ALL-POINTS TECHNOLOGY CORPORATION

January 21, 2022

Michael Morrison
C-TEC Solar, LLC
1 Griffin Road South, Suite 200
Bloomfield, CT 06002

RE: Cheshire Solar
5 McKee Place
Cheshire, Connecticut

Dear Mr. Morrison,

We have prepared this letter report related to stormwater drainage associated with the proposed Cheshire Solar project (the "Project"). The Project is proposed behind the existing manufacturing building, located at 5 McKee Place in Cheshire, Connecticut (the "Site").

Introduction

The Site is a ±39.25-acre property developed as a manufacturing facility. The Project includes the installation of a ground-mounted sun tracking solar array system and appurtenances ("Solar Facility"), to be installed east of the building, and a fenced equipment area located near the northern corner building and east of the parking lot. The Solar Facility will consist of 2,150 solar panels to be installed within an existing manicured grassed field area. The power generated from this site will serve the existing manufacturing building.

Site Conditions and Stormwater Patterns

The specific Project area for the fenced Solar Facility is ±4.53 acres, including the proposed ±1,800 square foot ("sf") equipment area located near the northern corner of the building as well as temporary trenching and water line relocation as requested by the Town Fire Department. In the area where the panels are to be installed, little to no grading is proposed. It is anticipated that minor clearing and selective tree removal of the tree line to the south will be required for shading purposes, approximately ±1.13 acres. Minor clearing would include the cutting of trees with stumps to remain. Any clearing proposed within the upland review area will be completed without the use of heavy machinery. No grubbing is proposed.

The existing Project area has a break that bisects the drainage watershed where a portion drains northwest towards McKee Place and the remainder drains south to an existing wetland system. The existing drainage patterns will be maintained throughout the Site after construction.

The proposed Solar Facility will be constructed on a post mounted sun tracking racking system. As the existing topography of the Project area is conducive to the installation of the post mounted

sun tracking racking system, little to no grading is proposed. With little to no grading proposed, it is anticipated that the Project will maintain the existing watershed limits. The fenced array area will be seeded with the Ernst Solar Farm Seed Mix, which when established is expected to create a meadow cover type and will therefore have a reduced or equal runoff coefficient compared to the runoff coefficient of the existing turf grass field. Cover types with lower runoff coefficients (i.e., curve number) tend to generate less stormwater runoff. The area within the array fence that will be converted from a woods cover type to meadow is accounted for in the modeling (0.71-acres).

In addition, with the removal of select trees outside the array without stump grinding or grubbing, the area of tree removal is anticipated to facilitate a more robust understory growth which would result in a stormwater runoff coefficient that will stay substantially the same as existing conditions. Any disturbed area associated with utility trenching will be restored to match existing conditions or seeded with the Ernst Solar Farm Seed Mix by request of the property owner.

Stormwater Management

Analysis Methodology

The 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 Type III rainfall distribution. Hydrographs were developed for the NOAA Atlas 14, Volume 10, Version 2 Precipitation 2-, 25-, 50-, and 100-year storm event with rainfall depths of 3.49, 6.72, 7.63, and 8.64 inches respectively.

The existing and proposed drainage areas used in the calculations are illustrated on the Existing and Proposed Drainage Area Plans (EDA-1 & PDA-1). These maps and the corresponding HydroCAD outputs are attached.

Existing Drainage Patterns

The Site was modeled at two (2) Analysis Points ("AP-1" and "AP-2"). AP-1 is along the existing wetlands to the south. AP-2 is along McKee Place to the northwest where drainage enters an existing stormwater drainage system at the corner of McKee Place and Knotter Drive. Peak discharges have been computed at the points of study for the 2-, 25-, 50-, and 100-year storm events.

The Project area soils identified by the United States Department of Agriculture ("USDA") Natural Resources Conservation Service ("NRCS") consist primarily of a HSG rating of "B". The specific Map Unit Symbol soils include 306. Specific details for the soil Map Unit Symbol are attached.

The pre-development discharges at the Analysis Points are tabulated in Table 1.

Table 1

Analysis Point	Pre-developed Peak Storm Runoff (Q), cubic feet per second (cfs)			
	2-year	25-year	50-year	100-year
AP-1	0.66	5.11	6.74	8.61
AP-2	0.81	4.98	6.43	8.12

Proposed Drainage Patterns

Since the proposed development mimics the existing conditions, the post-development condition was modeled using the same Analysis Points. Peak discharges have been computed at the point of study for the 2-year, 25-year, 50-year, and 100-year storm events. The post-development discharges at each point of study are tabulated in Table 2.

Table 2

Analysis Point	Post-developed Peak Storm Runoff (Q), cubic feet per second (cfs)			
	2-year	25-year	50-year	100-year
AP-1	0.58	5.06	6.68	8.58
AP-2	0.60	4.33	5.66	7.23

The reduction in runoff achieved by the post-development discharges in comparison with the pre-development discharges are tabulated in Table 3.

Table 3

Analysis Point	Peak Storm Runoff (Q) Comparison Pre- and Post-, Percent (%) Change			
	2-year	25-year	50-year	100-year
AP-1	-12.1%	-1.0%	-0.9%	-0.3%
AP-2	-25.9%	-13.1%	-12.0%	-11.0%

Conclusion

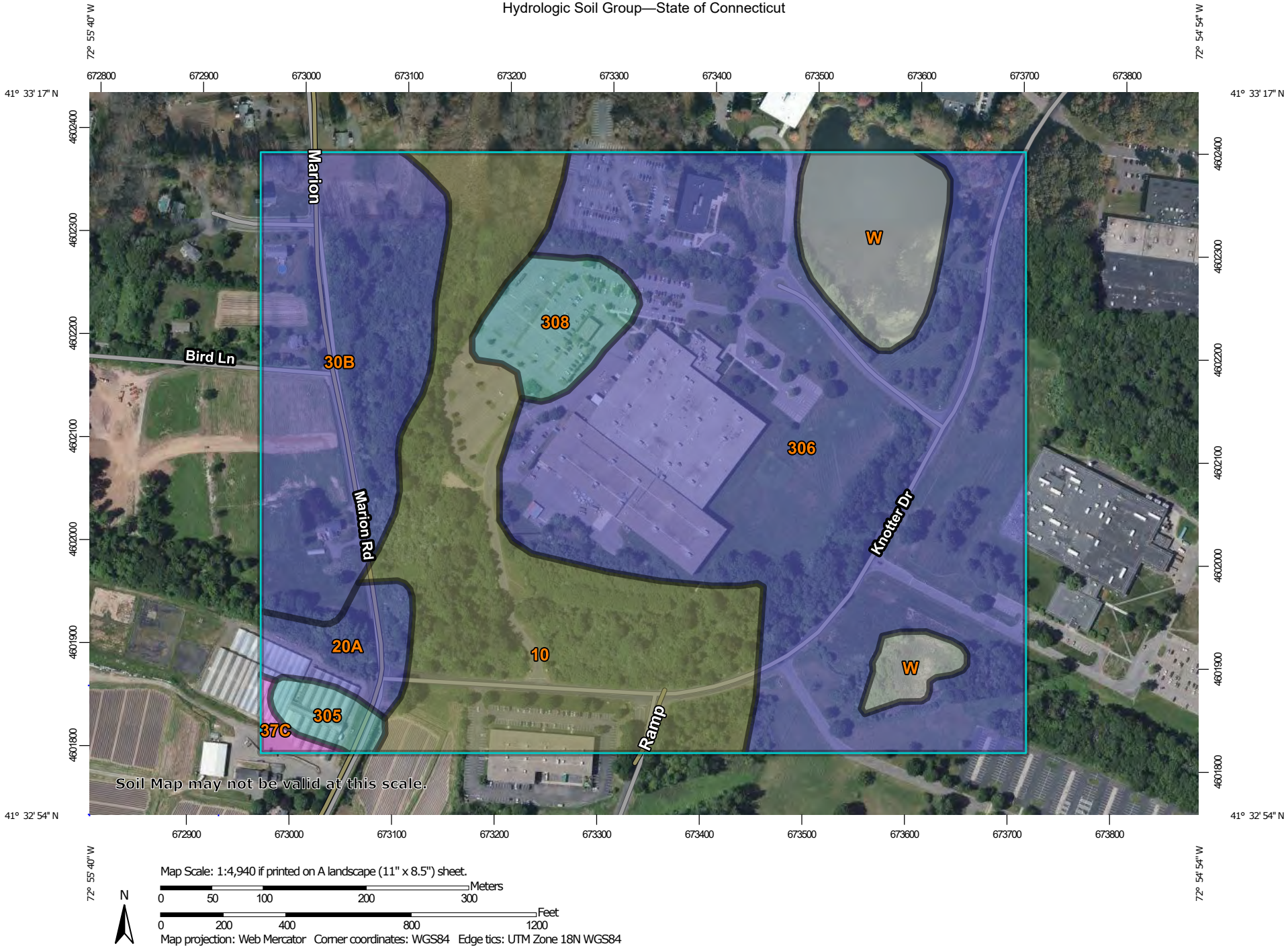
The addition of the proposed meadow seeding within the fenced array area is expected to increase infiltration when compared to the existing turf lawn cover. The existing Site drainage patterns will be maintained after construction and will function in the same manner as it does in its current condition, maintaining existing watershed limits. The modeled 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. Therefore, the Project is anticipated to have no significant adverse impacts to on-site and off-site stormwater runoff. No post-construction stormwater management best management practices were deemed to be required for the Project.

Should you have any questions, please contact me.

Very truly yours,
All-Points Technology Corporation, P.C.

Kevin A. McCaffery, PE
Senior Civil Engineer

Attachments:
NRCS Soil Data
Atlas 14 Precipitation Data
Existing and Proposed Drainage Maps (EDA-1 & PDA-1)
HydroCAD Existing and Proposed Modeling Results



Map Scale: 1:4,940 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

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 1:12,000.

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: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

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

Date(s) aerial images were photographed: Sep 25, 2019—Jun 12, 2020

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
10	Raynham silt loam	C/D	24.7	22.9%
20A	Ellington silt loam, 0 to 5 percent slopes	B	3.0	2.8%
30B	Branford silt loam, 3 to 8 percent slopes	B	16.6	15.4%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	A	0.5	0.5%
305	Udorthents-Pits complex, gravelly	C	1.4	1.3%
306	Udorthents-Urban land complex	B	51.2	47.4%
308	Udorthents, smoothed	C	3.7	3.5%
W	Water		6.8	6.3%
Totals for Area of Interest			**108.0**	**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

NOAA Atlas 14, Volume 10, Version 3
Location name: Cheshire, Connecticut, USA*
Latitude: 41.5516°, Longitude: -72.9196°
Elevation: 142.09 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	0.344 (0.268-0.435)	0.415 (0.323-0.525)	0.531 (0.413-0.675)	0.627 (0.485-0.802)	0.759 (0.567-1.02)	0.858 (0.629-1.18)	0.962 (0.683-1.37)	1.08 (0.726-1.58)	1.24 (0.804-1.89)	1.37 (0.870-2.14)
10-min	0.487 (0.380-0.616)	0.588 (0.458-0.744)	0.752 (0.585-0.957)	0.888 (0.686-1.14)	1.08 (0.803-1.44)	1.22 (0.890-1.67)	1.36 (0.968-1.95)	1.53 (1.03-2.24)	1.76 (1.14-2.68)	1.95 (1.23-3.03)
15-min	0.573 (0.447-0.725)	0.691 (0.539-0.875)	0.884 (0.687-1.12)	1.04 (0.806-1.34)	1.26 (0.945-1.70)	1.43 (1.05-1.96)	1.60 (1.14-2.29)	1.80 (1.21-2.63)	2.07 (1.34-3.15)	2.29 (1.45-3.57)
30-min	0.788 (0.614-0.996)	0.946 (0.737-1.20)	1.21 (0.935-1.53)	1.42 (1.10-1.82)	1.72 (1.28-2.30)	1.94 (1.42-2.66)	2.17 (1.55-3.10)	2.44 (1.64-3.57)	2.81 (1.82-4.27)	3.11 (1.97-4.84)
60-min	1.00 (0.782-1.27)	1.20 (0.936-1.52)	1.53 (1.19-1.94)	1.80 (1.39-2.30)	2.17 (1.62-2.91)	2.45 (1.79-3.36)	2.74 (1.95-3.92)	3.07 (2.07-4.51)	3.54 (2.30-5.40)	3.93 (2.49-6.12)
2-hr	1.32 (1.03-1.66)	1.57 (1.23-1.98)	1.98 (1.55-2.51)	2.33 (1.81-2.96)	2.80 (2.10-3.73)	3.16 (2.32-4.30)	3.53 (2.52-5.00)	3.94 (2.67-5.75)	4.54 (2.95-6.87)	5.02 (3.19-7.77)
3-hr	1.53 (1.21-1.92)	1.83 (1.44-2.29)	2.31 (1.81-2.90)	2.71 (2.11-3.43)	3.25 (2.45-4.32)	3.67 (2.71-4.99)	4.10 (2.94-5.80)	4.59 (3.11-6.66)	5.29 (3.45-7.98)	5.86 (3.73-9.04)
6-hr	1.95 (1.54-2.42)	2.33 (1.85-2.91)	2.97 (2.34-3.71)	3.49 (2.74-4.39)	4.22 (3.20-5.58)	4.76 (3.54-6.45)	5.34 (3.85-7.53)	6.00 (4.08-8.66)	6.97 (4.56-10.5)	7.78 (4.96-11.9)
12-hr	2.40 (1.92-2.97)	2.92 (2.32-3.61)	3.76 (2.99-4.67)	4.46 (3.52-5.58)	5.43 (4.15-7.15)	6.14 (4.60-8.30)	6.91 (5.04-9.76)	7.83 (5.35-11.3)	9.22 (6.05-13.8)	10.4 (6.66-15.9)
24-hr	2.82 (2.26-3.46)	3.49 (2.80-4.29)	4.58 (3.65-5.64)	5.48 (4.35-6.80)	6.72 (5.17-8.83)	7.63 (5.77-10.3)	8.64 (6.36-12.2)	9.88 (6.77-14.1)	11.8 (7.78-17.6)	13.5 (8.68-20.5)
2-day	3.18 (2.57-3.88)	4.00 (3.23-4.88)	5.34 (4.29-6.54)	6.45 (5.15-7.95)	7.97 (6.19-10.4)	9.09 (6.92-12.2)	10.3 (7.69-14.6)	11.9 (8.19-17.0)	14.5 (9.57-21.4)	16.8 (10.8-25.3)
3-day	3.46 (2.80-4.20)	4.36 (3.53-5.30)	5.83 (4.70-7.12)	7.06 (5.65-8.67)	8.74 (6.81-11.4)	9.96 (7.62-13.4)	11.3 (8.48-16.1)	13.1 (9.03-18.6)	16.0 (10.6-23.6)	18.6 (12.0-28.0)
4-day	3.71 (3.01-4.49)	4.67 (3.79-5.66)	6.24 (5.04-7.59)	7.54 (6.06-9.24)	9.33 (7.29-12.2)	10.6 (8.15-14.3)	12.1 (9.07-17.1)	14.0 (9.65-19.8)	17.1 (11.3-25.1)	19.9 (12.8-29.7)
7-day	4.42 (3.61-5.32)	5.49 (4.48-6.62)	7.24 (5.88-8.77)	8.69 (7.02-10.6)	10.7 (8.37-13.8)	12.2 (9.34-16.2)	13.8 (10.3-19.3)	15.9 (11.0-22.3)	19.2 (12.7-28.0)	22.1 (14.3-32.9)
10-day	5.13 (4.21-6.16)	6.26 (5.12-7.53)	8.11 (6.61-9.78)	9.64 (7.81-11.7)	11.7 (9.21-15.1)	13.3 (10.2-17.5)	15.0 (11.2-20.8)	17.1 (11.9-24.0)	20.4 (13.6-29.7)	23.3 (15.1-34.7)
20-day	7.37 (6.07-8.78)	8.56 (7.05-10.2)	10.5 (8.63-12.6)	12.1 (9.90-14.7)	14.4 (11.3-18.2)	16.1 (12.3-20.8)	17.8 (13.3-24.1)	19.9 (13.9-27.6)	22.9 (15.3-33.0)	25.4 (16.5-37.5)
30-day	9.23 (7.64-11.0)	10.5 (8.65-12.4)	12.5 (10.3-14.9)	14.1 (11.6-17.0)	16.4 (12.9-20.6)	18.2 (14.0-23.4)	20.0 (14.8-26.7)	21.9 (15.4-30.3)	24.6 (16.5-35.4)	26.8 (17.4-39.4)
45-day	11.5 (9.59-13.6)	12.8 (10.6-15.2)	14.9 (12.3-17.7)	16.6 (13.6-19.9)	19.0 (15.0-23.6)	20.8 (16.0-26.5)	22.6 (16.7-29.8)	24.4 (17.2-33.6)	26.8 (18.1-38.4)	28.6 (18.7-42.0)
60-day	13.5 (11.2-15.9)	14.8 (12.3-17.4)	16.9 (14.0-20.0)	18.7 (15.4-22.3)	21.1 (16.7-26.2)	23.0 (17.7-29.2)	24.9 (18.3-32.6)	26.6 (18.8-36.5)	28.9 (19.5-41.1)	30.4 (19.9-44.5)

[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.

Please refer to NOAA Atlas 14 document for more information.

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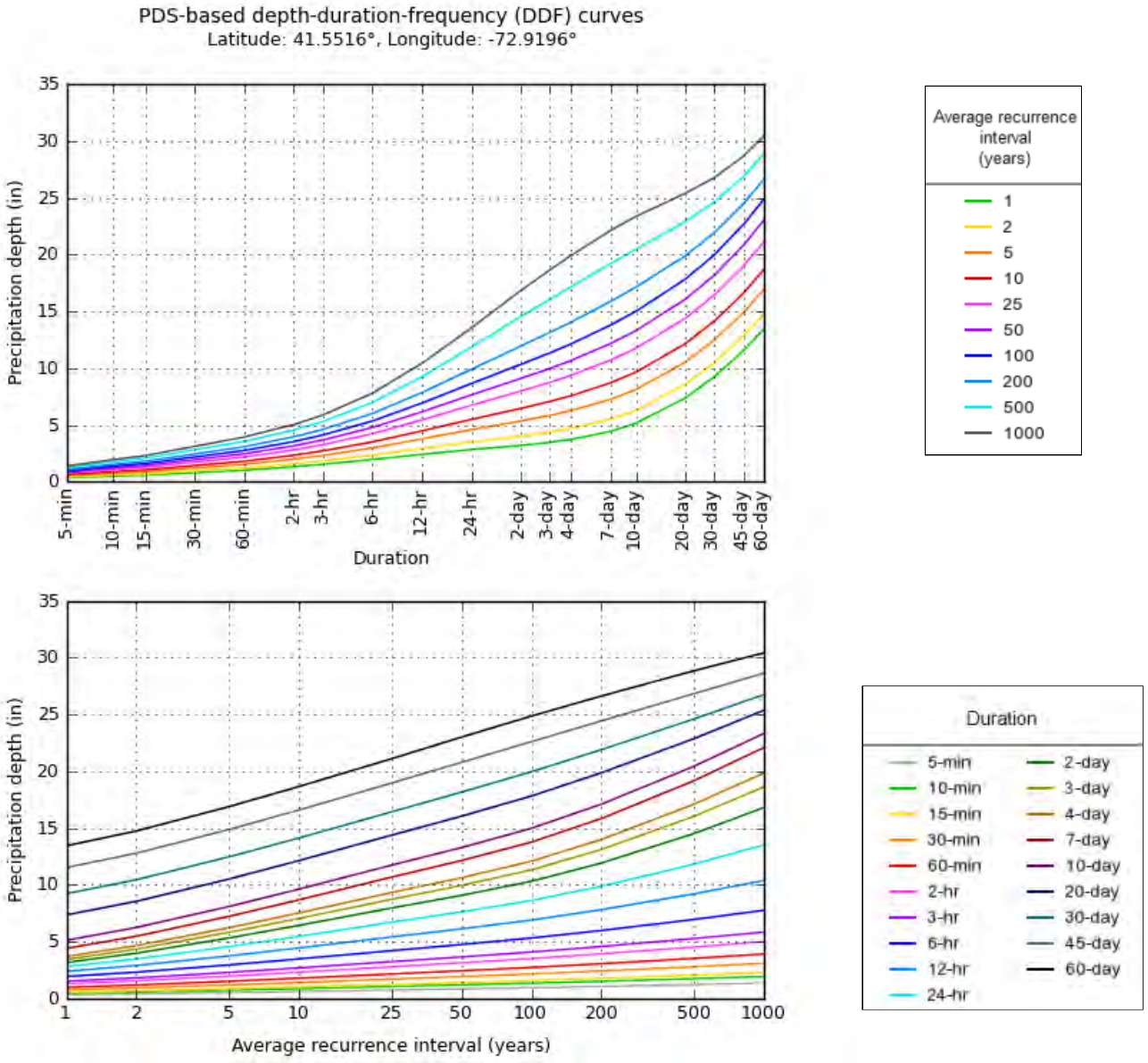
PF graphical



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Jan 17 15:49:04 2022

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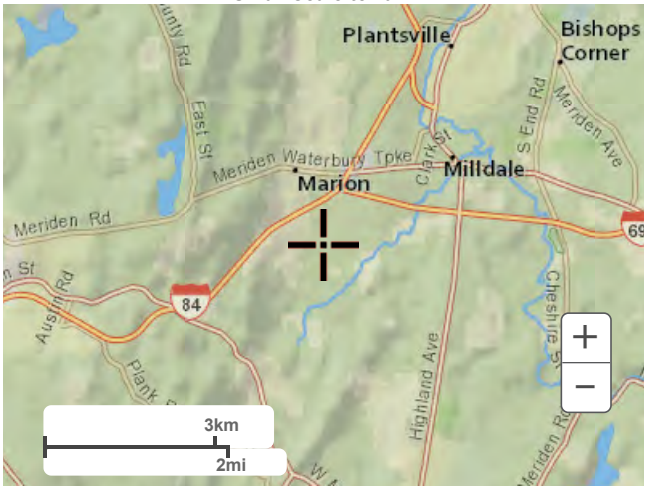
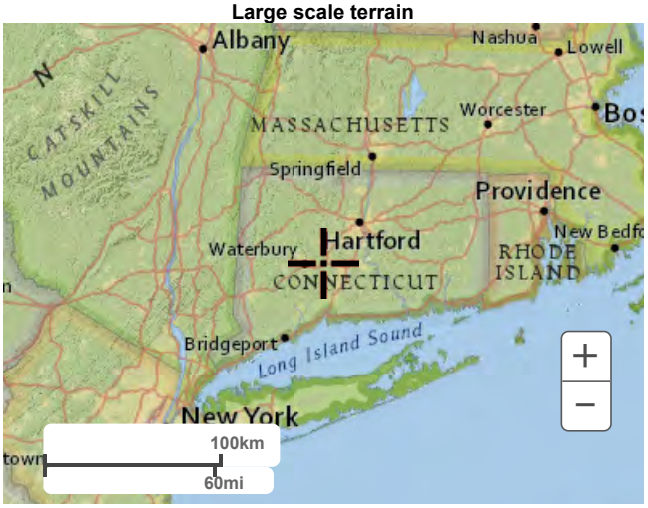
Maps & aerials

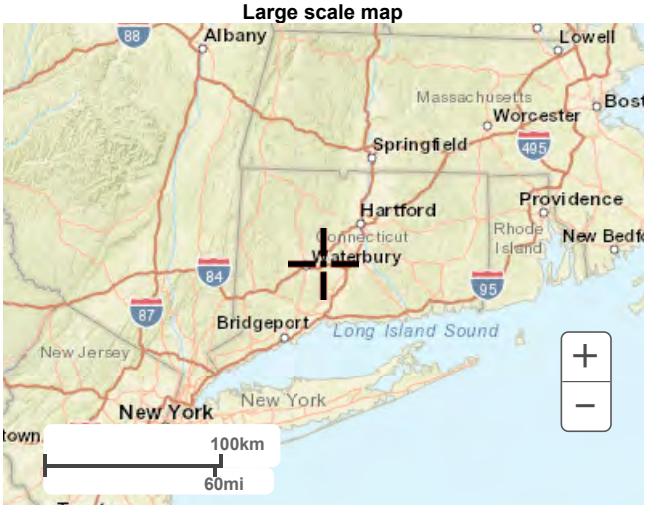
Small scale terrain



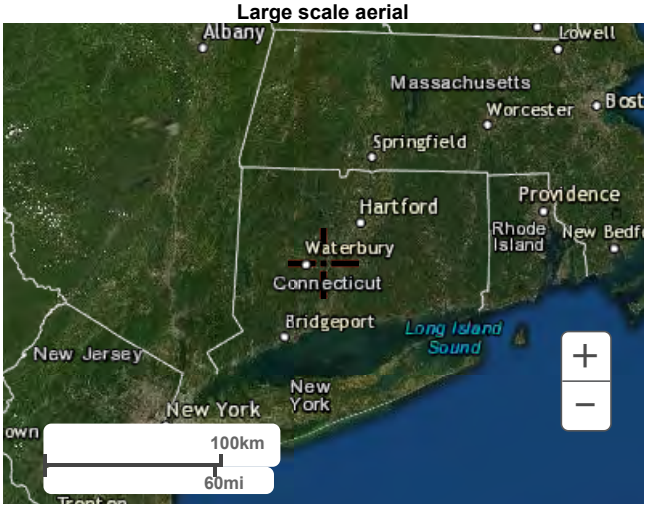
Large scale terrain



Large scale map



Large scale aerial



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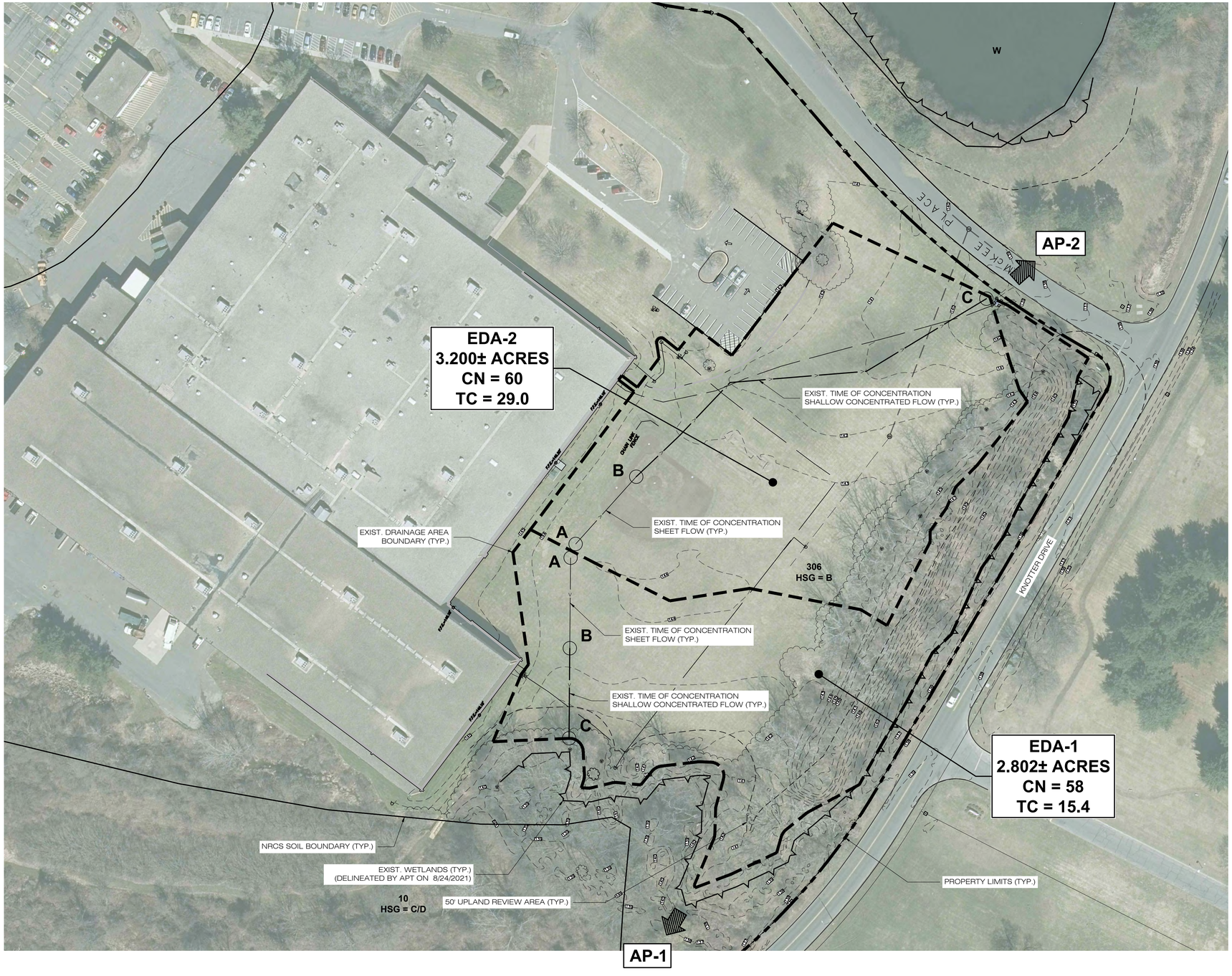
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

EXISTING DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
EDA-1	2.802±	58	15.4
EDA-2	3.200±	60	29.0

EXISTING CONDITION PEAK FLOWS

ANALYSIS POINT	2-YEAR (CFS)	25-YEAR (CFS)	50-YEAR (CFS)	100-YEAR (CFS)
AP-1	0.66	5.11	6.74	8.61
AP-2	0.81	4.98	6.43	8.12



1 EDA-1 **EXISTING DRAINAGE AREA MAP**
SCALE : 1" = 60'-0"

60 0 30 60 120
(IN FEET) 1 inch = 60 ft.

C-TECSOLAR
1 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860)-580-7174

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMIT SET

NO	DATE	REVISION
0	01/18/22	FOR REVIEW: KAM
1		
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: HANWHA AEROSPACE USA
ADDRESS: 5 MCKEE PLACE CHESHIRE, CT 06410

CHESHIRE SOLAR

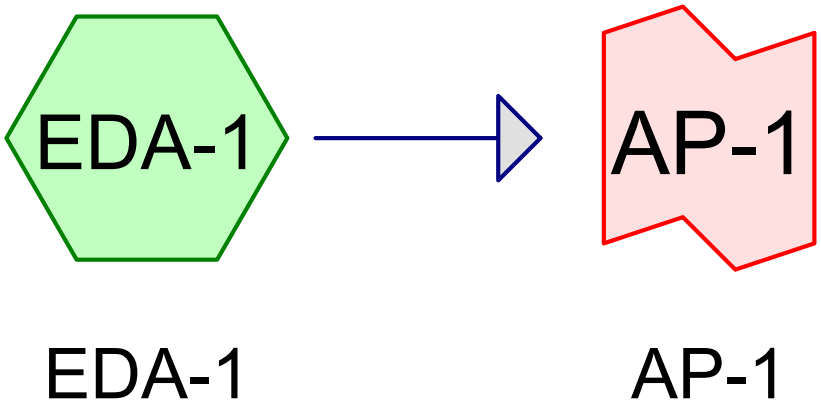
SITE ADDRESS: 5 MCKEE PLACE CHESHIRE, CT

APT FILING NUMBER: CT481570

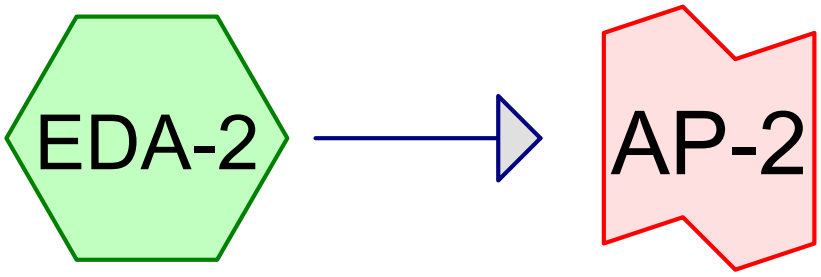
DRAWN BY: JT
DATE: 01/18/22
CHECKED BY: KAM

SHEET TITLE:
EXISTING DRAINAGE AREA MAP

SHEET NUMBER:
EDA-1



EDA-1 AP-1



EDA-2 AP-2

Subcat Reach Pond Link

Routing Diagram for CT481570_Cheshire - EX - Rev0
Prepared by Microsoft, Printed 1/17/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.165	61	>75% Grass cover, Good, HSG B (EDA-1, EDA-2)
1.837	55	Woods, Good, HSG B (EDA-1, EDA-2)
6.002	**59**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
6.002	HSG B	EDA-1, EDA-2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
6.002		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.165	0.000	0.000	0.000	4.165	>75% Grass cover, Good	EDA-1, EDA-2
0.000	1.837	0.000	0.000	0.000	1.837	Woods, Good	EDA-1, EDA-2
0.000	**6.002**	**0.000**	**0.000**	**0.000**	**6.002**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=0.45"
Flow Length=200' Tc=15.4 min CN=58 Runoff=0.66 cfs 0.105 af

Subcatchment EDA-2: EDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=0.53"
Flow Length=553' Tc=29.0 min CN=60 Runoff=0.81 cfs 0.141 af

Link AP-1: AP-1 Inflow=0.66 cfs 0.105 af
Primary=0.66 cfs 0.105 af

Link AP-2: AP-2 Inflow=0.81 cfs 0.141 af
Primary=0.81 cfs 0.141 af

Total Runoff Area = 6.002 ac Runoff Volume = 0.245 af Average Runoff Depth = 0.49"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

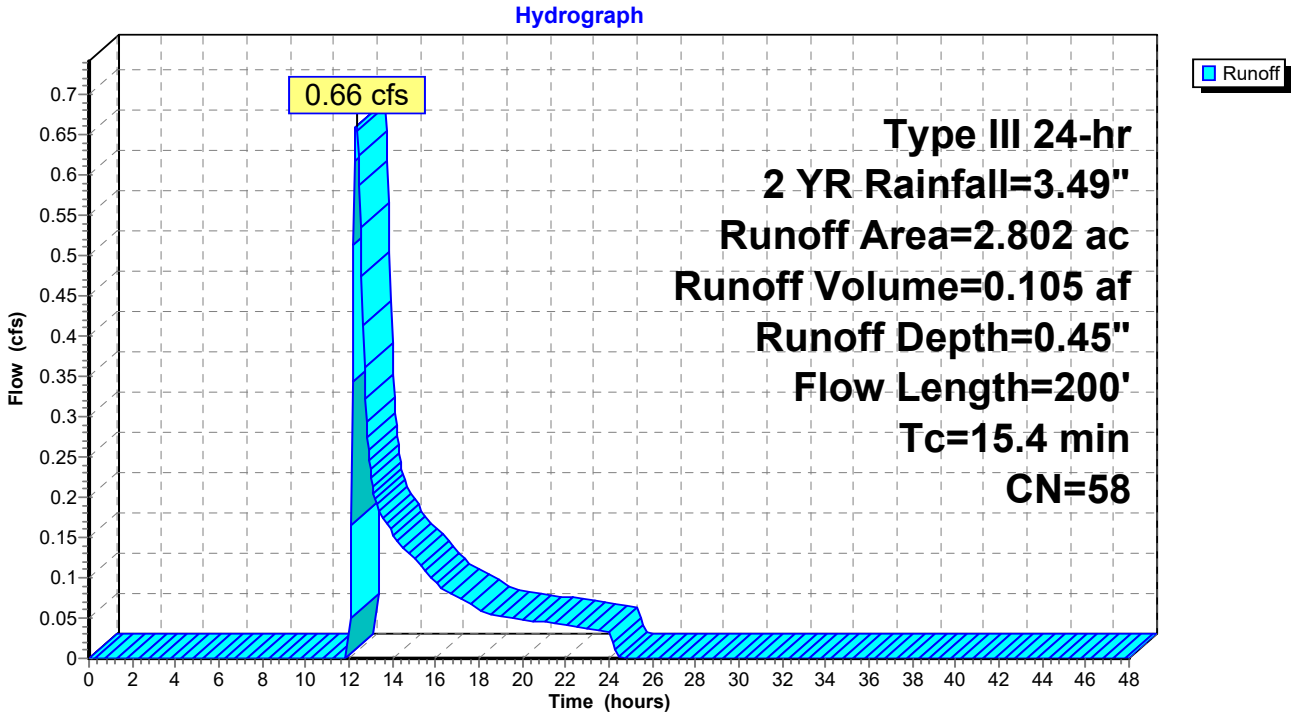
Runoff = 0.66 cfs @ 12.34 hrs, Volume= 0.105 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.49"

Area (ac)	CN	Description
1.484	55	Woods, Good, HSG B
1.318	61	>75% Grass cover, Good, HSG B
2.802	58	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0060	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
0.2	100	0.2260	7.13		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
15.4	200	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

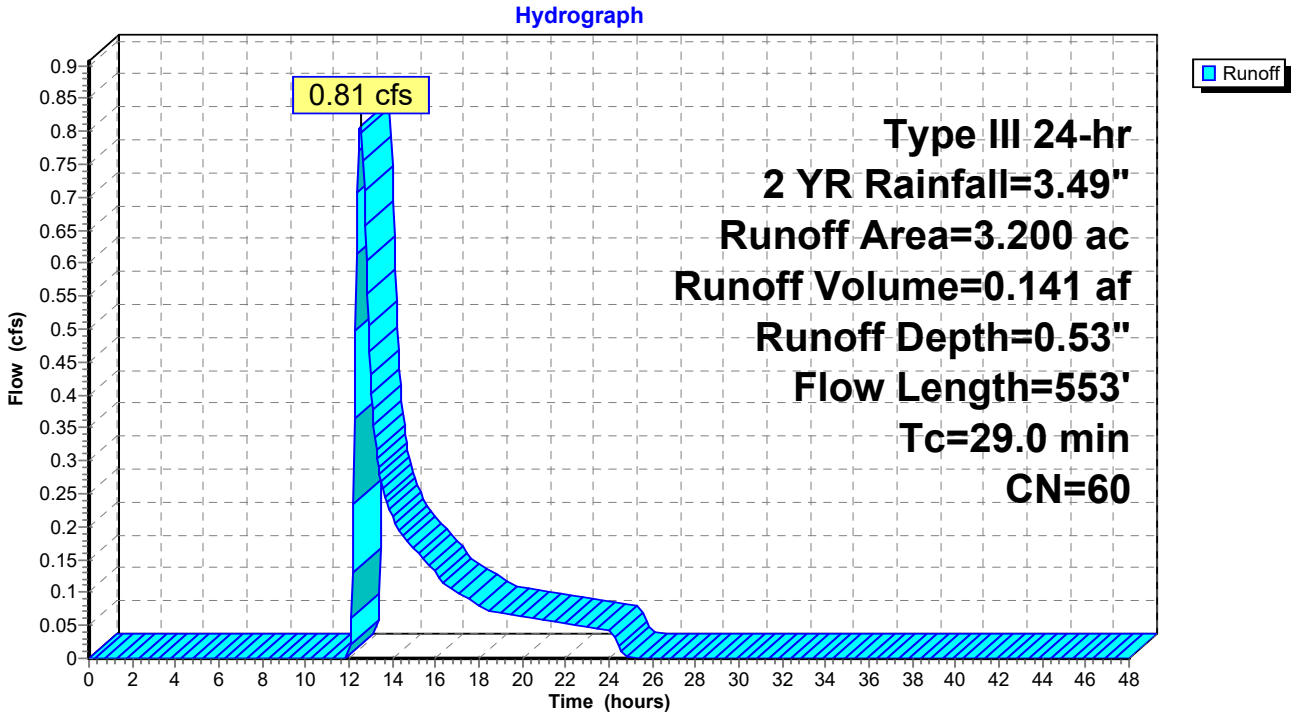
Runoff = 0.81 cfs @ 12.53 hrs, Volume= 0.141 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.49"

Area (ac)	CN	Description
0.353	55	Woods, Good, HSG B
2.847	61	>75% Grass cover, Good, HSG B
3.200	60	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0019	0.07		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
4.9	453	0.0105	1.54		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
29.0	553	Total			

Subcatchment EDA-2: EDA-2

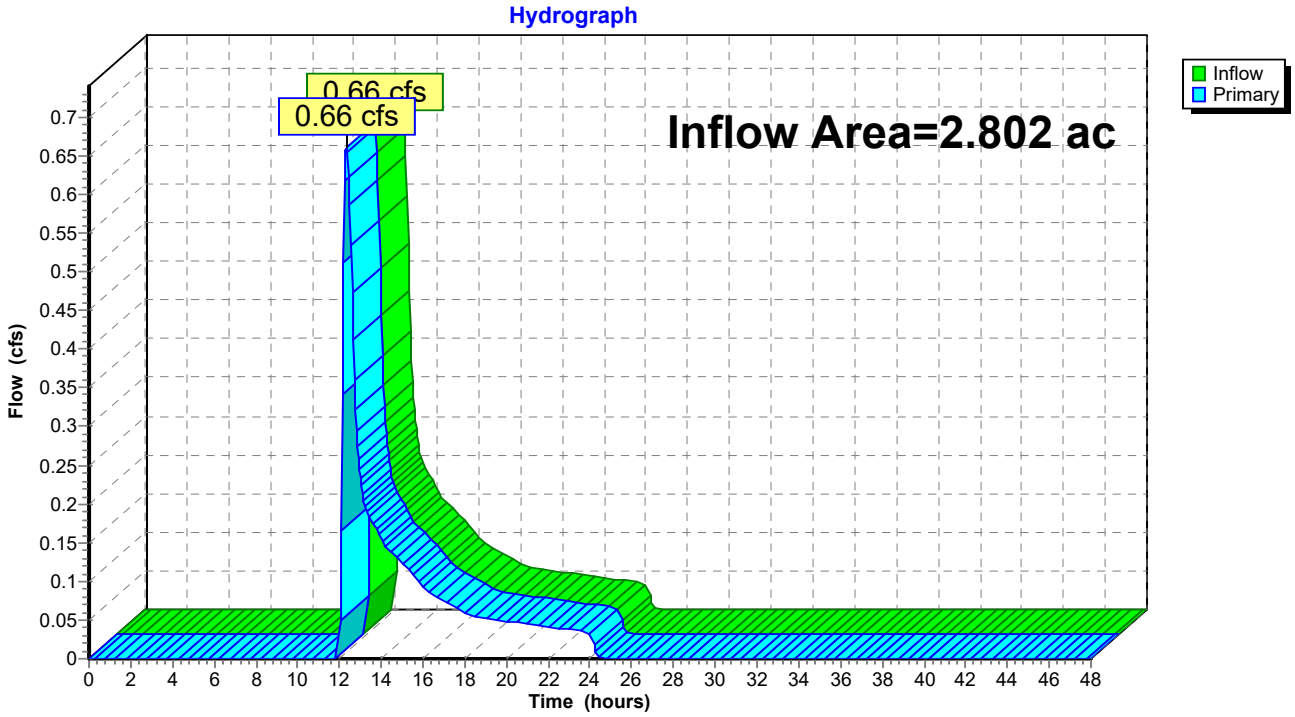


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 0.45" for 2 YR event
Inflow = 0.66 cfs @ 12.34 hrs, Volume= 0.105 af
Primary = 0.66 cfs @ 12.34 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

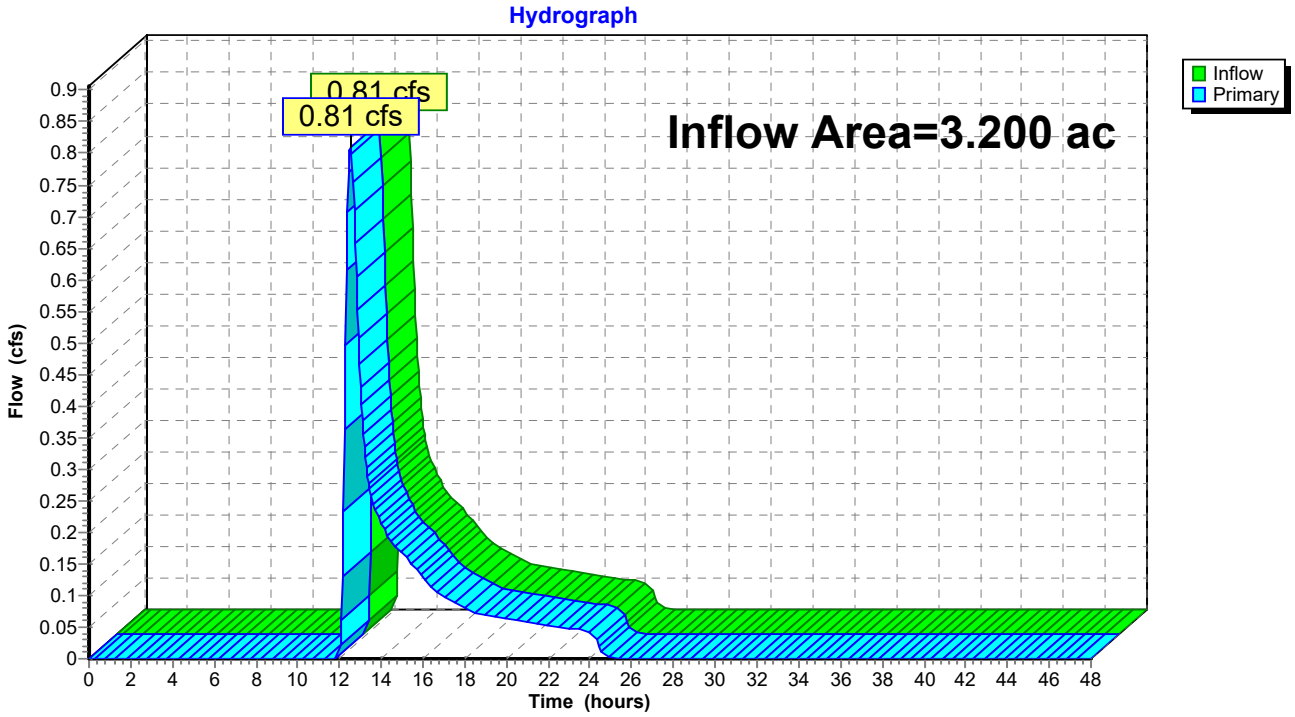


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 0.53" for 2 YR event
Inflow = 0.81 cfs @ 12.53 hrs, Volume= 0.141 af
Primary = 0.81 cfs @ 12.53 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=2.22"
Flow Length=200' Tc=15.4 min CN=58 Runoff=5.11 cfs 0.519 af

Subcatchment EDA-2: EDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=2.41"
Flow Length=553' Tc=29.0 min CN=60 Runoff=4.98 cfs 0.642 af

Link AP-1: AP-1 Inflow=5.11 cfs 0.519 af
Primary=5.11 cfs 0.519 af

Link AP-2: AP-2 Inflow=4.98 cfs 0.642 af
Primary=4.98 cfs 0.642 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.161 af Average Runoff Depth = 2.32"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

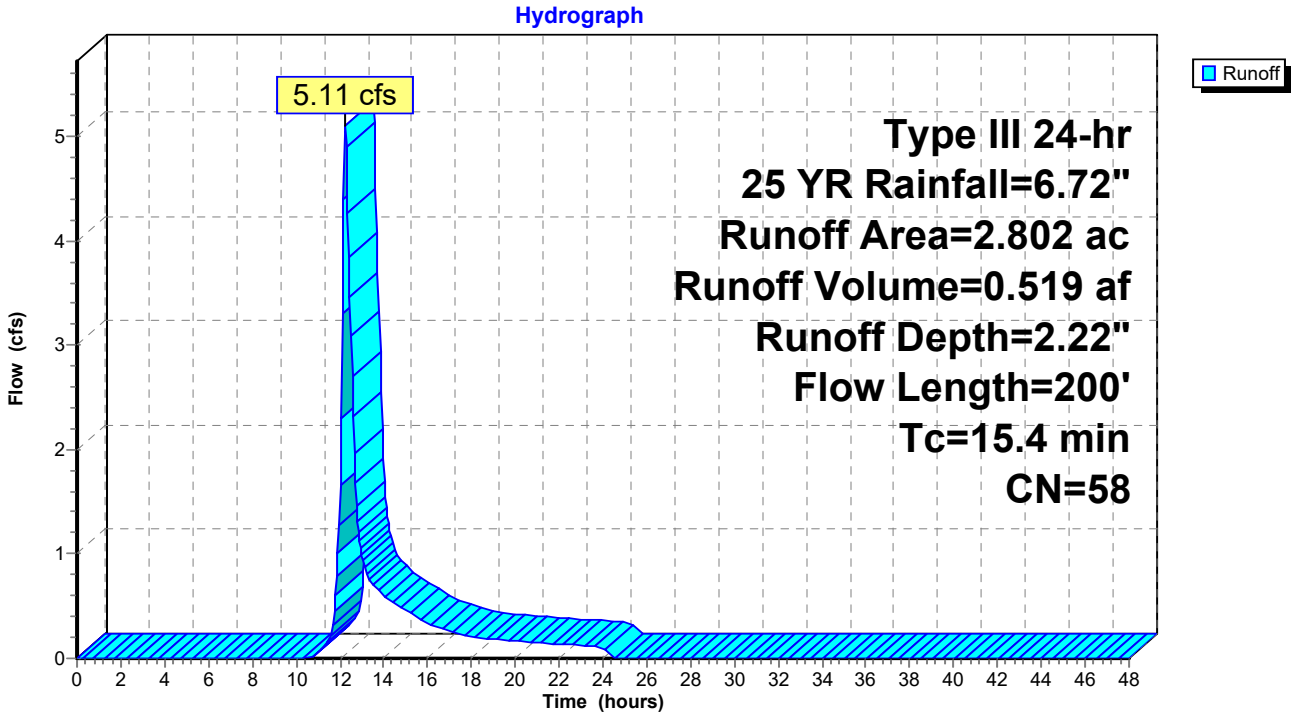
Runoff = 5.11 cfs @ 12.23 hrs, Volume= 0.519 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.72"

Area (ac)	CN	Description
1.484	55	Woods, Good, HSG B
1.318	61	>75% Grass cover, Good, HSG B
2.802	58	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0060	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
0.2	100	0.2260	7.13		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
15.4	200	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

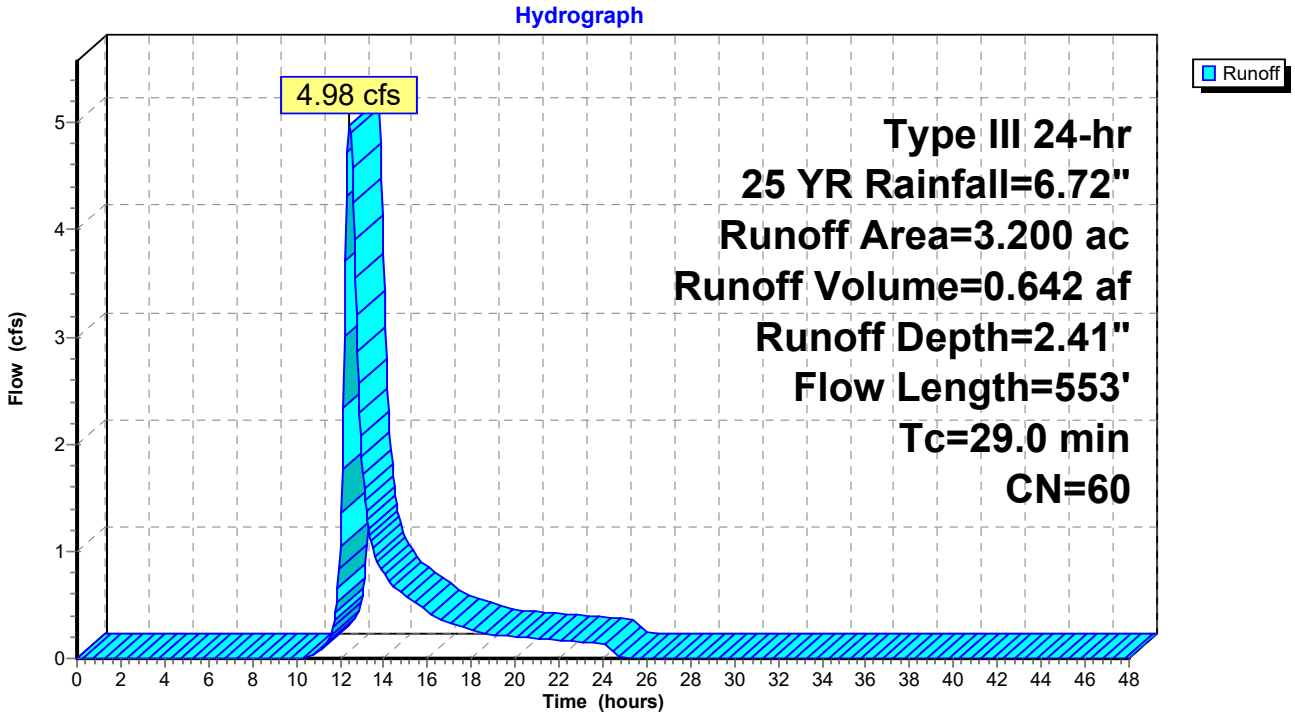
Runoff = 4.98 cfs @ 12.43 hrs, Volume= 0.642 af, Depth= 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.72"

Area (ac)	CN	Description
0.353	55	Woods, Good, HSG B
2.847	61	>75% Grass cover, Good, HSG B
3.200	60	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0019	0.07		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
4.9	453	0.0105	1.54		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
29.0	553	Total			

Subcatchment EDA-2: EDA-2

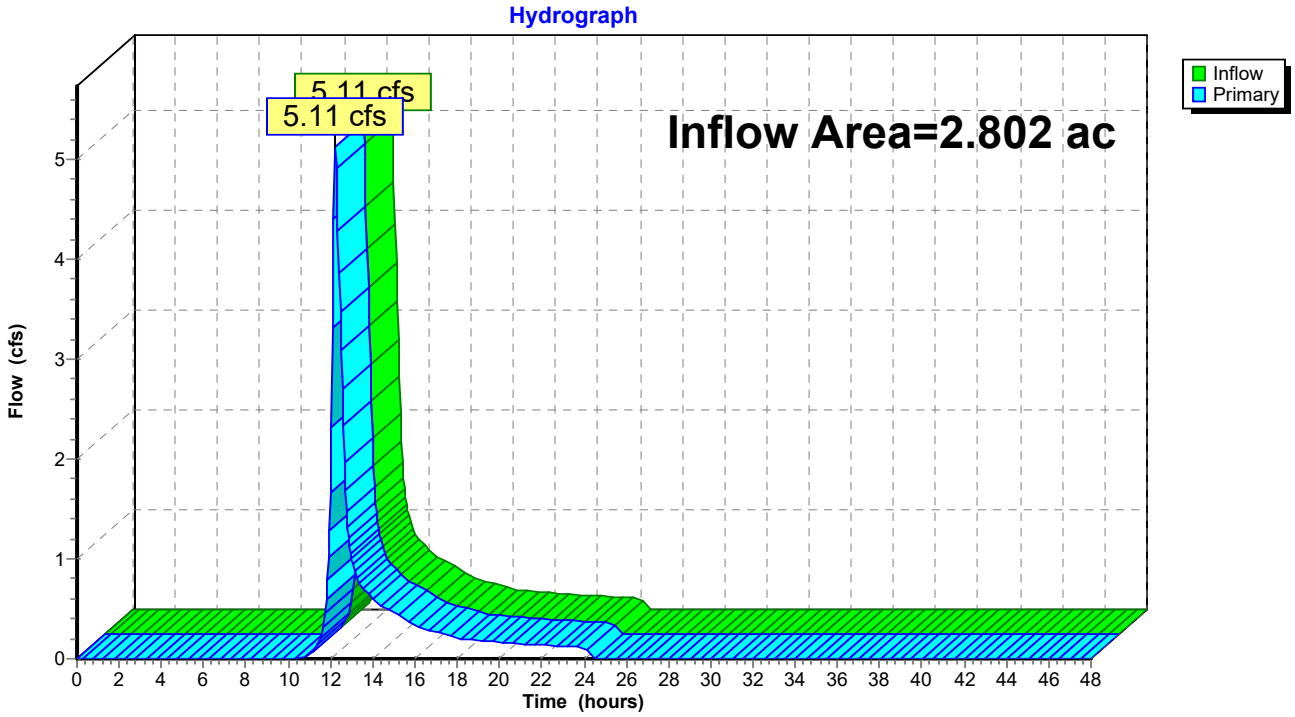


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 2.22" for 25 YR event
Inflow = 5.11 cfs @ 12.23 hrs, Volume= 0.519 af
Primary = 5.11 cfs @ 12.23 hrs, Volume= 0.519 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

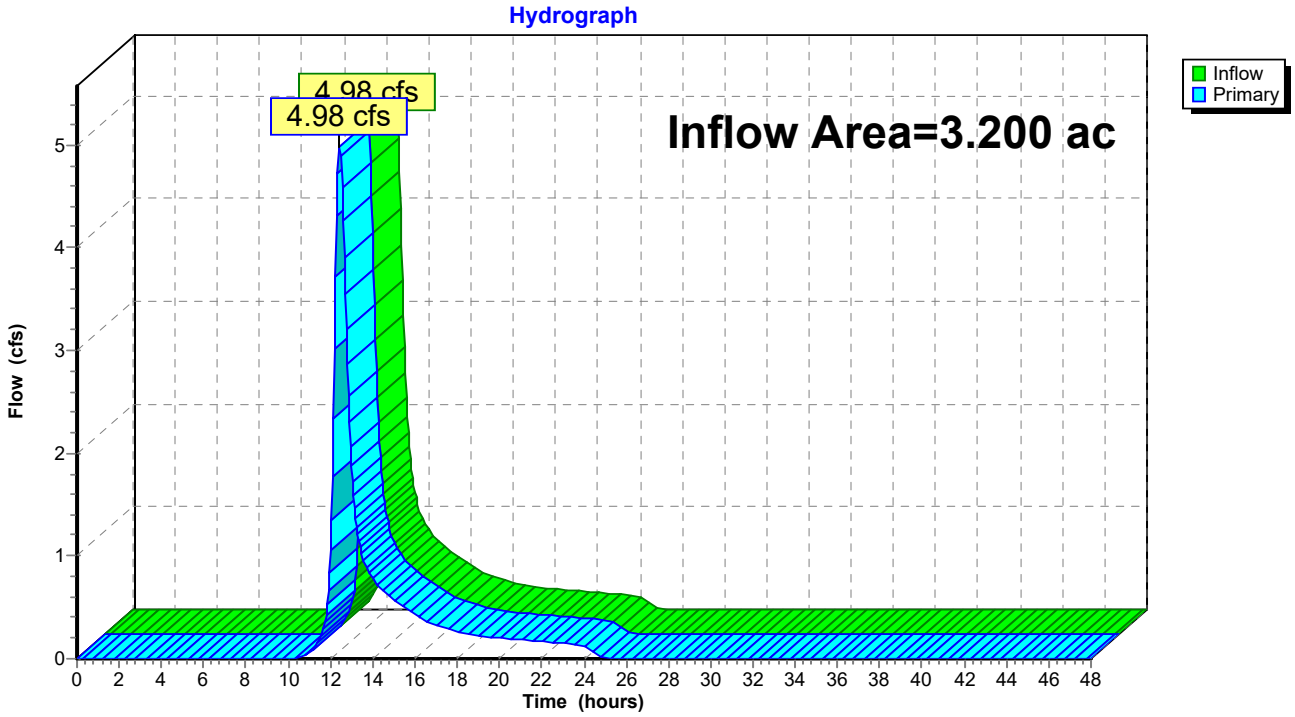


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 2.41" for 25 YR event
Inflow = 4.98 cfs @ 12.43 hrs, Volume= 0.642 af
Primary = 4.98 cfs @ 12.43 hrs, Volume= 0.642 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=2.85"
Flow Length=200' Tc=15.4 min CN=58 Runoff=6.74 cfs 0.665 af

Subcatchment EDA-2: EDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=3.06"
Flow Length=553' Tc=29.0 min CN=60 Runoff=6.43 cfs 0.816 af

Link AP-1: AP-1 Inflow=6.74 cfs 0.665 af
Primary=6.74 cfs 0.665 af

Link AP-2: AP-2 Inflow=6.43 cfs 0.816 af
Primary=6.43 cfs 0.816 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.480 af Average Runoff Depth = 2.96"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

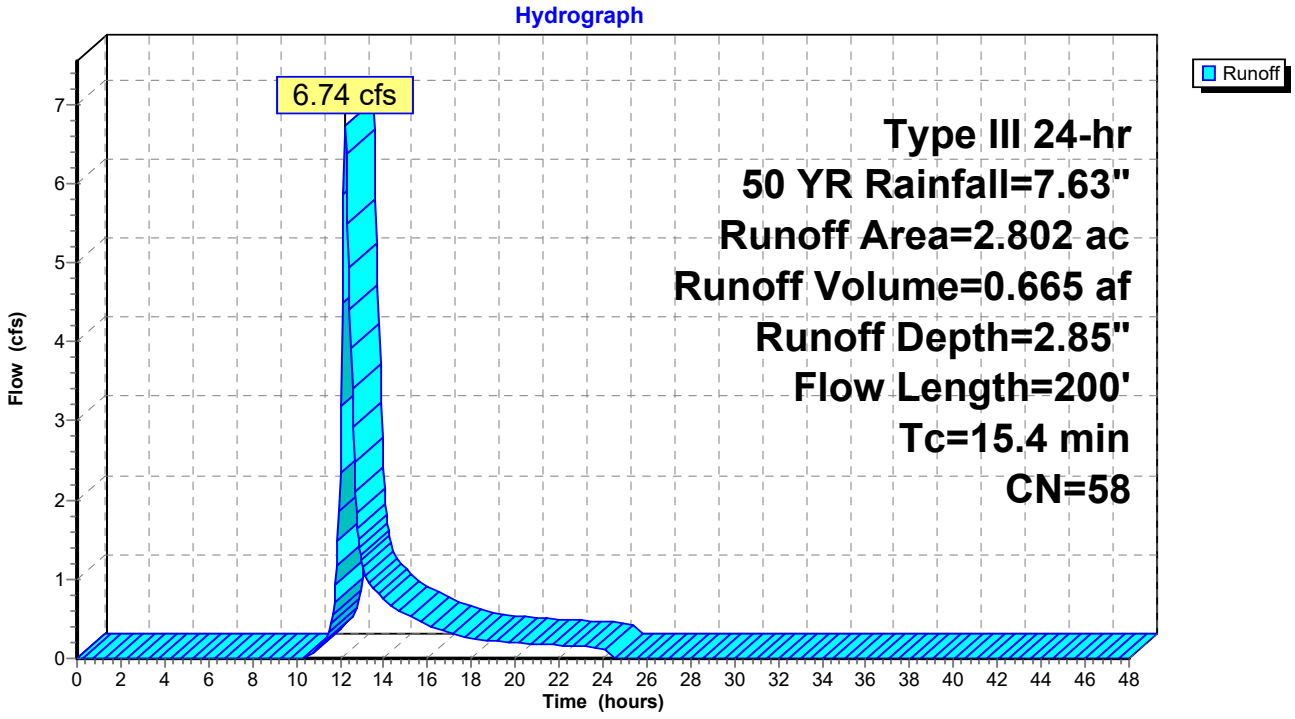
Runoff = 6.74 cfs @ 12.22 hrs, Volume= 0.665 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.63"

Area (ac)	CN	Description
1.484	55	Woods, Good, HSG B
1.318	61	>75% Grass cover, Good, HSG B
2.802	58	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0060	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
0.2	100	0.2260	7.13		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
15.4	200	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

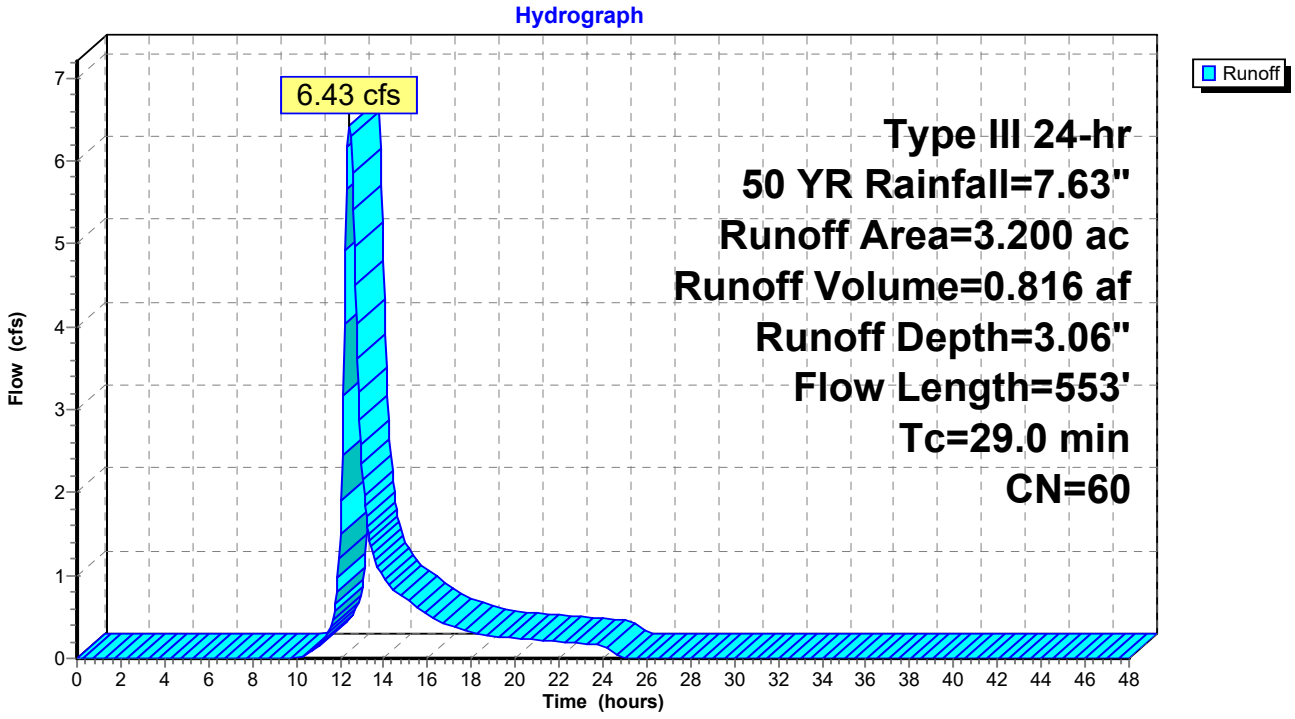
Runoff = 6.43 cfs @ 12.42 hrs, Volume= 0.816 af, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.63"

Area (ac)	CN	Description
0.353	55	Woods, Good, HSG B
2.847	61	>75% Grass cover, Good, HSG B
3.200	60	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0019	0.07		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
4.9	453	0.0105	1.54		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
29.0	553	Total			

Subcatchment EDA-2: EDA-2

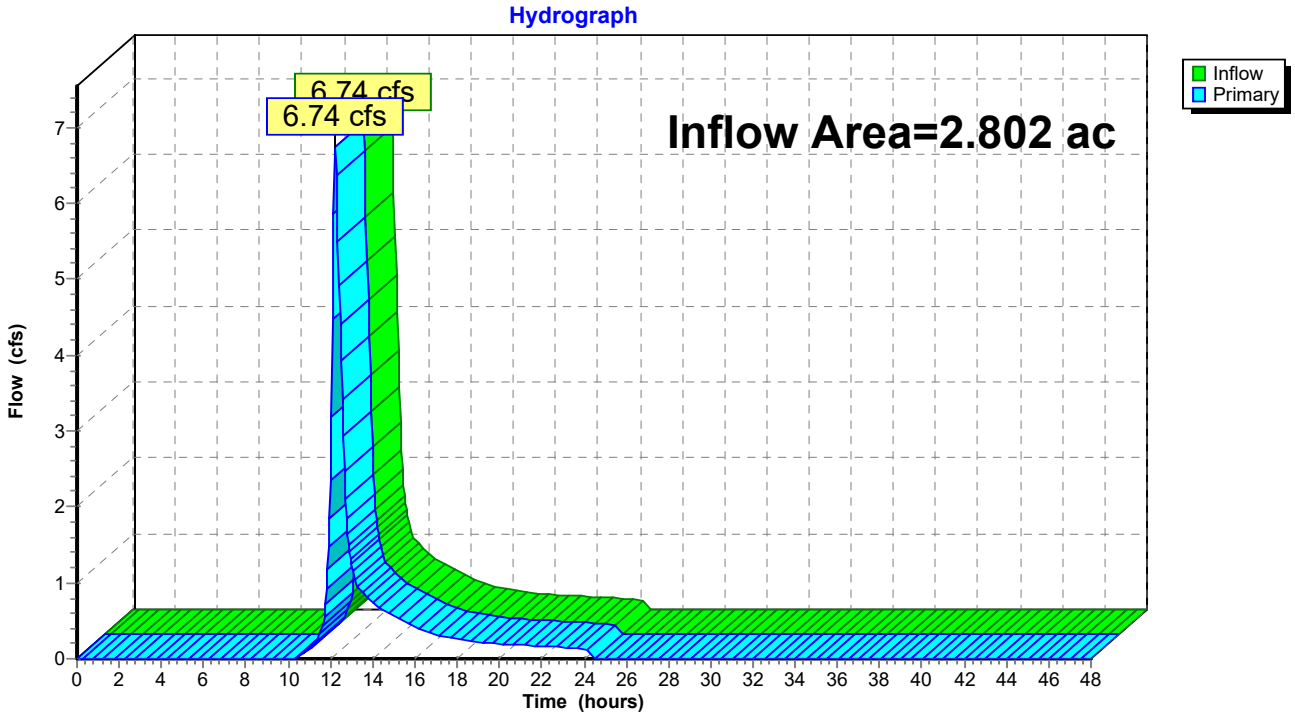


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 2.85" for 50 YR event
Inflow = 6.74 cfs @ 12.22 hrs, Volume= 0.665 af
Primary = 6.74 cfs @ 12.22 hrs, Volume= 0.665 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

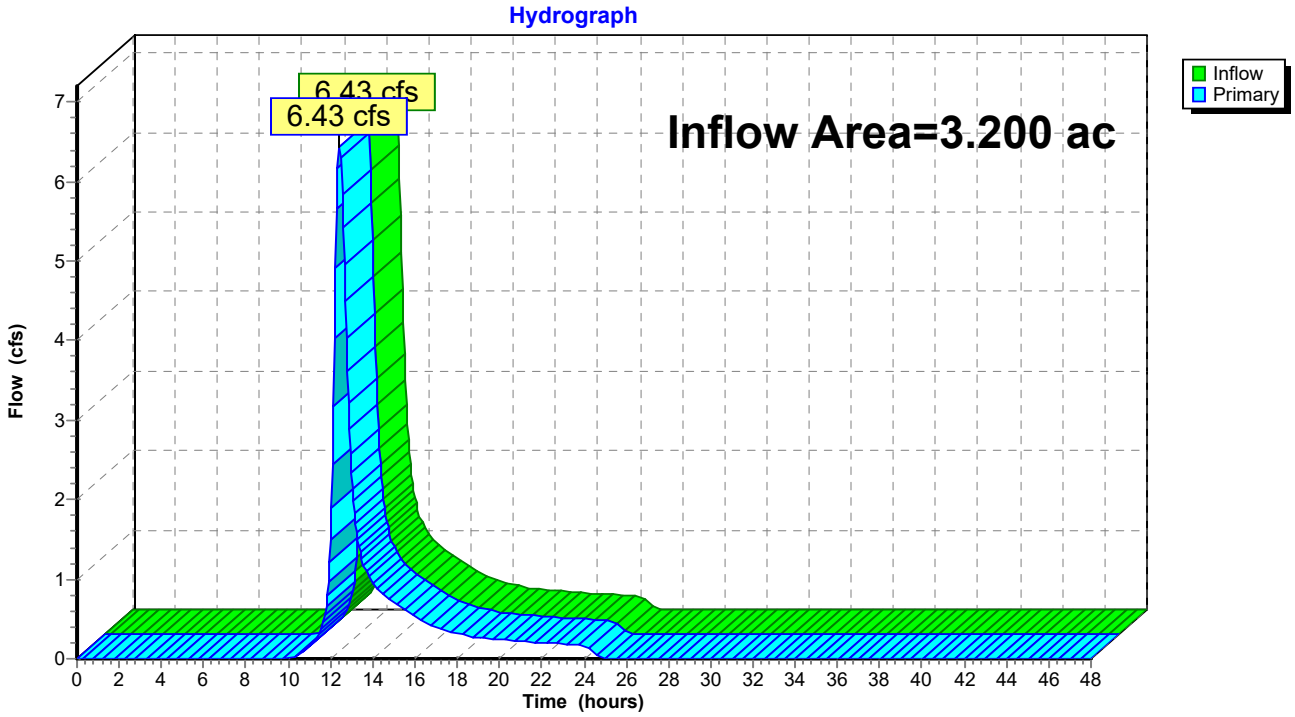


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 3.06" for 50 YR event
Inflow = 6.43 cfs @ 12.42 hrs, Volume= 0.816 af
Primary = 6.43 cfs @ 12.42 hrs, Volume= 0.816 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment EDA-1: EDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=3.58"
Flow Length=200' Tc=15.4 min CN=58 Runoff=8.61 cfs 0.837 af

Subcatchment EDA-2: EDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=3.82"
Flow Length=553' Tc=29.0 min CN=60 Runoff=8.12 cfs 1.019 af

Link AP-1: AP-1 Inflow=8.61 cfs 0.837 af
Primary=8.61 cfs 0.837 af

Link AP-2: AP-2 Inflow=8.12 cfs 1.019 af
Primary=8.12 cfs 1.019 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.856 af Average Runoff Depth = 3.71"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment EDA-1: EDA-1

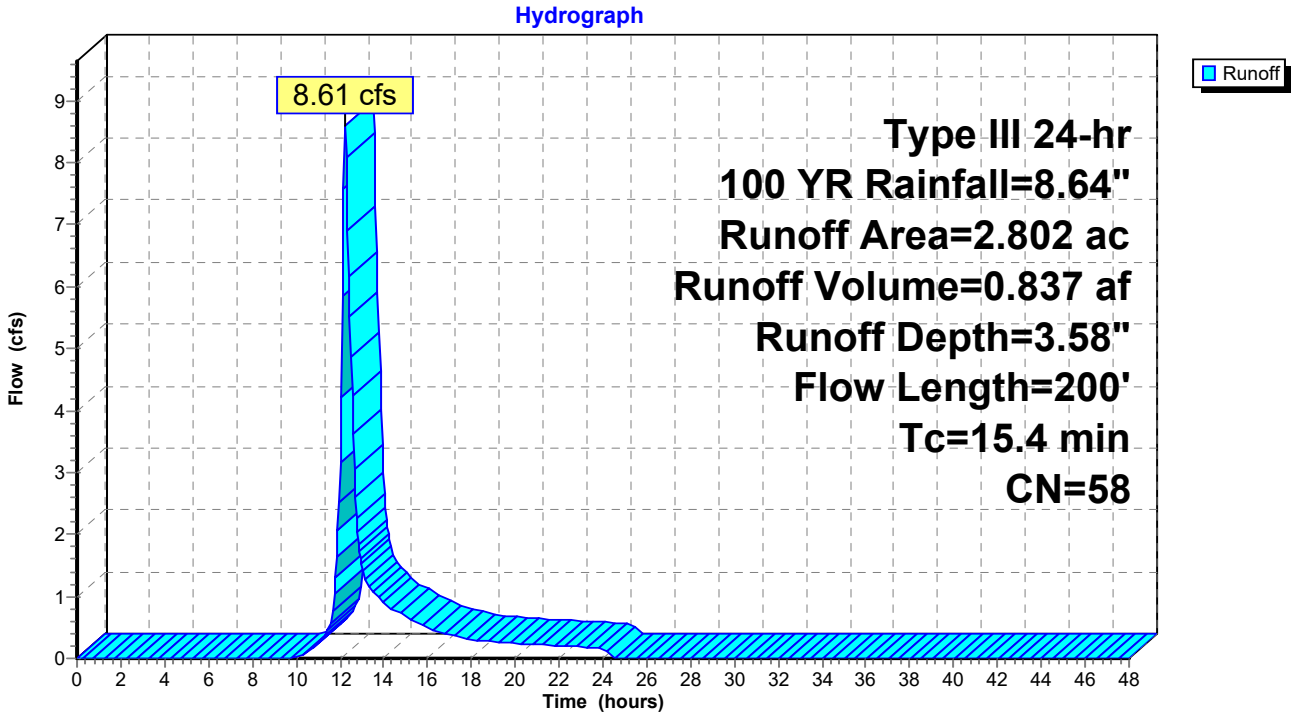
Runoff = 8.61 cfs @ 12.22 hrs, Volume= 0.837 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.64"

Area (ac)	CN	Description
1.484	55	Woods, Good, HSG B
1.318	61	>75% Grass cover, Good, HSG B
2.802	58	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.2	100	0.0060	0.11		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
0.2	100	0.2260	7.13		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
15.4	200	Total			

Subcatchment EDA-1: EDA-1



Summary for Subcatchment EDA-2: EDA-2

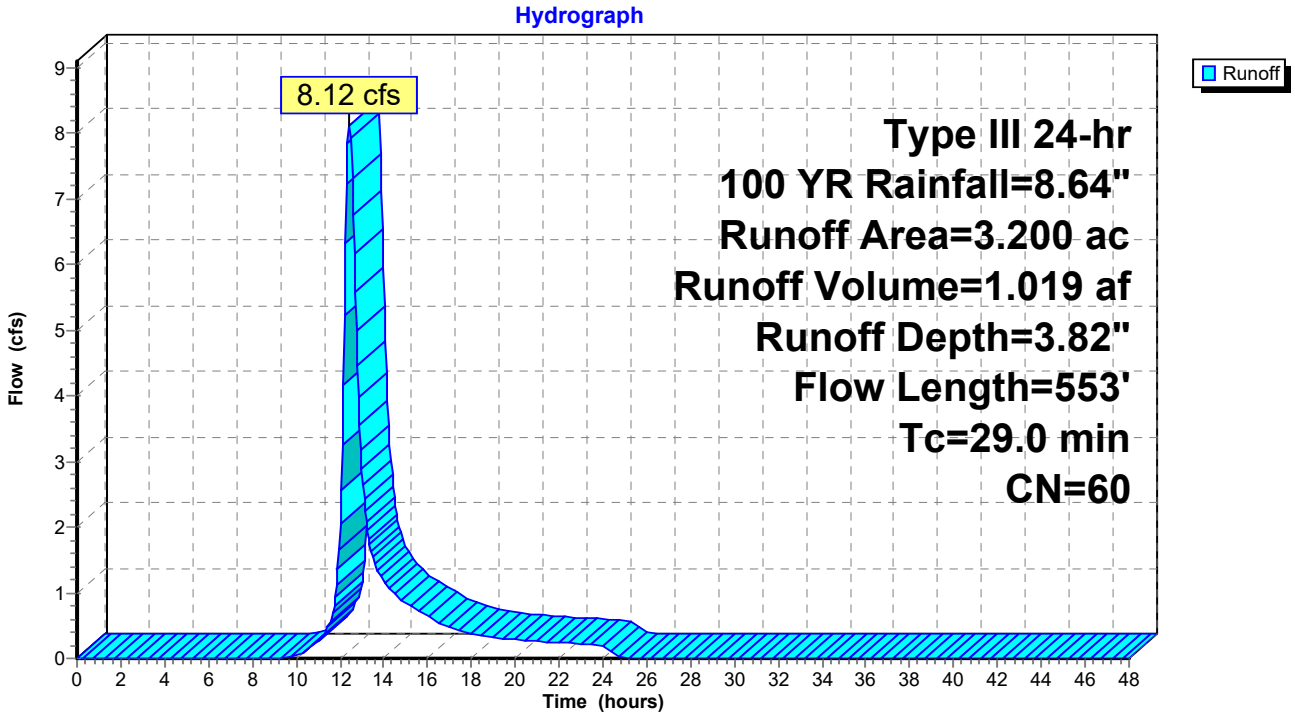
Runoff = 8.12 cfs @ 12.42 hrs, Volume= 1.019 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.64"

Area (ac)	CN	Description
0.353	55	Woods, Good, HSG B
2.847	61	>75% Grass cover, Good, HSG B
3.200	60	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0019	0.07		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.49"
4.9	453	0.0105	1.54		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
29.0	553	Total			

Subcatchment EDA-2: EDA-2

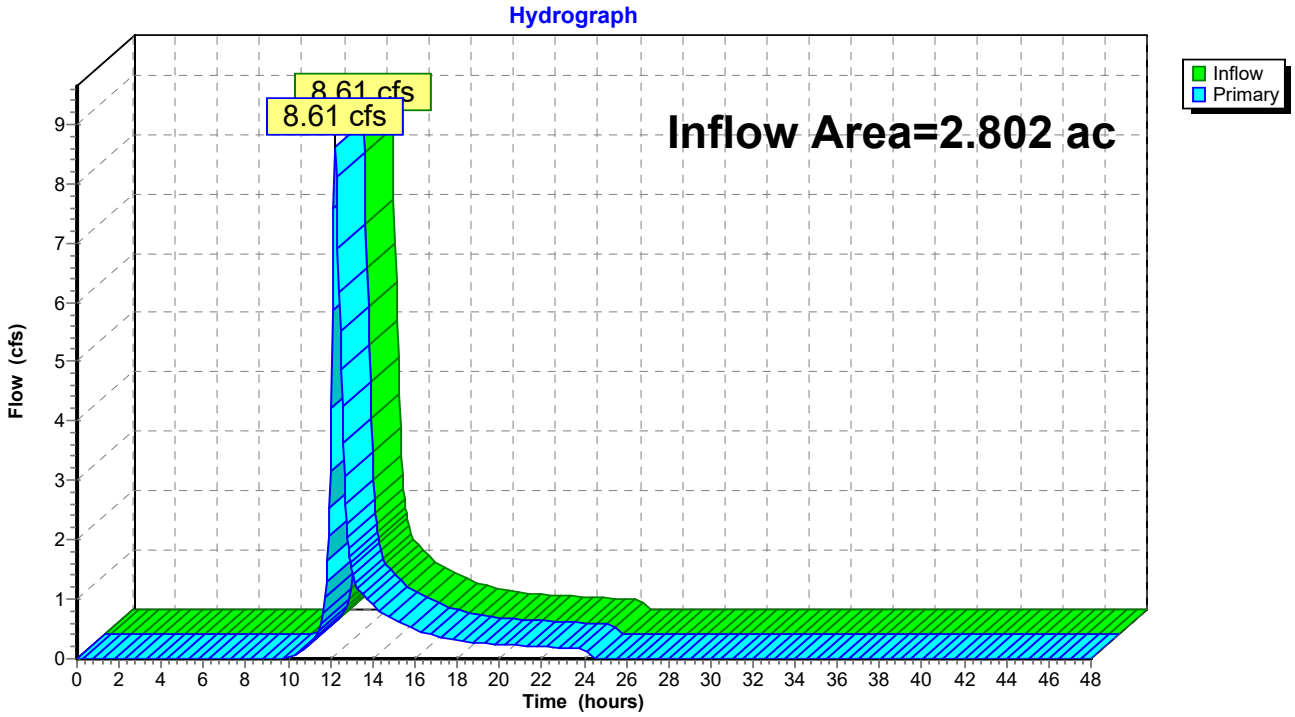


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 3.58" for 100 YR event
Inflow = 8.61 cfs @ 12.22 hrs, Volume= 0.837 af
Primary = 8.61 cfs @ 12.22 hrs, Volume= 0.837 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

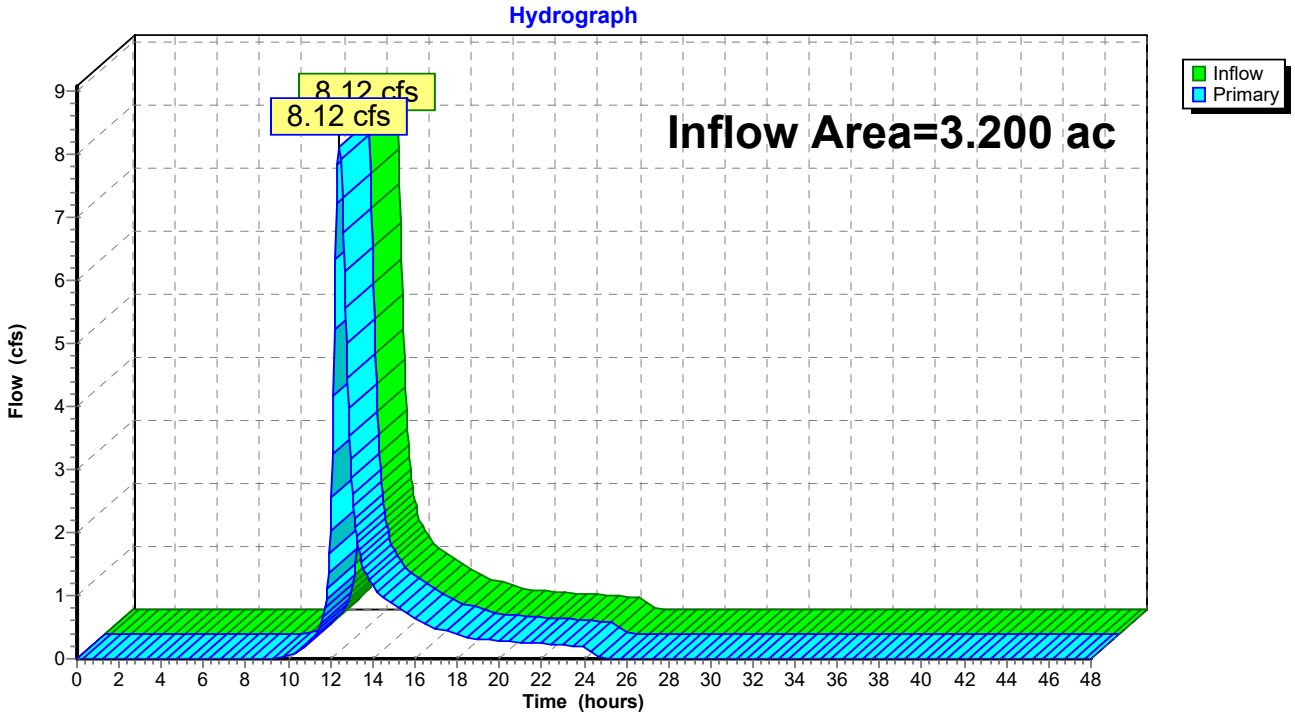


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 3.82" for 100 YR event
Inflow = 8.12 cfs @ 12.42 hrs, Volume= 1.019 af
Primary = 8.12 cfs @ 12.42 hrs, Volume= 1.019 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2

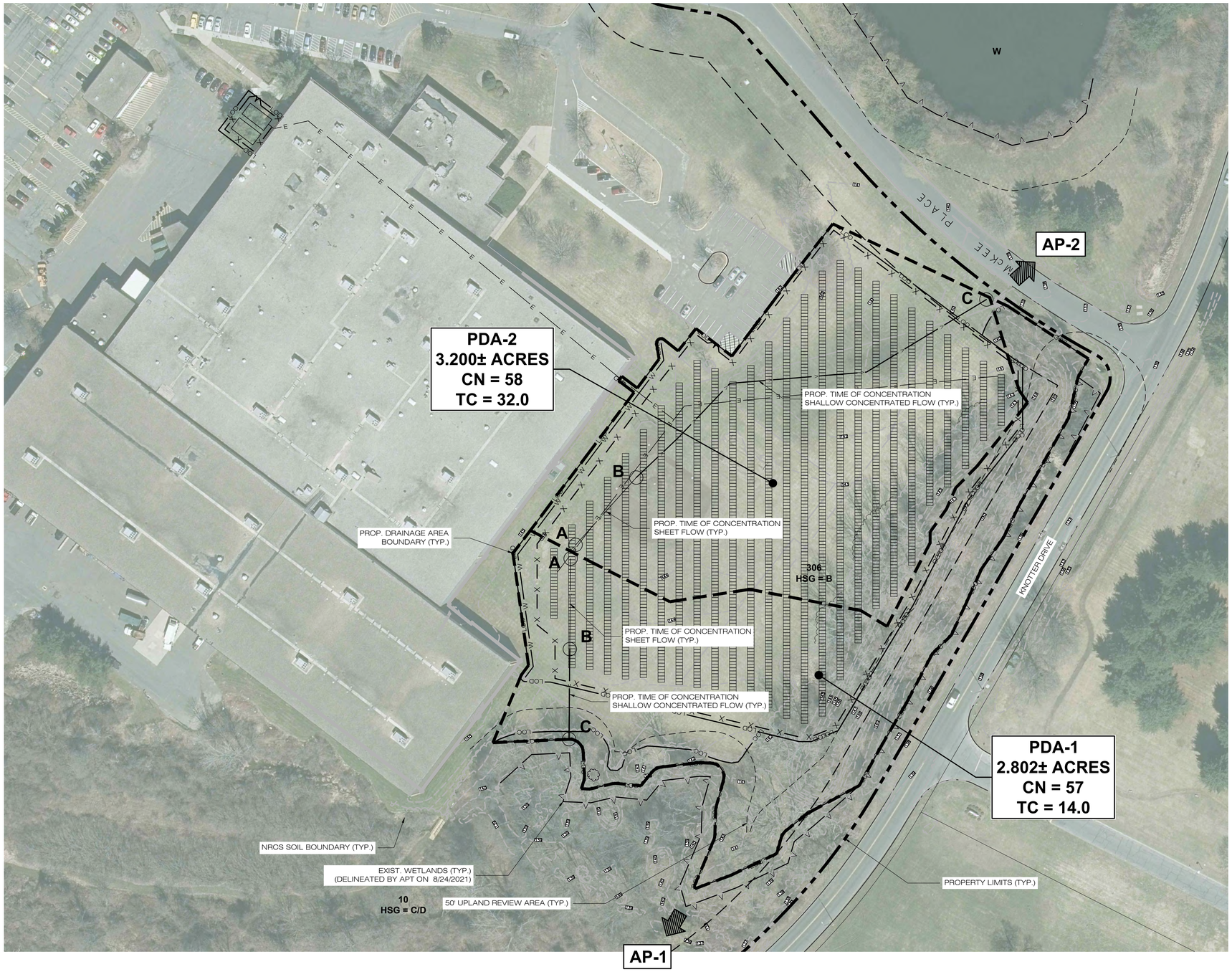


PROPOSED DRAINAGE AREAS

	TOTAL AREA (ACRES)	COMPOSITE CN	TC (MINS.)
PDA-1	2.802±	57	14.0
PDA-2	3.200±	58	32.0

PROPOSED CONDITION PEAK FLOWS

ANALYSIS POINT	2-YEAR (CFS)	25-YEAR (CFS)	50-YEAR (CFS)	100-YEAR (CFS)
AP-1	0.58	5.06	6.68	8.58
AP-2	0.60	4.33	5.66	7.23



1 PDA-1 **PROPOSED DRAINAGE AREA MAP**
SCALE : 1" = 60'-0"

60 0 30 60 120
(IN FEET) 1 inch = 60 ft.

C-TECSOLAR
1 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860)-580-7174

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

PERMIT SET

NO	DATE	REVISION
0	01/18/22	FOR REVIEW: KAM
1	01/21/22	REVISED PROPOSED VALUES
2		
3		
4		
5		
6		

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: HANWHA AEROSPACE USA
ADDRESS: 5 MCKEE PLACE CHESHIRE, CT 06410

CHESHIRE SOLAR

SITE ADDRESS: 5 MCKEE PLACE CHESHIRE, CT

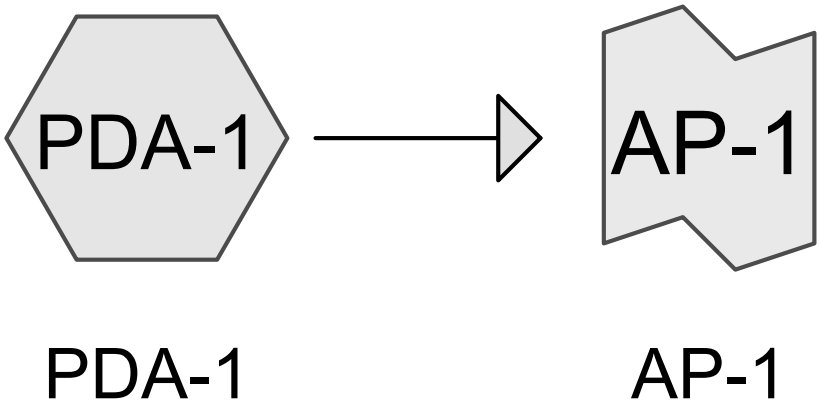
APT FILING NUMBER: CT481570

DRAWN BY: JT

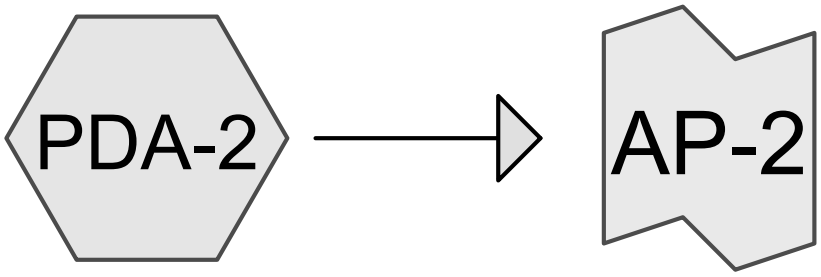
DATE: 01/18/22 CHECKED BY: KAM

SHEET TITLE:
PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:
PDA-1



PDA-1 AP-1



PDA-2 AP-2

Subcat Reach Pond Link

Routing Diagram for CT481570_Cheshire - PR - 2022-01-21
Prepared by All Points Technology Corp., Printed 1/21/2022

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.882	58	Meadow, non-grazed, HSG B (PDA-1, PDA-2)
1.120	55	Woods, Good, HSG B (PDA-1, PDA-2)
6.002	**57**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
6.002	HSG B	PDA-1, PDA-2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
6.002		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.882	0.000	0.000	0.000	4.882	Meadow, non-grazed	PDA-1, PDA-2
0.000	1.120	0.000	0.000	0.000	1.120	Woods, Good	PDA-1, PDA-2
0.000	**6.002**	**0.000**	**0.000**	**0.000**	**6.002**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1: PDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=0.41"
Flow Length=200' Tc=14.0 min CN=57 Runoff=0.58 cfs 0.096 af

Subcatchment PDA-2: PDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=0.45"
Flow Length=553' Tc=32.0 min CN=58 Runoff=0.60 cfs 0.120 af

Link AP-1: AP-1 Inflow=0.58 cfs 0.096 af
Primary=0.58 cfs 0.096 af

Link AP-2: AP-2 Inflow=0.60 cfs 0.120 af
Primary=0.60 cfs 0.120 af

Total Runoff Area = 6.002 ac Runoff Volume = 0.216 af Average Runoff Depth = 0.43"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA-1: PDA-1

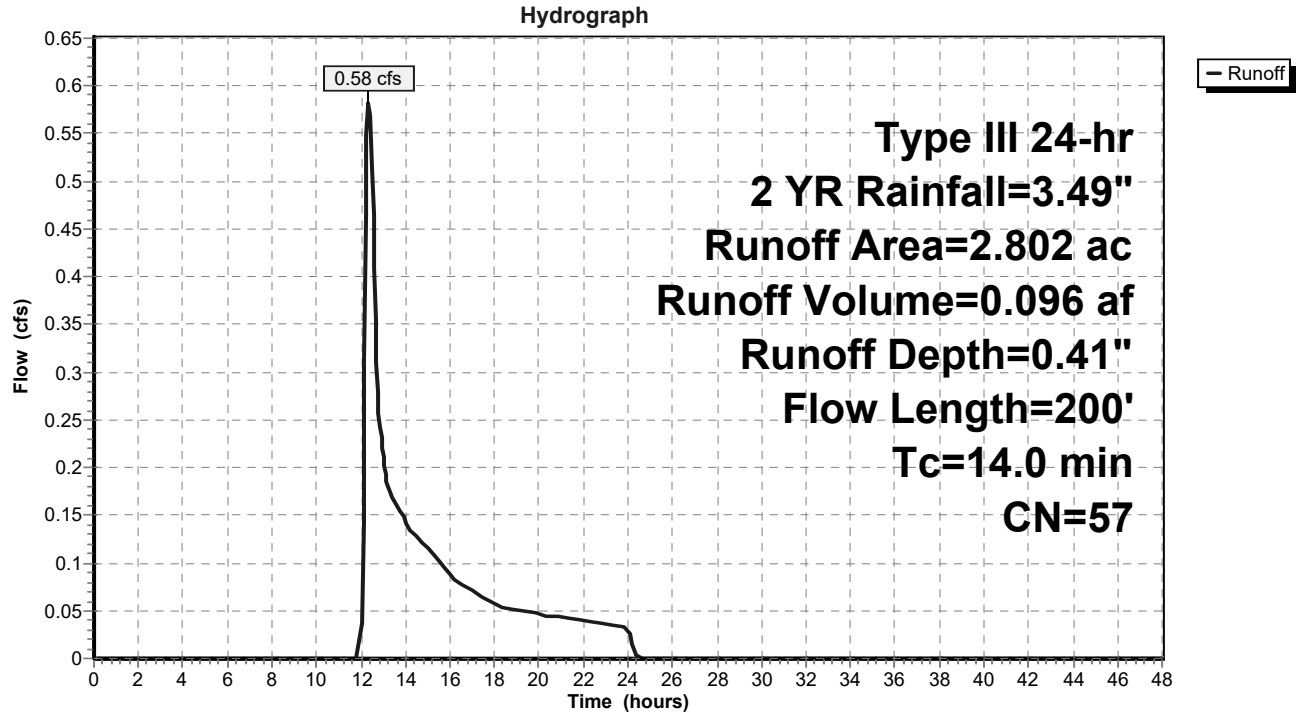
Runoff = 0.58 cfs @ 12.34 hrs, Volume= 0.096 af, Depth= 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.49"

Area (ac)	CN	Description
1.110	55	Woods, Good, HSG B
1.692	58	Meadow, non-grazed, HSG B
2.802	57	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0060	0.12		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
0.5	100	0.2260	3.33		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.0	200	Total			

Subcatchment PDA-1: PDA-1



Summary for Subcatchment PDA-2: PDA-2

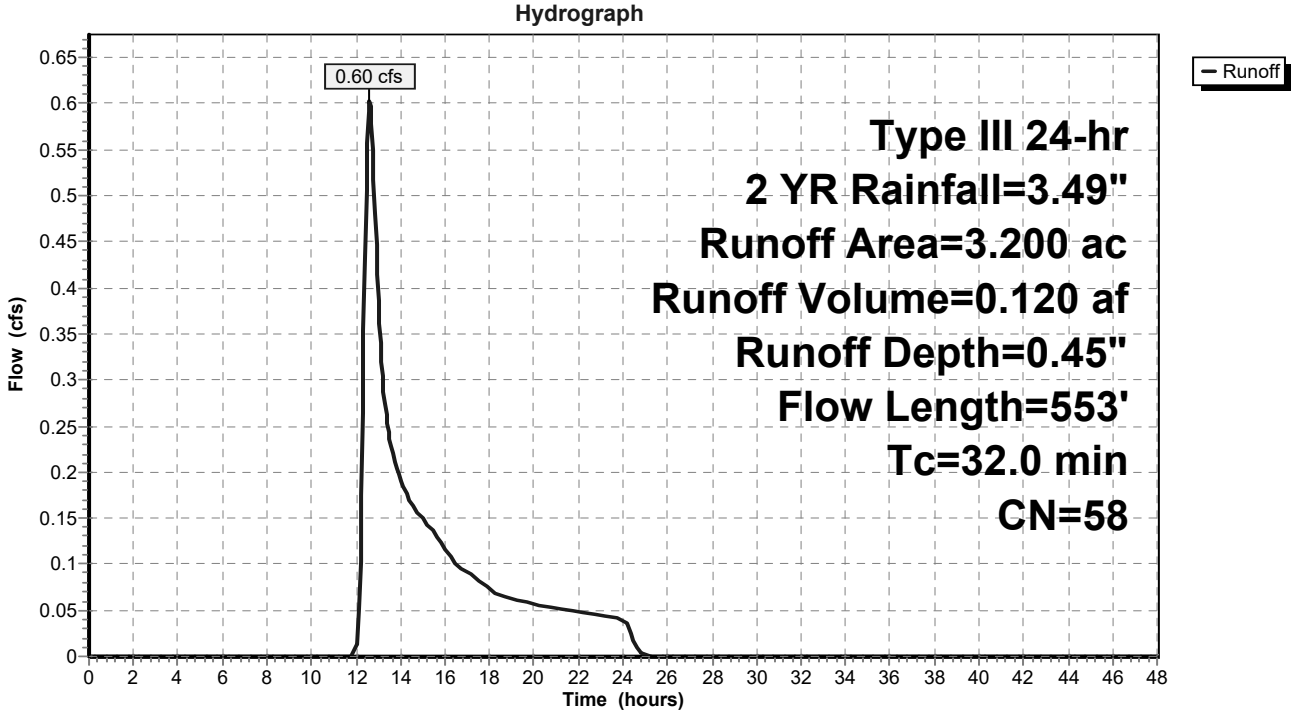
Runoff = 0.60 cfs @ 12.61 hrs, Volume= 0.120 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 YR Rainfall=3.49"

Area (ac)	CN	Description
0.010	55	Woods, Good, HSG B
3.190	58	Meadow, non-grazed, HSG B
3.200	58	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0019	0.08		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
10.5	453	0.0105	0.72		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
32.0	553	Total			

Subcatchment PDA-2: PDA-2

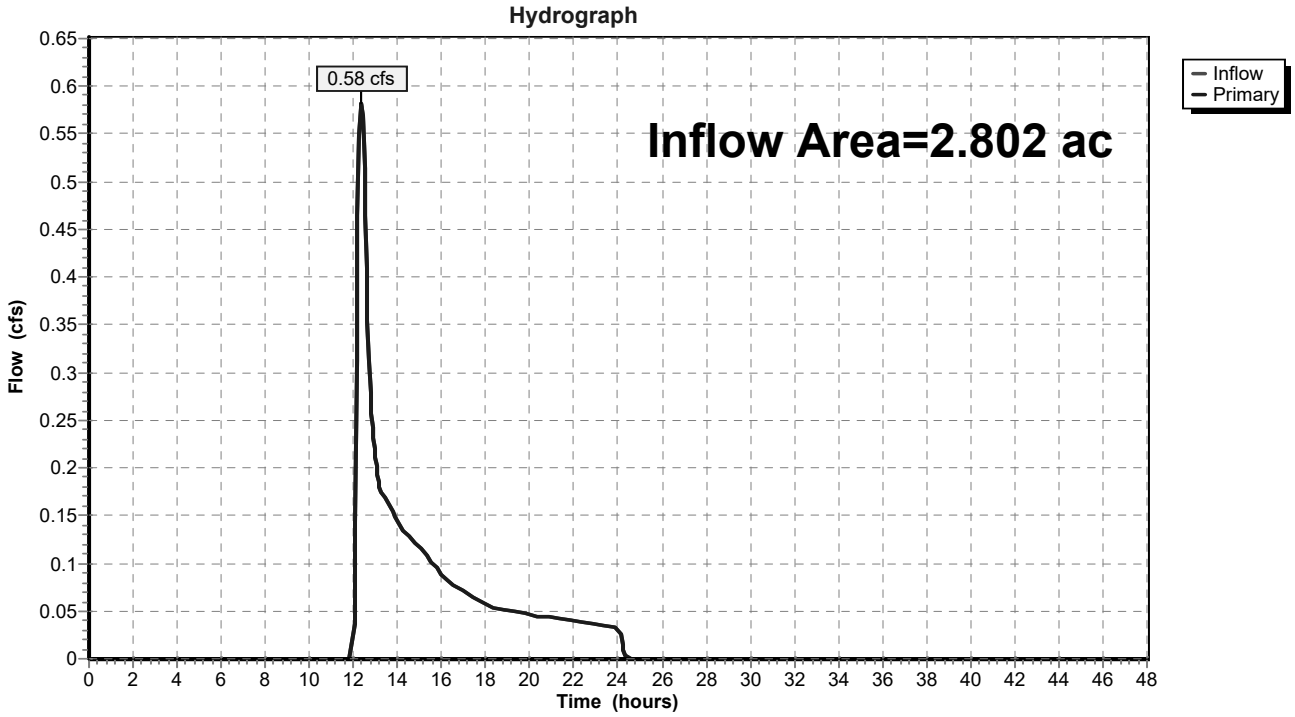


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 0.41" for 2 YR event
Inflow = 0.58 cfs @ 12.34 hrs, Volume= 0.096 af
Primary = 0.58 cfs @ 12.34 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

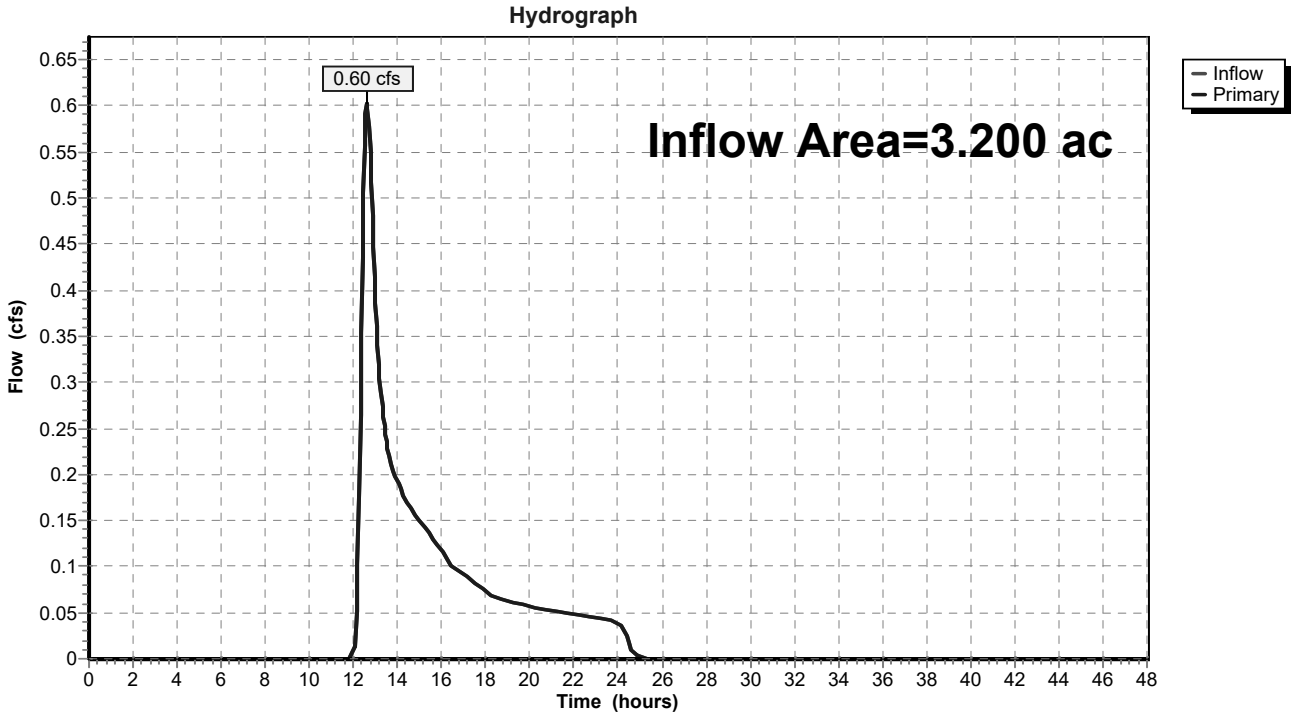


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 0.45" for 2 YR event
Inflow = 0.60 cfs @ 12.61 hrs, Volume= 0.120 af
Primary = 0.60 cfs @ 12.61 hrs, Volume= 0.120 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1: PDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=2.13"
Flow Length=200' Tc=14.0 min CN=57 Runoff=5.06 cfs 0.497 af

Subcatchment PDA-2: PDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=2.22"
Flow Length=553' Tc=32.0 min CN=58 Runoff=4.33 cfs 0.592 af

Link AP-1: AP-1 Inflow=5.06 cfs 0.497 af
Primary=5.06 cfs 0.497 af

Link AP-2: AP-2 Inflow=4.33 cfs 0.592 af
Primary=4.33 cfs 0.592 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.089 af Average Runoff Depth = 2.18"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA-1: PDA-1

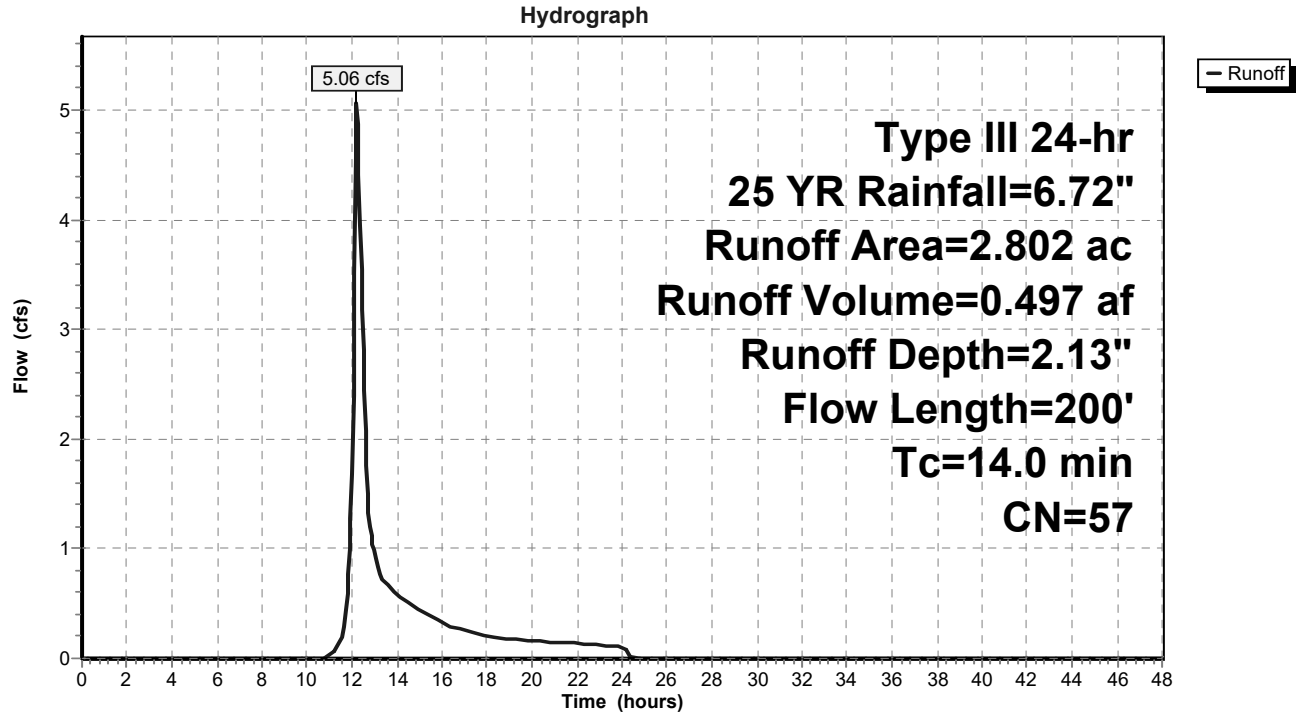
Runoff = 5.06 cfs @ 12.21 hrs, Volume= 0.497 af, Depth= 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.72"

Area (ac)	CN	Description
1.110	55	Woods, Good, HSG B
1.692	58	Meadow, non-grazed, HSG B
2.802	57	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0060	0.12		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
0.5	100	0.2260	3.33		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.0	200	Total			

Subcatchment PDA-1: PDA-1



Summary for Subcatchment PDA-2: PDA-2

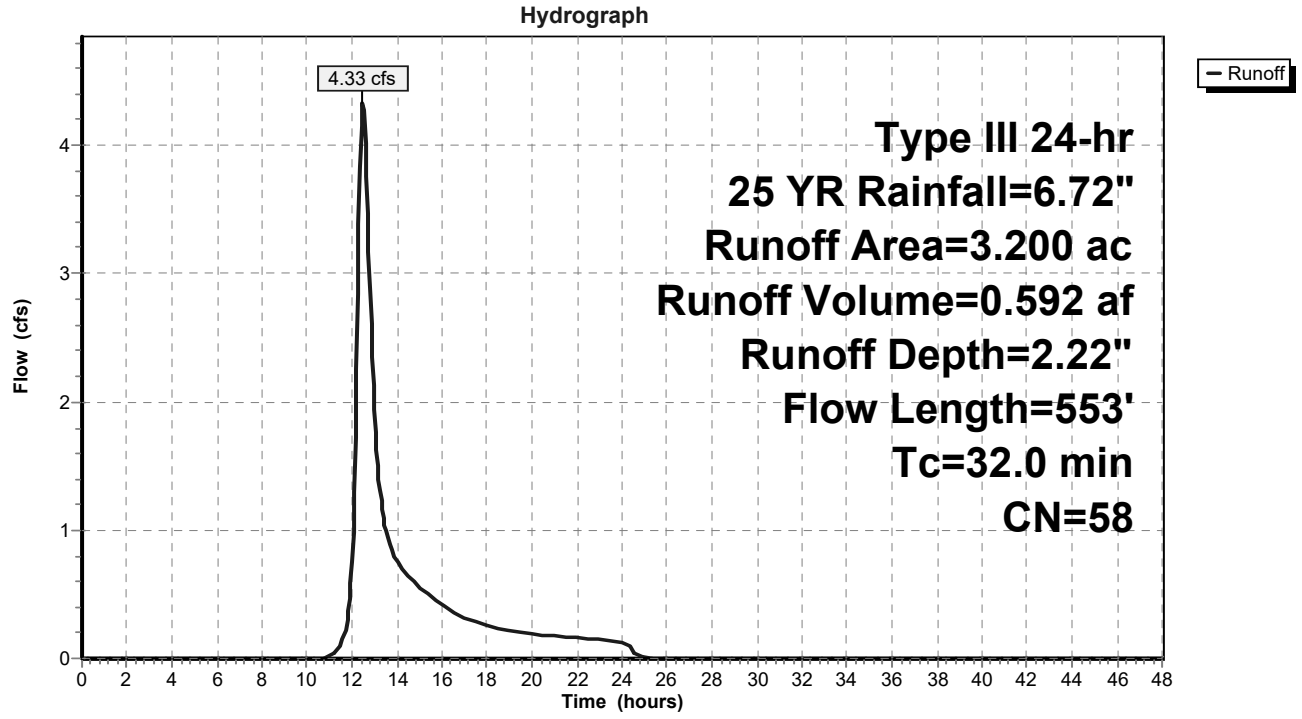
Runoff = 4.33 cfs @ 12.48 hrs, Volume= 0.592 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 YR Rainfall=6.72"

Area (ac)	CN	Description
0.010	55	Woods, Good, HSG B
3.190	58	Meadow, non-grazed, HSG B
3.200	58	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0019	0.08		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
10.5	453	0.0105	0.72		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
32.0	553	Total			

Subcatchment PDA-2: PDA-2

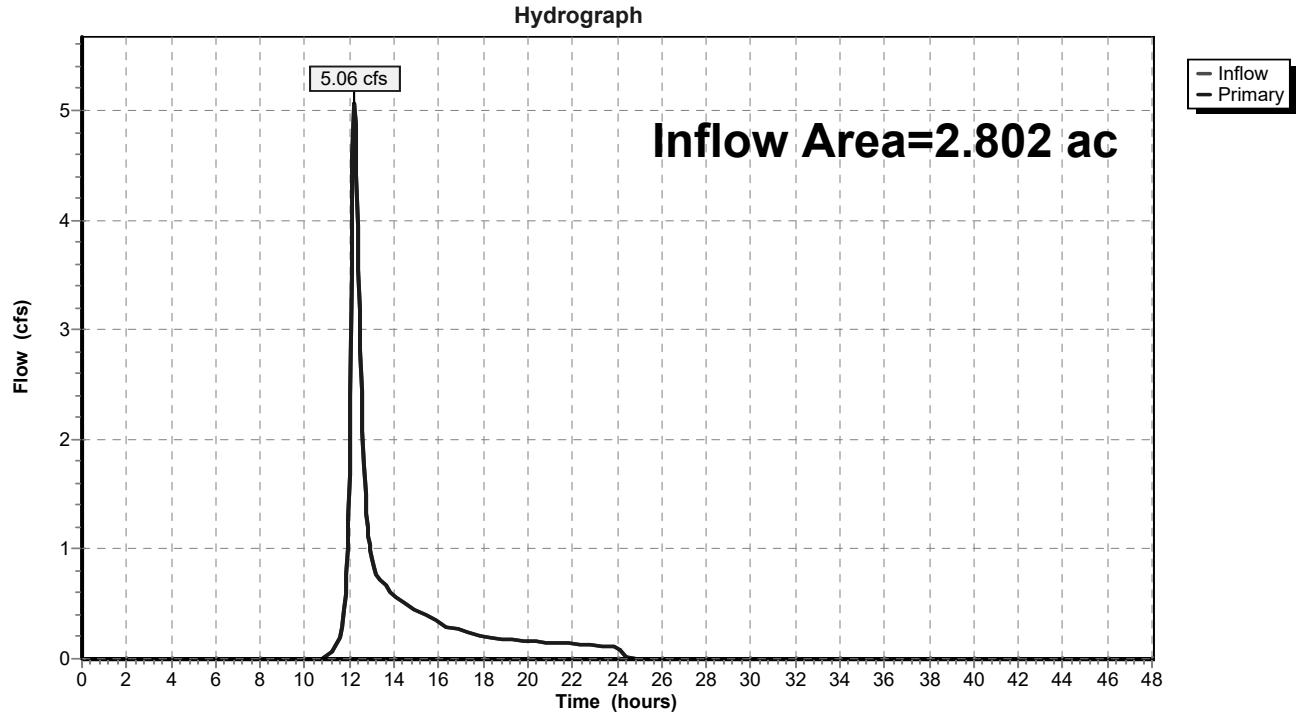


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 2.13" for 25 YR event
Inflow = 5.06 cfs @ 12.21 hrs, Volume= 0.497 af
Primary = 5.06 cfs @ 12.21 hrs, Volume= 0.497 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

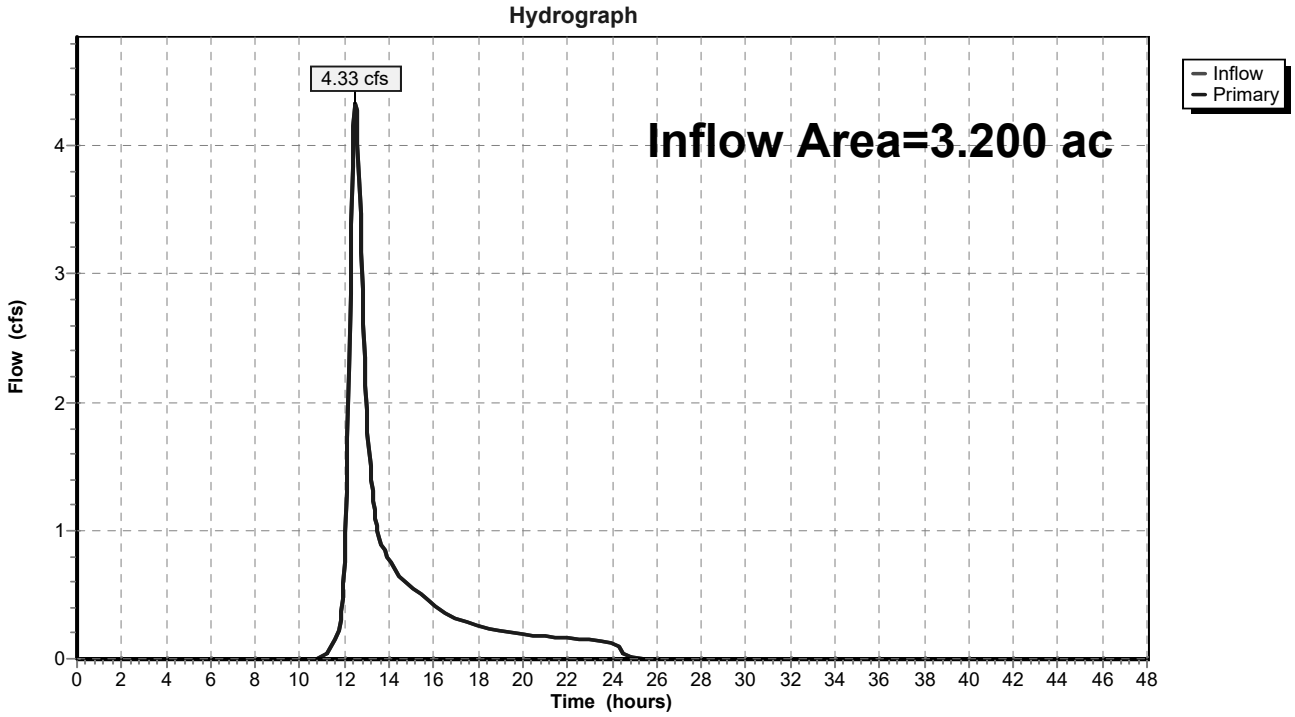


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 2.22" for 25 YR event
Inflow = 4.33 cfs @ 12.48 hrs, Volume= 0.592 af
Primary = 4.33 cfs @ 12.48 hrs, Volume= 0.592 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1: PDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=2.74"
Flow Length=200' Tc=14.0 min CN=57 Runoff=6.68 cfs 0.640 af

Subcatchment PDA-2: PDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=2.85"
Flow Length=553' Tc=32.0 min CN=58 Runoff=5.66 cfs 0.759 af

Link AP-1: AP-1 Inflow=6.68 cfs 0.640 af
Primary=6.68 cfs 0.640 af

Link AP-2: AP-2 Inflow=5.66 cfs 0.759 af
Primary=5.66 cfs 0.759 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.399 af Average Runoff Depth = 2.80"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA-1: PDA-1

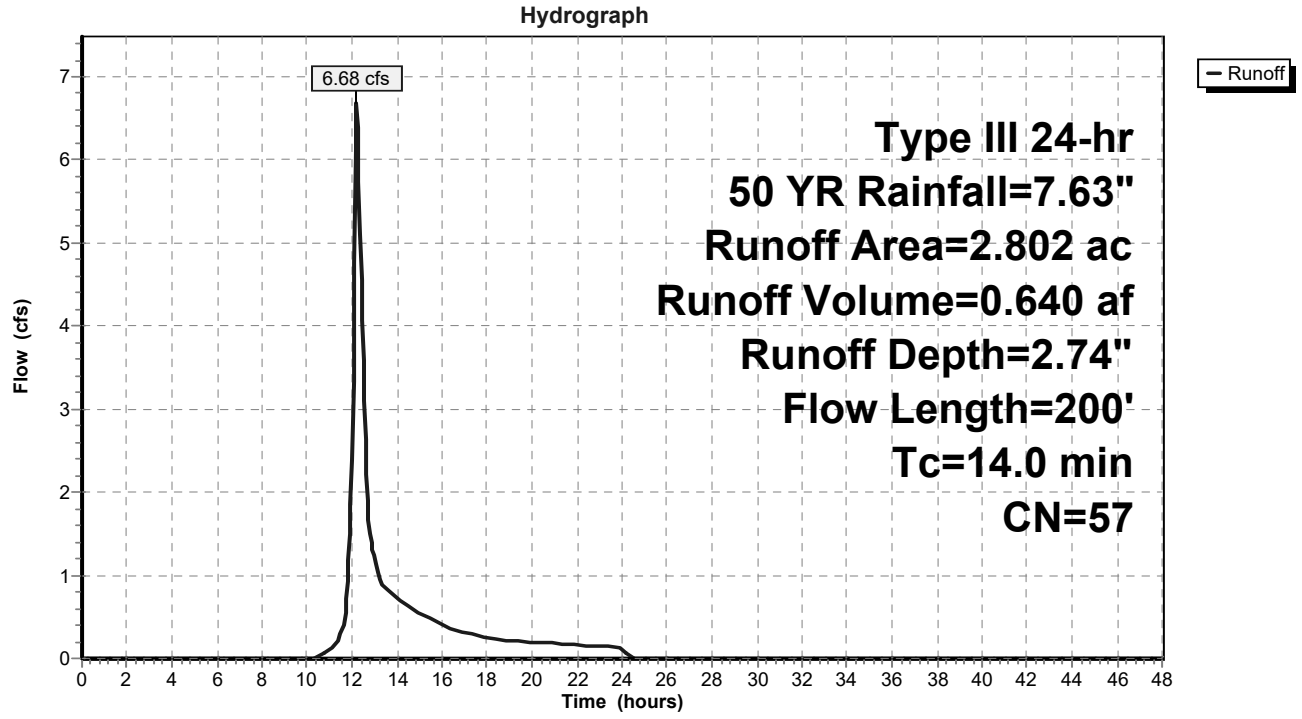
Runoff = 6.68 cfs @ 12.21 hrs, Volume= 0.640 af, Depth= 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.63"

Area (ac)	CN	Description
1.110	55	Woods, Good, HSG B
1.692	58	Meadow, non-grazed, HSG B
2.802	57	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0060	0.12		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
0.5	100	0.2260	3.33		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.0	200	Total			

Subcatchment PDA-1: PDA-1



Summary for Subcatchment PDA-2: PDA-2

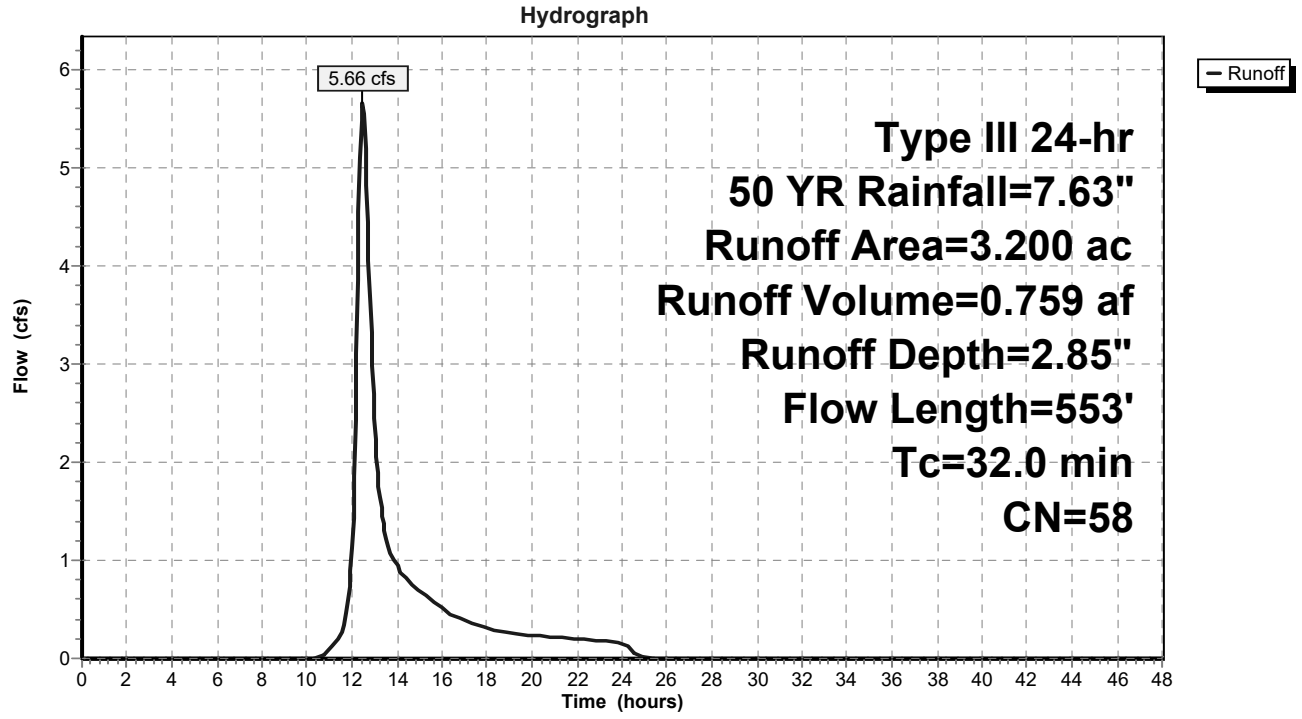
Runoff = 5.66 cfs @ 12.47 hrs, Volume= 0.759 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 YR Rainfall=7.63"

Area (ac)	CN	Description
0.010	55	Woods, Good, HSG B
3.190	58	Meadow, non-grazed, HSG B
3.200	58	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0019	0.08		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
10.5	453	0.0105	0.72		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
32.0	553	Total			

Subcatchment PDA-2: PDA-2

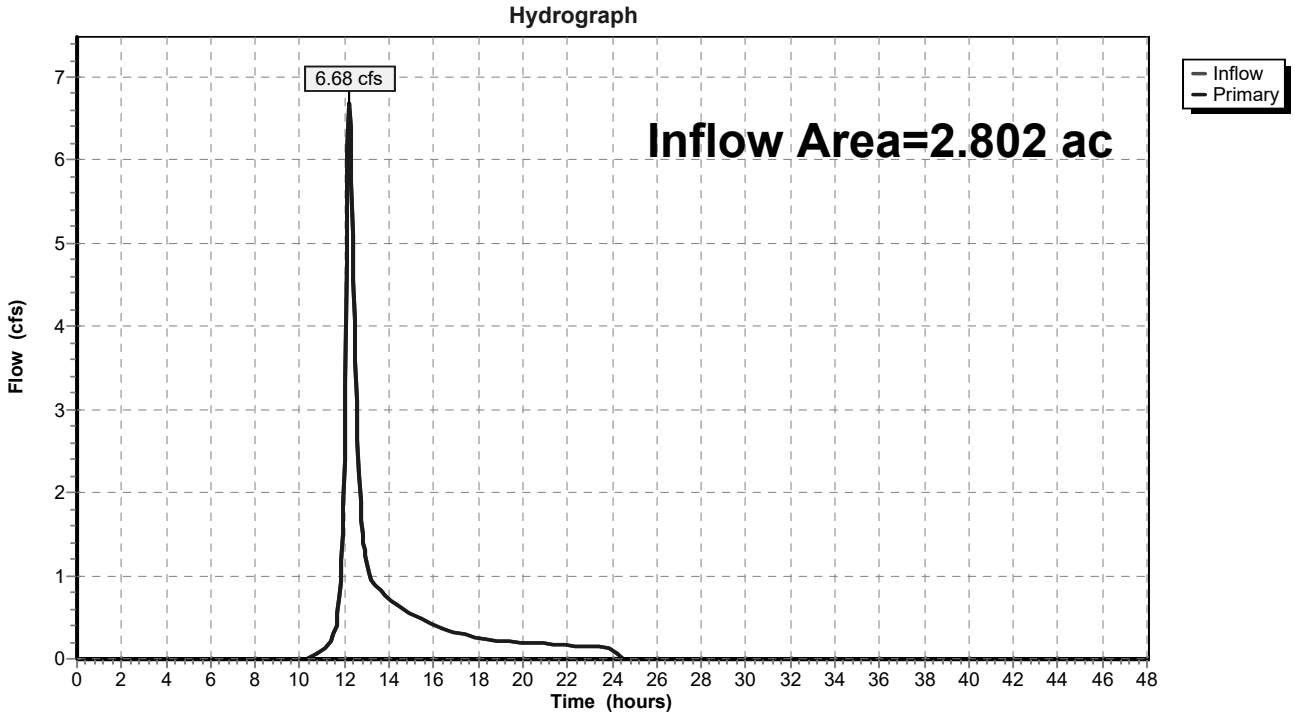


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 2.74" for 50 YR event
Inflow = 6.68 cfs @ 12.21 hrs, Volume= 0.640 af
Primary = 6.68 cfs @ 12.21 hrs, Volume= 0.640 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1

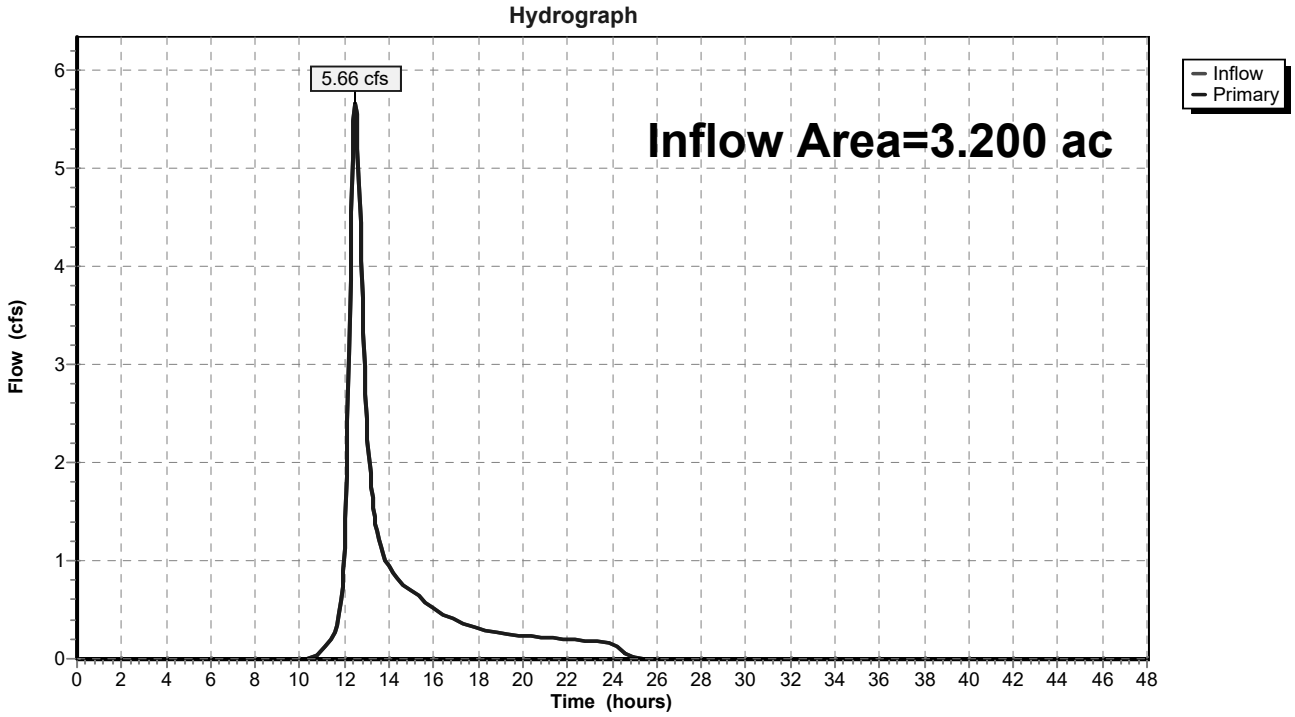


Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 2.85" for 50 YR event
Inflow = 5.66 cfs @ 12.47 hrs, Volume= 0.759 af
Primary = 5.66 cfs @ 12.47 hrs, Volume= 0.759 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2



Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment PDA-1: PDA-1 Runoff Area=2.802 ac 0.00% Impervious Runoff Depth=3.47"
Flow Length=200' Tc=14.0 min CN=57 Runoff=8.58 cfs 0.809 af

Subcatchment PDA-2: PDA-2 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=3.58"
Flow Length=553' Tc=32.0 min CN=58 Runoff=7.23 cfs 0.956 af

Link AP-1: AP-1 Inflow=8.58 cfs 0.809 af
Primary=8.58 cfs 0.809 af

Link AP-2: AP-2 Inflow=7.23 cfs 0.956 af
Primary=7.23 cfs 0.956 af

Total Runoff Area = 6.002 ac Runoff Volume = 1.765 af Average Runoff Depth = 3.53"
100.00% Pervious = 6.002 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment PDA-1: PDA-1

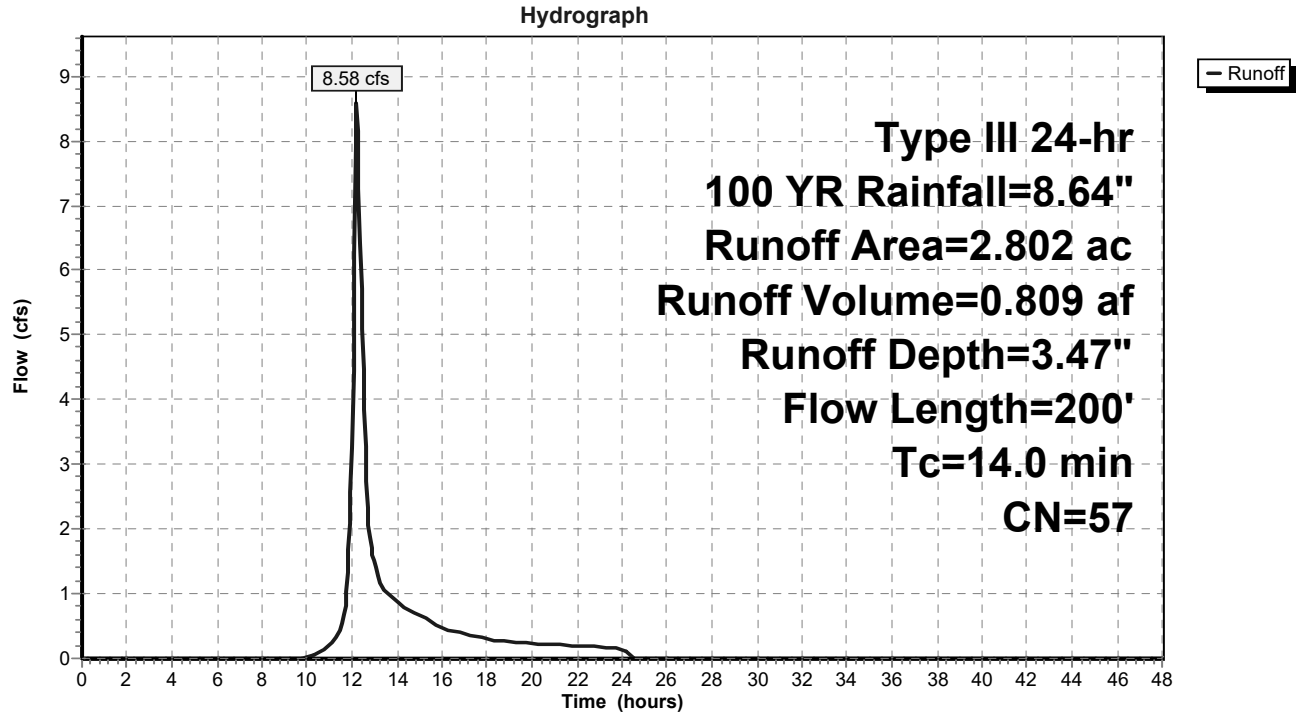
Runoff = 8.58 cfs @ 12.20 hrs, Volume= 0.809 af, Depth= 3.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.64"

Area (ac)	CN	Description
1.110	55	Woods, Good, HSG B
1.692	58	Meadow, non-grazed, HSG B
2.802	57	Weighted Average
2.802		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0060	0.12		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
0.5	100	0.2260	3.33		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
14.0	200	Total			

Subcatchment PDA-1: PDA-1



Summary for Subcatchment PDA-2: PDA-2

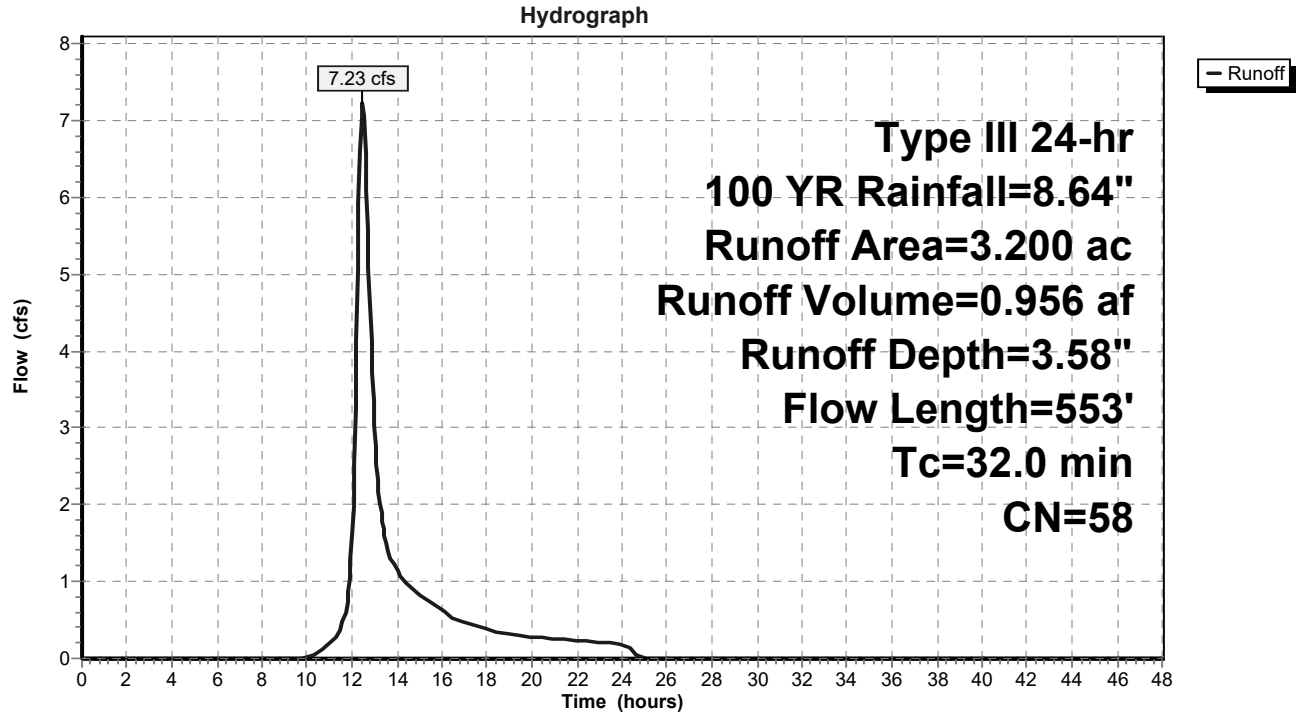
Runoff = 7.23 cfs @ 12.47 hrs, Volume= 0.956 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 YR Rainfall=8.64"

Area (ac)	CN	Description
0.010	55	Woods, Good, HSG B
3.190	58	Meadow, non-grazed, HSG B
3.200	58	Weighted Average
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	100	0.0019	0.08		**Sheet Flow, A-B** Range n= 0.130 P2= 3.49"
10.5	453	0.0105	0.72		**Shallow Concentrated Flow, B-C** Short Grass Pasture Kv= 7.0 fps
32.0	553	Total			

Subcatchment PDA-2: PDA-2

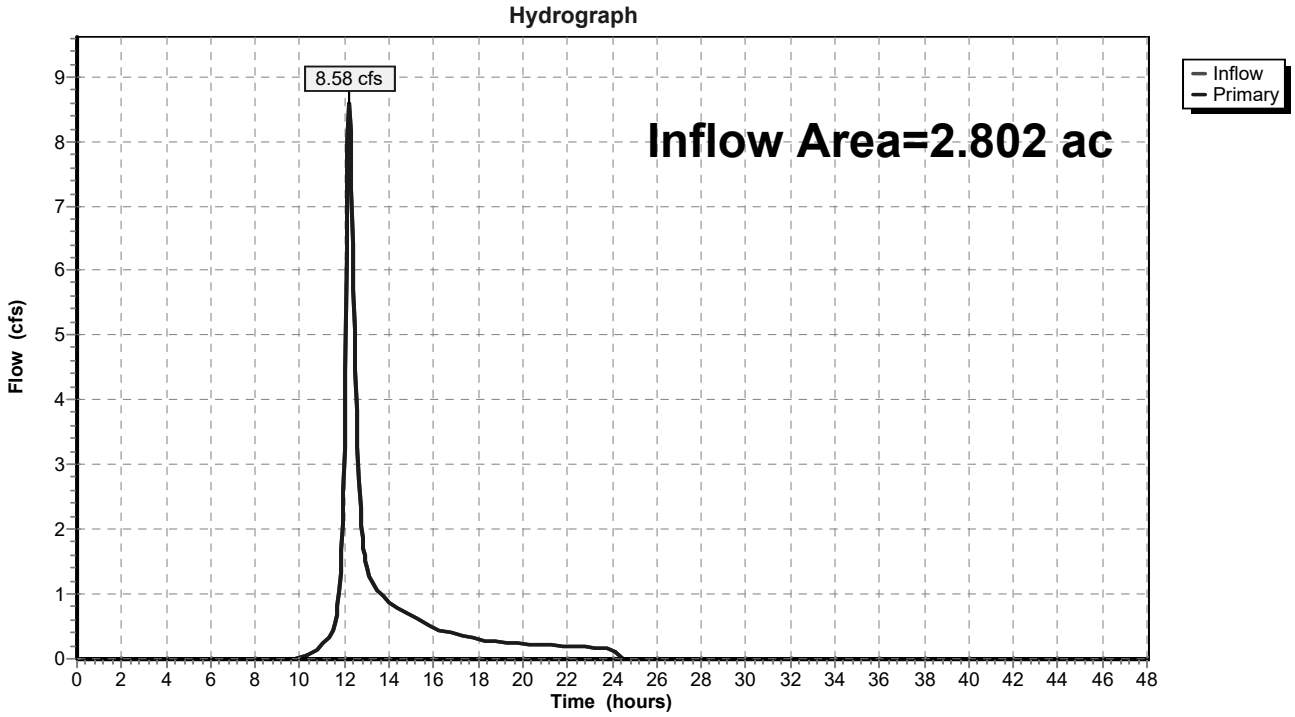


Summary for Link AP-1: AP-1

Inflow Area = 2.802 ac, 0.00% Impervious, Inflow Depth = 3.47" for 100 YR event
Inflow = 8.58 cfs @ 12.20 hrs, Volume= 0.809 af
Primary = 8.58 cfs @ 12.20 hrs, Volume= 0.809 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-1: AP-1



Summary for Link AP-2: AP-2

Inflow Area = 3.200 ac, 0.00% Impervious, Inflow Depth = 3.58" for 100 YR event
Inflow = 7.23 cfs @ 12.47 hrs, Volume= 0.956 af
Primary = 7.23 cfs @ 12.47 hrs, Volume= 0.956 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link AP-2: AP-2