EXHIBIT B

Stormwater Report

PROJECT NARRATIVE
&
STORMWATER REPORT

For the Proposed:

SOLAR PHOTOVOLTAIC ARRAY

Located At:
958 Route 163
Montville, Connecticut

Prepared On:
October 20th, 2023

Prepared For:

TRITEC AMERICAS

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CT 25759

TABLE OF CONTENTS

INTRODUCTION 2
EXISTING SITE CONDITIONS 2
PROPOSED SITE CONDITIONS 2
STORMWATER MANAGEMENT 3
CT DEEP APPENDIX I REGULATIONS/COMPLIANCE 5
SOIL EROSION & SEDIMENT CONTROL 6
CONCLUSION 7

LIST OF TABLES & CALCULATIONS

Table 1: Rainfall Data 3
Table 2: Existing Drainage Areas 4
Table 3: Proposed Drainage Areas 4
Table 4A: Peak Flow Comparison Table (Drainage Area 1) 5
Table 4B: Peak Flow Comparison Table (Drainage Area 2) 5

APPENDICES

APPENDIX A: FIGURES

- Property & Topographic Survey of 958 Oakdale Road (Route 163), Montville, Connecticut
  Prepared by DGT Associates
- NRCS Soil Survey Map
- Grading & Drainage Plan (2.21)
- Existing Drainage Area Map (DA-1)
- Proposed Drainage Area Map (DA-2)

APPENDIX B: STORMWATER CALCULATIONS

- HydroCAD Reporting
  - Existing & Proposed Calcs for 2-, 25-, 50- & 100- yr storm events)
- Water Quality Volume Calculations
- NOAA Atlas Precipitation Data

INTRODUCTION

At the request of TRITEC Americas, LLC (Petitioner), Solli Engineering (Solli) has prepared this Stormwater Management Report to provide an analysis of the potential stormwater impacts associated with the proposed 0.99± megawatt (MW) alternating current (AC) ground-mounted solar electric generating facility (Project/Facility) located at 958 Route 163, Montville, Connecticut (Site). The proposed stormwater management plan outlined herein has been designed accordance with the following State of Connecticut guidelines as well as other applicable state and federal requirements and regulations:

- General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Effective Date: December 31, 2020, Modification Date: November 25, 2022)
- 2024 Connecticut Stormwater Quality Manual
- 2002 Connecticut Guidelines for Soil Erosion and Sediment Control
- Connecticut Department of Transportation 2000 Drainage Manual
- CT DEEP Appendix I Stormwater Management at Solar Array Construction Projects

EXISTING SITE CONDITIONS

The Site consists of a single parcel totaling 30.66± acres located at 958 Route 163 within the Town of Montville, Connecticut. The Site is bound by Route 163 to the east, undeveloped woods to the west, and residential uses to the north and south. The Site is currently developed with a residential dwelling and access driveway as well as a large section of undeveloped woods and agricultural field to the west of the residence.

The Project area's topography gradually slopes between 3%-10% from the northwest corner of the Facility to the southeast. Two wetland and watercourse areas are present approximately 345 feet west and 53 feet south of the project area. All proposed work will remain outside of the 100' wetland upland review area.

For more information regarding the Site, refer to the Property & Topographic Survey in Appendix A.

PROPOSED SITE CONDITIONS

The proposed Project area is 7.1± acres, within an agricultural field in the central region of the Site. Access to the Facility will be provided at the eastern edge of the Site, off of Route 163, via a new 14' wide, 630'± long gravel road. The Project will be surrounded by a 7-ft tall chain link fence to provide adequate security measures.

As currently designed, the proposed Facility will consist of 2,590 TrinaSolar TSM-DEG19C20 540W modules. The modules will be installed on a post-driven ground-mounted, single-axis tracking system, with no anticipated changes to the existing grades within the array, therefore the post-development site conditions will mimic the pre-development site conditions to the maximum extent possible. As discussed later in this report, a stormwater basin is proposed to assist in mitigating peak runoff flows, as well as to treat the Water Quality Volume (WQv) per CT DEEP requirements.

For more information regarding the Project, refer to the Grading & Drainage Plan (Sheet 2.21) in Appendix A.

STORMWATER MANAGEMENT

The Project will add approximately 9,700 square feet of impervious/gravel area. The proposed stormwater management design consists of a sediment forebay with adequate storage for 10% of the water quality volume (WQv) and a stormwater basin which provides adequate storage for the full WQv that will effectively clean and treat the stormwater runoff prior to discharging into the wetlands in the southeast corner of the Site.

METHODOLOGY

A hydrologic analysis was performed using the HydroCAD stormwater modeling system computer program developed by HydroCAD Software Solutions, LLC. Hydrographs for each watershed were developed using the SCS Synthetic Unit Hydrograph Method with a NRCC-D 24-hr rainfall distribution.

Rainfall depths for the site were used for calculating the volumes and rates of runoff for this project. The depths were taken from the NOAA Atlas documents (Latitude: 41.4826º, Longitude: -72.1710º) and the rainfall values are listed in Table 1 below.

Table 1: Rainfall Data

Return Period (Storm Event)	24-hr Rainfall Depth (inches)
2-year	3.44
25-year	6.17
50-year	6.95
100-year	7.79

The drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Maps (DA-1 & DA-2). These maps and the corresponding HydroCAD output are attached in Appendices B. Utilizing CT DEEP Appendix I, this hydrologic analysis will reflect a reduction of the Hydrologic Soil Group ("HSG") present on-site by a half (1/2) step (e.g., half the difference between the runoff curve number for HSG A versus HSG B). This reduction, as indicated by CT DEEP, is intended to account for the compaction of soils that results from extensive machinery traffic during construction of the array. The Water Quality Volume ("WQV") for the site will be calculated assuming that the gravel surfaces and concrete equipment pads are effectively impervious cover.

EXISTING CONDITIONS

Approximately 9.97 acres of the Site were analyzed for stormwater management purposes. The areas analyzed contain the contributing areas directly impacted by the proposed redevelopment. Based on existing drainage patterns, the 9.97-acre area was considered as two (2) contributing drainage areas, labeled Existing Drainage Area 1 (EDA-1) and Existing Drainage Area 2 (EDA-2).

The majority of the runoff from EDA-1 flows from northwest to southeast overland and discharges into the small wetland system located in the southeast corner of the property.

The majority of the runoff from EDA-2 flows from northwest to southeast overland and discharges into the stormwater conveyance system located in Route 163.

Table 2: Existing Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Existing Drainage Area 1 (EDA-1)	**3.83 AC**	82	11.2 Min.
Existing Drainage Area 2 (EDA-2)	**6.14 AC**	82	9.8 Min.

For more information regarding the existing drainage conditions of the project area refer to the Existing Drainage Area Map (DA-1) in Appendix A and the HydroCAD calculations in Appendix B.

PROPOSED CONDITIONS

The Project proposes to maintain existing grades within the solar array to convey stormwater runoff to the existing wetlands and a proposed stormwater basin that will provide storage and treatment of the WQv. Based on soil testing performed by Solli Engineering in the area of the proposed basin, an infiltration rate of 3 in/hr was used for the analysis. Based on the proposed drainage patterns, the 9.97-acre area was divided into three (3) contributing drainage areas, Proposed Drainage Area 1A (PDA-1A), Proposed Drainage Area 1B (PDA-1B), and Proposed Drainage Area 2 (PDA-2).

PDA-1A has a contributing drainage area of approximately 1.25 acres. Similar to existing conditions, runoff from PDA-1A flows from northwest to southeast overland and discharges into the small wetland system located in the southeast corner of the property.

PDA-1B has a contributing drainage area of approximately 2.87 acres and includes the majority of the solar array as well as a section of the gravel access drive and the concrete equipment pad. Runoff from PDA-1B flows overland from northwest to southeast and into the proposed stormwater basin. Stormwater eventually exits the basin through a 30’ wide rip-rap emergency spillway and discharges into the small wetland system located in the southeast corner of the property.

PDA-2 has a contributing drainage area of approximately 5.85 acres. Similar to existing conditions, runoff from PDA-2 flows from northwest to southeast overland and discharges into the stormwater conveyance system located in Route 163.

All proposed areas of disturbance within the solar array will be seeded with a Fuzz & Buzz Mix – ERNMX-147 or approved equal.

Table 3: Proposed Drainage Areas

Drainage Area Label	Drainage Area	Curve Number	Time of Concentration
Proposed Drainage Area 1A (PDA-1A)	1.25 AC	69	21.8 Min.
Proposed Drainage Area 1B (PDA-1B)	2.87 AC	72	19.5 Min.
Proposed Drainage Area 2 (PDA-2)	5.85 AC	70	20.1 Min.

For more information regarding the proposed stormwater management design of the Project area refer to the Proposed Drainage Area Map (DA-2) in Appendix A; and the HydroCAD and Water Quality Volume calculations in Appendix B.

As a result of the proposed stormwater management measures, the peak flows for the 2, 25, 50 and 100-year storm events are reduced from existing conditions as shown in the chart below.

Table 4A: Peak Flow Comparison Table (Drainage Area 1)

Peak Flow (cfs)			
Storm Event	**Total Drainage Areas**		**Percent Reduction in Peak Flow**
	EDA-1	**PDA-1**	
2-Year	6.06	0.70	88.4%
25-Year	14.27	6.82	52.2%
50-Year	16.66	9.47	43.2%
100-Year	19.23	11.87	38.3%

Table 4B: Peak Flow Comparison Table (Drainage Area 2)

Peak Flow (cfs)			
Storm Event	**Total Drainage Areas**		**Percent Reduction in Peak Flow**
	EDA-2	**PDA-2**	
2-Year	10.21	3.68	64.0%
25-Year	24.00	12.08	49.7%
50-Year	28.01	14.74	47.4%
100-Year	32.32	17.67	45.3%

CT DEEP APPENDIX I DESIGN REGULATIONS/COMPLIANCE

The following identifies and details the regulations and proposed compliance measures within CT DEEP Appendix I that pertain specifically to civil, stormwater, and erosion control designs.

I. Design and construction requirements:

1. Roadways, gravel surfaces, transformer pads are considered effective impervious cover for the purposes of calculating the WQV. The proposed solar panels in the array that are within existing and post-construction slopes that are greater than 15% are considered impervious for the purposes of calculating the WQV. The remainder of the proposed solar panels that are proposed within existing and post-construction slopes that are less than 15% are not considered impervious cover for the purposes of calculating the WQV because the following have been met:

    a. Vegetative areas between the rows of solar panels have a width of 10 feet which is greater than the solar panel width of 7.8 feet.
    b. The post-development stormwater runoff will be less than that of the pre-development stormwater runoff due to the proposed stormwater management basin.
    c. The Project meets (iv) of this requirement as the plan includes specific engineered phased construction plans and detailed erosion control measures.
    d. The panels are spaced and provide a minimum height of 3 feet from the ground to provide growth of native vegetation.

2. Setback and buffer requirements have been met following the below:

    a. No wetlands or waters are located within 100 feet of the proposed solar facility area. No solar panels are located within the 50-foot setback of any property boundary that is located downgradient of the construction activity.
    b. There is a minimum of 50 feet between the limit of construction activity and downgradient wetlands.

c. There is a minimum of 10 feet between the construction activity associated with the installation of the access road and interconnection and downgradient wetlands.

3. The wetlands and water courses were originally delineated by James M. McManus, MS, CPSS on January 26, 2023 and confirmed in the field by William Kenny Associates on May 17, 2023. The location of delineated resources, as well as buffers, are shown on the Site Layout Plan (Sheet 2.11) in Appendix A.

II. Design requirements for post-construction stormwater management measures:

1. Post-construction stormwater control measures have been designed and will be constructed to provide permanent stabilization and non-erosive conveyance of runoff from the site.
2. The orientation of the panels follows the existing slopes on the site to the extent practicable.
3. The hydrologic analysis has been completed, as described above, with the following details:

   a. The Project evaluates and controls the 2, 25, 50, and 100-year 24-hour rainfall events in accordance with the CT Stormwater Quality Manual. Maximum sheet flow was kept to 100 feet and shallow concentrated flows were calculated using velocity factors per NRCS Part 630 National Engineering Handbook Chapter 15.
   b. NRCS soil mapping was used for the stormwater design.
   c. There are no areas where the grades will change by more than two (2) feet from existing conditions. With the modeled half-drop (1/2) in HSG for the facility area and the change in curve number associated with the ground cover change from existing to proposed conditions, there will be a decrease in post-development runoff in comparison to pre-development runoff.
   d. Pre-and post-development drainage area maps & computations are provided in Appendices A and B.
   e. The information above and herein demonstrates that the Project will have no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties.

SOIL EROSION & SEDIMENT CONTROL

The proposed plans for soil erosion and sediment control prepared for this project have been developed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, prepared by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.

The soil erosion and sediment control measures that will be proposed as part of this project include geotextile silt fences with wings for areas less than 1 acre, compost filter socks, construction entrance, dust control measures, and a temporary sediment trap. The soil erosion and sediment control measures will be implemented in two (2) phases. Phase I measures are associated with the clearing, grubbing and demolition of the existing Site features. Phase II measures are associated with fine grading and installation of the modules, hardscape, and utilities infrastructure.

CONCLUSION

The stormwater management for the proposed site has been designed such that the post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50-, and 100- year storm events are less than the pre-development peak discharges. In addition, the Project adheres to the regulations and guidelines presented by CT DEEP's Appendix I as described above. As a result, the proposed solar array will not result in any adverse conditions to the surrounding areas and properties.

Appendix A – Figures

Property & Topographic Survey of 958 Oakdale Road (Route 163), Montville, Connecticut

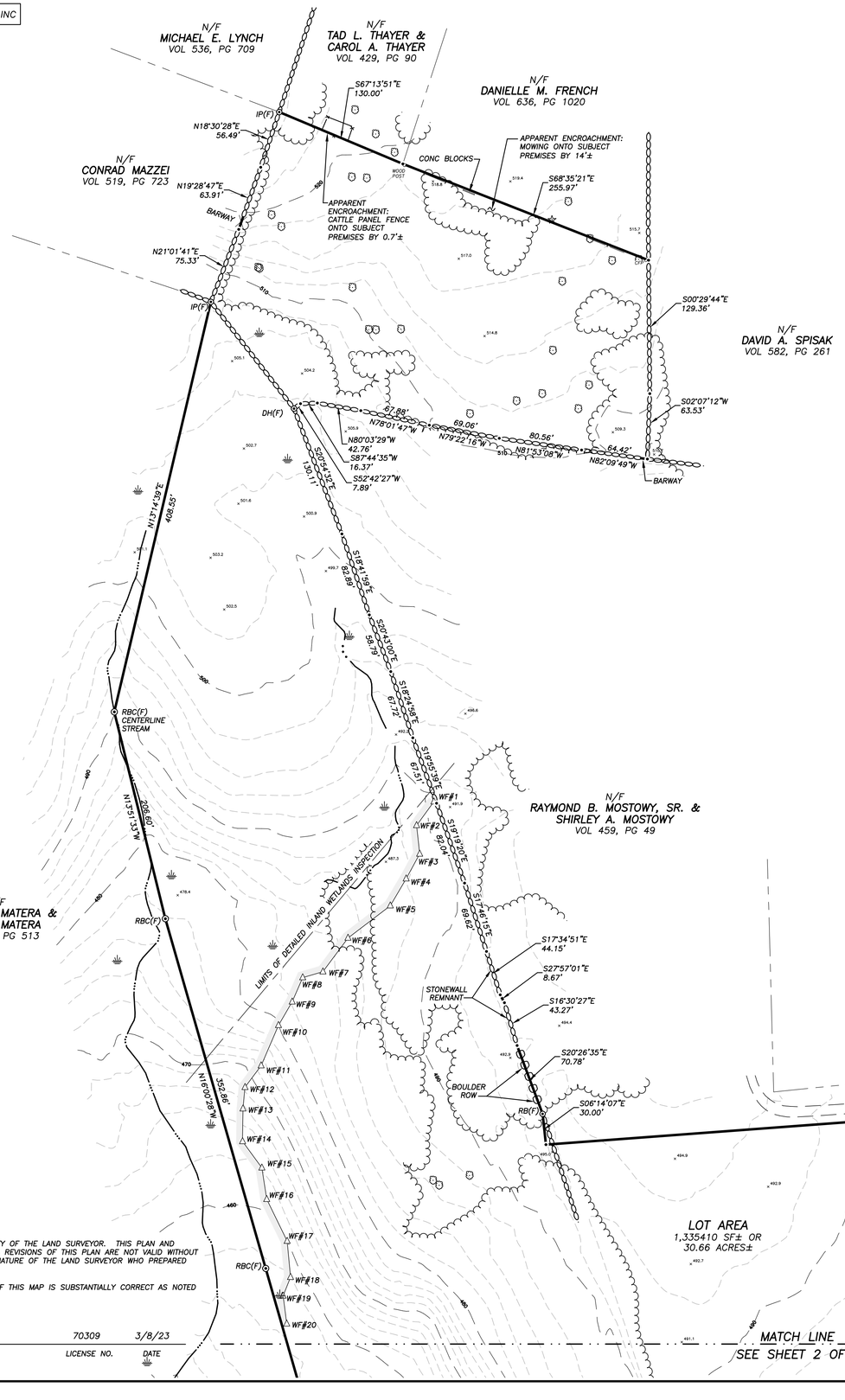
Prepared by DGT Associates

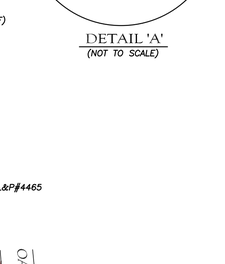
NRCS Soil Survey Map

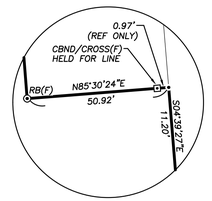
Grading & Drainage Plan (2.21)

Existing Drainage Area Map (DA-1)

Proposed Drainage Area Map (DA-2)

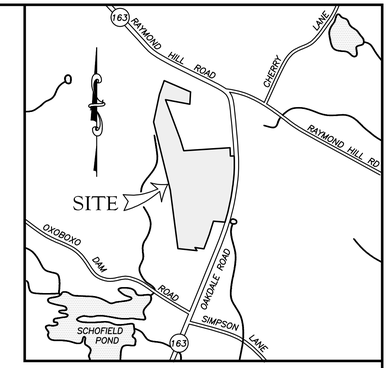






DETAIL 'A'
(NOT TO SCALE)

CALL BEFORE YOU DIG!
DIAL 811



LOCATION MAP
SCALE: 1"=1000'

LEGEND

±	MORE OR LESS
A.K.A.	ALSO KNOWN AS
	CATCH BASIN
CFP	CEDAR FENCE POST
CL&P	CONNECTICUT LIGHT & POWER
CPP	CORRUGATED PLASTIC PIPE
CMP	CORRUGATED METAL PIPE
CBND/CROSS⊡	CONCRETE BOUND WITH CROSS
CHD ⊡	CONNECTICUT HIGHWAY DEPARTMENT MONUMENT
DH ⊙	DRILL HOLE
IP ⊙	IRON PIPE
•	PROPERTY POINT
RB ⊙	REBAR
RBC ⊙	REBAR WITH CAP
EOP	EDGE OF PAVEMENT
(F)	FOUND
(NF)	NOT FOUND
HW	HEADWALL
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
INV	INVERT
MFP	METAL FENCE POST
N/F	NOW OR FORMERLY
OHW	OVERHEAD WIRE
R.O.W.	RIGHT OF WAY
REF	REFERENCE
SF	SQUARE FEET
	TREELINE
	UTILITY POLE
SNET	SOUTHERN NEW ENGLAND TELEPHONE
×100.0	SPOT GRADE
	STEEL GUIDE RAIL
SGR	STEEL GUIDE RAIL
	STONEWALL
UE	UNDERGOUND ELECTRIC
W/W	WITH WIRE
	BARWAY
	LIMITS OF INLAND WETLANDS
△WF#	WETLAND FLAG
Ⓦ	WELL
	EXISTING CONTOUR LINE, 2' INTERVAL
	EXISTING CONTOUR LINE, 10' INTERVAL
	BARBED WIRE FENCE
	STOCKADE FENCE
	RETAINING WALL

REFERENCE NOTES

1. THIS MAP AND SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THROUGH 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS OF ACCURACY, CONTENT AND CERTIFICATION FOR SURVEYS AND MAPS", ADOPTED EFFECTIVE JUNE 21, 1996, REVISED OCTOBER 26, 2018. IT IS A PERIMETER SURVEY CONFORMING TO HORIZONTAL ACCURACY "CLASS A-2" STANDARDS. THE BOUNDARY DETERMINATION CATEGORY IS A "RESURVEY". TOPOGRAPHIC INFORMATION HAS BEEN OBTAINED FROM GOLDEN AERIAL SURVEYS AND CONFORMS TO TOPOGRAPHIC ACCURACY "CLASS T-3". REFERENCE MAY BE MADE TO NORTH AMERICAN DATUM OF 1983 (NAD 83) AND THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

2. REFERENCE MAY BE MADE TO THE FOLLOWING DEEDS RECORDED IN THE TOWN OF MONTVILLE LAND RECORDS:

   VOLUME: 674 PAGES: 282-285 TYPE: WARRANTY
   GRANTOR: RAYMOND B. MOSTOWY, SR. & SHIRLEY A. MOSTOWY
   GRANTEE: THE NEVAR COMPANY
   DATE EXECUTED: AUG. 26, 2021 DATE RECORDED: AUG. 27, 2021

3. REFERENCE MAY BE MADE TO THE FOLLOWING PLANS:
   A) "PLAN SHOWING DIVISION OF LAND OF ESTATE OF AARON KIRSCH, ROUTE 163 MONTVILLE, CONN. JULY 1956, SCALE: 1"=40'."
   B) "PROPERTY OF RAYMOND B. & SHIRLEY MOSTOWY, ROUTE NO. 163, MONTVILLE, CONN. SCALE: 1"=40', JUNE 1974"
   C) "MOSTOWY ONE LOT SUBDIVISION, LAND OF RAYMOND & MARY MOSTOWY, ROUTE 163 MONTVILLE, CONN. SCALE: 1"=40', DATE: AUG 1986"
   D) "MOSTOWY SUBDIVISION PROPERTY OF RAYMOND & MARY J. MOSTOWY, OWNER AND SUBDIVIDER, ROUTE 163 MONTVILLE, CONN. SCALE: 1"=40', DATE: 2-6-89"
   E) "BOUNDARY LINE ADJUSTMENT PLAN PREPARED FOR RAYMOND B. MOSTOWY SR., CONNECTICUT ROUTE 163 (RAYMOND HILL ROAD) MONTVILLE, CONN. SCALE: 1"=100', DATE: 2-23-2010"
   F) "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF MONTVILLE, RAYMOND HILL ROAD FROM THE NORWICH – HADLYME ROAD SO. EASTERLY TO OXOBOXO BROOK. ROUTE NO. 163, NUMBER: 85-02, SHEET 5 OF 6, SCALE: 1"=40', DATE: 12-31-36"
   G) "CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP TOWN OF MONTVILLE, RAYMOND HILL ROAD FROM THE NORWICH – HADLYME ROAD SO. EASTERLY TO OXOBOXO BROOK. ROUTE NO. 163, NUMBER: 85-02, SHEET 4 OF 6, SCALE: 1"=40', DATE: 12-31-36"

4. WETLANDS WERE DELINEATED BY JAMES M. MCMANUS, MS, CPSS ON JANUARY 26, 2023.

5. SAID PARCEL IS TOGETHER WITH AND SUBJECT TO SUCH RIGHTS AS MAY APPEAR OF RECORD.

6. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING, PAROLE TESTIMONY AND OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO DGT ASSOCIATES. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY FUTURE CONSTRUCTION ACTIVITY. CALL BEFORE YOU DIG AT 1-800-922-4455.

7. MINOR IRREGULARITIES MAY EXIST BETWEEN STONE WALLS AND/OR FENCE LINES AND PRINCIPAL COURSES DEPICTED HEREON.

8. LAND RECORDS RESEARCH COMPLETED ON JANUARY 23, 2023.

9. FIELD WORK COMPLETED ON FEBRUARY 24, 2023.

10. ALL MONUMENTATION FOUND OR SET IS DEPICTED HEREON.

GRAPHIC SCALE

60 0 30 60 120 240

SCALE: 1" = 60'

"TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON."

ROBERT E. BIELERT, PLS	LICENSE NO.	DATE
	70309	3/8/23

PROPERTY & TOPOGRAPHIC SURVEY

958 OAKDALE ROAD (A.K.A. CONNECTICUT ROUTE 163)

MONTVILLE, CONNECTICUT

PREPARED FOR

SOLLI ENGINEERING

PREPARED BY:
DGT Associates
Land Surveyors
Preston, Connecticut
Boston • Worcester • Framingham
148 Route 2 - Preston, CT 06365
860-899-1999 www.DGTassociates.com

SCALE: 1"=60'	DATE: MARCH 2023	PROJECT NO: C1139	SHEET 1 OF 2

CT GRID NORTH
NAD83

CALL BEFORE YOU DIG!
DIAL 811

LEGEND

±	MORE OR LESS
A.K.A.	ALSO KNOWN AS
CB	CATCH BASIN
CFP	CEDAR FENCE POST
CL&P	CONNECTICUT LIGHT & POWER
CPP	CORRUGATED PLASTIC PIPE
CMP	CORRUGATED METAL PIPE
CBND/CROSS⊠	CONCRETE BOUND WITH CROSS
CHD ⊡	CONNECTICUT HIGHWAY DEPARTMENT MONUMENT
DH ⊛	DRILL HOLE
IP ⊛	IRON PIPE
•	PROPERTY POINT
RB ⊛	REBAR
RBC ⊛	REBAR WITH CAP
EOP	EDGE OF PAVEMENT
(F)	FOUND
(NF)	NOT FOUND
HW	HEADWALL
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
INV	INVERT
MFP	METAL FENCE POST
N/F	NOW OR FORMERLY
OHW	OVERHEAD WIRE
R.O.W.	RIGHT OF WAY
REF	REFERENCE
SF	SQUARE FEET
	TREELINE
	UTILITY POLE
SNET	SOUTHERN NEW ENGLAND TELEPHONE
×100.0	SPOT GRADE
SGR	STEEL GUIDE RAIL
SGR	STEEL GUIDE RAIL
	STONEWALL
UE	UNDERGOUND ELECTRIC
W/W	WITH WIRE
	BARWAY
	LIMITS OF INLAND WETLANDS
△WF#	WETLAND FLAG
Ⓦ	WELL
	EXISTING CONTOUR LINE, 2' INTERVAL
	EXISTING CONTOUR LINE, 10' INTERVAL
	BARBED WIRE FENCE
	STOCKADE FENCE
	RETAINING WALL

GRAPHIC SCALE

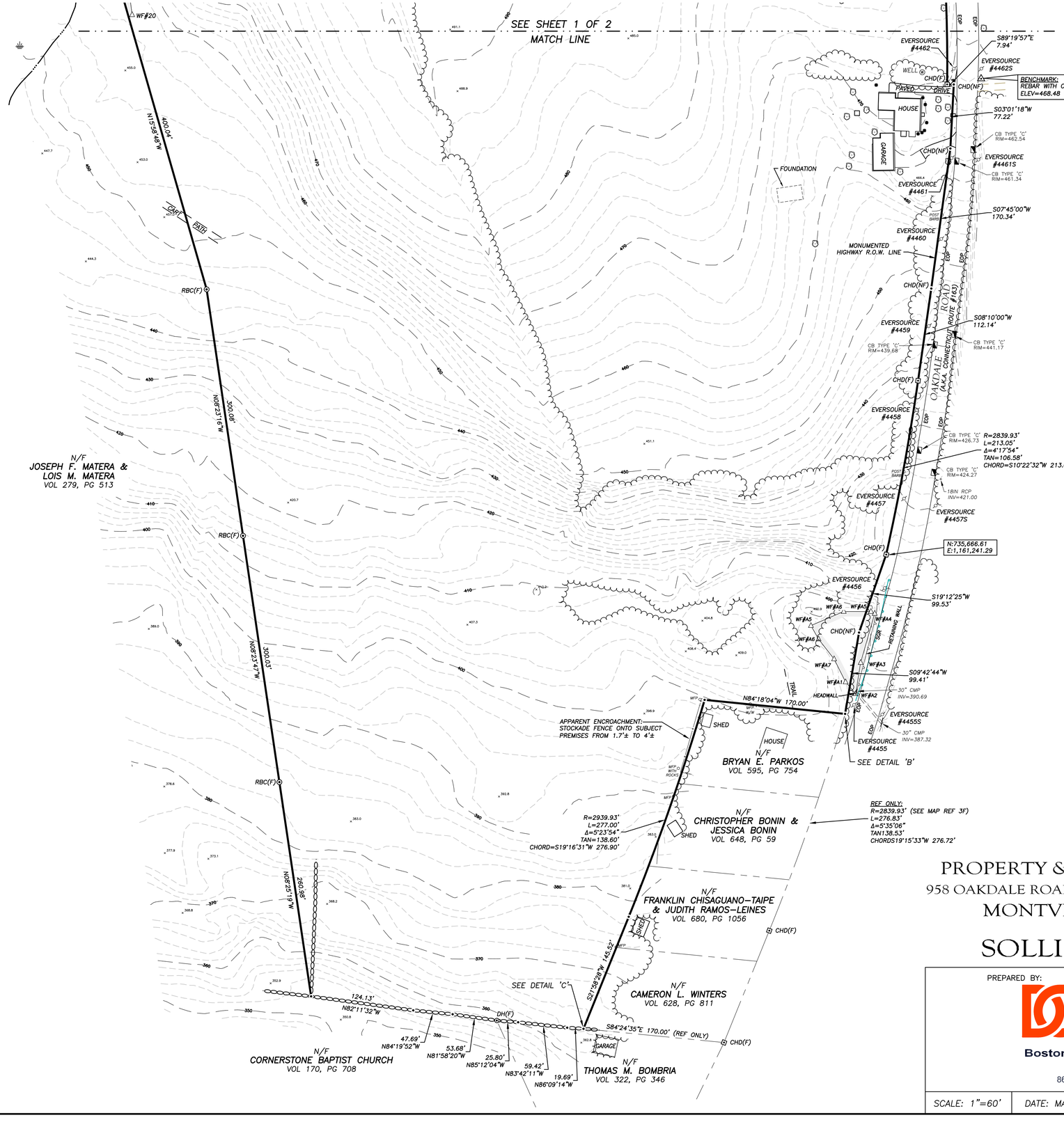
60 0 30 60 120 240

SCALE: 1" = 60'

THIS DRAWING IS THE PROPERTY OF THE LAND SURVEYOR. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OF THE LAND SURVEYOR WHO PREPARED THIS PLAN.

"TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON."

ROBERT E. BIELERT, PLS	70309 LICENSE NO.	3/8/23 DATE



PROPERTY & TOPOGRAPHIC SURVEY

958 OAKDALE ROAD (A.K.A. CONNECTICUT ROUTE 163)

MONTVILLE, CONNECTICUT

PREPARED FOR

SOLLI ENGINEERING

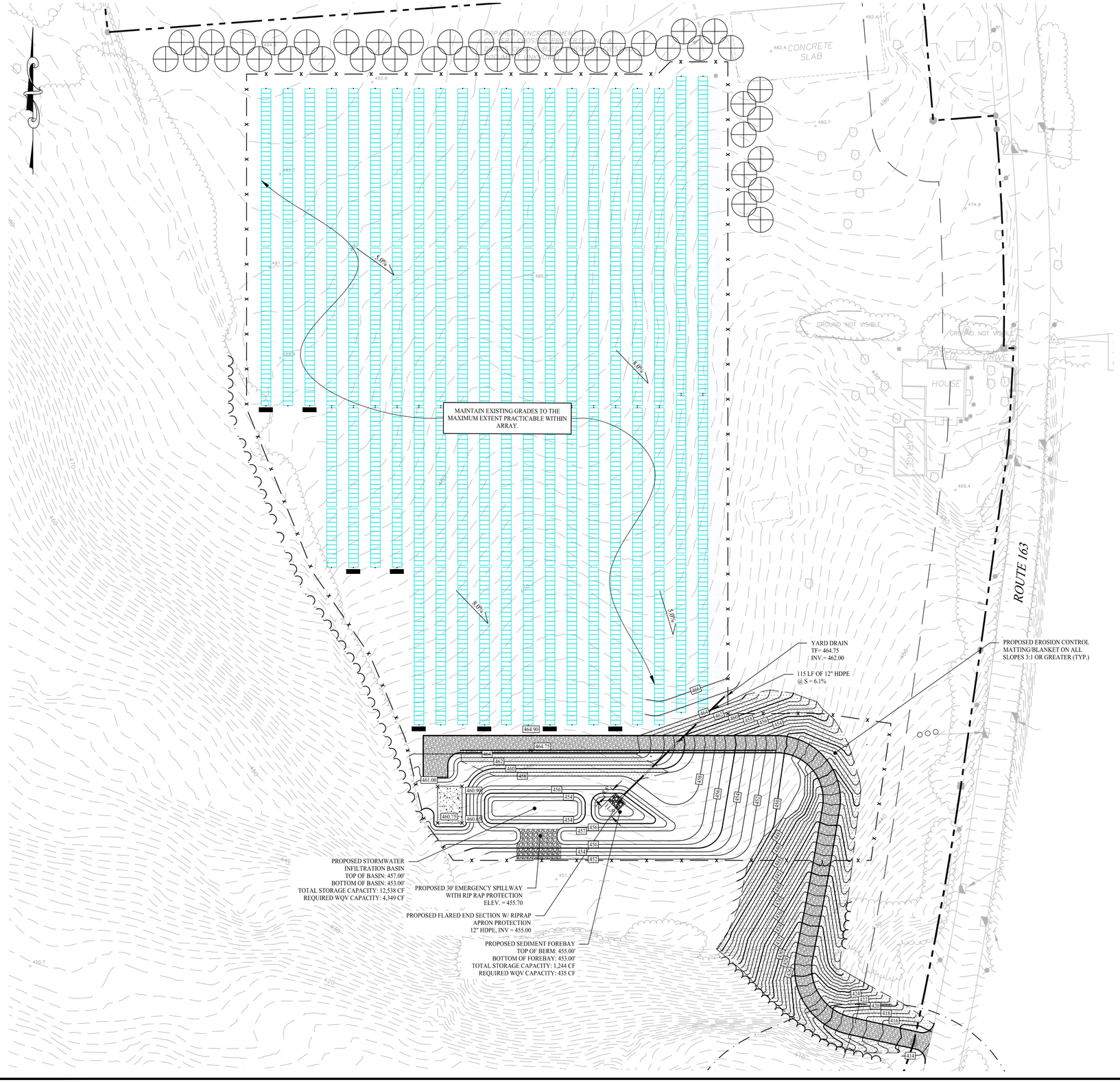
PREPARED BY:

DGT Associates
Land Surveyors
Preston, Connecticut

Boston • Worcester • Framingham

148 Route 2 - Preston, CT 06365
860-899-1999 www.DGTassociates.com

SCALE: 1"=60'	DATE: MARCH 2023	PROJECT NO: C1139	SHEET 2 OF 2



GENERAL NOTES

1. THIS DRAWING IS INTENDED TO DESCRIBE GRADING AND DRAINAGE ONLY. REFER TO SITE PLAN FOR GENERAL INFORMATION, AND DETAIL SHEETS FOR CONSTRUCTION DETAILS.
2. THE CONTRACTOR SHALL PRESERVE EXISTING VEGETATION WHERE POSSIBLE AND/OR AS NOTED ON DRAWINGS. REFER TO EROSION CONTROL PLAN FOR LIMIT OF DISTURBANCE AND EROSION CONTROL NOTES.
3. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR USE IN FINAL LANDSCAPING.
4. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY GOVERNMENT AND LOCAL AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY CONSTRUCTION PERMITS FROM THE TOWN OF MONTVILLE REQUIRED TO PERFORM ALL WORK. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
5. THE CONTRACTOR SHALL COMPACT FILL IN 12" MAXIMUM LIFTS UNDER ALL PARKING, BUILDING, AND DRIVE AREAS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557 (MODIFIED PROCTOR TEST)
6. UNDERDRAINS SHALL BE ADDED, IF DETERMINED NECESSARY IN THE FIELD BY THE ENGINEER OF RECORD, AFTER SUBGRADE IS ROUGH GRADED.
7. ALL DISTURBANCE INCURRED TO TOWN OR STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF MONTVILLE AUTHORITY.
8. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE OWNER AND/OR OWNER'S ENVIRONMENTAL CONSULTANT.
9. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
10. ALL DISTURBED AREAS TO BE RESEEDED WITH ERNMX-147 WITHIN THE ARRAY AREA. ERNMX-610 WILL BE USED OUTSIDE FENCELINE AND IN NON-ARRAY AREAS.

LEGEND

- PROPERTY LINE
- 420 MAJOR CONTOURS
- 421 MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- 568.85 PROPOSED SPOT ELEVATION
- 568.85 EXISTING SPOT ELEVATION
- STORM DRAIN PIPE
- RIP RAP SPILLWAY
- OUTLET CONTROL STRUCTURE
- FLARE END SECTION
- LEVEL SPREADER

ABBREVIATIONS

ELEV	ELEVATION
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LF	LINEAR FEET
S	SLOPE
TF	TOP OF FRAME
TYP	TYPICAL

Rev. #:	Date	Description

Graphic Scale: 40 0 40 80

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Drawn By:	AWC
Checked By:	RPP
Approved By:	KMS
Project #:	22109401
Plan Date:	09/30/23
Scale:	1" = 40'

STATE OF CONNECTICUT KEVIN M. SOLLI 25759 LICENSED PROFESSIONAL ENGINEER

Kevin Solli, P.E.
CT 25759

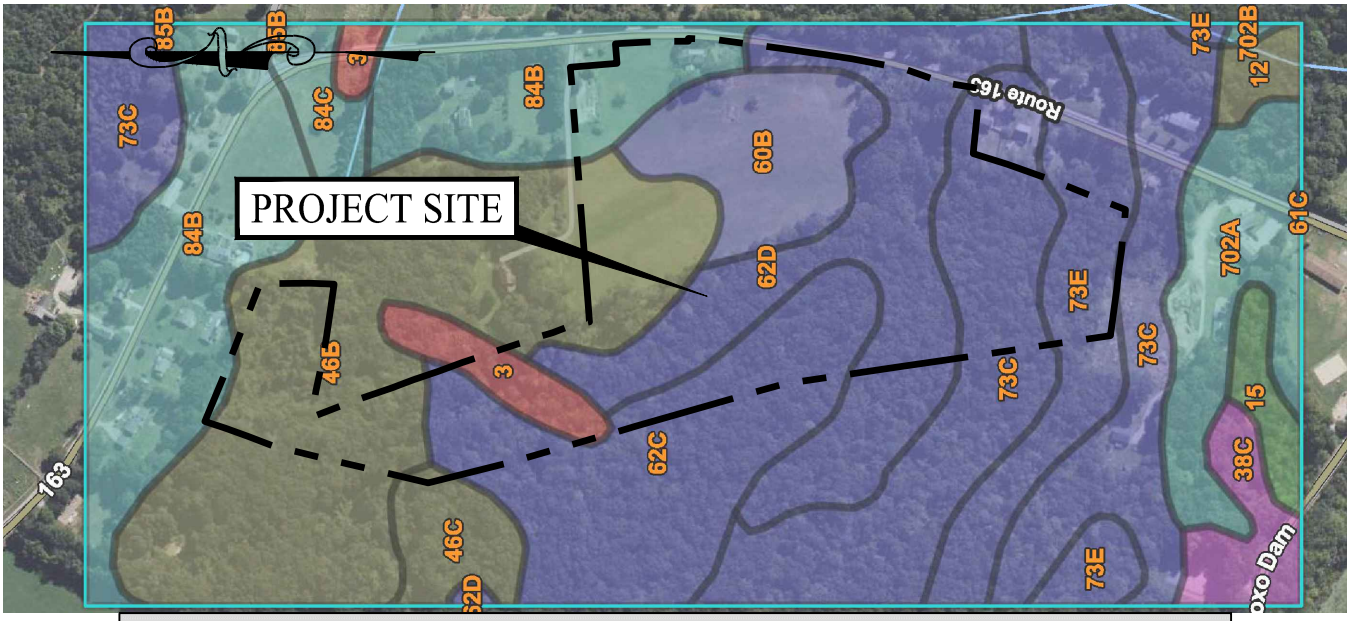
Project:

PROPOSED SOLAR PHOTOVOLTAIC ARRAY

958 CT ROUTE 163
MONTVILLE, CONNECTICUT

Sheet Title: GRADING & DRAINAGE PLAN

Sheet #: 2.21



Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	D	3.7	4.1%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	C/D	19.0	20.8%
46C	Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	C/D	2.0	2.2%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B	5.3	5.8%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	10.8	11.9%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	B	12.9	14.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	10.0	10.9%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	2.2	2.4%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	C	16.7	18.3%

NOTE: BASE MAP RESOURCES TAKEN FROM THE NATURAL RESOURCES CONSERVATION SERVICE, URL: https://websoilsurvey.sc.egov.usda.gov

500 0 250 500

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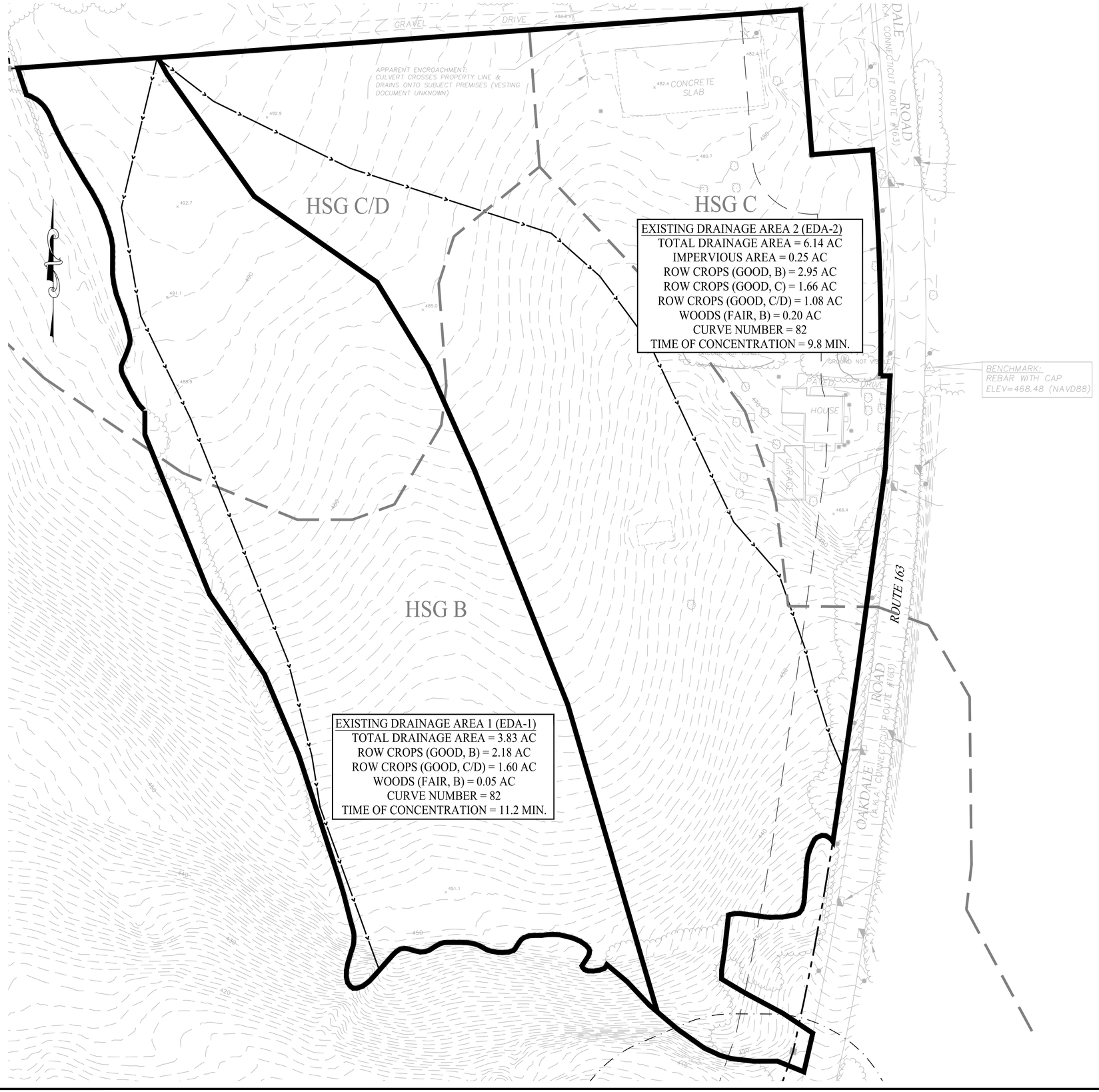
SOIL SURVEY MAP

958 ROUTE 163
MONTVILLE, CONNECTICUT

Project #:	22109401
Plan Date:	09/30/23
Scale:	1" = 500'
Figure:	



GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER QUALITY MANUAL AND CT DEEP APPENDIX I.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA
- FLOW PATH

Rev. #:	Date	Description

Graphic Scale: 40 0 40 80

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Drawn By:	AWC
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Project #:	22109401
Plan Date:	09/30/23
Scale:	1" = 40'

Kevin Solli, P.E.
CT 25759

Project:

PROPOSED SOLAR PHOTOVOLTAIC ARRAY

958 CT ROUTE 163
MONTVILLE, CONNECTICUT

Sheet Title: EXISTING DRAINAGE AREA MAP

Sheet #: DA-1

PROPOSED DRAINAGE AREA 1B (PDA-1B)
TOTAL DRAINAGE AREA = 2.87 AC
GRAVEL AREA = 0.05 AC
MEADOW (GOOD, B/C) = 1.45 AC
MEADOW (GOOD, D) = 1.37 AC
CURVE NUMBER = 72
TIME OF CONCENTRATION = 19.5 MIN.

PROPOSED DRAINAGE AREA 2 (PDA-2)
TOTAL DRAINAGE AREA = 5.85 AC
GRAVEL AREA = 0.16 AC
IMPERVIOUS AREA = 0.25 AC
MEADOW (GOOD, B/C) = 1.52 AC
MEADOW (GOOD, C/D) = 0.12 AC
MEADOW (GOOD, D) = 0.38 AC
OPEN SPACE (GOOD, B) = 1.49 AC
OPEN SPACE (GOOD, C) = 1.55 AC
OPEN SPACE (GOOD, C/D) = 0.38 AC
CURVE NUMBER = 70
TIME OF CONCENTRATION = 20.1 MIN.

PROPOSED DRAINAGE AREA 1A (PDA-1A)
TOTAL DRAINAGE AREA = 1.25 AC
IMPERVIOUS AREA = 0.01 AC
MEADOW (GOOD, B/C) = 0.41 AC
MEADOW (GOOD, D) = 0.23 AC
OPEN SPACE (GOOD, B) = 0.31 AC
OPEN SPACE (GOOD, C/D) = 0.29 AC
CURVE NUMBER = 69
TIME OF CONCENTRATION = 21.8 MIN.

HSG C/D

HSG C

HSG B

BENCHMARK:
REBAR WITH CAP
ELEV=468.48 (NAVD88)

ROUTE 163

OAKDALE ROAD (A.K.A. CONNECTICUT ROUTE #65)

GENERAL NOTES

1. THE STORMWATER MANAGEMENT PLAN AND DESIGN IS INTENDED TO BE IN COMPLIANCE WITH THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION STORMWATER QUALITY MANUAL AND CT DEEP APPENDIX I.
2. STORMWATER RUNOFF ANALYSIS WAS CALCULATED USING THE SCS TR-55 METHODOLOGY.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJOINING LOT LINE
- LIMIT OF DRAINAGE AREA
- FLOW PATH

Rev. #:	Date	Description

Graphic Scale: 40 0 40 80

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Drawn By:	AWC
Checked By:	RPP
Approved By:	KMS
Project #:	22109401
Plan Date:	09/30/23
Scale:	1" = 40'

Kevin Solli, P.E.
CT 25759

Project:

PROPOSED SOLAR PHOTOVOLTAIC ARRAY

958 CT ROUTE 163
MONTVILLE, CONNECTICUT

Sheet Title: PROPOSED DRAINAGE AREA MAP

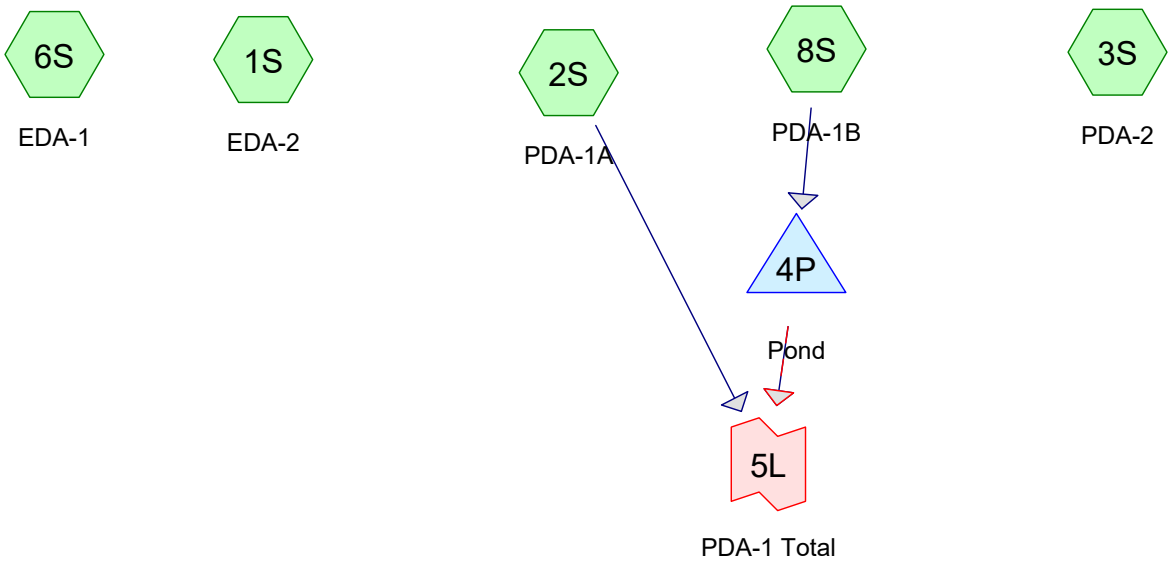
Sheet #: DA-2

Appendix B – Stormwater Calculations

Hydrology Calculations (2-, 25-, 50-, 100-year storm events)

Water Quality Volume Calculations

NOAA Atlas Precipitation Data



Subcat Reach Pond Link

Routing Diagram for Oakdale Hydrology
Prepared by Solli Engineering, Printed 11/6/2023

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EDA-2 Runoff Area=6.140 ac 4.07% Impervious Runoff Depth=1.73"
Flow Length=887' Tc=9.8 min CN=82 Runoff=10.21 cfs 0.887 af

Subcatchment 2S: PDA-1A Runoff Area=1.250 ac 0.80% Impervious Runoff Depth=0.92"
Flow Length=1,008' Tc=21.8 min CN=69 Runoff=0.70 cfs 0.096 af

Subcatchment 3S: PDA-2 Runoff Area=5.850 ac 4.27% Impervious Runoff Depth=0.97"
Flow Length=887' Tc=20.1 min CN=70 Runoff=3.68 cfs 0.473 af

Subcatchment 6S: EDA-1 Runoff Area=3.830 ac 0.00% Impervious Runoff Depth=1.73"
Flow Length=1,008' Tc=11.2 min CN=82 Runoff=6.06 cfs 0.553 af

Subcatchment 8S: PDA-1B Runoff Area=2.870 ac 0.00% Impervious Runoff Depth=1.08"
Flow Length=660' Tc=19.5 min CN=72 Runoff=2.09 cfs 0.259 af

Pond 4P: Pond Peak Elev=455.05' Storage=4,337 cf Inflow=2.09 cfs 0.259 af
Discarded=0.25 cfs 0.259 af Primary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.259 af

Link 5L: PDA-1 Total Inflow=0.70 cfs 0.096 af
Primary=0.70 cfs 0.096 af

Summary for Subcatchment 1S: EDA-2

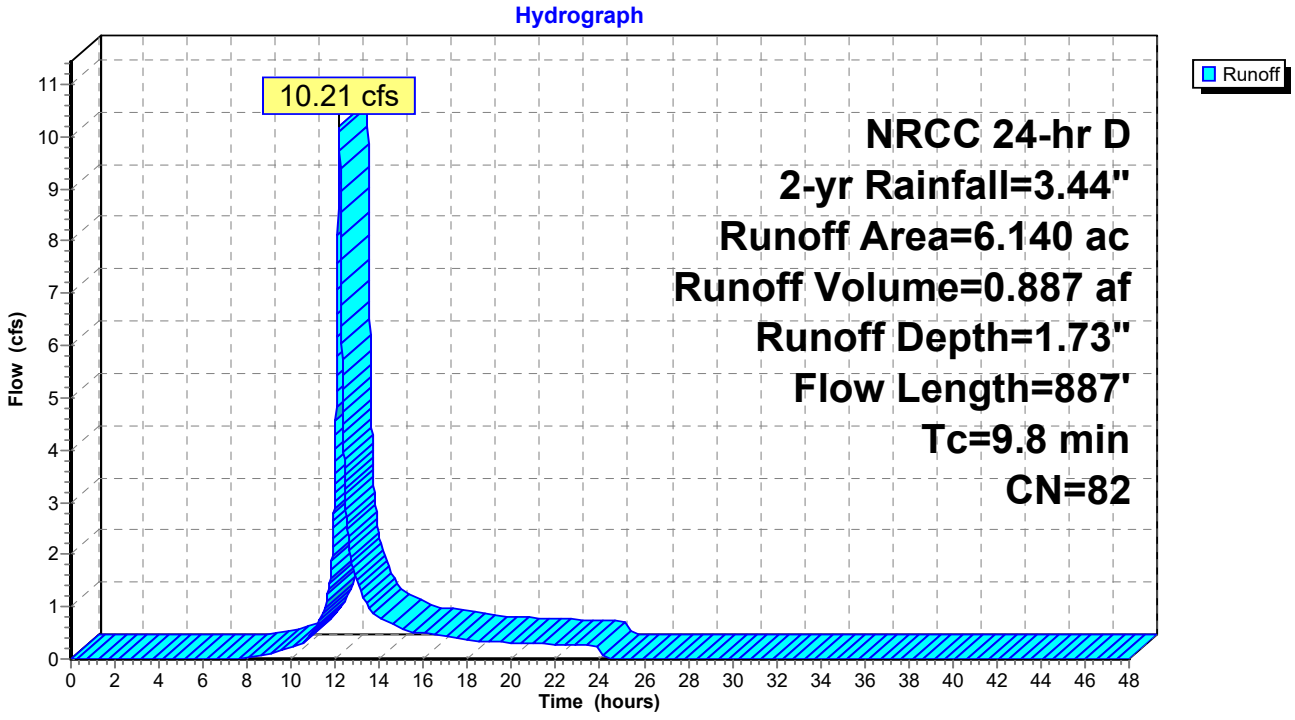
Runoff = 10.21 cfs @ 12.17 hrs, Volume= 0.887 af, Depth= 1.73"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 2-yr Rainfall=3.44"

	Area (ac)	CN	Description
	0.250	98	Paved parking, HSG B
	2.950	78	Row crops, straight row, Good, HSG B
	1.660	85	Row crops, straight row, Good, HSG C
*	1.080	87	Row crops, straight row, Good, HSG C/D
	0.200	60	Woods, Fair, HSG B
	6.140	82	Weighted Average
	5.890		95.93% Pervious Area
	0.250		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
5.5	787	0.0700	2.38		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
9.8	887	Total			

Subcatchment 1S: EDA-2



Summary for Subcatchment 2S: PDA-1A

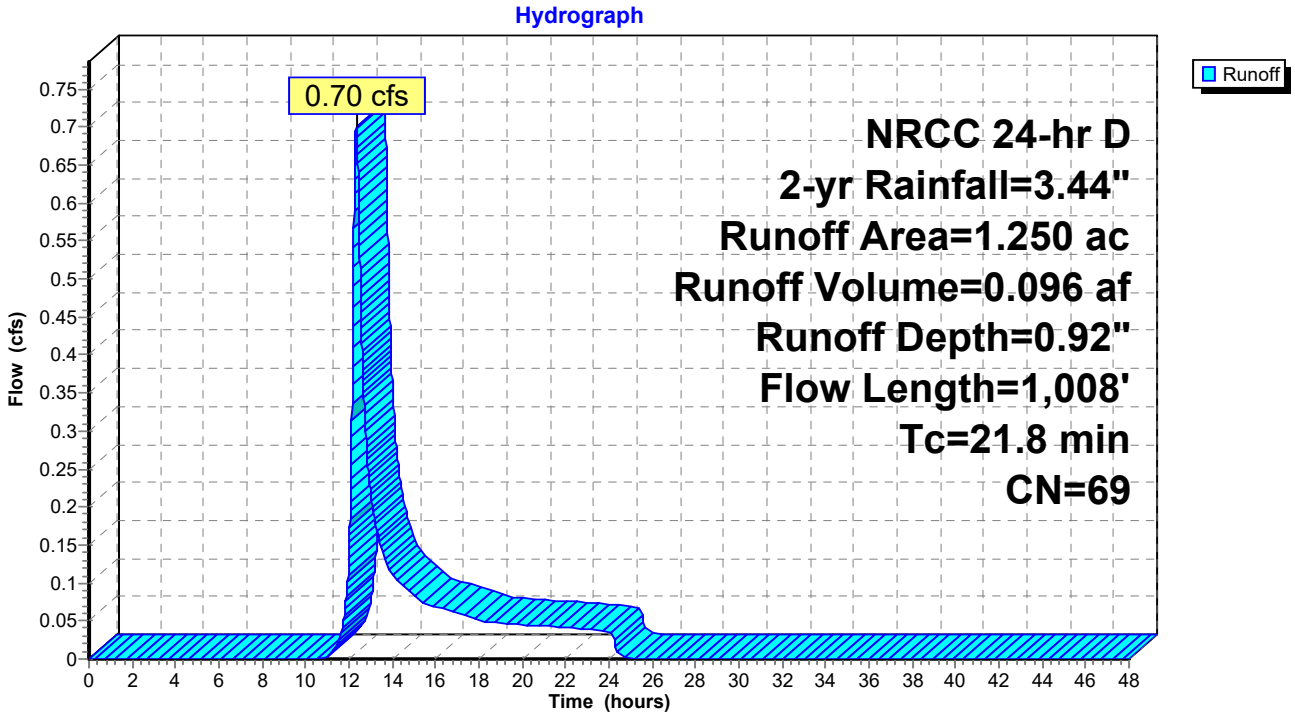
Runoff = 0.70 cfs @ 12.33 hrs, Volume= 0.096 af, Depth= 0.92"
Routed to Link 5L : PDA-1 Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 2-yr Rainfall=3.44"

	Area (ac)	CN	Description
*	0.290	77	>75% Grass cover, Good, HSG C-D
*	0.410	65	Meadow, non-grazed, HSG B/C
	0.230	78	Meadow, non-grazed, HSG D
	0.010	98	Paved parking, HSG B
	0.310	61	>75% Grass cover, Good, HSG B
	1.250	69	Weighted Average
	1.240		99.20% Pervious Area
	0.010		0.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
8.8	908	0.0600	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
21.8	1,008	Total			

Subcatchment 2S: PDA-1A



Summary for Subcatchment 3S: PDA-2

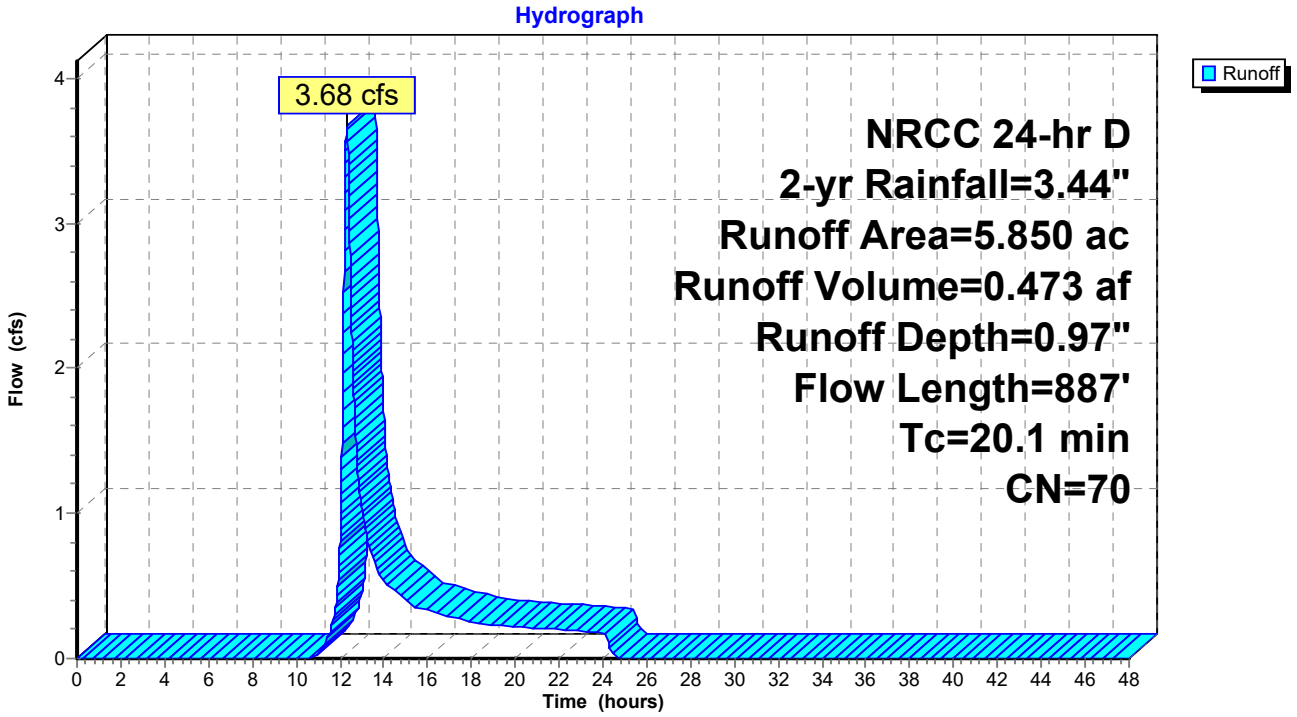
Runoff = 3.68 cfs @ 12.31 hrs, Volume= 0.473 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 2-yr Rainfall=3.44"

	Area (ac)	CN	Description
	0.160	96	Gravel surface, HSG B
	0.380	78	Meadow, non-grazed, HSG D
*	0.120	75	Meadow, non-grazed, HSG C/D
*	1.520	65	Meadow, non-grazed, HSG B/C
	1.490	61	>75% Grass cover, Good, HSG B
	1.550	74	>75% Grass cover, Good, HSG C
*	0.380	77	>75% Grass cover, Good, HSG C/D
	0.250	98	Paved parking, HSG B
	5.850	70	Weighted Average
	5.600		95.73% Pervious Area
	0.250		4.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
7.1	787	0.0700	1.85		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
20.1	887	Total			

Subcatchment 3S: PDA-2



Summary for Subcatchment 6S: EDA-1

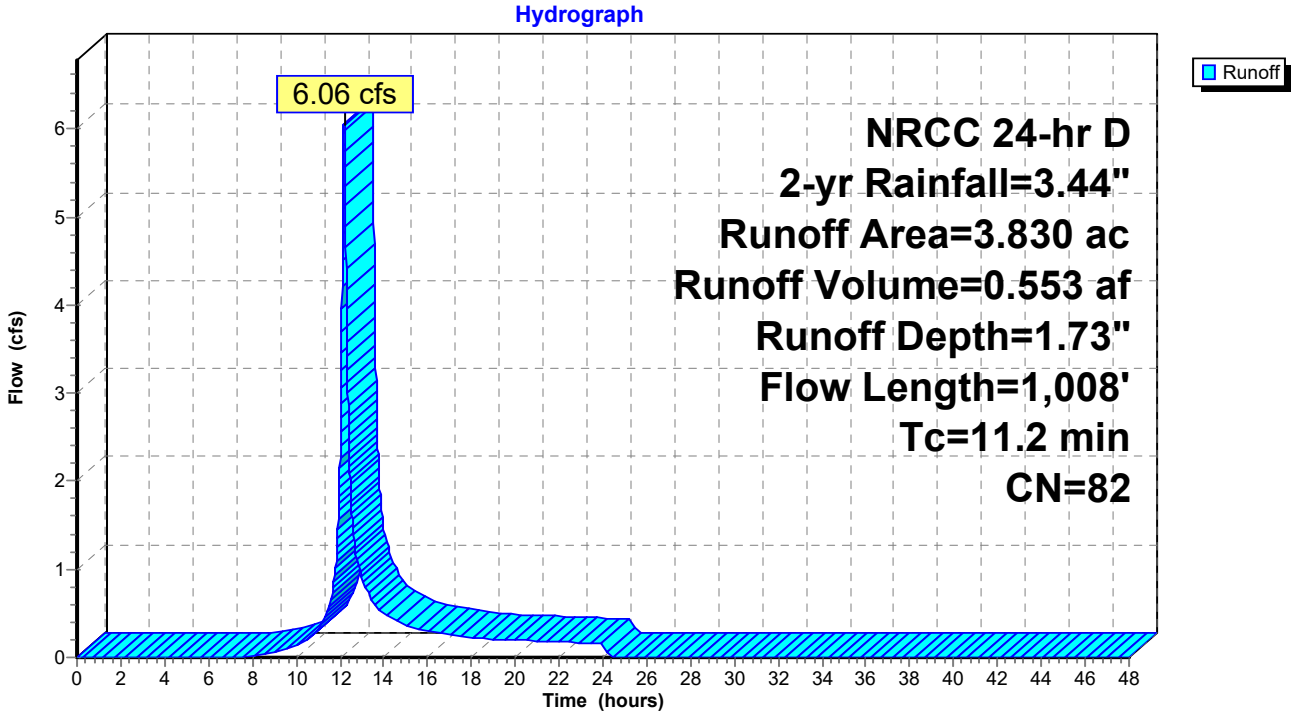
Runoff = 6.06 cfs @ 12.19 hrs, Volume= 0.553 af, Depth= 1.73"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 2-yr Rainfall=3.44"

	Area (ac)	CN	Description
	2.180	78	Row crops, straight row, Good, HSG B
*	1.600	87	Row crops, straight row, Good, HSG C/D
	0.050	60	Woods, Fair, HSG B
	3.830	82	Weighted Average
	3.830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
6.9	908	0.0600	2.20		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
11.2	1,008	Total			

Subcatchment 6S: EDA-1



Summary for Subcatchment 8S: PDA-1B

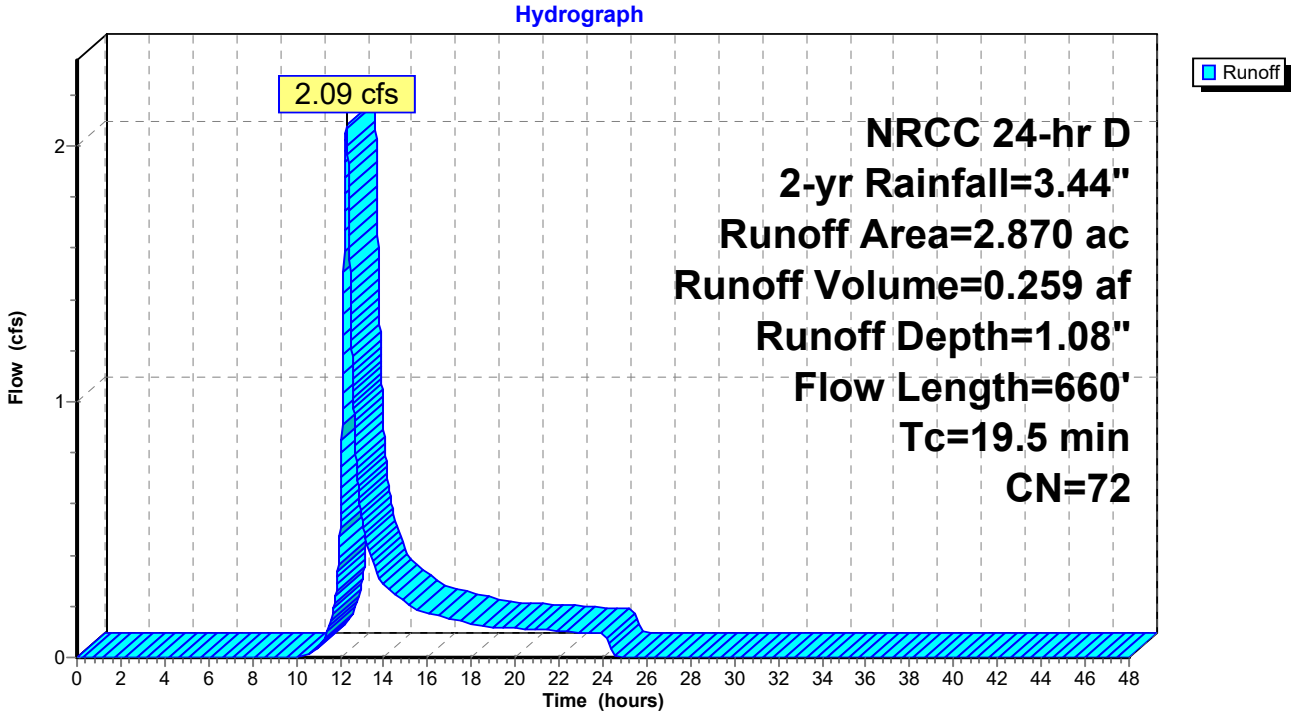
Runoff = 2.09 cfs @ 12.29 hrs, Volume= 0.259 af, Depth= 1.08"
Routed to Pond 4P : Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 2-yr Rainfall=3.44"

	Area (ac)	CN	Description
*	1.450	65	Meadow, non-grazed, HSG B/C
	1.370	78	Meadow, non-grazed, HSG D
	0.050	96	Gravel surface, HSG B
	2.870	72	Weighted Average
	2.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0200	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
5.7	548	0.0520	1.60		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.1	12	0.0100	2.03		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
19.5	660	Total			

Subcatchment 8S: PDA-1B



Summary for Pond 4P: Pond

Inflow Area = 2.870 ac, 0.00% Impervious, Inflow Depth = 1.08" for 2-yr event
Inflow = 2.09 cfs @ 12.29 hrs, Volume= 0.259 af
Outflow = 0.25 cfs @ 14.42 hrs, Volume= 0.259 af, Atten= 88%, Lag= 127.4 min
Discarded = 0.25 cfs @ 14.42 hrs, Volume= 0.259 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 5L : PDA-1 Total

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 455.05' @ 14.42 hrs Surf.Area= 3,216 sf Storage= 4,337 cf

Plug-Flow detention time= 221.2 min calculated for 0.259 af (100% of inflow)
Center-of-Mass det. time= 221.2 min (1,131.0 - 909.7)

Volume	Invert	Avail.Storage	Storage Description
#1	453.00'	12,538 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

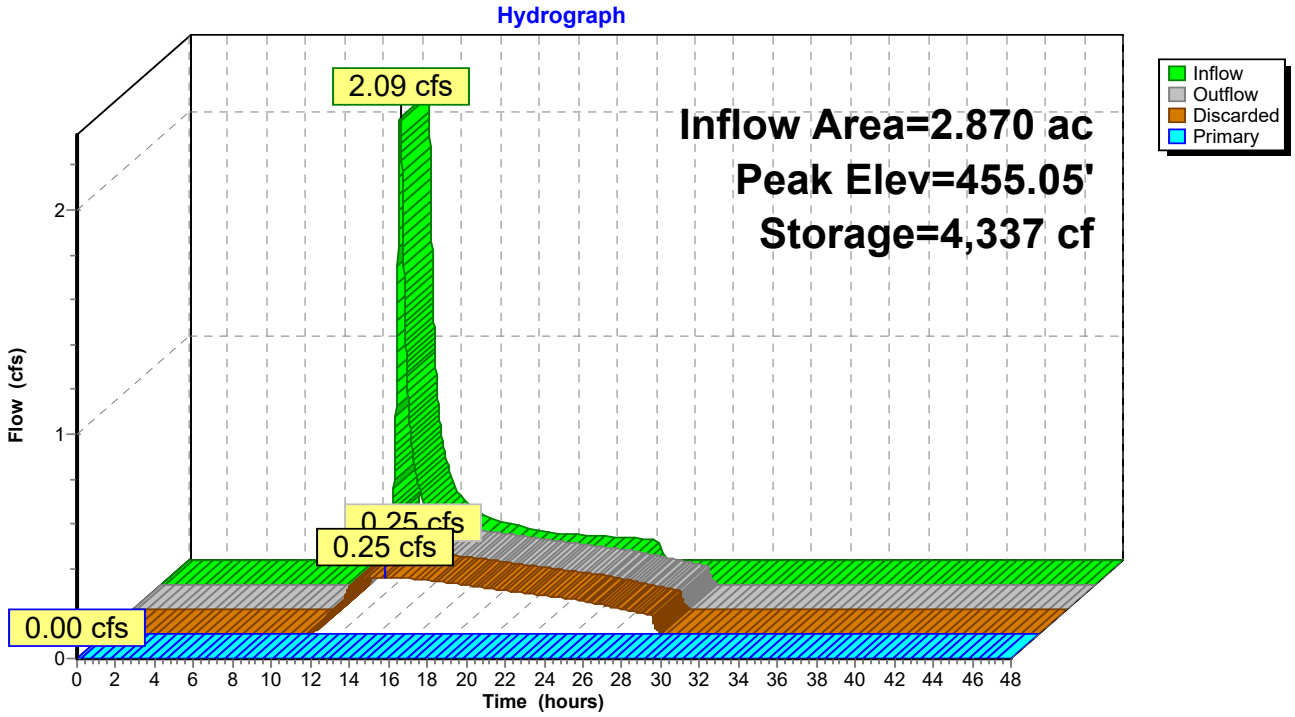
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
453.00	1,193	0	0
454.00	2,006	1,600	1,600
455.00	3,170	2,588	4,188
456.00	4,152	3,661	7,849
457.00	5,227	4,690	12,538

Device	Routing	Invert	Outlet Devices
#1	Discarded	453.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 443.00'
#2	Primary	455.70'	**8.0' 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

Discarded OutFlow Max=0.25 cfs @ 14.42 hrs HW=455.05' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.25 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=453.00' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 4P: Pond


Hydrograph
2.09 cfs
0.25 cfs
0.25 cfs
0.00 cfs
Inflow Area=2.870 ac
Peak Elev=455.05'
Storage=4,337 cf
Inflow
Outflow
Discarded
Primary
Flow (cfs)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Time (hours)

Stage-Discharge for Pond 4P: Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
453.00	0.00	0.00	0.00
453.05	0.09	0.09	0.00
453.10	0.09	0.09	0.00
453.15	0.09	0.09	0.00
453.20	0.10	0.10	0.00
453.25	0.10	0.10	0.00
453.30	0.10	0.10	0.00
453.35	0.11	0.11	0.00
453.40	0.11	0.11	0.00
453.45	0.11	0.11	0.00
453.50	0.12	0.12	0.00
453.55	0.12	0.12	0.00
453.60	0.12	0.12	0.00
453.65	0.13	0.13	0.00
453.70	0.13	0.13	0.00
453.75	0.13	0.13	0.00
453.80	0.14	0.14	0.00
453.85	0.14	0.14	0.00
453.90	0.14	0.14	0.00
453.95	0.15	0.15	0.00
454.00	0.15	0.15	0.00
454.05	0.15	0.15	0.00
454.10	0.16	0.16	0.00
454.15	0.16	0.16	0.00
454.20	0.17	0.17	0.00
454.25	0.17	0.17	0.00
454.30	0.18	0.18	0.00
454.35	0.18	0.18	0.00
454.40	0.19	0.19	0.00
454.45	0.19	0.19	0.00
454.50	0.20	0.20	0.00
454.55	0.20	0.20	0.00
454.60	0.21	0.21	0.00
454.65	0.21	0.21	0.00
454.70	0.22	0.22	0.00
454.75	0.22	0.22	0.00
454.80	0.23	0.23	0.00
454.85	0.23	0.23	0.00
454.90	0.24	0.24	0.00
454.95	0.24	0.24	0.00
455.00	0.25	0.25	0.00
455.05	0.25	0.25	0.00
455.10	0.26	0.26	0.00
455.15	0.26	0.26	0.00
455.20	0.27	0.27	0.00
455.25	0.27	0.27	0.00
455.30	0.28	0.28	0.00
455.35	0.28	0.28	0.00
455.40	0.28	0.28	0.00
455.45	0.29	0.29	0.00
455.50	0.29	0.29	0.00
455.55	0.30	0.30	0.00
455.60	0.30	0.30	0.00
455.65	0.31	0.31	0.00
455.70	0.31	0.31	0.00
455.75	0.56	0.32	0.24
455.80	1.00	0.32	0.68
455.85	1.57	0.33	1.25
455.90	2.25	0.33	1.92
455.95	3.02	0.33	2.69
456.00	3.88	0.34	3.54
456.05	4.81	0.34	4.46
456.10	5.81	0.35	5.46
456.15	6.88	0.35	6.52
456.20	8.00	0.36	7.64
456.25	9.18	0.36	8.81
456.30	10.41	0.37	10.04
456.35	11.63	0.38	11.26
456.40	12.89	0.38	12.51
456.45	14.18	0.39	13.80
456.50	15.50	0.39	15.11
456.55	16.93	0.40	16.54
456.60	18.40	0.40	18.00
456.65	19.91	0.41	19.50
456.70	21.45	0.41	21.04
456.75	23.08	0.42	22.66
456.80	24.74	0.42	24.32
456.85	26.45	0.43	26.02
456.90	28.20	0.43	27.76
456.95	29.95	0.44	29.52
457.00	**31.75**	**0.44**	**31.30**

Stage-Area-Storage for Pond 4P: Pond

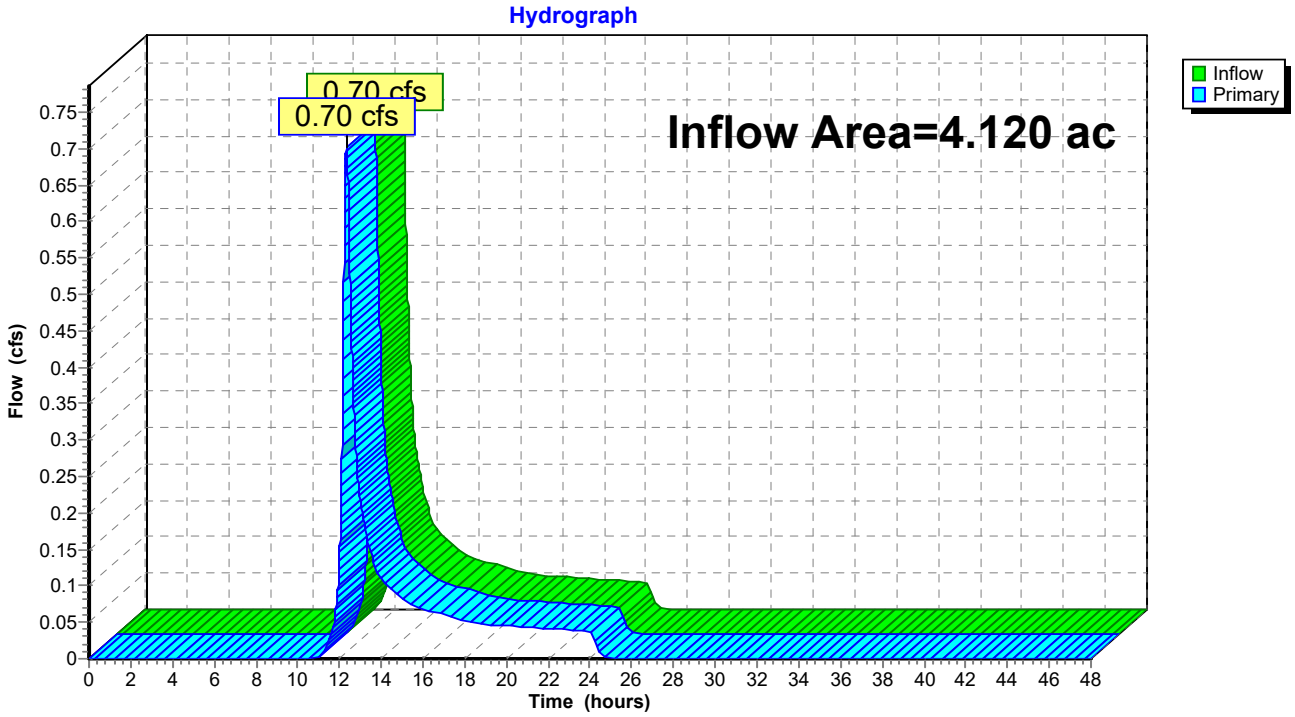
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
453.00	1,193	0
453.05	1,234	61
453.10	1,274	123
453.15	1,315	188
453.20	1,356	255
453.25	1,396	324
453.30	1,437	394
453.35	1,478	467
453.40	1,518	542
453.45	1,559	619
453.50	1,600	698
453.55	1,640	779
453.60	1,681	862
453.65	1,721	947
453.70	1,762	1,034
453.75	1,803	1,123
453.80	1,843	1,215
453.85	1,884	1,308
453.90	1,925	1,403
453.95	1,965	1,500
454.00	2,006	1,600
454.05	2,064	1,701
454.10	2,122	1,806
454.15	2,181	1,913
454.20	2,239	2,024
454.25	2,297	2,137
454.30	2,355	2,254
454.35	2,413	2,373
454.40	2,472	2,495
454.45	2,530	2,620
454.50	2,588	2,748
454.55	2,646	2,879
454.60	2,704	3,013
454.65	2,763	3,149
454.70	2,821	3,289
454.75	2,879	3,431
454.80	2,937	3,577
454.85	2,995	3,725
454.90	3,054	3,876
454.95	3,112	4,030
455.00	3,170	4,188
455.05	3,219	4,347
455.10	3,268	4,509
455.15	3,317	4,674
455.20	3,366	4,841
455.25	3,416	5,011
455.30	3,465	5,183
455.35	3,514	5,357
455.40	3,563	5,534
455.45	3,612	5,713
455.50	3,661	5,895
455.55	3,710	6,080
455.60	3,759	6,266
455.65	3,808	6,455
455.70	3,857	6,647
455.75	3,907	6,841
455.80	3,956	7,038
455.85	4,005	7,237
455.90	4,054	7,438
455.95	4,103	7,642
456.00	4,152	7,849
456.05	4,206	8,057
456.10	4,260	8,269
456.15	4,313	8,483
456.20	4,367	8,700
456.25	4,421	8,920
456.30	4,475	9,142
456.35	4,528	9,368
456.40	4,582	9,595
456.45	4,636	9,826
456.50	4,690	10,059
456.55	4,743	10,295
456.60	4,797	10,533
456.65	4,851	10,774
456.70	4,904	11,018
456.75	4,958	11,265
456.80	5,012	11,514
456.85	5,066	11,766
456.90	5,119	12,021
456.95	5,173	12,278
457.00	**5,227**	**12,538**

Summary for Link 5L: PDA-1 Total

Inflow Area = 4.120 ac, 0.24% Impervious, Inflow Depth = 0.28" for 2-yr event
Inflow = 0.70 cfs @ 12.33 hrs, Volume= 0.096 af
Primary = 0.70 cfs @ 12.33 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 5L: PDA-1 Total



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EDA-2 Runoff Area=6.140 ac 4.07% Impervious Runoff Depth=4.14"
Flow Length=887' Tc=9.8 min CN=82 Runoff=24.00 cfs 2.120 af

Subcatchment 2S: PDA-1A Runoff Area=1.250 ac 0.80% Impervious Runoff Depth=2.85"
Flow Length=1,008' Tc=21.8 min CN=69 Runoff=2.39 cfs 0.296 af

Subcatchment 3S: PDA-2 Runoff Area=5.850 ac 4.27% Impervious Runoff Depth=2.94"
Flow Length=887' Tc=20.1 min CN=70 Runoff=12.08 cfs 1.434 af

Subcatchment 6S: EDA-1 Runoff Area=3.830 ac 0.00% Impervious Runoff Depth=4.14"
Flow Length=1,008' Tc=11.2 min CN=82 Runoff=14.27 cfs 1.323 af

Subcatchment 8S: PDA-1B Runoff Area=2.870 ac 0.00% Impervious Runoff Depth=3.13"
Flow Length=660' Tc=19.5 min CN=72 Runoff=6.42 cfs 0.749 af

Pond 4P: Pond Peak Elev=456.06' Storage=8,101 cf Inflow=6.42 cfs 0.749 af
Discarded=0.35 cfs 0.472 af Primary=4.67 cfs 0.277 af Outflow=5.02 cfs 0.749 af

Link 5L: PDA-1 Total Inflow=6.82 cfs 0.574 af
Primary=6.82 cfs 0.574 af

Summary for Subcatchment 1S: EDA-2

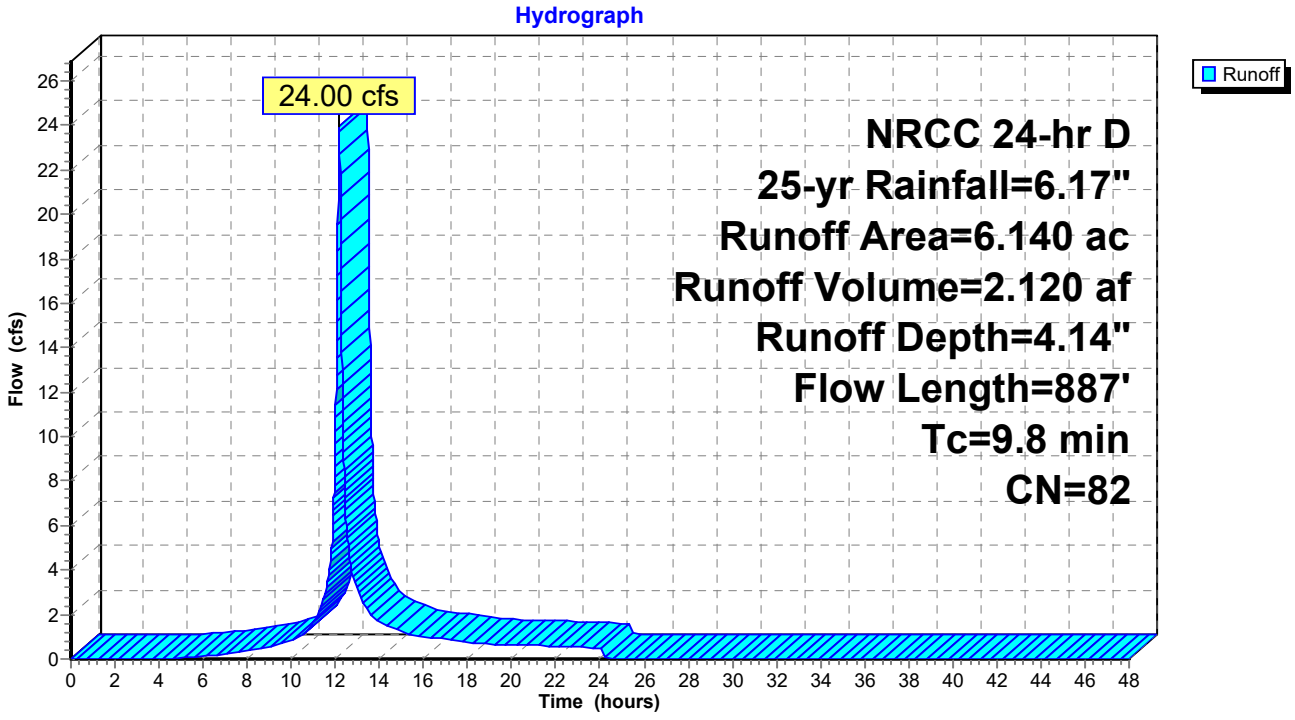
Runoff = 24.00 cfs @ 12.17 hrs, Volume= 2.120 af, Depth= 4.14"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 25-yr Rainfall=6.17"

	Area (ac)	CN	Description
	0.250	98	Paved parking, HSG B
	2.950	78	Row crops, straight row, Good, HSG B
	1.660	85	Row crops, straight row, Good, HSG C
*	1.080	87	Row crops, straight row, Good, HSG C/D
	0.200	60	Woods, Fair, HSG B
	6.140	82	Weighted Average
	5.890		95.93% Pervious Area
	0.250		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
5.5	787	0.0700	2.38		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
9.8	887	Total			

Subcatchment 1S: EDA-2



Summary for Subcatchment 2S: PDA-1A

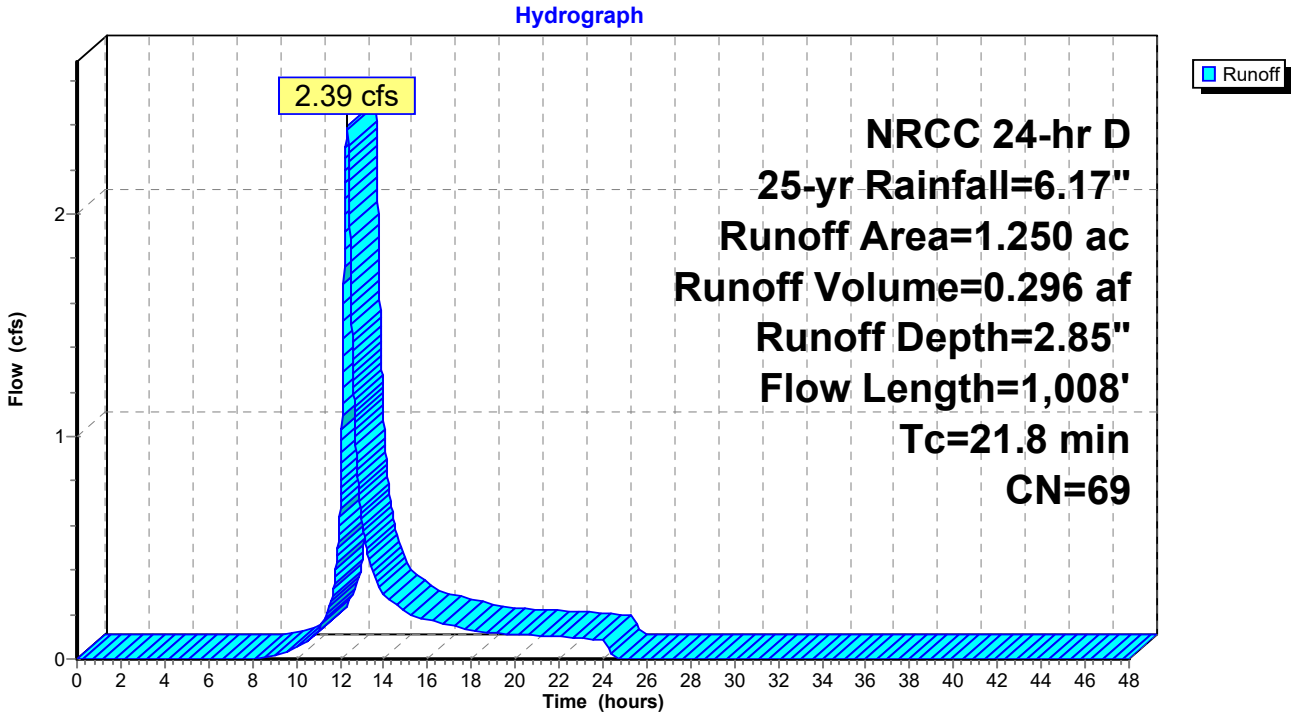
Runoff = 2.39 cfs @ 12.33 hrs, Volume= 0.296 af, Depth= 2.85"
Routed to Link 5L : PDA-1 Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 25-yr Rainfall=6.17"

	Area (ac)	CN	Description
*	0.290	77	>75% Grass cover, Good, HSG C-D
*	0.410	65	Meadow, non-grazed, HSG B/C
	0.230	78	Meadow, non-grazed, HSG D
	0.010	98	Paved parking, HSG B
	0.310	61	>75% Grass cover, Good, HSG B
	1.250	69	Weighted Average
	1.240		99.20% Pervious Area
	0.010		0.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
8.8	908	0.0600	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
21.8	1,008	Total			

Subcatchment 2S: PDA-1A



Summary for Subcatchment 3S: PDA-2

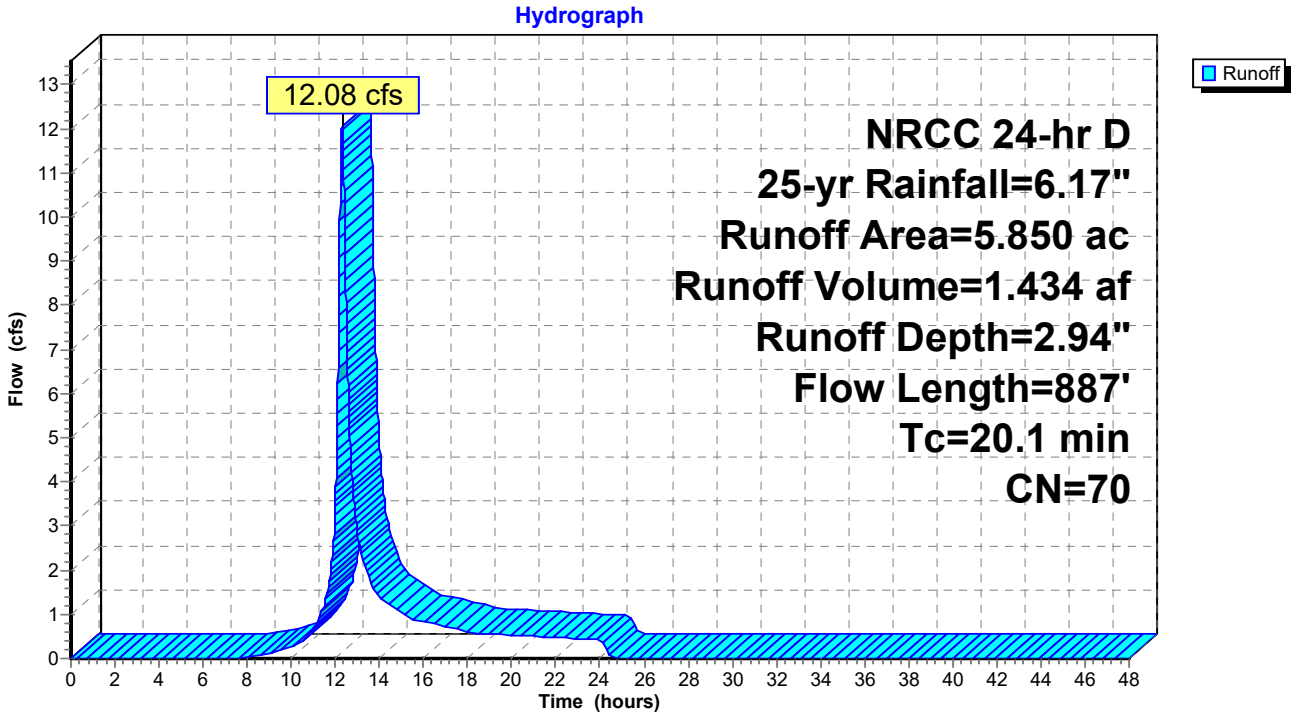
Runoff = 12.08 cfs @ 12.30 hrs, Volume= 1.434 af, Depth= 2.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 25-yr Rainfall=6.17"

	Area (ac)	CN	Description
	0.160	96	Gravel surface, HSG B
	0.380	78	Meadow, non-grazed, HSG D
*	0.120	75	Meadow, non-grazed, HSG C/D
*	1.520	65	Meadow, non-grazed, HSG B/C
	1.490	61	>75% Grass cover, Good, HSG B
	1.550	74	>75% Grass cover, Good, HSG C
*	0.380	77	>75% Grass cover, Good, HSG C/D
	0.250	98	Paved parking, HSG B
	5.850	70	Weighted Average
	5.600		95.73% Pervious Area
	0.250		4.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
7.1	787	0.0700	1.85		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
20.1	887	Total			

Subcatchment 3S: PDA-2



Summary for Subcatchment 6S: EDA-1

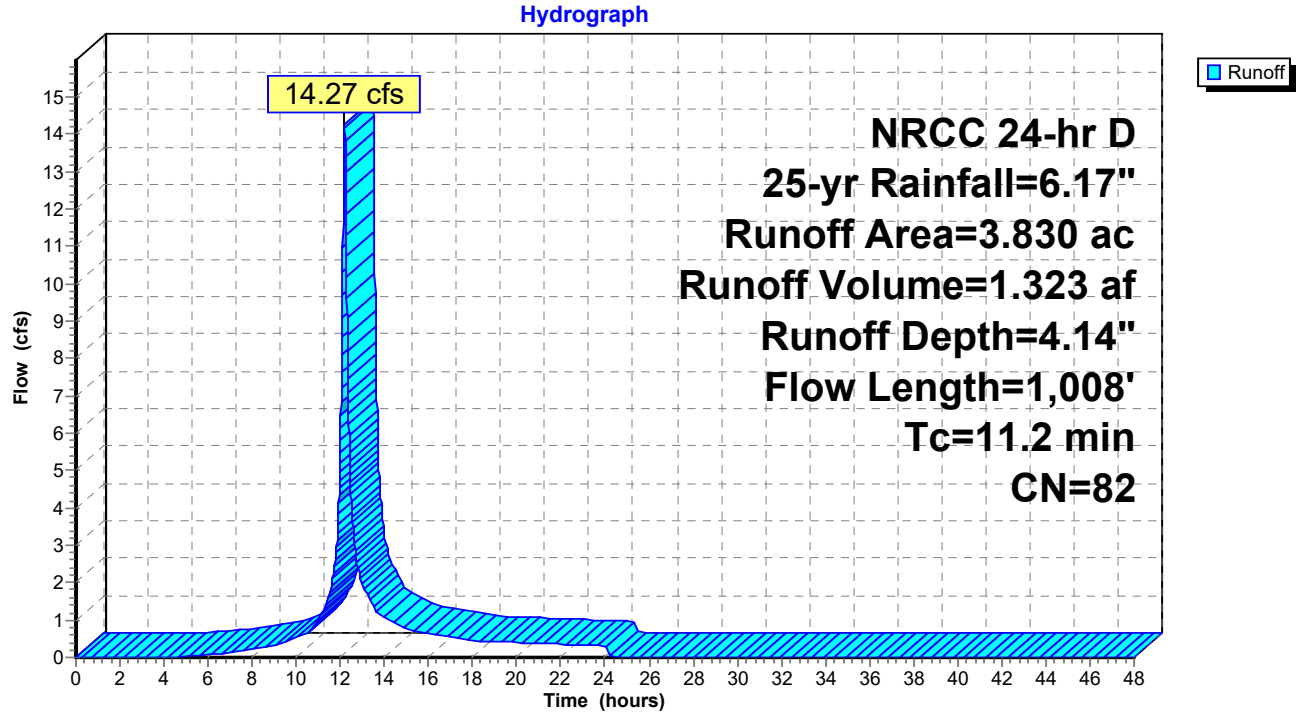
Runoff = 14.27 cfs @ 12.18 hrs, Volume= 1.323 af, Depth= 4.14"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 25-yr Rainfall=6.17"

	Area (ac)	CN	Description
	2.180	78	Row crops, straight row, Good, HSG B
*	1.600	87	Row crops, straight row, Good, HSG C/D
	0.050	60	Woods, Fair, HSG B
	3.830	82	Weighted Average
	3.830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
6.9	908	0.0600	2.20		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
11.2	1,008	Total			

Subcatchment 6S: EDA-1



Summary for Subcatchment 8S: PDA-1B

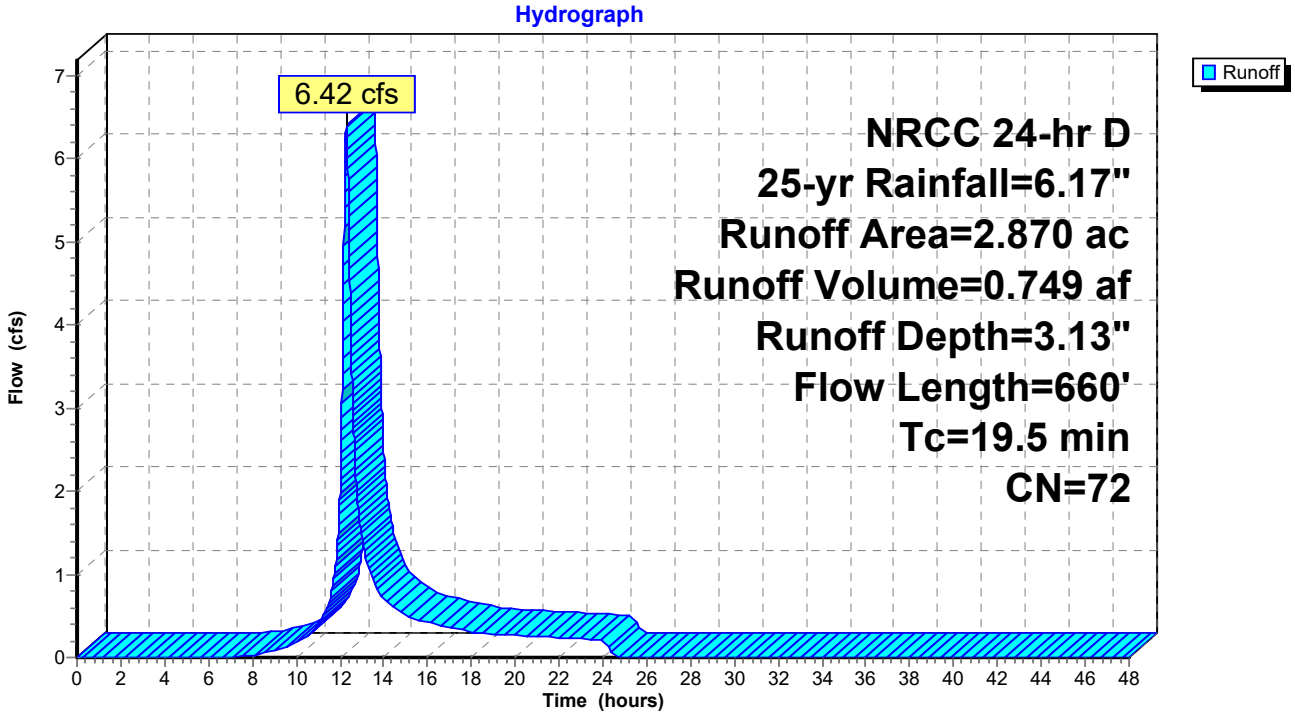
Runoff = 6.42 cfs @ 12.29 hrs, Volume= 0.749 af, Depth= 3.13"
Routed to Pond 4P : Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 25-yr Rainfall=6.17"

	Area (ac)	CN	Description
*	1.450	65	Meadow, non-grazed, HSG B/C
	1.370	78	Meadow, non-grazed, HSG D
	0.050	96	Gravel surface, HSG B
	2.870	72	Weighted Average
	2.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0200	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
5.7	548	0.0520	1.60		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.1	12	0.0100	2.03		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
19.5	660	Total			

Subcatchment 8S: PDA-1B



Summary for Pond 4P: Pond

Inflow Area = 2.870 ac, 0.00% Impervious, Inflow Depth = 3.13" for 25-yr event
Inflow = 6.42 cfs @ 12.29 hrs, Volume= 0.749 af
Outflow = 5.02 cfs @ 12.42 hrs, Volume= 0.749 af, Atten= 22%, Lag= 7.9 min
Discarded = 0.35 cfs @ 12.42 hrs, Volume= 0.472 af
Primary = 4.67 cfs @ 12.42 hrs, Volume= 0.277 af
Routed to Link 5L : PDA-1 Total

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 456.06' @ 12.42 hrs Surf.Area= 4,217 sf Storage= 8,101 cf

Plug-Flow detention time= 187.2 min calculated for 0.749 af (100% of inflow)
Center-of-Mass det. time= 187.2 min (1,056.8 - 869.6)

Volume	Invert	Avail.Storage	Storage Description
#1	453.00'	12,538 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

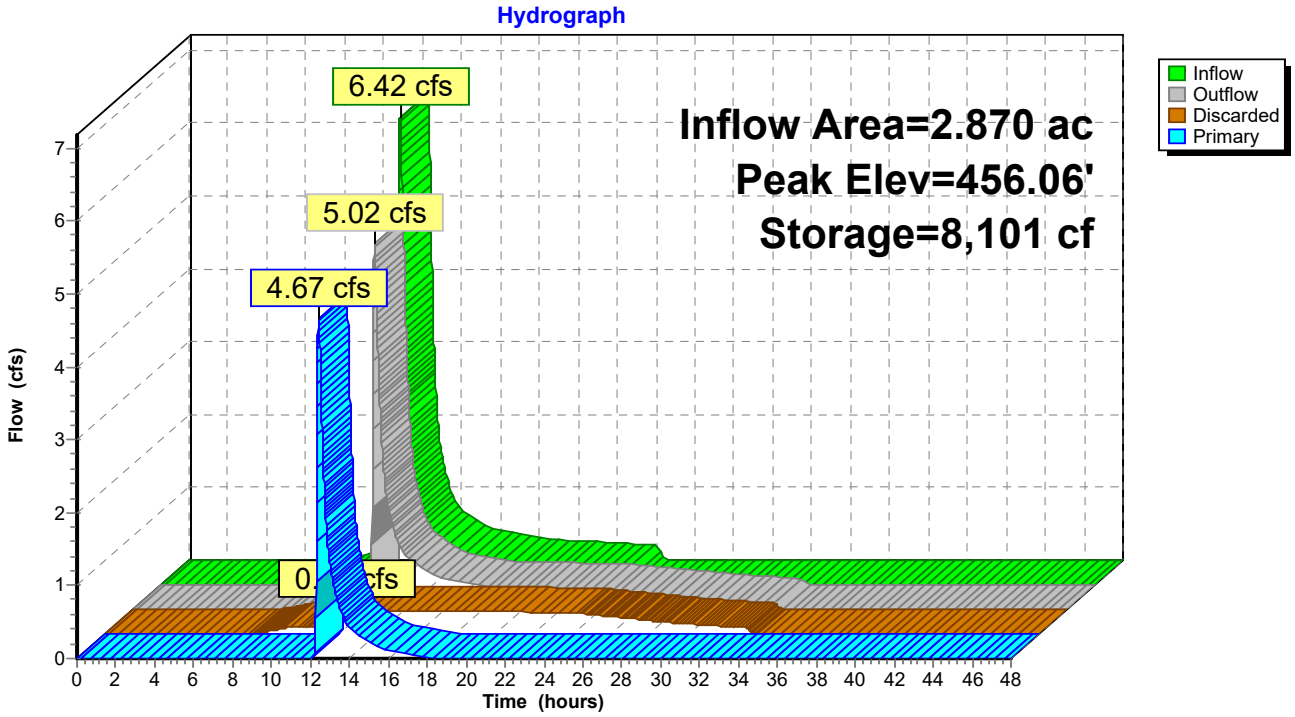
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
453.00	1,193	0	0
454.00	2,006	1,600	1,600
455.00	3,170	2,588	4,188
456.00	4,152	3,661	7,849
457.00	5,227	4,690	12,538

Device	Routing	Invert	Outlet Devices
#1	Discarded	453.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 443.00'
#2	Primary	455.70'	**8.0' 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

Discarded OutFlow Max=0.35 cfs @ 12.42 hrs HW=456.06' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.35 cfs)

Primary OutFlow Max=4.67 cfs @ 12.42 hrs HW=456.06' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 4.67 cfs @ 1.62 fps)

Pond 4P: Pond


Hydrograph
6.42 cfs
5.02 cfs
4.67 cfs
Inflow Area=2.870 ac
Peak Elev=456.06'
Storage=8,101 cf
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48

Stage-Discharge for Pond 4P: Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
453.00	0.00	0.00	0.00
453.05	0.09	0.09	0.00
453.10	0.09	0.09	0.00
453.15	0.09	0.09	0.00
453.20	0.10	0.10	0.00
453.25	0.10	0.10	0.00
453.30	0.10	0.10	0.00
453.35	0.11	0.11	0.00
453.40	0.11	0.11	0.00
453.45	0.11	0.11	0.00
453.50	0.12	0.12	0.00
453.55	0.12	0.12	0.00
453.60	0.12	0.12	0.00
453.65	0.13	0.13	0.00
453.70	0.13	0.13	0.00
453.75	0.13	0.13	0.00
453.80	0.14	0.14	0.00
453.85	0.14	0.14	0.00
453.90	0.14	0.14	0.00
453.95	0.15	0.15	0.00
454.00	0.15	0.15	0.00
454.05	0.15	0.15	0.00
454.10	0.16	0.16	0.00
454.15	0.16	0.16	0.00
454.20	0.17	0.17	0.00
454.25	0.17	0.17	0.00
454.30	0.18	0.18	0.00
454.35	0.18	0.18	0.00
454.40	0.19	0.19	0.00
454.45	0.19	0.19	0.00
454.50	0.20	0.20	0.00
454.55	0.20	0.20	0.00
454.60	0.21	0.21	0.00
454.65	0.21	0.21	0.00
454.70	0.22	0.22	0.00
454.75	0.22	0.22	0.00
454.80	0.23	0.23	0.00
454.85	0.23	0.23	0.00
454.90	0.24	0.24	0.00
454.95	0.24	0.24	0.00
455.00	0.25	0.25	0.00
455.05	0.25	0.25	0.00
455.10	0.26	0.26	0.00
455.15	0.26	0.26	0.00
455.20	0.27	0.27	0.00
455.25	0.27	0.27	0.00
455.30	0.28	0.28	0.00
455.35	0.28	0.28	0.00
455.40	0.28	0.28	0.00
455.45	0.29	0.29	0.00
455.50	0.29	0.29	0.00
455.55	0.30	0.30	0.00
455.60	0.30	0.30	0.00
455.65	0.31	0.31	0.00
455.70	0.31	0.31	0.00
455.75	0.56	0.32	0.24
455.80	1.00	0.32	0.68
455.85	1.57	0.33	1.25
455.90	2.25	0.33	1.92
455.95	3.02	0.33	2.69
456.00	3.88	0.34	3.54
456.05	4.81	0.34	4.46
456.10	5.81	0.35	5.46
456.15	6.88	0.35	6.52
456.20	8.00	0.36	7.64
456.25	9.18	0.36	8.81
456.30	10.41	0.37	10.04
456.35	11.63	0.38	11.26
456.40	12.89	0.38	12.51
456.45	14.18	0.39	13.80
456.50	15.50	0.39	15.11
456.55	16.93	0.40	16.54
456.60	18.40	0.40	18.00
456.65	19.91	0.41	19.50
456.70	21.45	0.41	21.04
456.75	23.08	0.42	22.66
456.80	24.74	0.42	24.32
456.85	26.45	0.43	26.02
456.90	28.20	0.43	27.76
456.95	29.95	0.44	29.52
457.00	**31.75**	**0.44**	**31.30**

Stage-Area-Storage for Pond 4P: Pond

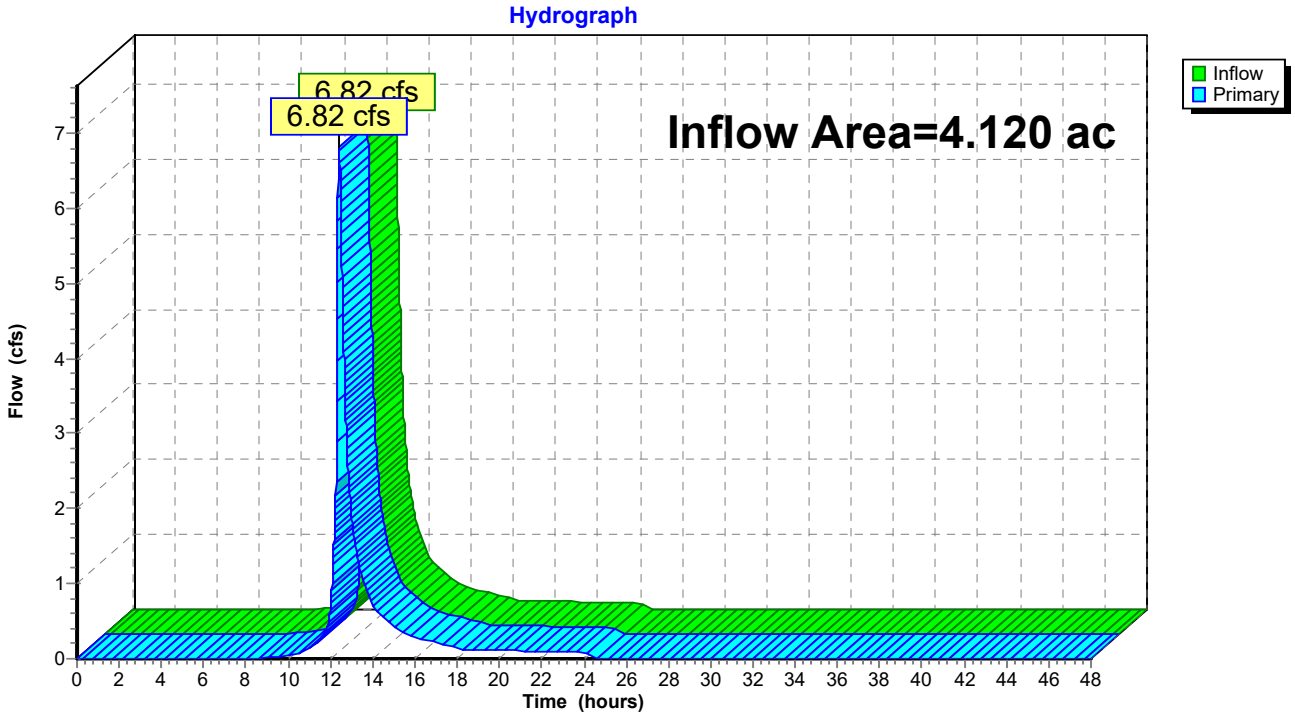
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
453.00	1,193	0
453.05	1,234	61
453.10	1,274	123
453.15	1,315	188
453.20	1,356	255
453.25	1,396	324
453.30	1,437	394
453.35	1,478	467
453.40	1,518	542
453.45	1,559	619
453.50	1,600	698
453.55	1,640	779
453.60	1,681	862
453.65	1,721	947
453.70	1,762	1,034
453.75	1,803	1,123
453.80	1,843	1,215
453.85	1,884	1,308
453.90	1,925	1,403
453.95	1,965	1,500
454.00	2,006	1,600
454.05	2,064	1,701
454.10	2,122	1,806
454.15	2,181	1,913
454.20	2,239	2,024
454.25	2,297	2,137
454.30	2,355	2,254
454.35	2,413	2,373
454.40	2,472	2,495
454.45	2,530	2,620
454.50	2,588	2,748
454.55	2,646	2,879
454.60	2,704	3,013
454.65	2,763	3,149
454.70	2,821	3,289
454.75	2,879	3,431
454.80	2,937	3,577
454.85	2,995	3,725
454.90	3,054	3,876
454.95	3,112	4,030
455.00	3,170	4,188
455.05	3,219	4,347
455.10	3,268	4,509
455.15	3,317	4,674
455.20	3,366	4,841
455.25	3,416	5,011
455.30	3,465	5,183
455.35	3,514	5,357
455.40	3,563	5,534
455.45	3,612	5,713
455.50	3,661	5,895
455.55	3,710	6,080
455.60	3,759	6,266
455.65	3,808	6,455
455.70	3,857	6,647
455.75	3,907	6,841
455.80	3,956	7,038
455.85	4,005	7,237
455.90	4,054	7,438
455.95	4,103	7,642
456.00	4,152	7,849
456.05	4,206	8,057
456.10	4,260	8,269
456.15	4,313	8,483
456.20	4,367	8,700
456.25	4,421	8,920
456.30	4,475	9,142
456.35	4,528	9,368
456.40	4,582	9,595
456.45	4,636	9,826
456.50	4,690	10,059
456.55	4,743	10,295
456.60	4,797	10,533
456.65	4,851	10,774
456.70	4,904	11,018
456.75	4,958	11,265
456.80	5,012	11,514
456.85	5,066	11,766
456.90	5,119	12,021
456.95	5,173	12,278
457.00	**5,227**	**12,538**

Summary for Link 5L: PDA-1 Total

Inflow Area = 4.120 ac, 0.24% Impervious, Inflow Depth = 1.67" for 25-yr event
Inflow = 6.82 cfs @ 12.40 hrs, Volume= 0.574 af
Primary = 6.82 cfs @ 12.40 hrs, Volume= 0.574 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 5L: PDA-1 Total



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EDA-2 Runoff Area=6.140 ac 4.07% Impervious Runoff Depth=4.87"
Flow Length=887' Tc=9.8 min CN=82 Runoff=28.01 cfs 2.491 af

Subcatchment 2S: PDA-1A Runoff Area=1.250 ac 0.80% Impervious Runoff Depth=3.47"
Flow Length=1,008' Tc=21.8 min CN=69 Runoff=2.93 cfs 0.362 af

Subcatchment 3S: PDA-2 Runoff Area=5.850 ac 4.27% Impervious Runoff Depth=3.58"
Flow Length=887' Tc=20.1 min CN=70 Runoff=14.74 cfs 1.744 af

Subcatchment 6S: EDA-1 Runoff Area=3.830 ac 0.00% Impervious Runoff Depth=4.87"
Flow Length=1,008' Tc=11.2 min CN=82 Runoff=16.66 cfs 1.554 af

Subcatchment 8S: PDA-1B Runoff Area=2.870 ac 0.00% Impervious Runoff Depth=3.79"
Flow Length=660' Tc=19.5 min CN=72 Runoff=7.77 cfs 0.906 af

Pond 4P: Pond Peak Elev=456.15' Storage=8,504 cf Inflow=7.77 cfs 0.906 af
Discarded=0.36 cfs 0.501 af Primary=6.62 cfs 0.404 af Outflow=6.98 cfs 0.906 af

Link 5L: PDA-1 Total Inflow=9.47 cfs 0.766 af
Primary=9.47 cfs 0.766 af

Summary for Subcatchment 1S: EDA-2

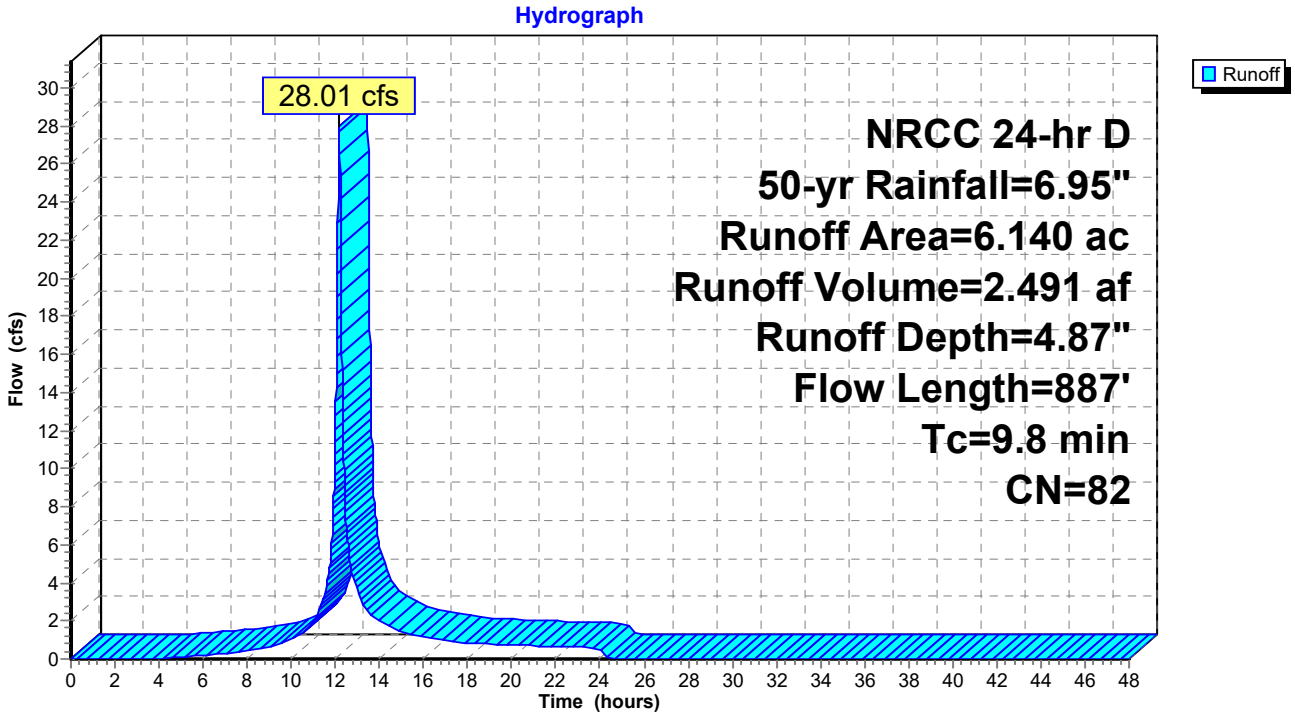
Runoff = 28.01 cfs @ 12.17 hrs, Volume= 2.491 af, Depth= 4.87"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 50-yr Rainfall=6.95"

	Area (ac)	CN	Description
	0.250	98	Paved parking, HSG B
	2.950	78	Row crops, straight row, Good, HSG B
	1.660	85	Row crops, straight row, Good, HSG C
*	1.080	87	Row crops, straight row, Good, HSG C/D
	0.200	60	Woods, Fair, HSG B
	6.140	82	Weighted Average
	5.890		95.93% Pervious Area
	0.250		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
5.5	787	0.0700	2.38		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
9.8	887	Total			

Subcatchment 1S: EDA-2



Summary for Subcatchment 2S: PDA-1A

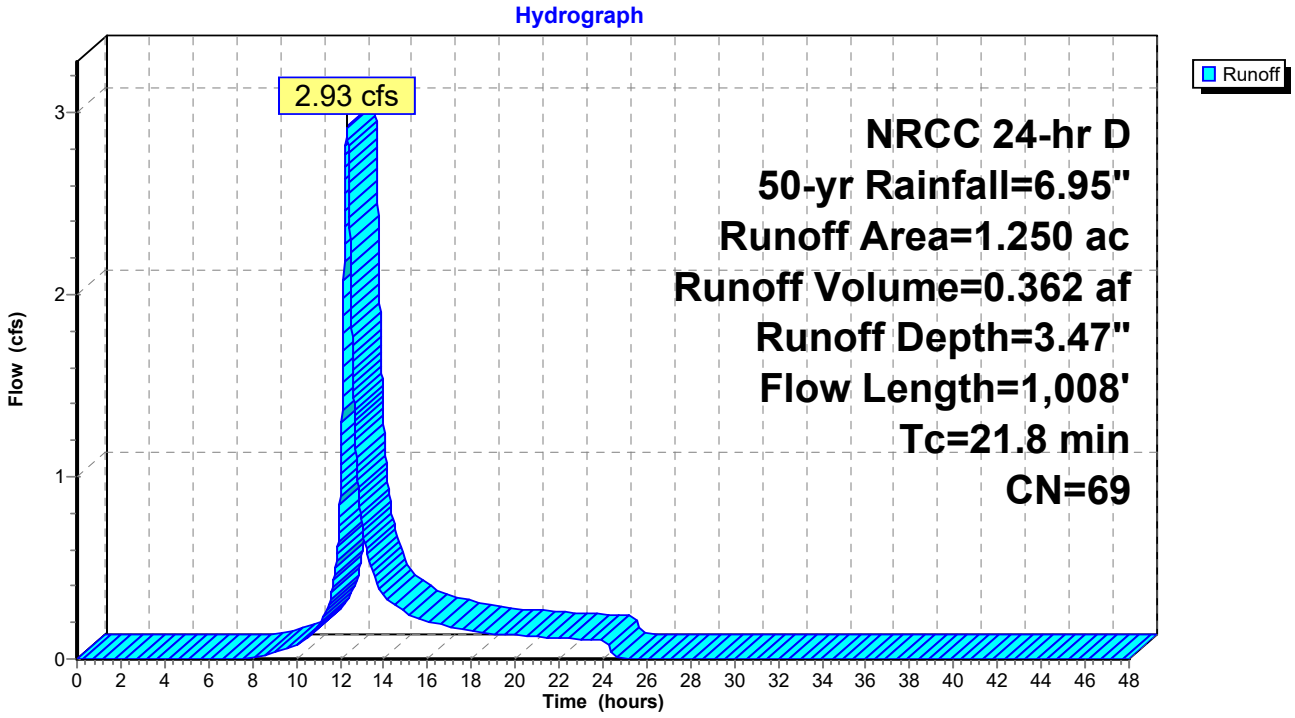
Runoff = 2.93 cfs @ 12.32 hrs, Volume= 0.362 af, Depth= 3.47"
Routed to Link 5L : PDA-1 Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 50-yr Rainfall=6.95"

	Area (ac)	CN	Description
*	0.290	77	>75% Grass cover, Good, HSG C-D
*	0.410	65	Meadow, non-grazed, HSG B/C
	0.230	78	Meadow, non-grazed, HSG D
	0.010	98	Paved parking, HSG B
	0.310	61	>75% Grass cover, Good, HSG B
	1.250	69	Weighted Average
	1.240		99.20% Pervious Area
	0.010		0.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
8.8	908	0.0600	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
21.8	1,008	Total			

Subcatchment 2S: PDA-1A



Summary for Subcatchment 3S: PDA-2

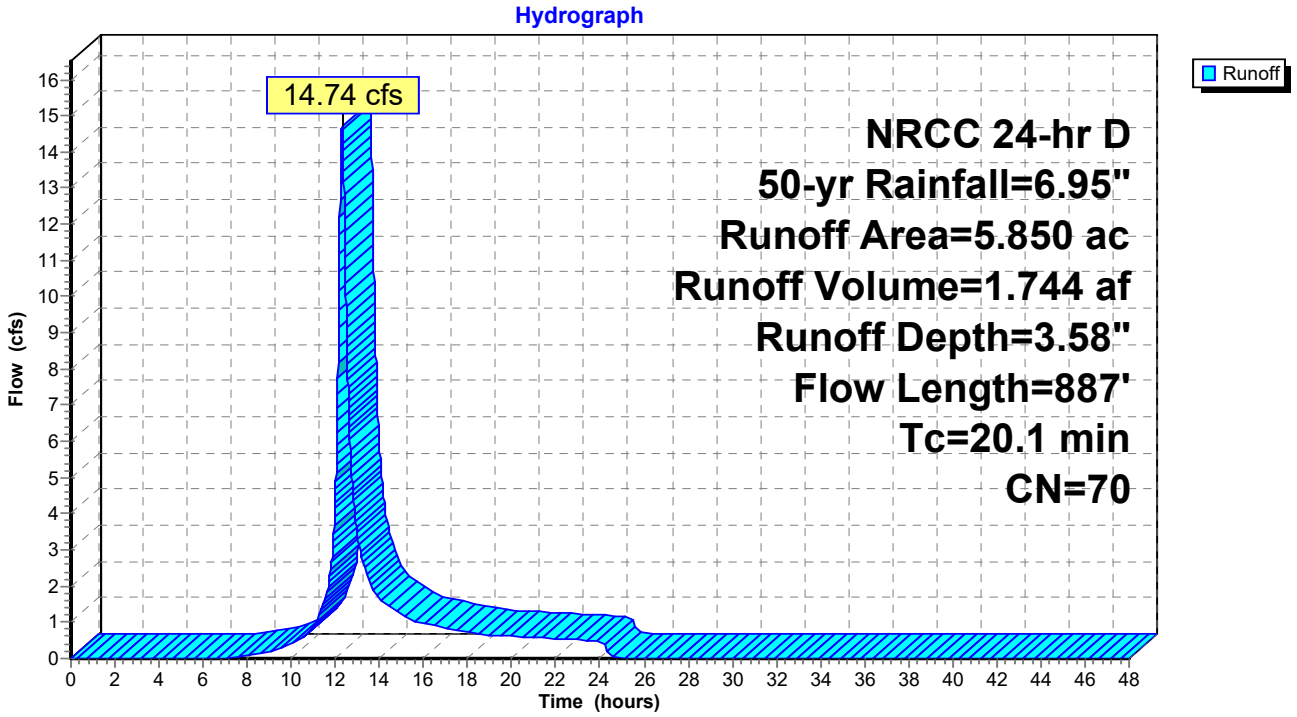
Runoff = 14.74 cfs @ 12.30 hrs, Volume= 1.744 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 50-yr Rainfall=6.95"

	Area (ac)	CN	Description
	0.160	96	Gravel surface, HSG B
	0.380	78	Meadow, non-grazed, HSG D
*	0.120	75	Meadow, non-grazed, HSG C/D
*	1.520	65	Meadow, non-grazed, HSG B/C
	1.490	61	>75% Grass cover, Good, HSG B
	1.550	74	>75% Grass cover, Good, HSG C
*	0.380	77	>75% Grass cover, Good, HSG C/D
	0.250	98	Paved parking, HSG B
	5.850	70	Weighted Average
	5.600		95.73% Pervious Area
	0.250		4.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
7.1	787	0.0700	1.85		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
20.1	887	Total			

Subcatchment 3S: PDA-2



Summary for Subcatchment 6S: EDA-1

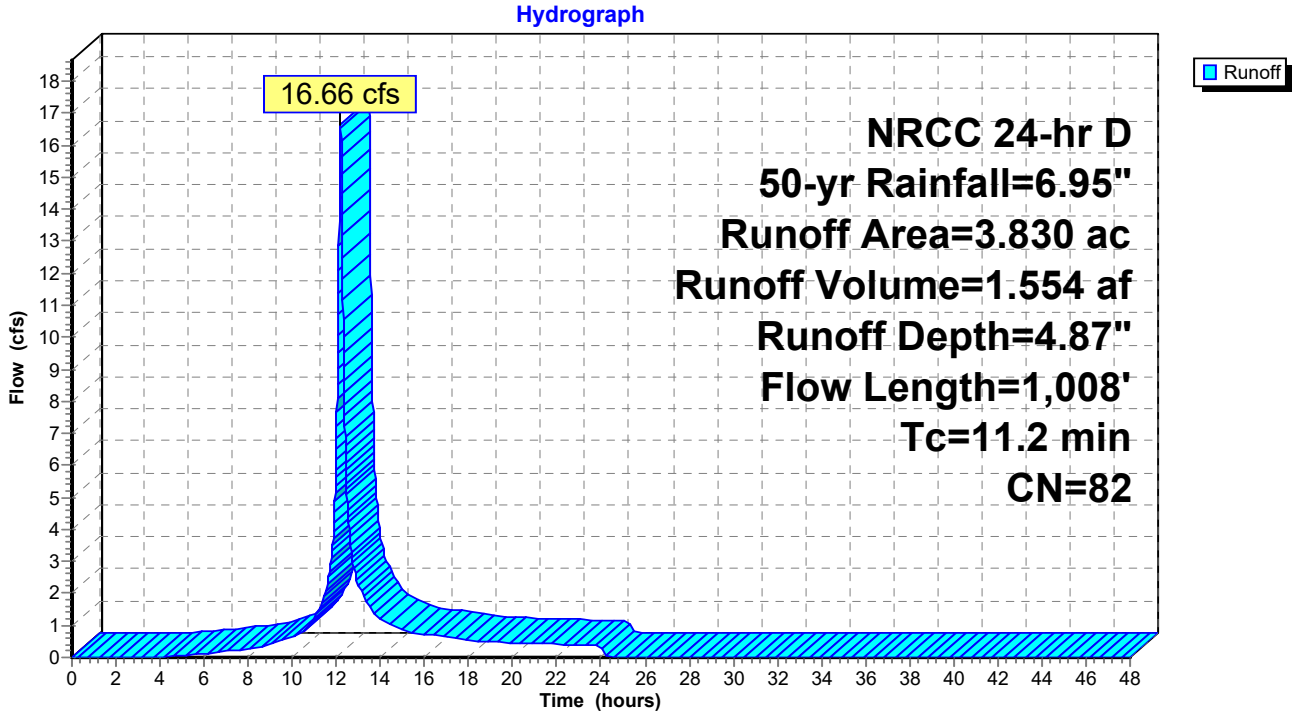
Runoff = 16.66 cfs @ 12.18 hrs, Volume= 1.554 af, Depth= 4.87"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 50-yr Rainfall=6.95"

	Area (ac)	CN	Description
	2.180	78	Row crops, straight row, Good, HSG B
*	1.600	87	Row crops, straight row, Good, HSG C/D
	0.050	60	Woods, Fair, HSG B
	3.830	82	Weighted Average
	3.830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
6.9	908	0.0600	2.20		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
11.2	1,008	Total			

Subcatchment 6S: EDA-1



Summary for Subcatchment 8S: PDA-1B

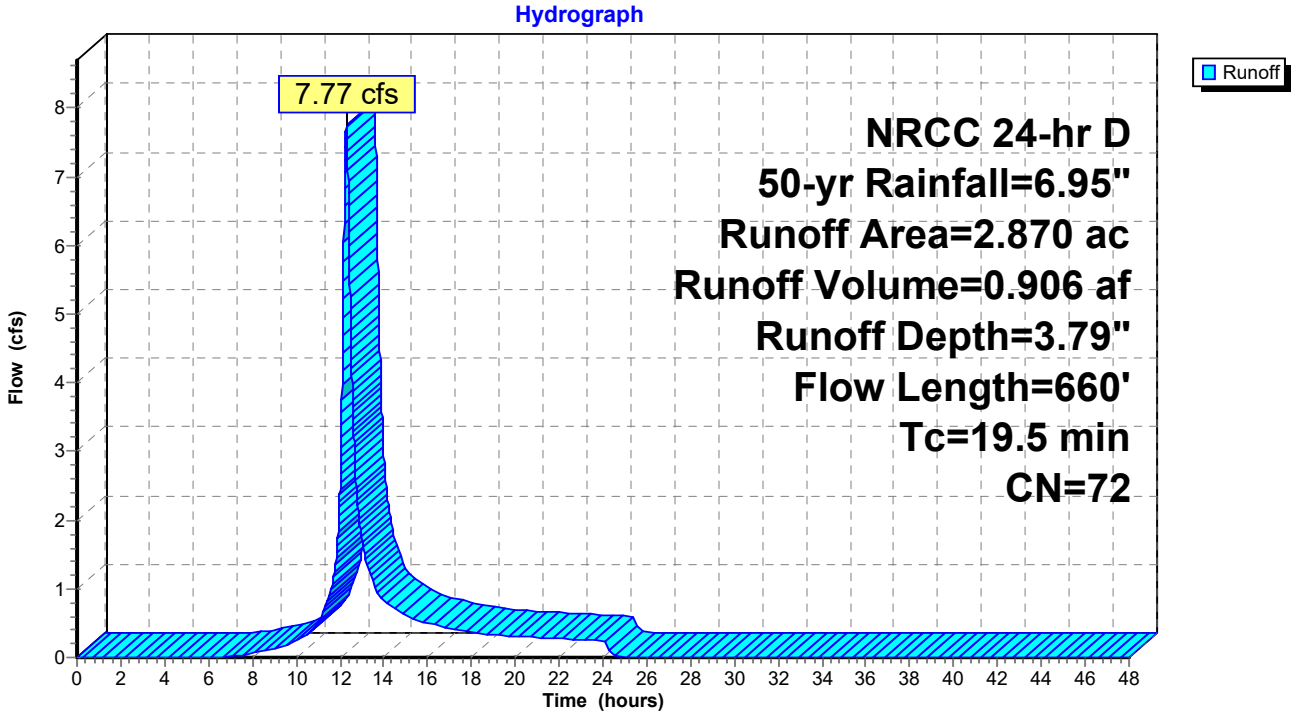
Runoff = 7.77 cfs @ 12.29 hrs, Volume= 0.906 af, Depth= 3.79"
Routed to Pond 4P : Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 50-yr Rainfall=6.95"

	Area (ac)	CN	Description
*	1.450	65	Meadow, non-grazed, HSG B/C
	1.370	78	Meadow, non-grazed, HSG D
	0.050	96	Gravel surface, HSG B
	2.870	72	Weighted Average
	2.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0200	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
5.7	548	0.0520	1.60		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.1	12	0.0100	2.03		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
19.5	660	Total			

Subcatchment 8S: PDA-1B



Summary for Pond 4P: Pond

Inflow Area = 2.870 ac, 0.00% Impervious, Inflow Depth = 3.79" for 50-yr event
Inflow = 7.77 cfs @ 12.29 hrs, Volume= 0.906 af
Outflow = 6.98 cfs @ 12.37 hrs, Volume= 0.906 af, Atten= 10%, Lag= 4.9 min
Discarded = 0.36 cfs @ 12.37 hrs, Volume= 0.501 af
Primary = 6.62 cfs @ 12.37 hrs, Volume= 0.404 af
Routed to Link 5L : PDA-1 Total

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 456.15' @ 12.37 hrs Surf.Area= 4,318 sf Storage= 8,504 cf

Plug-Flow detention time= 166.4 min calculated for 0.905 af (100% of inflow)
Center-of-Mass det. time= 166.5 min (1,029.0 - 862.5)

Volume	Invert	Avail.Storage	Storage Description
#1	453.00'	12,538 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

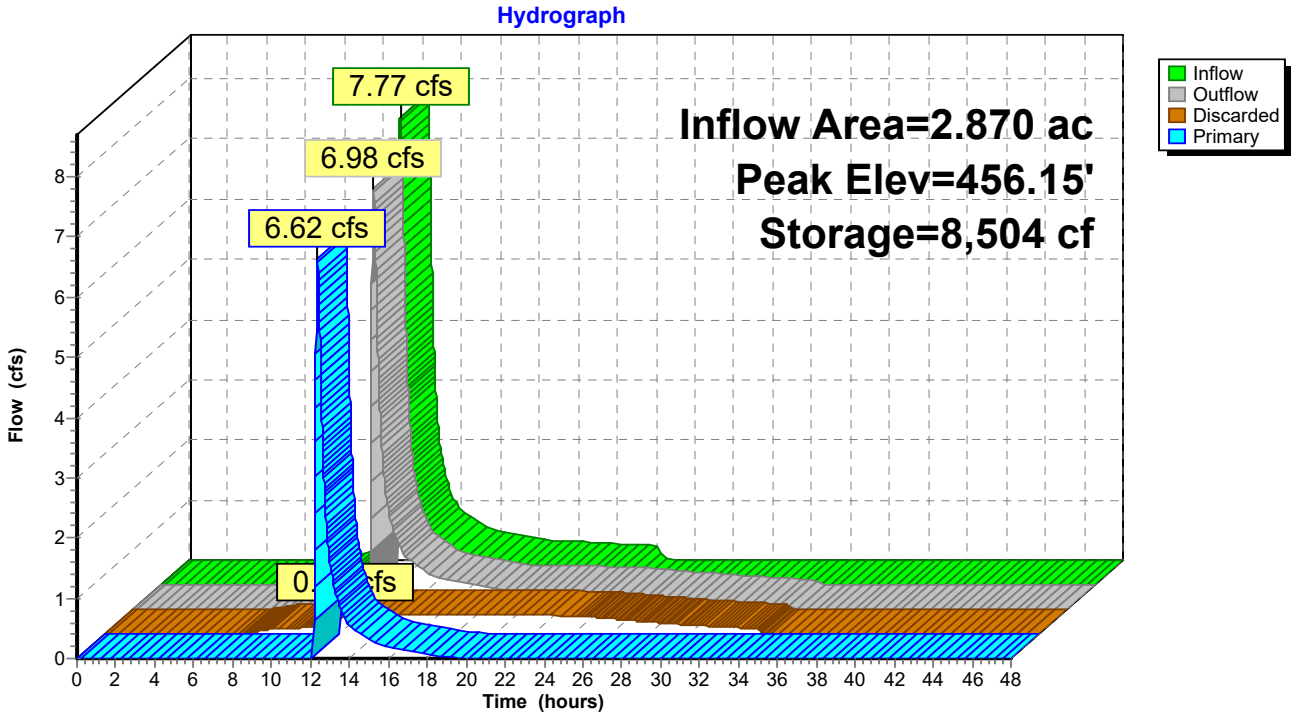
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
453.00	1,193	0	0
454.00	2,006	1,600	1,600
455.00	3,170	2,588	4,188
456.00	4,152	3,661	7,849
457.00	5,227	4,690	12,538

Device	Routing	Invert	Outlet Devices
#1	Discarded	453.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 443.00'
#2	Primary	455.70'	**8.0' 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

Discarded OutFlow Max=0.36 cfs @ 12.37 hrs HW=456.15' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.36 cfs)

Primary OutFlow Max=6.62 cfs @ 12.37 hrs HW=456.15' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 6.62 cfs @ 1.82 fps)

Pond 4P: Pond


Hydrograph
7.77 cfs
6.98 cfs
6.62 cfs
Inflow Area=2.870 ac
Peak Elev=456.15'
Storage=8,504 cf
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48

Stage-Discharge for Pond 4P: Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
453.00	0.00	0.00	0.00
453.05	0.09	0.09	0.00
453.10	0.09	0.09	0.00
453.15	0.09	0.09	0.00
453.20	0.10	0.10	0.00
453.25	0.10	0.10	0.00
453.30	0.10	0.10	0.00
453.35	0.11	0.11	0.00
453.40	0.11	0.11	0.00
453.45	0.11	0.11	0.00
453.50	0.12	0.12	0.00
453.55	0.12	0.12	0.00
453.60	0.12	0.12	0.00
453.65	0.13	0.13	0.00
453.70	0.13	0.13	0.00
453.75	0.13	0.13	0.00
453.80	0.14	0.14	0.00
453.85	0.14	0.14	0.00
453.90	0.14	0.14	0.00
453.95	0.15	0.15	0.00
454.00	0.15	0.15	0.00
454.05	0.15	0.15	0.00
454.10	0.16	0.16	0.00
454.15	0.16	0.16	0.00
454.20	0.17	0.17	0.00
454.25	0.17	0.17	0.00
454.30	0.18	0.18	0.00
454.35	0.18	0.18	0.00
454.40	0.19	0.19	0.00
454.45	0.19	0.19	0.00
454.50	0.20	0.20	0.00
454.55	0.20	0.20	0.00
454.60	0.21	0.21	0.00
454.65	0.21	0.21	0.00
454.70	0.22	0.22	0.00
454.75	0.22	0.22	0.00
454.80	0.23	0.23	0.00
454.85	0.23	0.23	0.00
454.90	0.24	0.24	0.00
454.95	0.24	0.24	0.00
455.00	0.25	0.25	0.00
455.05	0.25	0.25	0.00
455.10	0.26	0.26	0.00
455.15	0.26	0.26	0.00
455.20	0.27	0.27	0.00
455.25	0.27	0.27	0.00
455.30	0.28	0.28	0.00
455.35	0.28	0.28	0.00
455.40	0.28	0.28	0.00
455.45	0.29	0.29	0.00
455.50	0.29	0.29	0.00
455.55	0.30	0.30	0.00
455.60	0.30	0.30	0.00
455.65	0.31	0.31	0.00
455.70	0.31	0.31	0.00
455.75	0.56	0.32	0.24
455.80	1.00	0.32	0.68
455.85	1.57	0.33	1.25
455.90	2.25	0.33	1.92
455.95	3.02	0.33	2.69
456.00	3.88	0.34	3.54
456.05	4.81	0.34	4.46
456.10	5.81	0.35	5.46
456.15	6.88	0.35	6.52
456.20	8.00	0.36	7.64
456.25	9.18	0.36	8.81
456.30	10.41	0.37	10.04
456.35	11.63	0.38	11.26
456.40	12.89	0.38	12.51
456.45	14.18	0.39	13.80
456.50	15.50	0.39	15.11
456.55	16.93	0.40	16.54
456.60	18.40	0.40	18.00
456.65	19.91	0.41	19.50
456.70	21.45	0.41	21.04
456.75	23.08	0.42	22.66
456.80	24.74	0.42	24.32
456.85	26.45	0.43	26.02
456.90	28.20	0.43	27.76
456.95	29.95	0.44	29.52
457.00	**31.75**	**0.44**	**31.30**

Stage-Area-Storage for Pond 4P: Pond

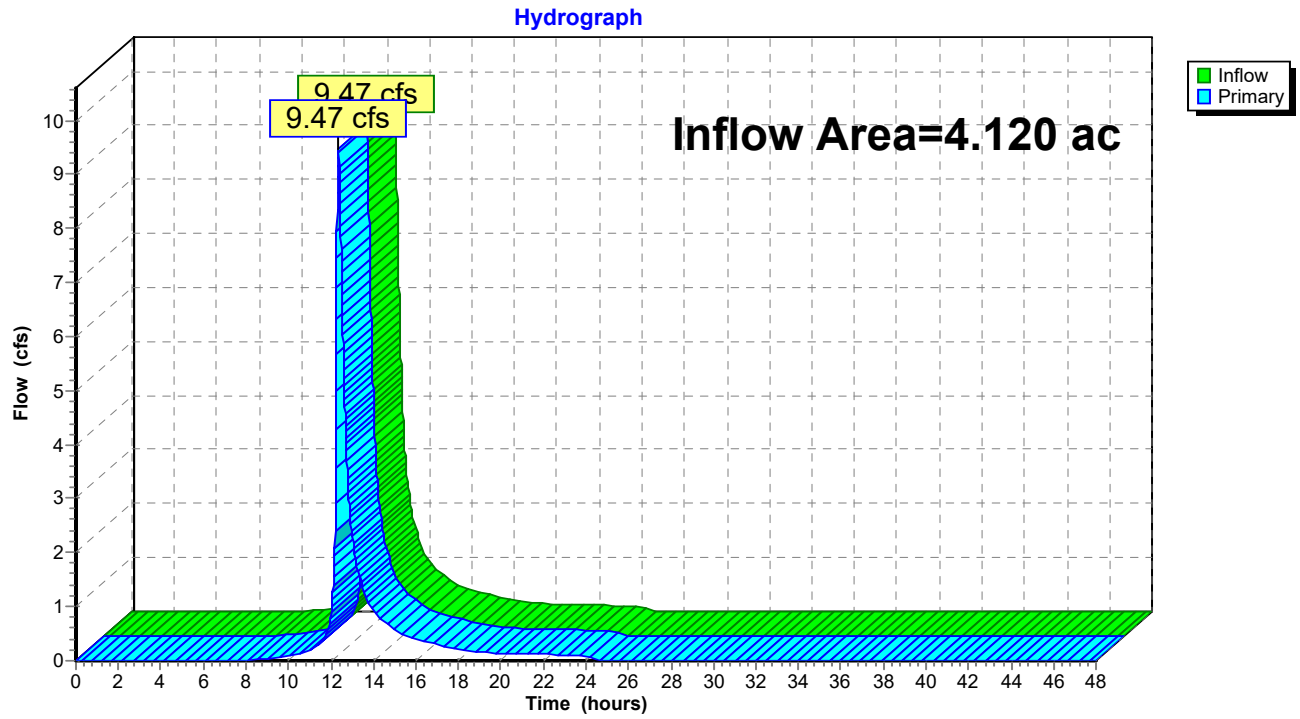
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
453.00	1,193	0
453.05	1,234	61
453.10	1,274	123
453.15	1,315	188
453.20	1,356	255
453.25	1,396	324
453.30	1,437	394
453.35	1,478	467
453.40	1,518	542
453.45	1,559	619
453.50	1,600	698
453.55	1,640	779
453.60	1,681	862
453.65	1,721	947
453.70	1,762	1,034
453.75	1,803	1,123
453.80	1,843	1,215
453.85	1,884	1,308
453.90	1,925	1,403
453.95	1,965	1,500
454.00	2,006	1,600
454.05	2,064	1,701
454.10	2,122	1,806
454.15	2,181	1,913
454.20	2,239	2,024
454.25	2,297	2,137
454.30	2,355	2,254
454.35	2,413	2,373
454.40	2,472	2,495
454.45	2,530	2,620
454.50	2,588	2,748
454.55	2,646	2,879
454.60	2,704	3,013
454.65	2,763	3,149
454.70	2,821	3,289
454.75	2,879	3,431
454.80	2,937	3,577
454.85	2,995	3,725
454.90	3,054	3,876
454.95	3,112	4,030
455.00	3,170	4,188
455.05	3,219	4,347
455.10	3,268	4,509
455.15	3,317	4,674
455.20	3,366	4,841
455.25	3,416	5,011
455.30	3,465	5,183
455.35	3,514	5,357
455.40	3,563	5,534
455.45	3,612	5,713
455.50	3,661	5,895
455.55	3,710	6,080
455.60	3,759	6,266
455.65	3,808	6,455
455.70	3,857	6,647
455.75	3,907	6,841
455.80	3,956	7,038
455.85	4,005	7,237
455.90	4,054	7,438
455.95	4,103	7,642
456.00	4,152	7,849
456.05	4,206	8,057
456.10	4,260	8,269
456.15	4,313	8,483
456.20	4,367	8,700
456.25	4,421	8,920
456.30	4,475	9,142
456.35	4,528	9,368
456.40	4,582	9,595
456.45	4,636	9,826
456.50	4,690	10,059
456.55	4,743	10,295
456.60	4,797	10,533
456.65	4,851	10,774
456.70	4,904	11,018
456.75	4,958	11,265
456.80	5,012	11,514
456.85	5,066	11,766
456.90	5,119	12,021
456.95	5,173	12,278
457.00	**5,227**	**12,538**

Summary for Link 5L: PDA-1 Total

Inflow Area = 4.120 ac, 0.24% Impervious, Inflow Depth = 2.23" for 50-yr event
Inflow = 9.47 cfs @ 12.36 hrs, Volume= 0.766 af
Primary = 9.47 cfs @ 12.36 hrs, Volume= 0.766 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 5L: PDA-1 Total



Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: EDA-2 Runoff Area=6.140 ac 4.07% Impervious Runoff Depth=5.66"
Flow Length=887' Tc=9.8 min CN=82 Runoff=32.32 cfs 2.896 af

Subcatchment 2S: PDA-1A Runoff Area=1.250 ac 0.80% Impervious Runoff Depth=4.17"
Flow Length=1,008' Tc=21.8 min CN=69 Runoff=3.53 cfs 0.435 af

Subcatchment 3S: PDA-2 Runoff Area=5.850 ac 4.27% Impervious Runoff Depth=4.28"
Flow Length=887' Tc=20.1 min CN=70 Runoff=17.67 cfs 2.089 af

Subcatchment 6S: EDA-1 Runoff Area=3.830 ac 0.00% Impervious Runoff Depth=5.66"
Flow Length=1,008' Tc=11.2 min CN=82 Runoff=19.23 cfs 1.807 af

Subcatchment 8S: PDA-1B Runoff Area=2.870 ac 0.00% Impervious Runoff Depth=4.51"
Flow Length=660' Tc=19.5 min CN=72 Runoff=9.25 cfs 1.079 af

Pond 4P: Pond Peak Elev=456.23' Storage=8,837 cf Inflow=9.25 cfs 1.079 af
Discarded=0.36 cfs 0.523 af Primary=8.36 cfs 0.556 af Outflow=8.73 cfs 1.079 af

Link 5L: PDA-1 Total Inflow=11.87 cfs 0.991 af
Primary=11.87 cfs 0.991 af

Summary for Subcatchment 1S: EDA-2

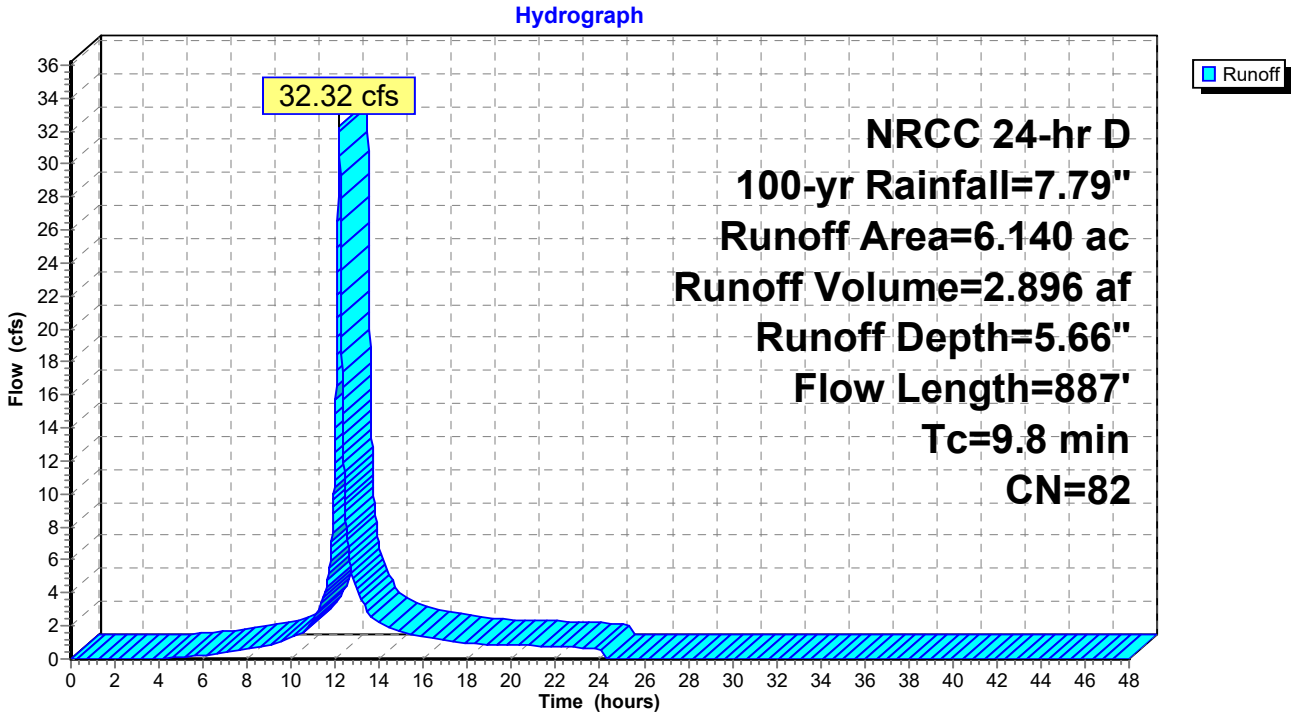
Runoff = 32.32 cfs @ 12.17 hrs, Volume= 2.896 af, Depth= 5.66"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 100-yr Rainfall=7.79"

	Area (ac)	CN	Description
	0.250	98	Paved parking, HSG B
	2.950	78	Row crops, straight row, Good, HSG B
	1.660	85	Row crops, straight row, Good, HSG C
*	1.080	87	Row crops, straight row, Good, HSG C/D
	0.200	60	Woods, Fair, HSG B
	6.140	82	Weighted Average
	5.890		95.93% Pervious Area
	0.250		4.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
5.5	787	0.0700	2.38		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
9.8	887	Total			

Subcatchment 1S: EDA-2



Summary for Subcatchment 2S: PDA-1A

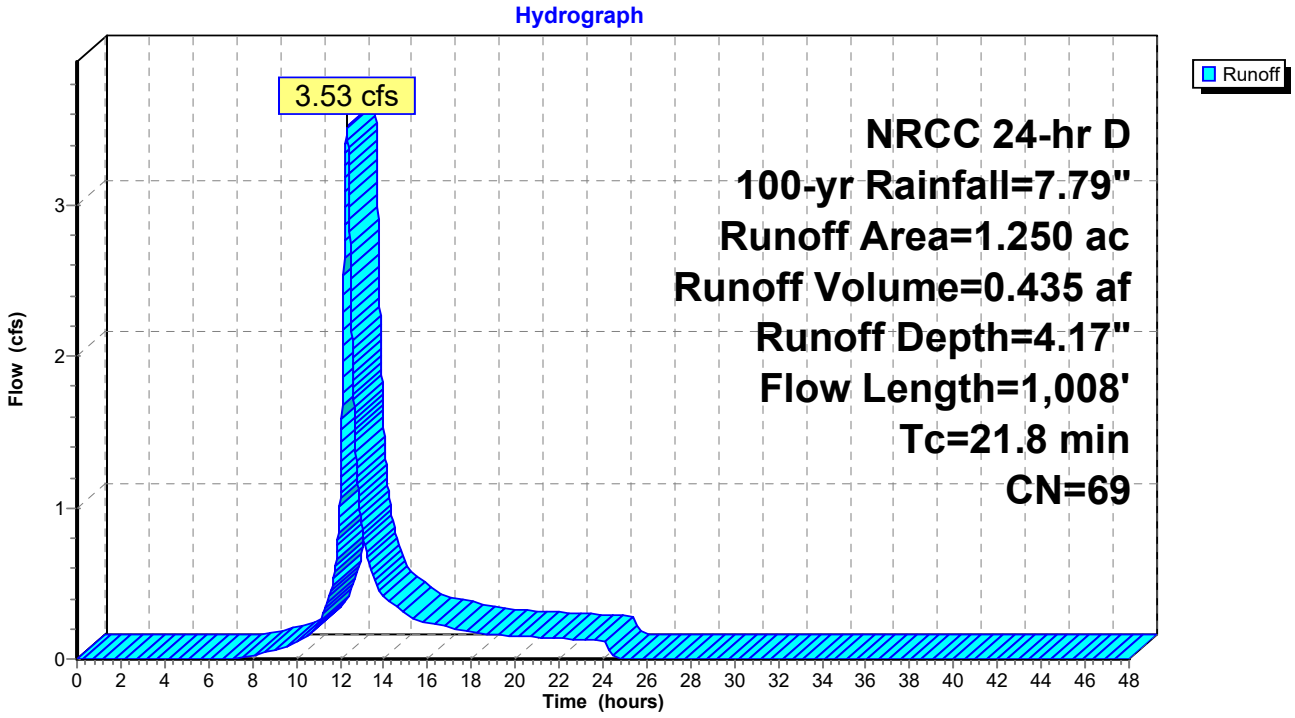
Runoff = 3.53 cfs @ 12.32 hrs, Volume= 0.435 af, Depth= 4.17"
Routed to Link 5L : PDA-1 Total

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 100-yr Rainfall=7.79"

	Area (ac)	CN	Description
*	0.290	77	>75% Grass cover, Good, HSG C-D
*	0.410	65	Meadow, non-grazed, HSG B/C
	0.230	78	Meadow, non-grazed, HSG D
	0.010	98	Paved parking, HSG B
	0.310	61	>75% Grass cover, Good, HSG B
	1.250	69	Weighted Average
	1.240		99.20% Pervious Area
	0.010		0.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
8.8	908	0.0600	1.71		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
21.8	1,008	Total			

Subcatchment 2S: PDA-1A



Summary for Subcatchment 3S: PDA-2

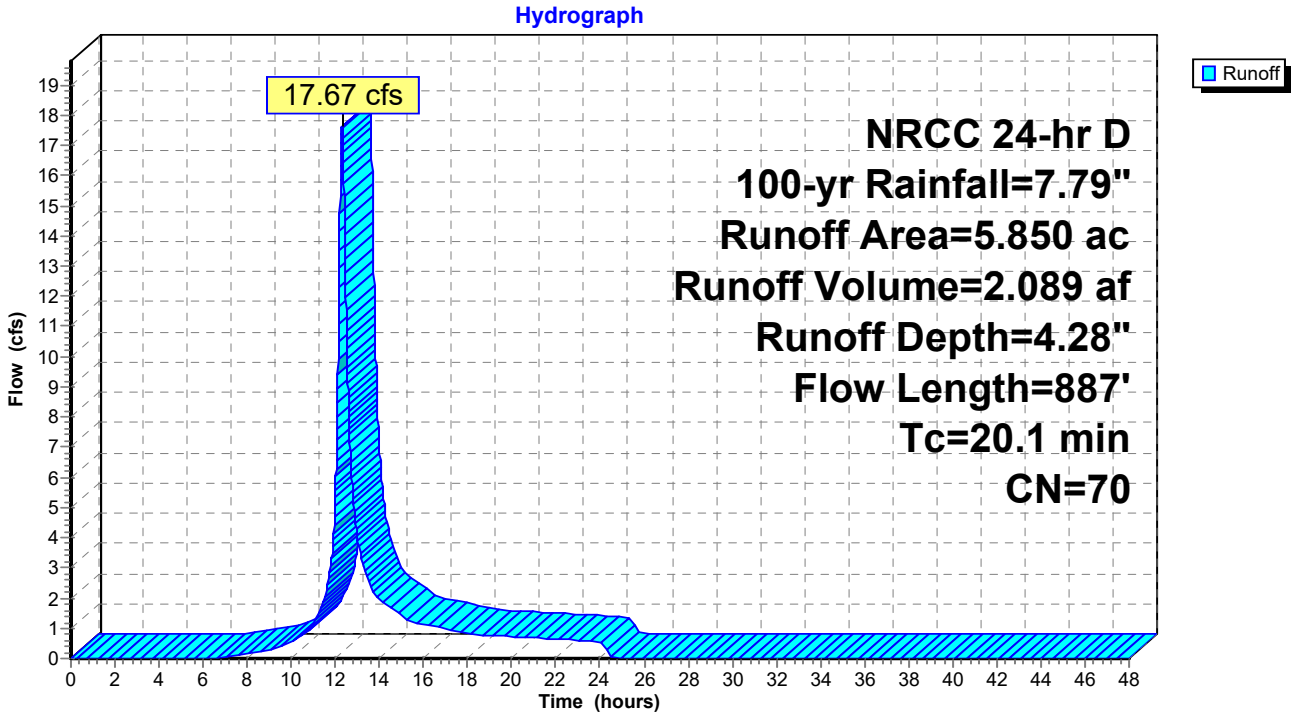
Runoff = 17.67 cfs @ 12.30 hrs, Volume= 2.089 af, Depth= 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 100-yr Rainfall=7.79"

	Area (ac)	CN	Description
	0.160	96	Gravel surface, HSG B
	0.380	78	Meadow, non-grazed, HSG D
*	0.120	75	Meadow, non-grazed, HSG C/D
*	1.520	65	Meadow, non-grazed, HSG B/C
	1.490	61	>75% Grass cover, Good, HSG B
	1.550	74	>75% Grass cover, Good, HSG C
*	0.380	77	>75% Grass cover, Good, HSG C/D
	0.250	98	Paved parking, HSG B
	5.850	70	Weighted Average
	5.600		95.73% Pervious Area
	0.250		4.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.0	100	0.0230	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
7.1	787	0.0700	1.85		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
20.1	887	Total			

Subcatchment 3S: PDA-2



Summary for Subcatchment 6S: EDA-1

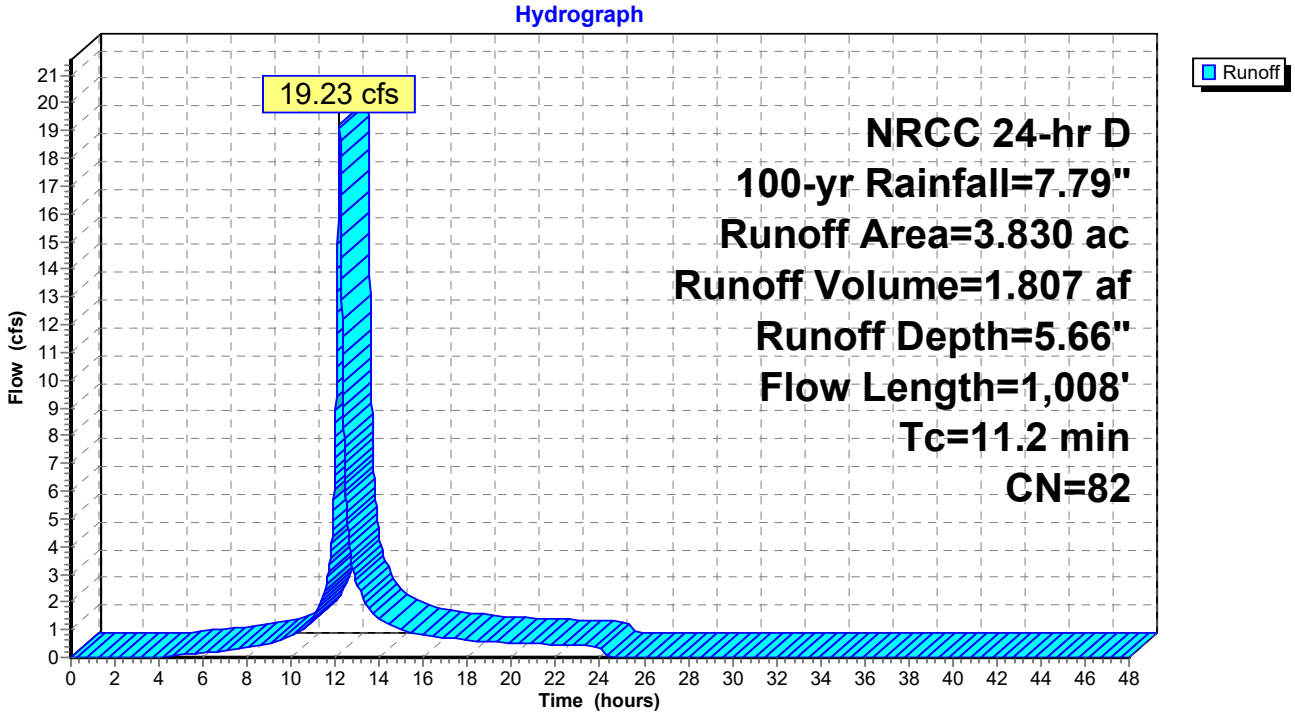
Runoff = 19.23 cfs @ 12.18 hrs, Volume= 1.807 af, Depth= 5.66"
Routed to nonexistent node 7L

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 100-yr Rainfall=7.79"

	Area (ac)	CN	Description
	2.180	78	Row crops, straight row, Good, HSG B
*	1.600	87	Row crops, straight row, Good, HSG C/D
	0.050	60	Woods, Fair, HSG B
	3.830	82	Weighted Average
	3.830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	100	0.0230	0.39		**Sheet Flow, AB** Cultivated: Residue<=20% n= 0.060 P2= 3.45"
6.9	908	0.0600	2.20		**Shallow Concentrated Flow, BC** Cultivated Straight Rows Kv= 9.0 fps
11.2	1,008	Total			

Subcatchment 6S: EDA-1



Summary for Subcatchment 8S: PDA-1B

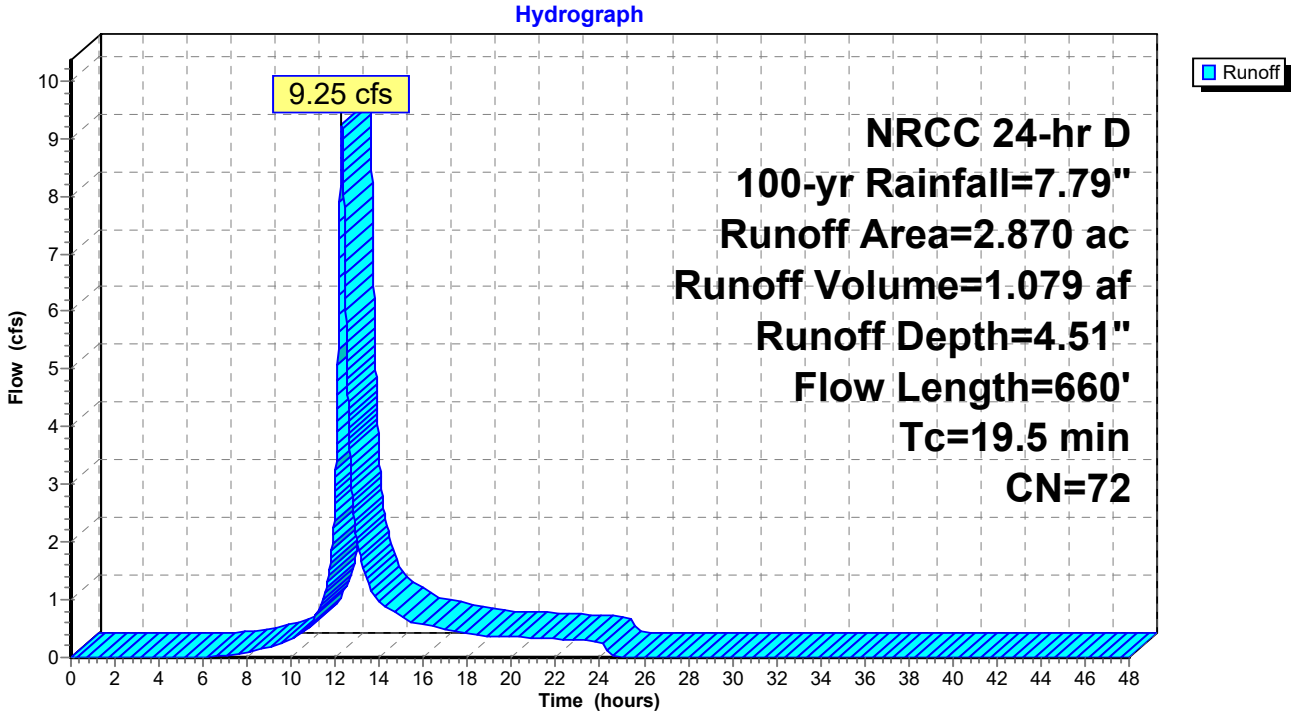
Runoff = 9.25 cfs @ 12.28 hrs, Volume= 1.079 af, Depth= 4.51"
Routed to Pond 4P : Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NRCC 24-hr D 100-yr Rainfall=7.79"

	Area (ac)	CN	Description
*	1.450	65	Meadow, non-grazed, HSG B/C
	1.370	78	Meadow, non-grazed, HSG D
	0.050	96	Gravel surface, HSG B
	2.870	72	Weighted Average
	2.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0200	0.12		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.45"
5.7	548	0.0520	1.60		**Shallow Concentrated Flow, BC** Short Grass Pasture Kv= 7.0 fps
0.1	12	0.0100	2.03		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
19.5	660	Total			

Subcatchment 8S: PDA-1B



Summary for Pond 4P: Pond

Inflow Area = 2.870 ac, 0.00% Impervious, Inflow Depth = 4.51" for 100-yr event
Inflow = 9.25 cfs @ 12.28 hrs, Volume= 1.079 af
Outflow = 8.73 cfs @ 12.34 hrs, Volume= 1.079 af, Atten= 6%, Lag= 3.5 min
Discarded = 0.36 cfs @ 12.34 hrs, Volume= 0.523 af
Primary = 8.36 cfs @ 12.34 hrs, Volume= 0.556 af
Routed to Link 5L : PDA-1 Total

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 456.23' @ 12.34 hrs Surf.Area= 4,401 sf Storage= 8,837 cf

Plug-Flow detention time= 146.7 min calculated for 1.079 af (100% of inflow)
Center-of-Mass det. time= 146.8 min (1,002.8 - 856.0)

Volume	Invert	Avail.Storage	Storage Description
#1	453.00'	12,538 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

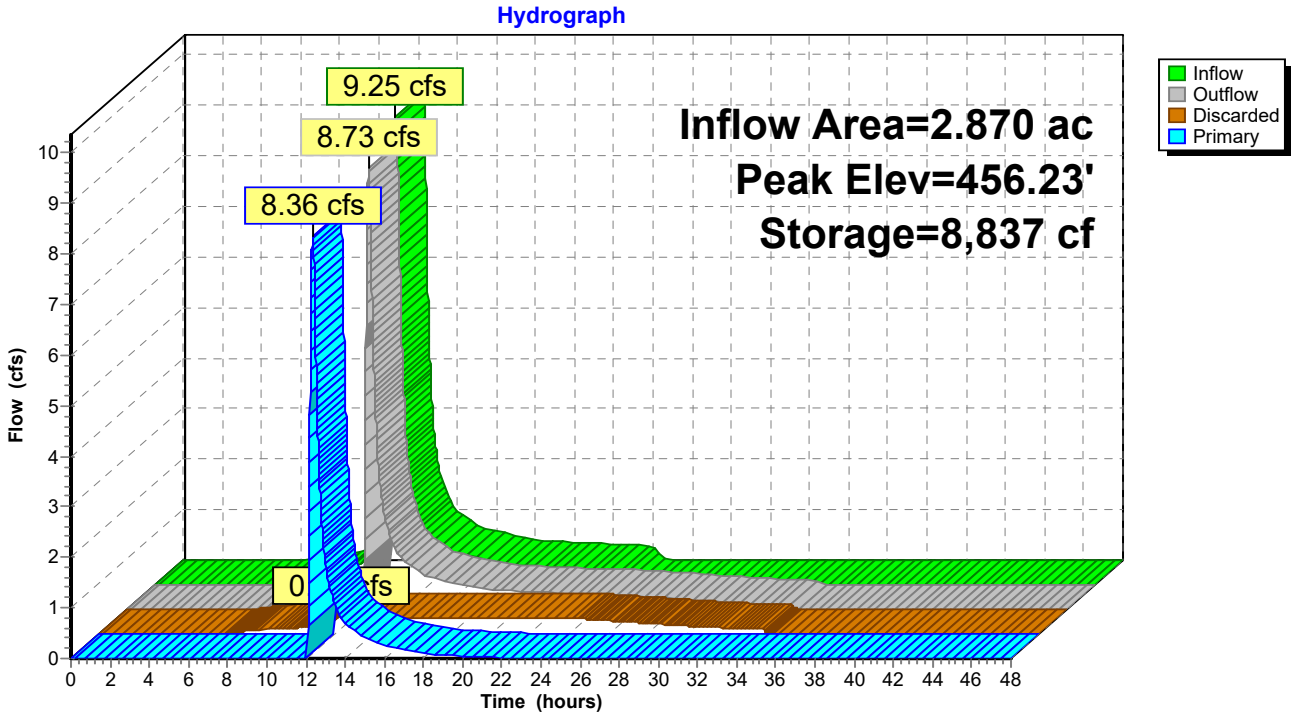
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
453.00	1,193	0	0
454.00	2,006	1,600	1,600
455.00	3,170	2,588	4,188
456.00	4,152	3,661	7,849
457.00	5,227	4,690	12,538

Device	Routing	Invert	Outlet Devices
#1	Discarded	453.00'	**3.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 443.00'
#2	Primary	455.70'	**8.0' 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

Discarded OutFlow Max=0.36 cfs @ 12.34 hrs HW=456.23' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.36 cfs)

Primary OutFlow Max=8.36 cfs @ 12.34 hrs HW=456.23' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 8.36 cfs @ 1.97 fps)

Pond 4P: Pond


Hydrograph
9.25 cfs
8.73 cfs
8.36 cfs
Inflow Area=2.870 ac
Peak Elev=456.23'
Storage=8,837 cf
Inflow
Outflow
Discarded
Primary
Flow (cfs)
Time (hours)

Stage-Discharge for Pond 4P: Pond

Elevation (feet)	Discharge (cfs)	Discarded (cfs)	Primary (cfs)
453.00	0.00	0.00	0.00
453.05	0.09	0.09	0.00
453.10	0.09	0.09	0.00
453.15	0.09	0.09	0.00
453.20	0.10	0.10	0.00
453.25	0.10	0.10	0.00
453.30	0.10	0.10	0.00
453.35	0.11	0.11	0.00
453.40	0.11	0.11	0.00
453.45	0.11	0.11	0.00
453.50	0.12	0.12	0.00
453.55	0.12	0.12	0.00
453.60	0.12	0.12	0.00
453.65	0.13	0.13	0.00
453.70	0.13	0.13	0.00
453.75	0.13	0.13	0.00
453.80	0.14	0.14	0.00
453.85	0.14	0.14	0.00
453.90	0.14	0.14	0.00
453.95	0.15	0.15	0.00
454.00	0.15	0.15	0.00
454.05	0.15	0.15	0.00
454.10	0.16	0.16	0.00
454.15	0.16	0.16	0.00
454.20	0.17	0.17	0.00
454.25	0.17	0.17	0.00
454.30	0.18	0.18	0.00
454.35	0.18	0.18	0.00
454.40	0.19	0.19	0.00
454.45	0.19	0.19	0.00
454.50	0.20	0.20	0.00
454.55	0.20	0.20	0.00
454.60	0.21	0.21	0.00
454.65	0.21	0.21	0.00
454.70	0.22	0.22	0.00
454.75	0.22	0.22	0.00
454.80	0.23	0.23	0.00
454.85	0.23	0.23	0.00
454.90	0.24	0.24	0.00
454.95	0.24	0.24	0.00
455.00	0.25	0.25	0.00
455.05	0.25	0.25	0.00
455.10	0.26	0.26	0.00
455.15	0.26	0.26	0.00
455.20	0.27	0.27	0.00
455.25	0.27	0.27	0.00
455.30	0.28	0.28	0.00
455.35	0.28	0.28	0.00
455.40	0.28	0.28	0.00
455.45	0.29	0.29	0.00
455.50	0.29	0.29	0.00
455.55	0.30	0.30	0.00
455.60	0.30	0.30	0.00
455.65	0.31	0.31	0.00
455.70	0.31	0.31	0.00
455.75	0.56	0.32	0.24
455.80	1.00	0.32	0.68
455.85	1.57	0.33	1.25
455.90	2.25	0.33	1.92
455.95	3.02	0.33	2.69
456.00	3.88	0.34	3.54
456.05	4.81	0.34	4.46
456.10	5.81	0.35	5.46
456.15	6.88	0.35	6.52
456.20	8.00	0.36	7.64
456.25	9.18	0.36	8.81
456.30	10.41	0.37	10.04
456.35	11.63	0.38	11.26
456.40	12.89	0.38	12.51
456.45	14.18	0.39	13.80
456.50	15.50	0.39	15.11
456.55	16.93	0.40	16.54
456.60	18.40	0.40	18.00
456.65	19.91	0.41	19.50
456.70	21.45	0.41	21.04
456.75	23.08	0.42	22.66
456.80	24.74	0.42	24.32
456.85	26.45	0.43	26.02
456.90	28.20	0.43	27.76
456.95	29.95	0.44	29.52
457.00	**31.75**	**0.44**	**31.30**

Stage-Area-Storage for Pond 4P: Pond

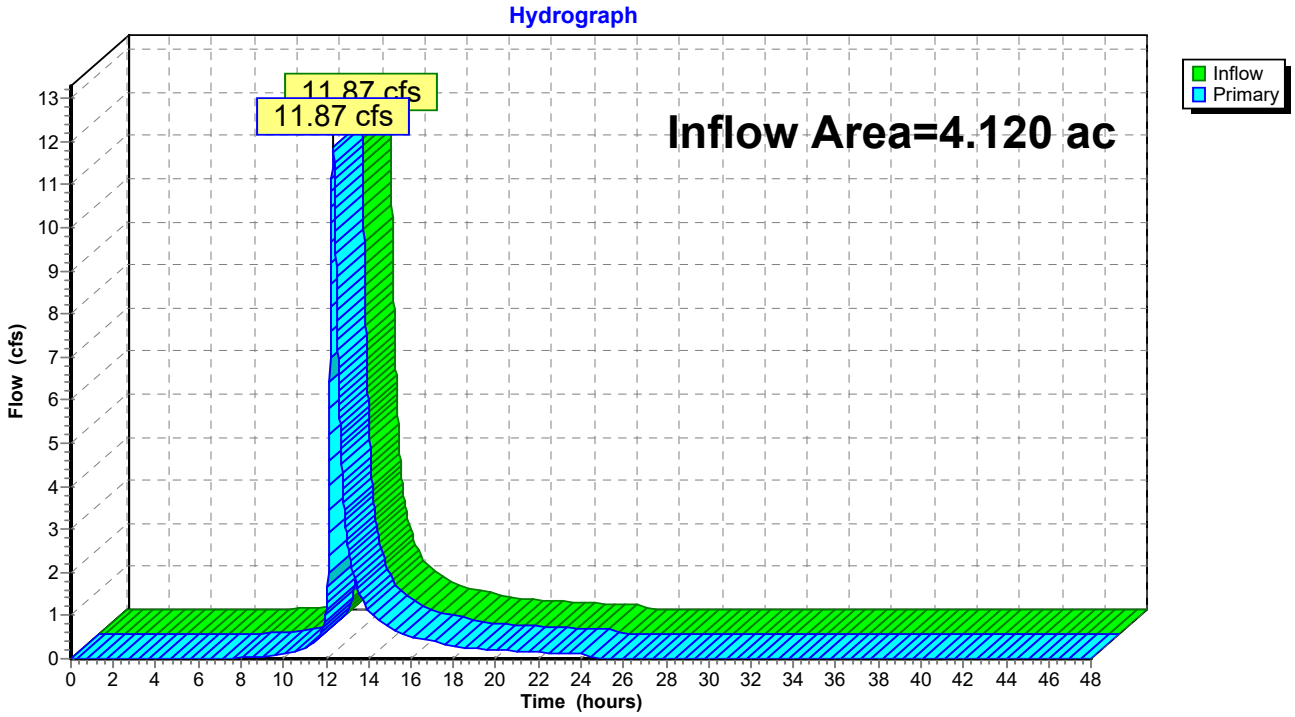
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
453.00	1,193	0
453.05	1,234	61
453.10	1,274	123
453.15	1,315	188
453.20	1,356	255
453.25	1,396	324
453.30	1,437	394
453.35	1,478	467
453.40	1,518	542
453.45	1,559	619
453.50	1,600	698
453.55	1,640	779
453.60	1,681	862
453.65	1,721	947
453.70	1,762	1,034
453.75	1,803	1,123
453.80	1,843	1,215
453.85	1,884	1,308
453.90	1,925	1,403
453.95	1,965	1,500
454.00	2,006	1,600
454.05	2,064	1,701
454.10	2,122	1,806
454.15	2,181	1,913
454.20	2,239	2,024
454.25	2,297	2,137
454.30	2,355	2,254
454.35	2,413	2,373
454.40	2,472	2,495
454.45	2,530	2,620
454.50	2,588	2,748
454.55	2,646	2,879
454.60	2,704	3,013
454.65	2,763	3,149
454.70	2,821	3,289
454.75	2,879	3,431
454.80	2,937	3,577
454.85	2,995	3,725
454.90	3,054	3,876
454.95	3,112	4,030
455.00	3,170	4,188
455.05	3,219	4,347
455.10	3,268	4,509
455.15	3,317	4,674
455.20	3,366	4,841
455.25	3,416	5,011
455.30	3,465	5,183
455.35	3,514	5,357
455.40	3,563	5,534
455.45	3,612	5,713
455.50	3,661	5,895
455.55	3,710	6,080
455.60	3,759	6,266
455.65	3,808	6,455
455.70	3,857	6,647
455.75	3,907	6,841
455.80	3,956	7,038
455.85	4,005	7,237
455.90	4,054	7,438
455.95	4,103	7,642
456.00	4,152	7,849
456.05	4,206	8,057
456.10	4,260	8,269
456.15	4,313	8,483
456.20	4,367	8,700
456.25	4,421	8,920
456.30	4,475	9,142
456.35	4,528	9,368
456.40	4,582	9,595
456.45	4,636	9,826
456.50	4,690	10,059
456.55	4,743	10,295
456.60	4,797	10,533
456.65	4,851	10,774
456.70	4,904	11,018
456.75	4,958	11,265
456.80	5,012	11,514
456.85	5,066	11,766
456.90	5,119	12,021
456.95	5,173	12,278
457.00	**5,227**	**12,538**

Summary for Link 5L: PDA-1 Total

Inflow Area = 4.120 ac, 0.24% Impervious, Inflow Depth = 2.89" for 100-yr event
Inflow = 11.87 cfs @ 12.33 hrs, Volume= 0.991 af
Primary = 11.87 cfs @ 12.33 hrs, Volume= 0.991 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 5L: PDA-1 Total



WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR PDA

Project: Proposed Solar Photovoltaic Array
Location: 958 Route 163, Montville, CT
Date: 09/30/23

Water Quality Volume Calculations:

$$WQV = \frac{(1.3")(R)(A)}{12}$$

Where:
WQV = water quality volume (ac-ft)
R = volumentric runoff coefficient = 0.05+0.009(I)
I = percent impervious cover (see below)
A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
I = percent impervious cover
A_{IMP} = area of impervious cover
A_{TOT} = total area of watershed

Watershed Description:	PDA		
Area of impervious coverage, A_{IMP}	0.47	Acres	
Total area of watershed, A_{TOT}	9.97	Acres	
Percent impverious cover, I	4.71	%	
Volumentric runoff coefficient, R	0.09		
Water Quality Volume, WQV	0.100	ac-ft	4,349 cf

NOAA Atlas 14, Volume 10, Version 3
Location name: Oakdale, Connecticut, USA*
Latitude: 41.4826°, Longitude: -72.171°
Elevation: 424 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.339** (0.263-0.427)	**0.406** (0.315-0.511)	**0.515** (0.398-0.650)	**0.605** (0.465-0.767)	**0.729** (0.543-0.960)	**0.823** (0.601-1.10)	**0.921** (0.653-1.27)	**1.03** (0.695-1.45)	**1.19** (0.772-1.72)	**1.32** (0.837-1.94)
10-min	**0.481** (0.373-0.605)	**0.575** (0.446-0.724)	**0.729** (0.563-0.921)	**0.857** (0.658-1.09)	**1.03** (0.769-1.36)	**1.16** (0.851-1.56)	**1.30** (0.926-1.80)	**1.46** (0.982-2.05)	**1.69** (1.09-2.44)	**1.87** (1.18-2.75)
15-min	**0.565** (0.439-0.712)	**0.676** (0.524-0.852)	**0.857** (0.663-1.08)	**1.01** (0.774-1.28)	**1.22** (0.905-1.60)	**1.37** (1.00-1.84)	**1.53** (1.09-2.12)	**1.72** (1.16-2.41)	**1.98** (1.29-2.87)	**2.20** (1.39-3.24)
30-min	**0.791** (0.613-0.995)	**0.945** (0.733-1.19)	**1.20** (0.925-1.51)	**1.41** (1.08-1.79)	**1.70** (1.26-2.24)	**1.92** (1.40-2.57)	**2.14** (1.52-2.96)	**2.40** (1.62-3.37)	**2.77** (1.80-4.00)	**3.07** (1.94-4.52)
60-min	**1.02** (0.788-1.28)	**1.22** (0.942-1.53)	**1.54** (1.19-1.95)	**1.81** (1.39-2.30)	**2.18** (1.62-2.87)	**2.46** (1.80-3.30)	**2.75** (1.95-3.80)	**3.08** (2.08-4.33)	**3.56** (2.30-5.14)	**3.94** (2.50-5.79)
2-hr	**1.33** (1.04-1.67)	**1.59** (1.24-1.99)	**2.01** (1.56-2.52)	**2.36** (1.82-2.97)	**2.84** (2.13-3.71)	**3.19** (2.35-4.26)	**3.58** (2.56-4.92)	**4.02** (2.71-5.59)	**4.66** (3.03-6.68)	**5.21** (3.31-7.58)
3-hr	**1.55** (1.22-1.93)	**1.84** (1.45-2.30)	**2.33** (1.82-2.91)	**2.73** (2.12-3.42)	**3.28** (2.47-4.27)	**3.69** (2.73-4.90)	**4.13** (2.97-5.66)	**4.64** (3.14-6.44)	**5.41** (3.52-7.70)	**6.05** (3.85-8.76)
6-hr	**1.97** (1.56-2.44)	**2.34** (1.85-2.90)	**2.95** (2.32-3.66)	**3.45** (2.70-4.31)	**4.14** (3.14-5.36)	**4.66** (3.46-6.14)	**5.21** (3.77-7.10)	**5.86** (3.99-8.05)	**6.82** (4.46-9.64)	**7.63** (4.88-11.0)
12-hr	**2.45** (1.95-3.02)	**2.91** (2.32-3.58)	**3.66** (2.90-4.52)	**4.28** (3.37-5.31)	**5.14** (3.92-6.60)	**5.78** (4.32-7.55)	**6.46** (4.69-8.71)	**7.25** (4.96-9.88)	**8.42** (5.53-11.8)	**9.40** (6.02-13.4)
24-hr	**2.88** (2.31-3.52)	**3.44** (2.76-4.21)	**4.36** (3.48-5.34)	**5.12** (4.06-6.30)	**6.17** (4.74-7.87)	**6.95** (5.23-9.02)	**7.79** (5.69-10.4)	**8.76** (6.02-11.8)	**10.2** (6.74-14.2)	**11.4** (7.35-16.1)
2-day	**3.23** (2.61-3.92)	**3.90** (3.15-4.74)	**5.00** (4.02-6.08)	**5.91** (4.72-7.22)	**7.17** (5.54-9.09)	**8.10** (6.14-10.5)	**9.10** (6.71-12.1)	**10.3** (7.11-13.8)	**12.1** (8.03-16.7)	**13.7** (8.84-19.1)
3-day	**3.51** (2.85-4.24)	**4.24** (3.43-5.12)	**5.43** (4.38-6.58)	**6.42** (5.15-7.81)	**7.78** (6.04-9.83)	**8.79** (6.69-11.3)	**9.88** (7.31-13.1)	**11.2** (7.74-14.9)	**13.2** (8.76-18.0)	**14.9** (9.65-20.7)
4-day	**3.77** (3.07-4.54)	**4.54** (3.69-5.47)	**5.79** (4.69-7.00)	**6.84** (5.50-8.29)	**8.27** (6.44-10.4)	**9.33** (7.12-12.0)	**10.5** (7.77-13.9)	**11.9** (8.22-15.8)	**14.0** (9.29-19.0)	**15.8** (10.2-21.8)
7-day	**4.50** (3.68-5.38)	**5.34** (4.37-6.40)	**6.72** (5.48-8.08)	**7.87** (6.37-9.49)	**9.45** (7.40-11.8)	**10.6** (8.14-13.5)	**11.9** (8.84-15.6)	**13.4** (9.32-17.6)	**15.6** (10.4-21.1)	**17.5** (11.4-24.1)
10-day	**5.21** (4.28-6.22)	**6.10** (5.01-7.29)	**7.56** (6.18-9.04)	**8.76** (7.12-10.5)	**10.4** (8.18-12.9)	**11.7** (8.95-14.7)	**13.0** (9.65-16.9)	**14.5** (10.1-19.0)	**16.8** (11.2-22.6)	**18.7** (12.2-25.5)
20-day	**7.43** (6.15-8.80)	**8.38** (6.92-9.93)	**9.93** (8.18-11.8)	**11.2** (9.18-13.4)	**13.0** (10.2-15.9)	**14.3** (11.0-17.8)	**15.7** (11.6-20.0)	**17.2** (12.1-22.3)	**19.2** (12.9-25.6)	**20.8** (13.6-28.1)
30-day	**9.27** (7.71-10.9)	**10.3** (8.51-12.1)	**11.9** (9.81-14.0)	**13.2** (10.8-15.7)	**15.0** (11.9-18.3)	**16.4** (12.7-20.3)	**17.9** (13.2-22.4)	**19.2** (13.6-24.8)	**21.0** (14.2-27.8)	**22.4** (14.7-30.0)
45-day	**11.6** (9.65-13.6)	**12.6** (10.5-14.8)	**14.3** (11.8-16.8)	**15.7** (12.9-18.5)	**17.6** (13.9-21.2)	**19.1** (14.7-23.3)	**20.5** (15.2-25.5)	**21.8** (15.5-28.0)	**23.4** (15.9-30.8)	**24.5** (16.1-32.7)
60-day	**13.4** (11.3-15.8)	**14.5** (12.2-17.0)	**16.3** (13.6-19.1)	**17.7** (14.7-20.9)	**19.7** (15.7-23.7)	**21.3** (16.5-25.9)	**22.8** (16.9-28.2)	**24.1** (17.1-30.7)	**25.6** (17.4-33.4)	**26.5** (17.4-35.2)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

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Back to Top

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