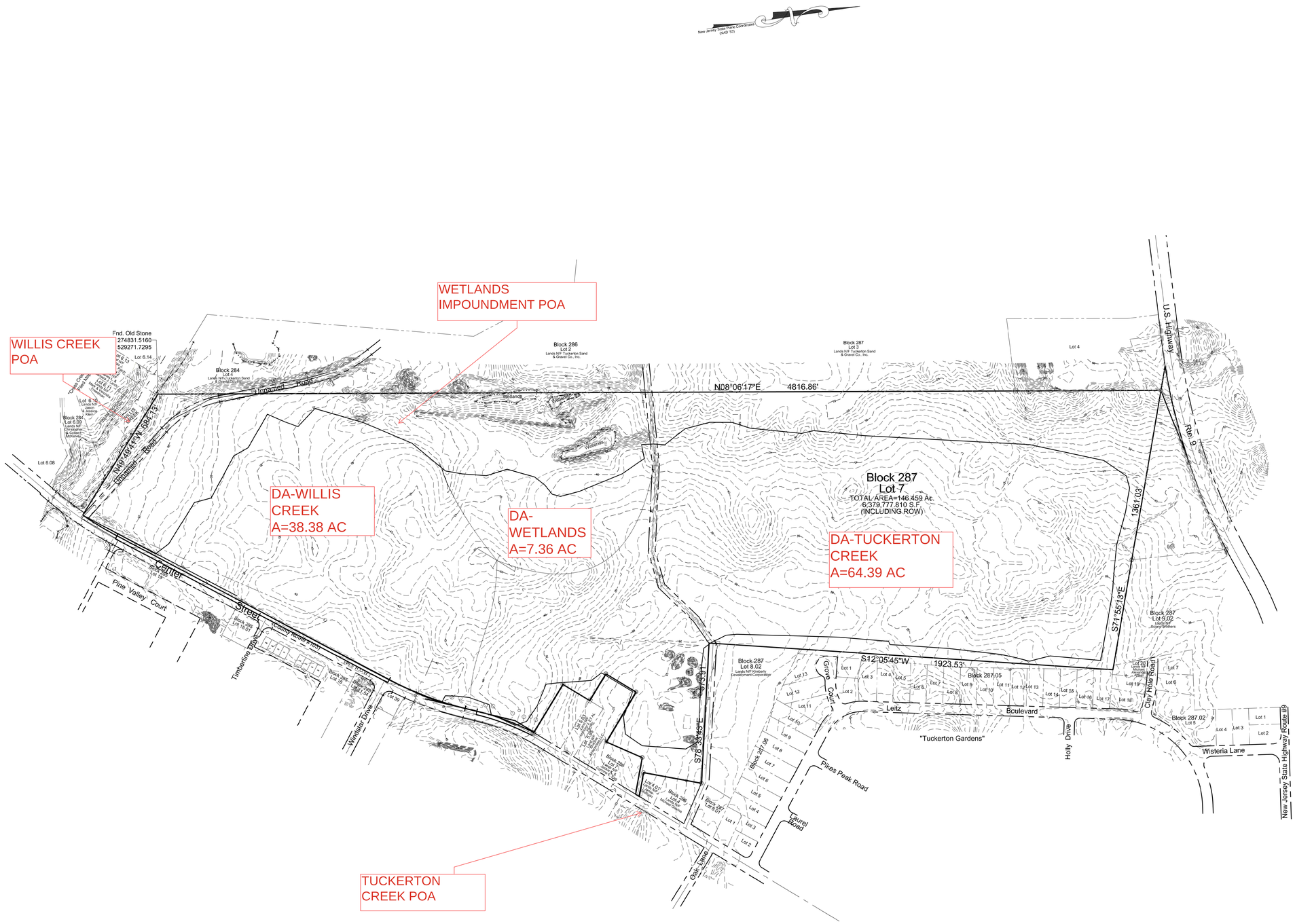
Re-Calculate Now



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Appendix I – Drainage Area Maps


New Jersey State Plane Coordinates (NAD '83)
WETLANDS IMPOUNDMENT POA
WILLIS CREEK POA
TUCKERTON CREEK POA
DA-WILLIS CREEK A=38.38 AC
DA-WETLANDS A=7.36 AC
DA-TUCKERTON CREEK A=64.39 AC
Fnd. Old Stone 274831.5160 529271.7295
Lot 6.14
Block 284 Lot 4 Lands N/F Tuckerton Sand & Gravel Co., Inc.
Block 286 Lot 2 Lands N/F Tuckerton Sand & Gravel Co., Inc.
Block 287 Lot 3 Lands N/F Tuckerton Sand & Gravel Co., Inc.
Lot 4
Lot 6.10 Lands N/F Jason & Alison Mayo
Block 284 Lot 6.03 Lands N/F Thomas & Colleen Bukowski
Lot 6.08
Lot 6.09 Lands N/F Jason & Alison Mayo
Lot 6.11 Lands N/F Jason & Alison Mayo
Lot 6.12 Lands N/F Jason & Alison Mayo
Lot 6.13 Lands N/F Jason & Alison Mayo
Lot 6.15 Lands N/F Jason & Alison Mayo
Lot 6.16 Lands N/F Jason & Alison Mayo
Lot 6.17 Lands N/F Jason & Alison Mayo
Lot 6.18 Lands N/F Jason & Alison Mayo
Lot 6.19 Lands N/F Jason & Alison Mayo
Lot

PRELIMINARY - DRAFT

1 of 1

date:	APRIL 2025
scale:	As Shown
drawn by:	P.T.
checked:	CM
proj. no.:	5052918

POST-DEVELOPMENT DRAINAGE AREA MAP
FOR
VENUE AT SUMMERS CORNER
PRELIMINARY & FINAL
MAJOR SUBDIVISION AND SITE PLAN

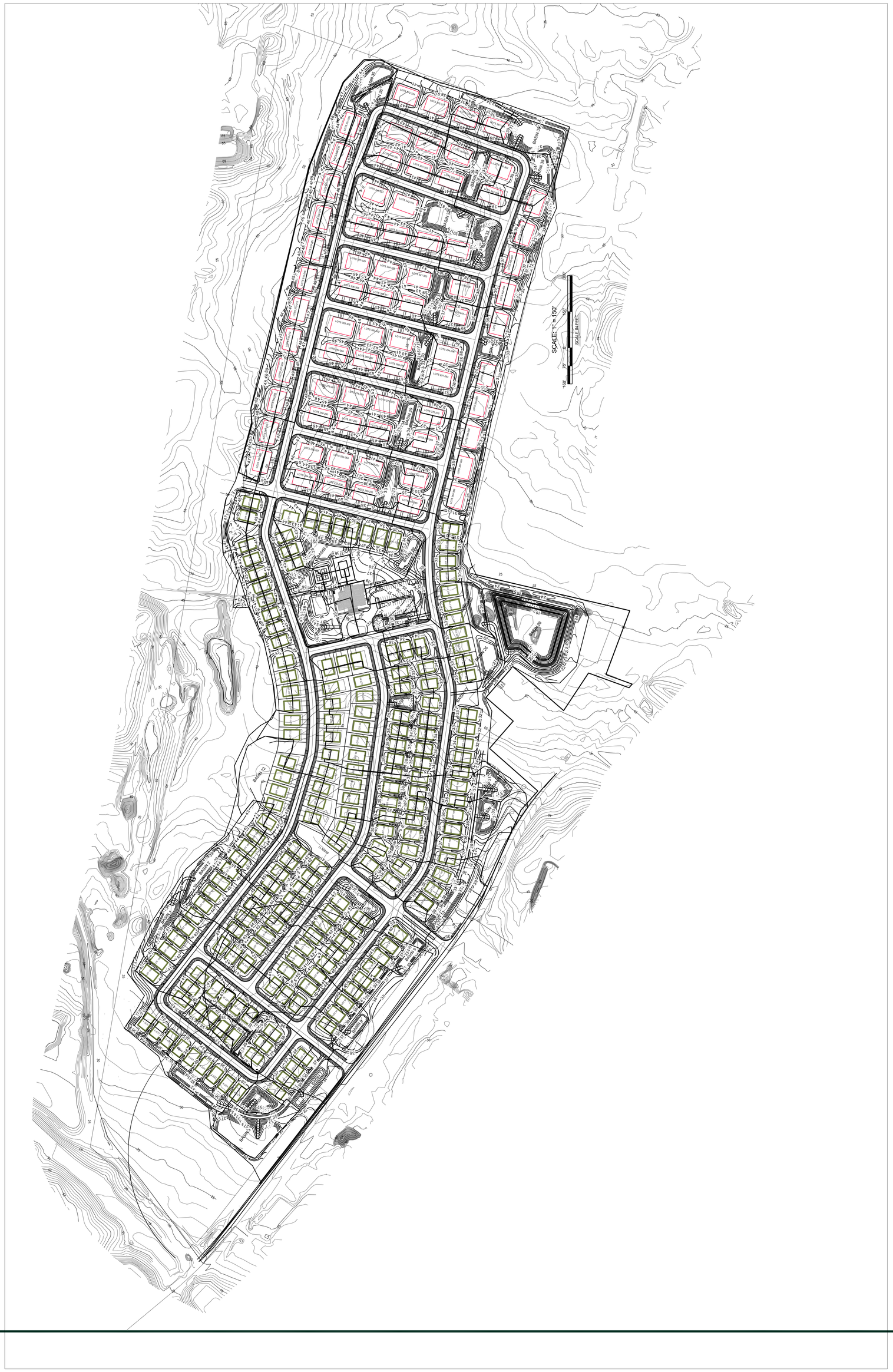
revisions

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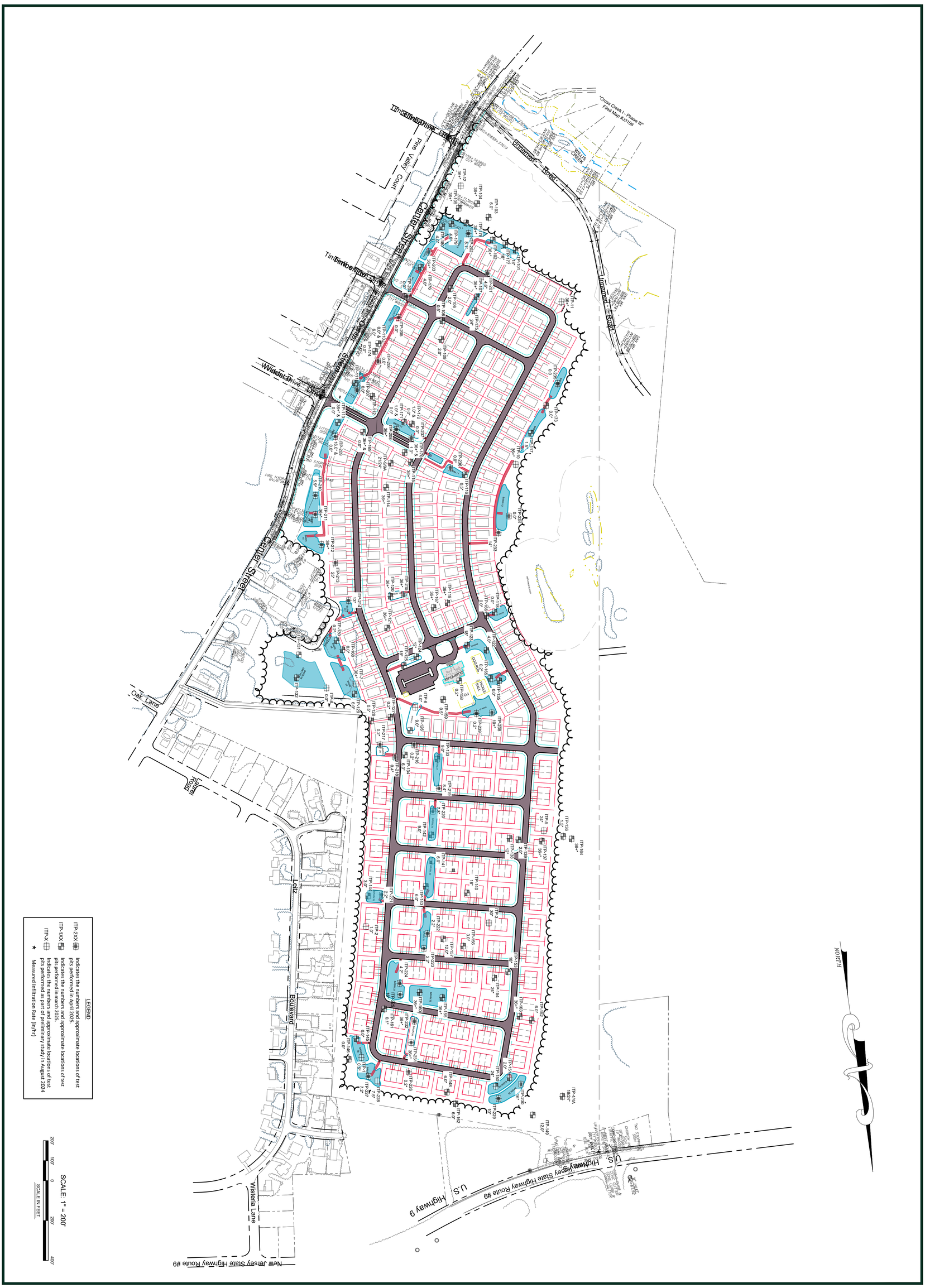
ARH ASSOCIATES
certificate of authorization
NJ no. 24GA27972300, DE no. 2167

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DRAWING LOCATION	W:\FILEROOM\TF\S\5052918\ENG\DWG\SUPPLEMENTAL\E-5052918-Soil Borings Exhibit.dwg
LAST DATE SAVED	7/24/2025
LAST SAVE BY	cmorris



1 of 1

date:	JULY 3, 2025
scale:	As Shown
drawn by:	P.T.
checked:	C.M.
proj. no.:	5052918

SOIL BORING EXHIBIT
FOR
LENNAR
BLOCK 286, LOTS 3, 5 & 6 & BLOCK 287, LOTS 5 & 7, TAX SHT. #17 & 21
VENUE AT SUMMERS CORNER
LITTLE EGG HARBOR TOWNSHIP, OCEAN COUNTY, NEW JERSEY

revisions

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certificate of authorization
NJ no. 24GA27973300, DE no. 2167

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