

STORMWATER REPORT

Proposed Kramer Road
Residential Subdivision Project
30 Park Avenue
Weymouth, Massachusetts



EXISTING CONDITIONS

The subject property is 149,034 +/- in area and consists of two developed residential lots, 30 Park Avenue and 738 Main Street, and a substantial undeveloped wooded area.

Generally, as a means of assigning runoff rates to subsurface soils, soils are classified into hydrologic soil groups (HSGs) to indicate the minimum rate of infiltration capable for bare soil after prolonged wetting. The HSGs, which are A, B, C, and D (A having the highest capability of infiltrating runoff and D having the lowest), are one element used in determining runoff curve numbers when modeling stormwater runoff flowrates for existing and proposed conditions. The parent soil types vary on the property according to the USDA Natural Resources Conservation Service mapping. The majority of the project site is mapped as Charlton-Hollis-Rock outcrop, 3 to 8 percent slopes. Due to this soil type typically having either shallow bedrock or shallow groundwater table, this soil has been classified as hydrologic soil group D. As a conservative measure in the site drainage calculations, curve numbers for HSG D have been selected.

Under existing conditions, stormwater runoff from the site flows within three (3) sub-catchment areas:

1. The majority of the project site, including the substantial undeveloped wooded area, flows in an easterly direction to the abutting properties to the east. Runoff from this area eventually flows to Park Avenue and is collected by the Park Avenue street drainage system;
2. The developed 30 Park Avenue lot flows in a southerly direction onto Park Avenue and is collected by the Park Avenue street drainage system;
3. The developed 738 Main Street lot flows in a westerly direction onto Main Street and is collected by the Main Street street drainage system.

PROPOSED CONDITIONS

The proposed project consists a residential subdivision project. The project creates eleven (11) individual residential lots made possible through the creation of the new subdivision road called Kramer Road. The lot at 738 Main Street will be slightly reconfigured and remain as a single-family home. The lot at 30 Park Avenue will be slightly reconfigured and remain as a two-family



dwelling. Nine (9) additional new residential lots are proposed with this project. Kramer Road will be accessed from Park Avenue to the west of 30 Park Avenue and will extend in a northerly direction for approximately five hundred twenty three (523) feet and will end in a cul-de-sac. The lots will be served by the new Kramer Road utilities that will be connected from Park Avenue utilities.

Kramer Road will be constructed with a new street drainage system. Stormwater runoff from most of the roadway and the residential lots will be collected and conveyed to a stormwater detention basin located to the east of Kramer Road. The detention basin will mitigate stormwater runoff peak flow rates from the project site. Due to the steep grades directly to the north of Park Avenue, stormwater runoff from the southerly end of Kramer Road will flow onto Park Avenue. Under existing conditions, this area flows to Park Avenue as well. Stormwater runoff from the 738 Main Street lot will continue to flow toward Main Street as it does under existing conditions.

The stormwater detention basin has been designed to infiltrate the 1.5" storm event. Stormwater runoff from larger storms will be controlled by an outlet control structure and discharge from the basin to the east.

SITEC has prepared calculations for existing conditions and for post-development conditions after the proposed redevelopment has been fully constructed. These calculations have been performed for each of the 2, 10, 25 and 100-year, 24-hour storm events. These calculations demonstrate that the proposed stormwater control facilities will mitigate peak runoff flowrates for post-development conditions to rates that are less than existing conditions. Below are two tables that summarize existing and proposed flowrates to the Main Street and Park Avenue street drainage systems:

Stormwater Calculation Table for the 2, 10, 25 and 100-Year Events

Main Street – Street Drainage System

		STORM EVENT			
		2-Year (3.30")	10-Year (4.70")	25-Year (5.60")	100-Year (6.90")
Flow Rates Discharging Off-Site	Existing Conditions	1.23	2.05	2.59	3.36
	Proposed Conditions	1.23	2.05	2.59	3.36

Park Avenue – Street Drainage System

		STORM EVENT			
		2-Year (3.30")	10-Year (4.70")	25-Year (5.60")	100-Year (6.90")
Flow Rates Discharging Off-Site	Existing Conditions	3.31	5.59	7.04	9.27
	Proposed Conditions	2.69	4.80	5.96	8.09

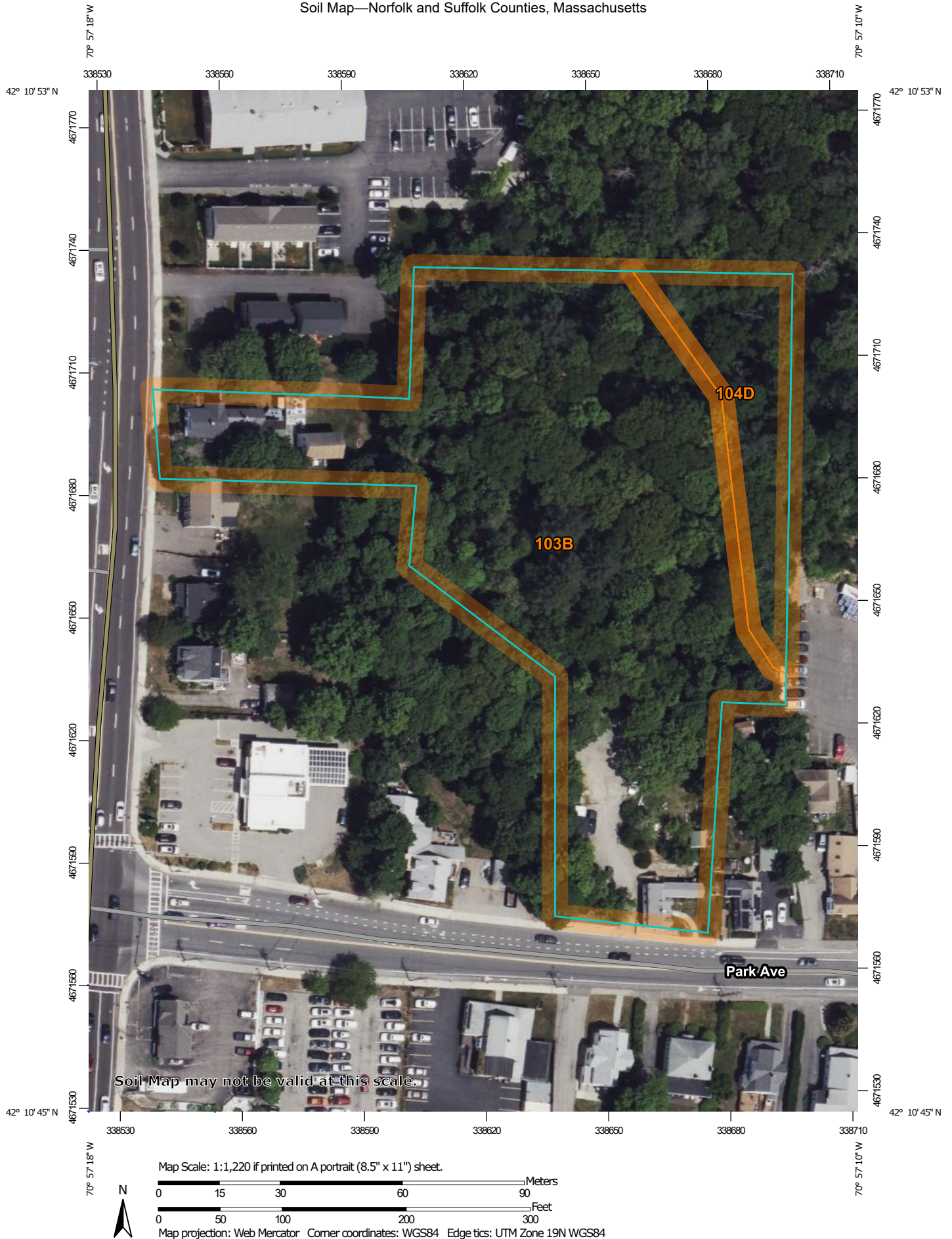
Below is a summary of discharge rates from the proposed detention basin outlet control structure that flow to the Park Avenue street drainage system:

		STORM EVENT			
		2-Year (3.30")	10-Year (4.70")	25-Year (5.60")	100-Year (6.90")
Flow Rates Discharging from Detention Basin Outlet Control Structure to Park Avenue		1.83	3.20	4.16	6.38



Soils Information & Soil Evaluations

Soil Map—Norfolk and Suffolk Counties, Massachusetts



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

3/22/2023
Page 1 of 3

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 18, Sep 9, 2022

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

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

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.

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	2.7	86.8%
104D	Hollis-Rock outcrop-Charlton complex, 15 to 35 percent slopes	0.4	13.2%
Totals for Area of Interest		3.1	100.0%

Norfolk and Suffolk Counties, Massachusetts

103B—Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: vktd

Elevation: 0 to 480 feet

Mean annual precipitation: 32 to 54 inches

Mean annual air temperature: 43 to 54 degrees F

Frost-free period: 120 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 40 percent

Hollis and similar soils: 25 percent

Rock outcrop: 20 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Hills

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Friable coarse-loamy ablation till derived from granite

Typical profile

H1 - 0 to 6 inches: fine sandy loam

H2 - 6 to 36 inches: fine sandy loam

H3 - 36 to 60 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water

(Ksat): Moderately high to high (0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A

Ecological site: F144AY034CT - Well Drained Till Uplands

Hydric soil rating: No

Description of Hollis

Setting

Landform: Hills

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Shallow, friable loamy ablation till derived from igneous rock

Typical profile

H1 - 0 to 3 inches: fine sandy loam

H2 - 3 to 14 inches: gravelly fine sandy loam

H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 8 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

Ecological site: F144AY033MA - Shallow Dry Till Uplands

Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Igneous and metamorphic rock

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Canton

Percent of map unit: 7 percent
Hydric soil rating: No

Chatfield

Percent of map unit: 5 percent
Hydric soil rating: No

Scituate

Percent of map unit: 2 percent
Hydric soil rating: No

Whitman

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 18, Sep 9, 2022

Norfolk and Suffolk Counties, Massachusetts

104D—Hollis-Rock outcrop-Charlton complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: vkvh

Elevation: 20 to 610 feet

Mean annual precipitation: 32 to 54 inches

Mean annual air temperature: 43 to 54 degrees F

Frost-free period: 120 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent

Rock outcrop: 30 percent

Charlton and similar soils: 25 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Shallow, friable loamy ablation till derived from igneous and metamorphic rock

Typical profile

H1 - 0 to 3 inches: fine sandy loam

H2 - 3 to 14 inches: gravelly fine sandy loam

H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 35 percent

Surface area covered with cobbles, stones or boulders: 1.6 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Igneous and metamorphic rock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Charlton

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Friable coarse-loamy ablation till derived from granite

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 36 inches: fine sandy loam
H3 - 36 to 60 inches: fine sandy loam

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Chatfield

Percent of map unit: 5 percent

Hydric soil rating: No

Canton

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts

Survey Area Data: Version 18, Sep 9, 2022

TEST PIT NO.

#TP-1

GRND ELEV.= 156.0

GW ELEV.= 151.25

DATE: OCT. 5, 2023

MOTTling ELEV.= 152.66

TESTED BY: JEFFREY COUTURE, PE

(SITEC)

SURFACE DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTling	OTHER
0"-12"	A	SANDY LOAM	10 YR 3/2	-	
12"-36"	B	LOAMY SAND	10 YR 5/6	-	
36"-64"	C	GRAVELLY, COBBLEY LOAMY SAND	2.5 Y 5/3	40"	

STANDING WATER OBSERVED @ 57"

EXCAVATOR HIT REFUSAL AT 64"

PERCOLATION TEST (32"-50"): 7 MIN/IN

TEST PIT NO.

#TP-2

DATE: OCT. 5, 2023

MOTTLING ELEV.= 152.50

GRND ELEV.= 155.0

GW ELEV.= 151.25

TESTED BY: JEFFREY COUTURE, PE

(SITEC)

SURFACE DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTLING	OTHER
0"-6"	A	SANDY LOAM	10 YR 3/2	-	
6"-25"	B	LOAMY SAND	10 YR 5/6	-	
25"-47"	C	GRAVELLY, COBBLEY LOAMY SAND	2.5 Y 5/3	30"	

STANDING WATER OBSERVED @ 45"

EXCAVATOR HIT REFUSAL AT 47"

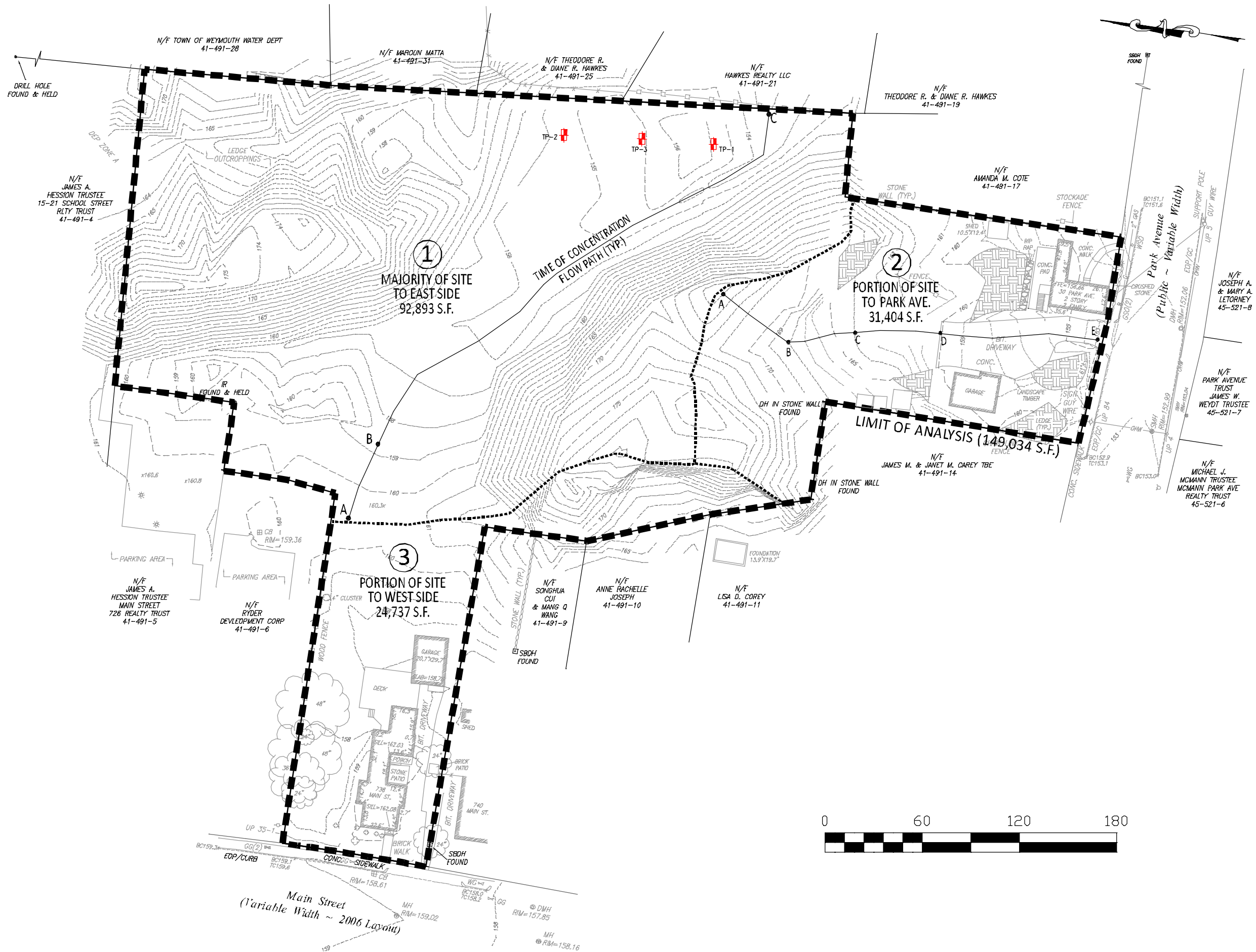
TEST PIT NO. GRND ELEV.= 155.0 TESTED BY: JEFFREY COUTURE, PE
#TP-3 GW ELEV.= 151.83 (SITEC)
 DATE: OCT. 5, 2023 MOTTling ELEV.= 152.50

SURFACE DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTling	OTHER
0"–15"	A	SANDY LOAM	10 YR 3/2	–	
15"–33"	B	LOAMY SAND	10 YR 5/6	30"	
33"–48"	C	GRAVELLY FINE SANDY LOAM	2.5 Y 5/3	THROUGHOUT	

STANDING WATER OBSERVED @ 38"



Existing Conditions Drainage Area Plan and Calculations



project:

RESIDENTIAL SUBDIVISION
30 PARK AVENUE
WEYMOUTH, MASSACHUSETTS

drawing title:

EXISTING CONDITIONS
DRAINAGE AREA PLAN

sheet:

1 of 1

scale:

1"=60'

date:

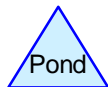
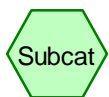
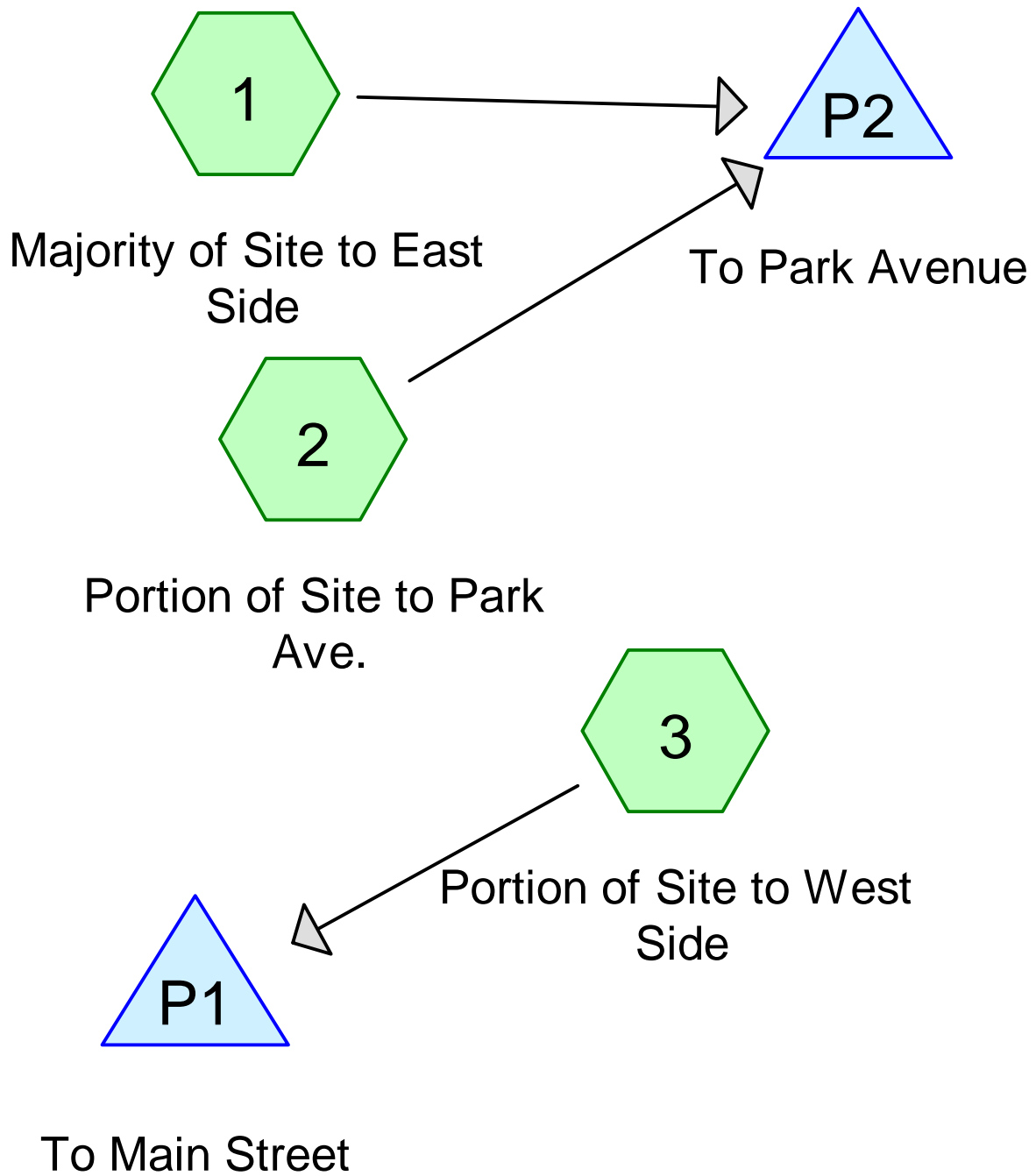
SEP. 28, 2023

job no.:

SE22-1642



769 Plain Street, Unit C
Marshfield, MA 02050
Tel. (781) 319-0100 Fax (781) 834-4783



Routing Diagram for Existing

Prepared by {enter your company name here}, Printed 11/8/2023
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 2

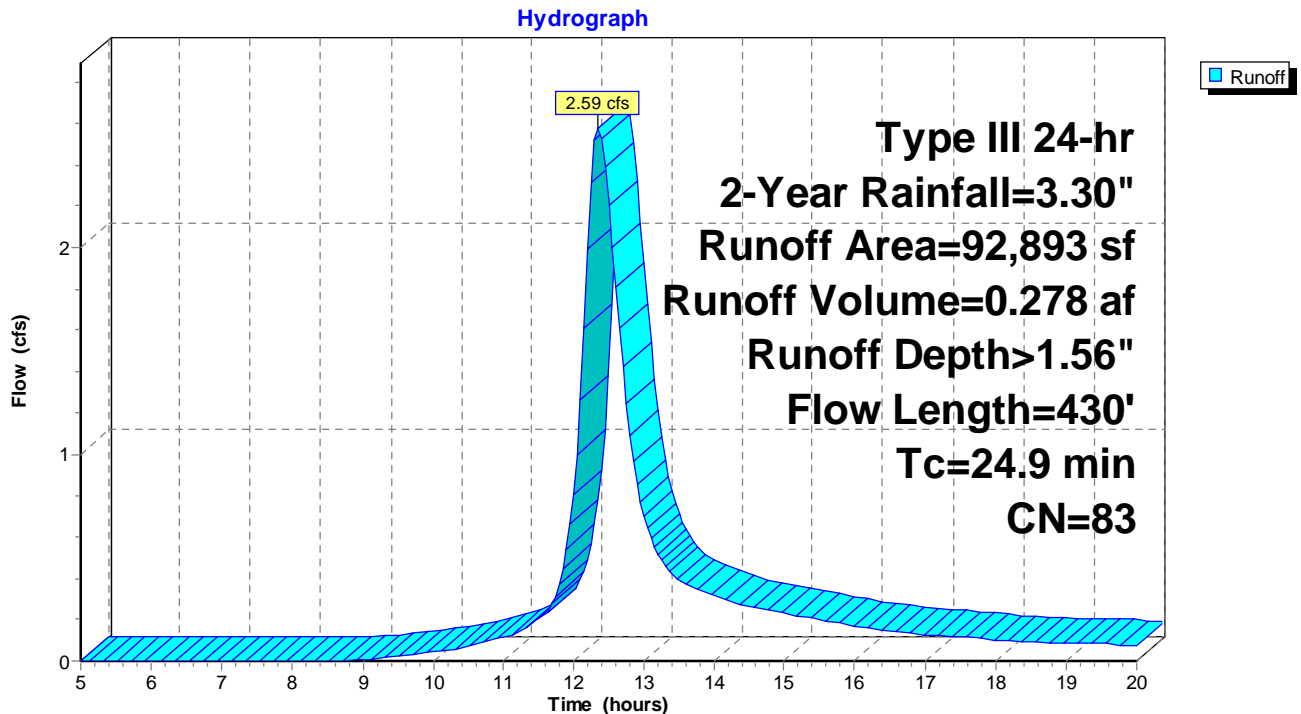
Summary for Subcatchment 1: Majority of Site to East Side

Runoff = 2.59 cfs @ 12.35 hrs, Volume= 0.278 af, Depth> 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
92,893	83	Woods, Poor, HSG D
92,893		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	50	0.0130	0.06		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
10.7	380	0.0140	0.59		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
24.9	430	Total			

Subcatchment 1: Majority of Site to East Side

Existing

Type III 24-hr 2-Year Rainfall=3.30"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 3

Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 1.67 cfs @ 12.10 hrs, Volume= 0.118 af, Depth> 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	8,135	98	Impervious Surfaces
	7,746	84	50-75% Grass cover, Fair, HSG D
	13,072	83	Woods, Poor, HSG D
	2,451	96	Gravel surface, HSG D
	31,404	88	Weighted Average
	23,269		74.10% Pervious Area
	8,135		25.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
0.7	45	0.0460	1.07		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
0.2	50	0.0460	3.45		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
0.3	100	0.0700	5.37		Shallow Concentrated Flow, DE
					Paved Kv= 20.3 fps
7.0	245	Total			

Existing

Prepared by {enter your company name here}

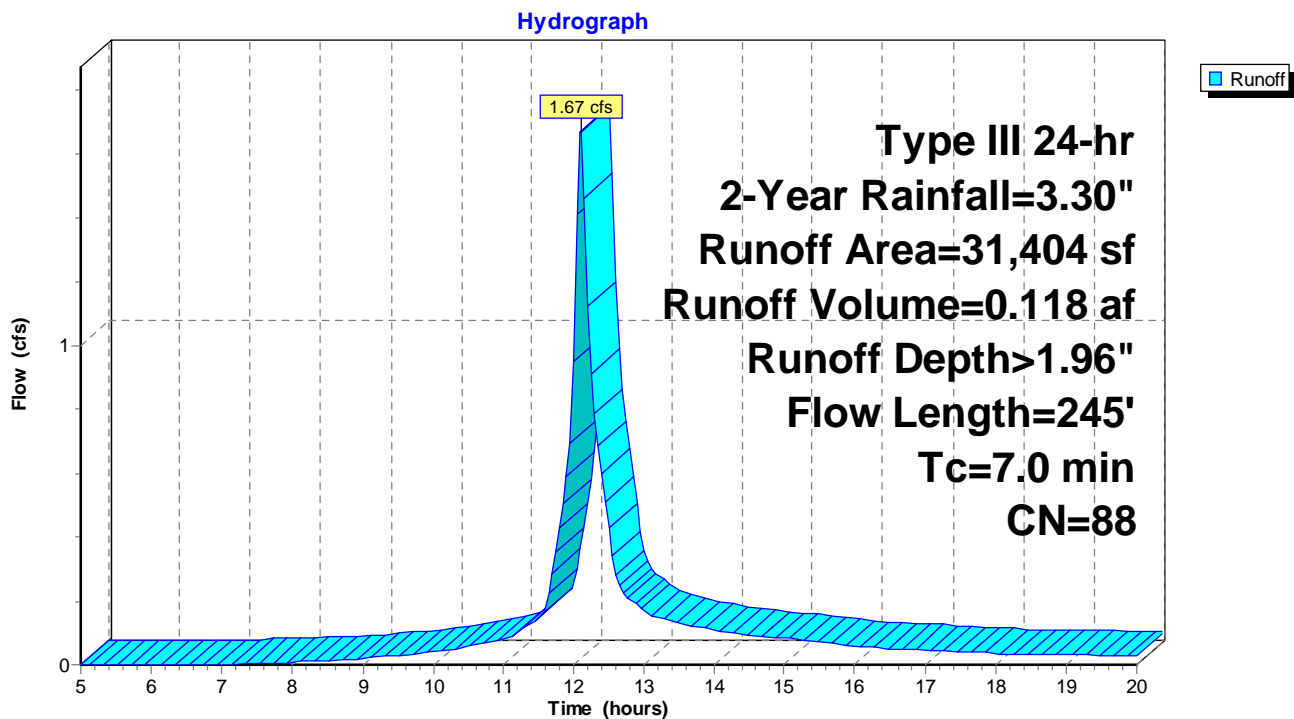
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 4

Subcatchment 2: Portion of Site to Park Ave.



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 5

Summary for Subcatchment 3: Portion of Site to West Side

Runoff = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af, Depth> 1.72"

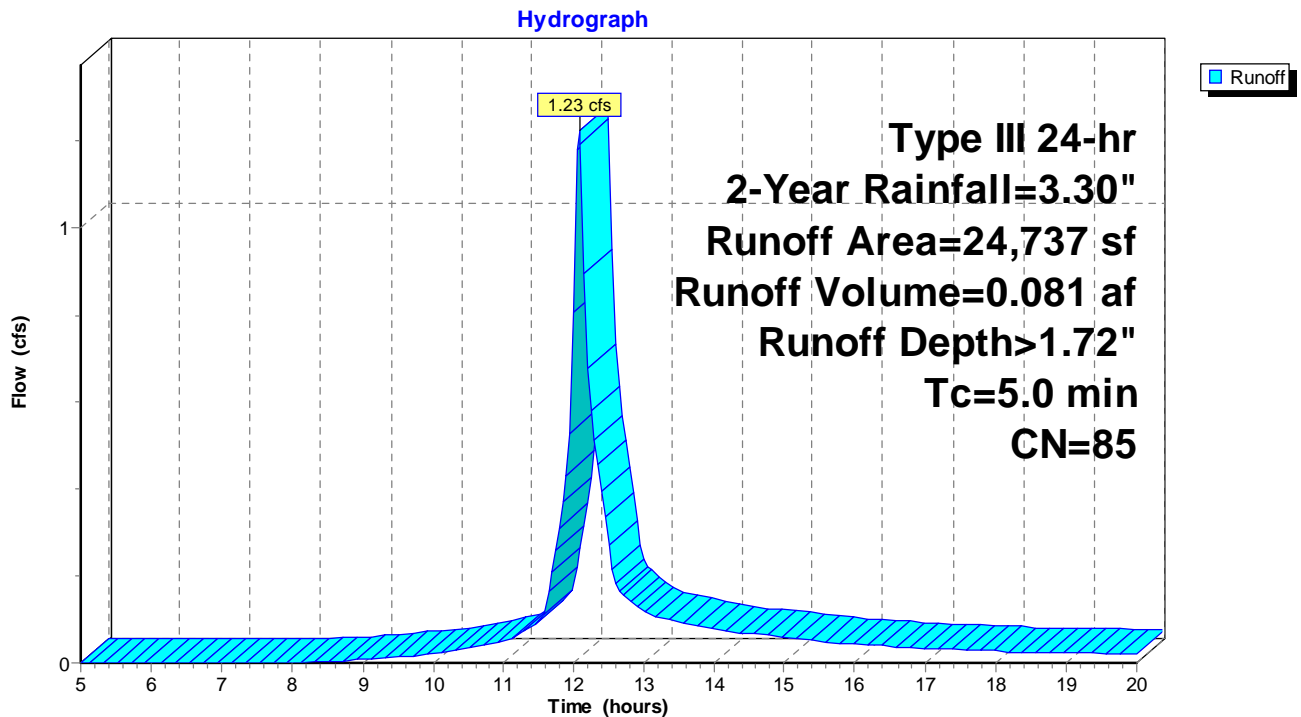
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

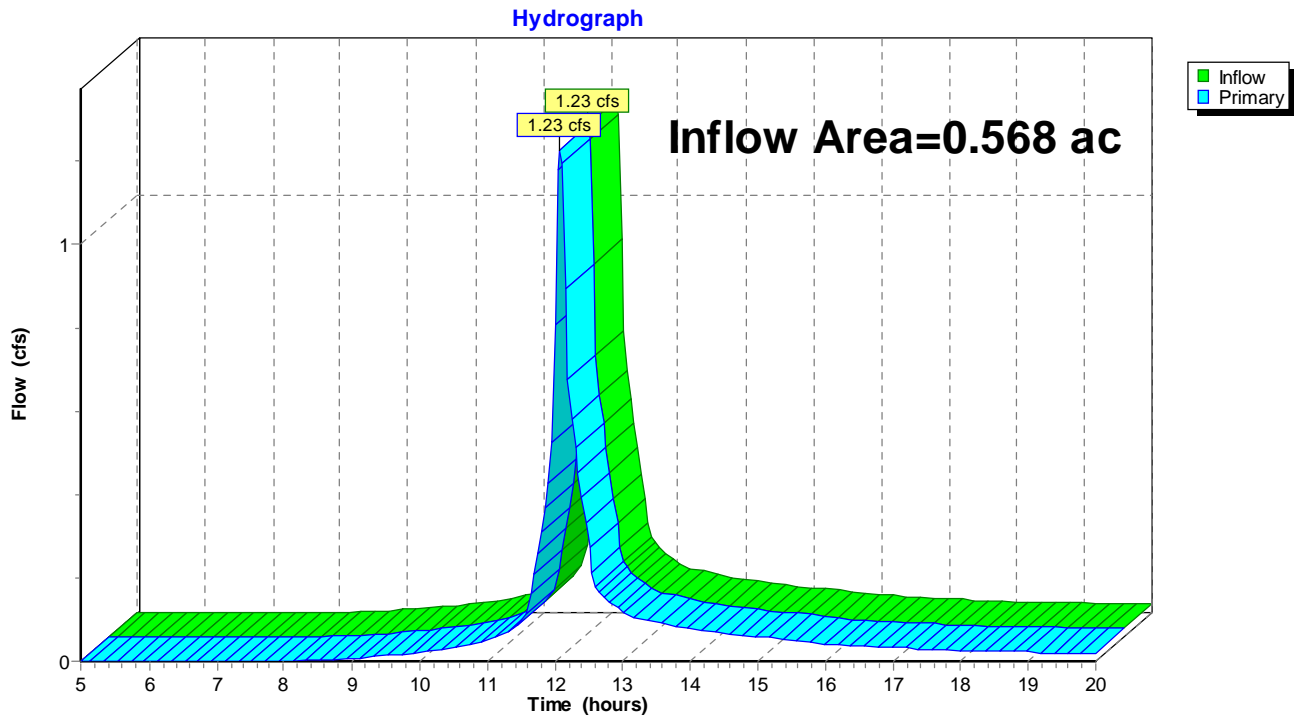
Page 6

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 1.72" for 2-Year event
Inflow = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af
Primary = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

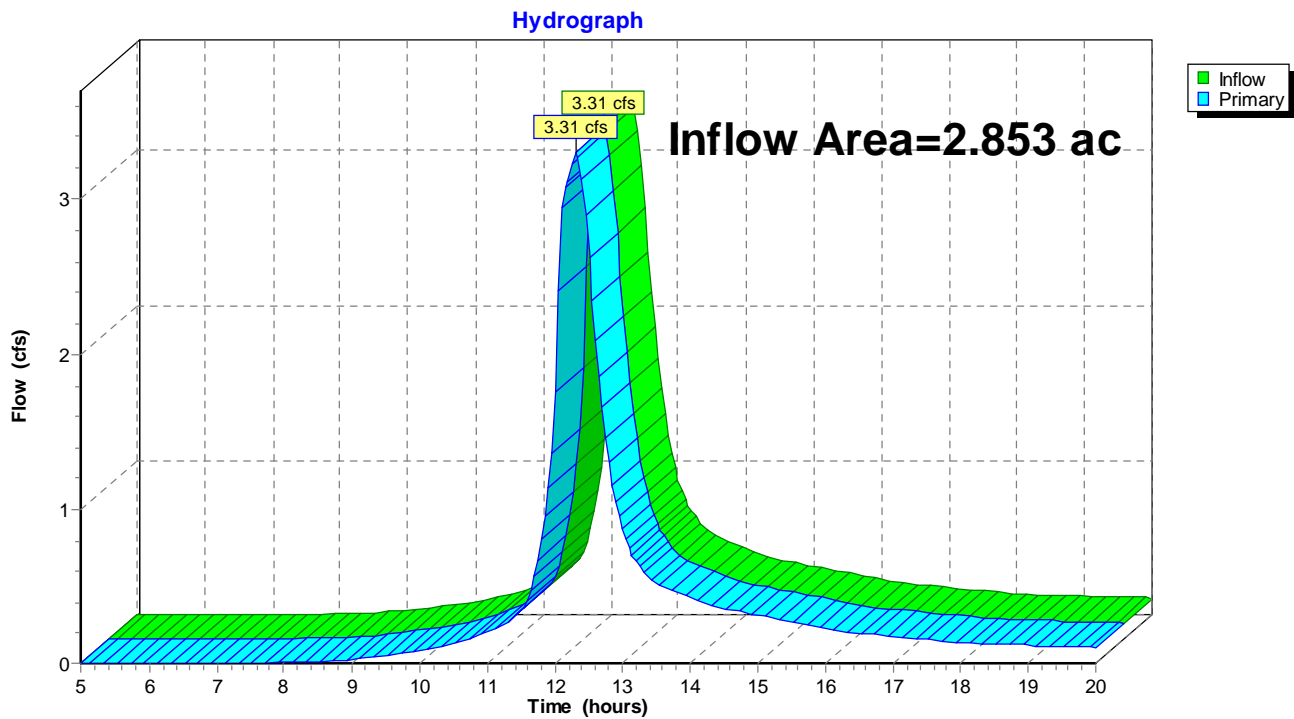
Page 7

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 6.54% Impervious, Inflow Depth > 1.66" for 2-Year event
Inflow = 3.31 cfs @ 12.31 hrs, Volume= 0.395 af
Primary = 3.31 cfs @ 12.31 hrs, Volume= 0.395 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 8

Summary for Subcatchment 1: Majority of Site to East Side

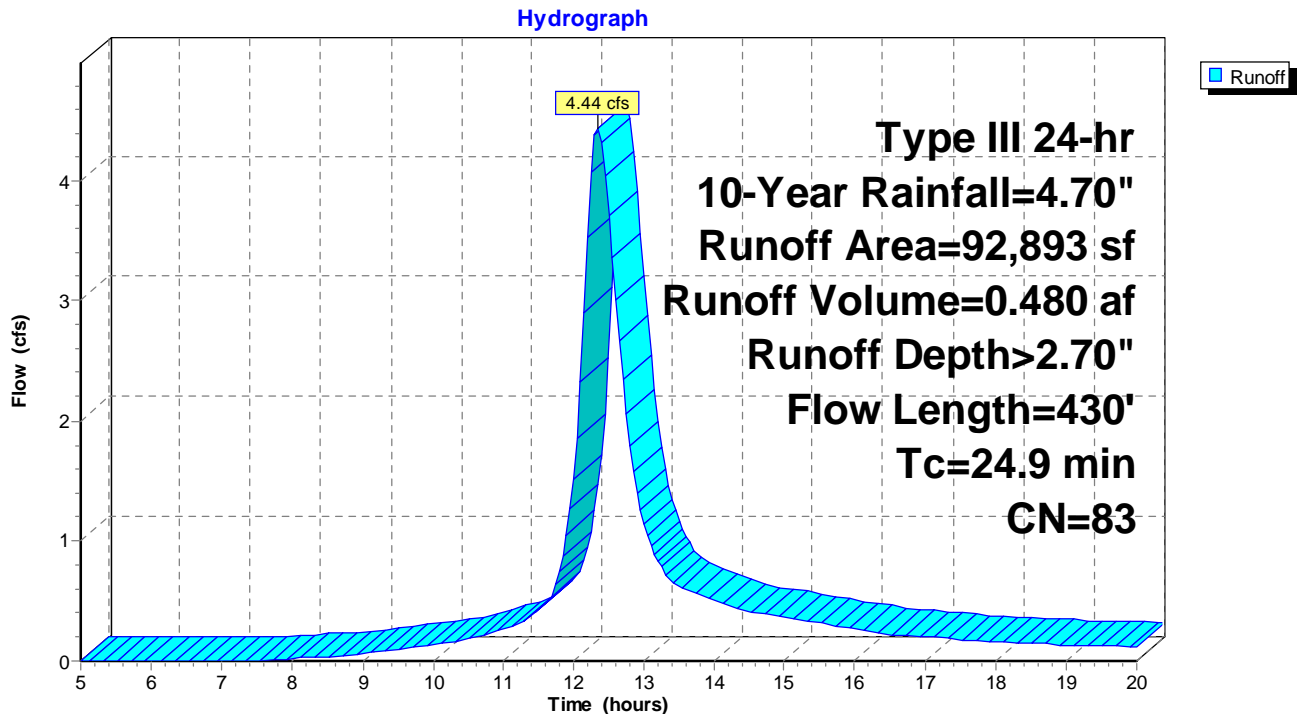
Runoff = 4.44 cfs @ 12.34 hrs, Volume= 0.480 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
92,893	83	Woods, Poor, HSG D
92,893		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	50	0.0130	0.06		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
10.7	380	0.0140	0.59		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
24.9	430	Total			

Subcatchment 1: Majority of Site to East Side

Existing

Type III 24-hr 10-Year Rainfall=4.70"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 9

Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 2.67 cfs @ 12.10 hrs, Volume= 0.192 af, Depth> 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,135	98	Impervious Surfaces
	7,746	84	50-75% Grass cover, Fair, HSG D
	13,072	83	Woods, Poor, HSG D
	2,451	96	Gravel surface, HSG D
	31,404	88	Weighted Average
	23,269		74.10% Pervious Area
	8,135		25.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
0.7	45	0.0460	1.07		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
0.2	50	0.0460	3.45		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
0.3	100	0.0700	5.37		Shallow Concentrated Flow, DE
					Paved Kv= 20.3 fps
7.0	245	Total			

Existing

Prepared by {enter your company name here}

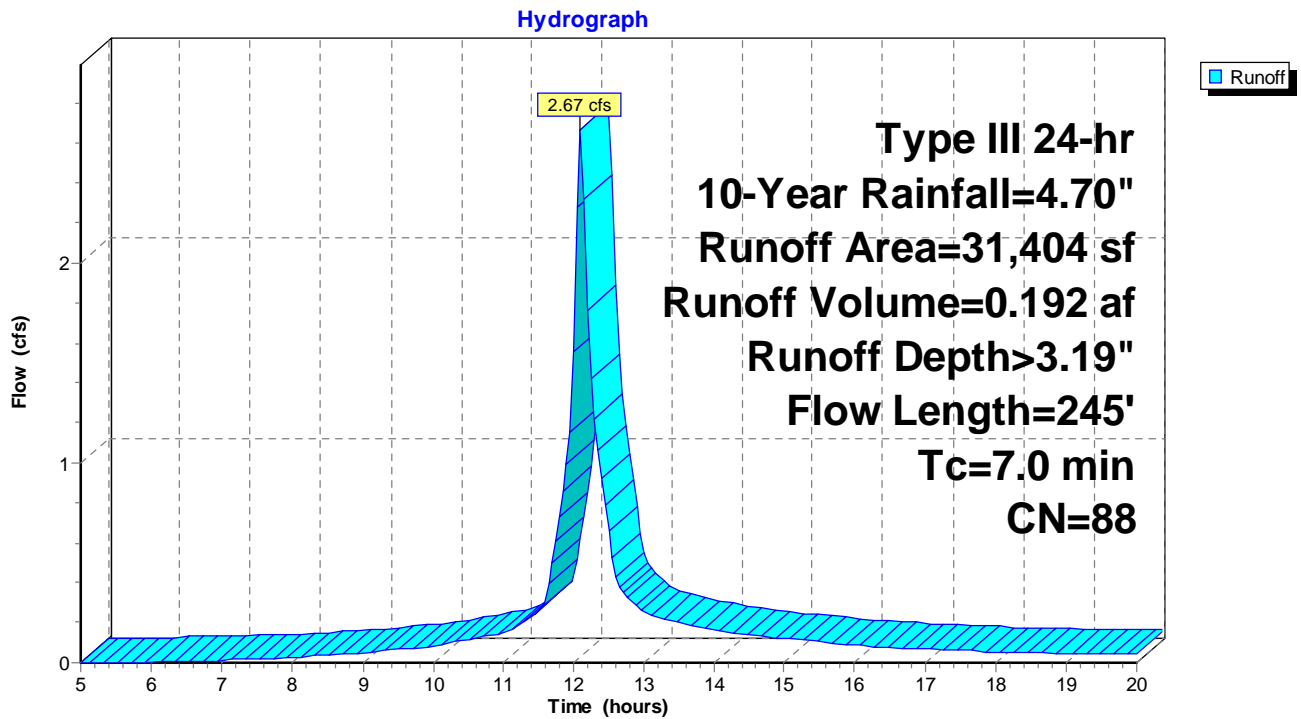
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 10

Subcatchment 2: Portion of Site to Park Ave.



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 11

Summary for Subcatchment 3: Portion of Site to West Side

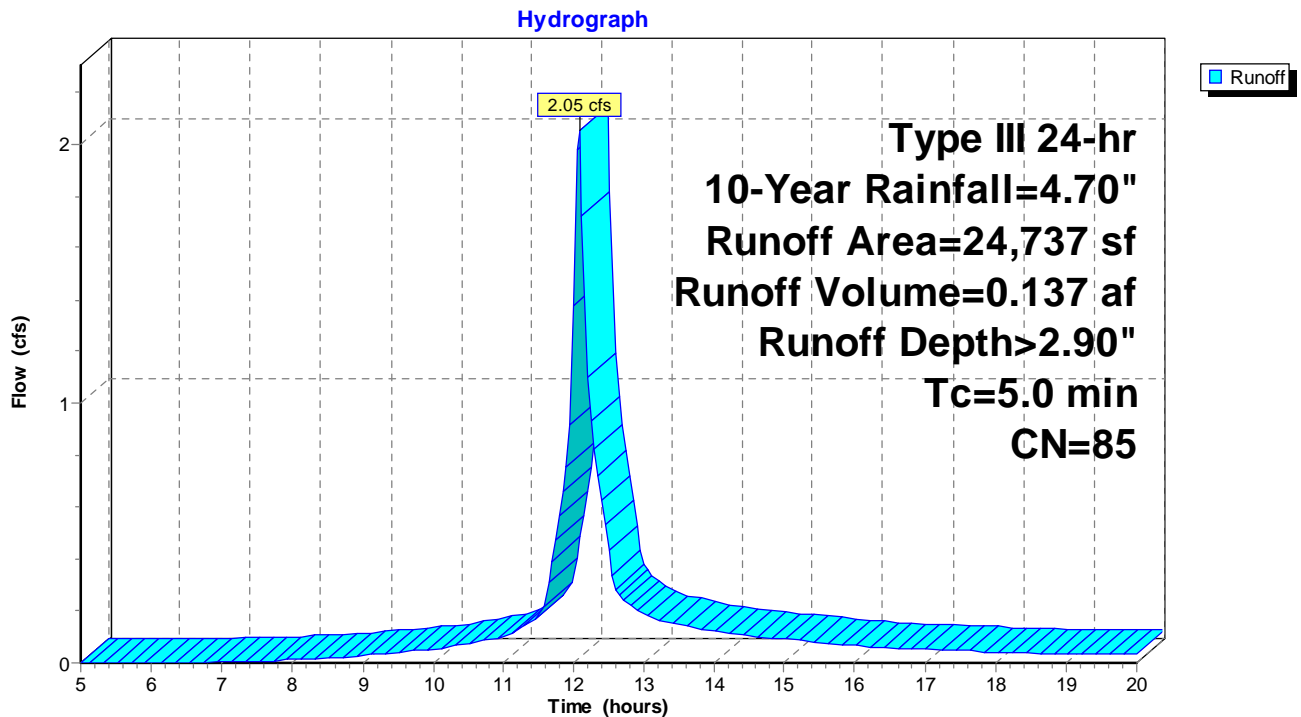
Runoff = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

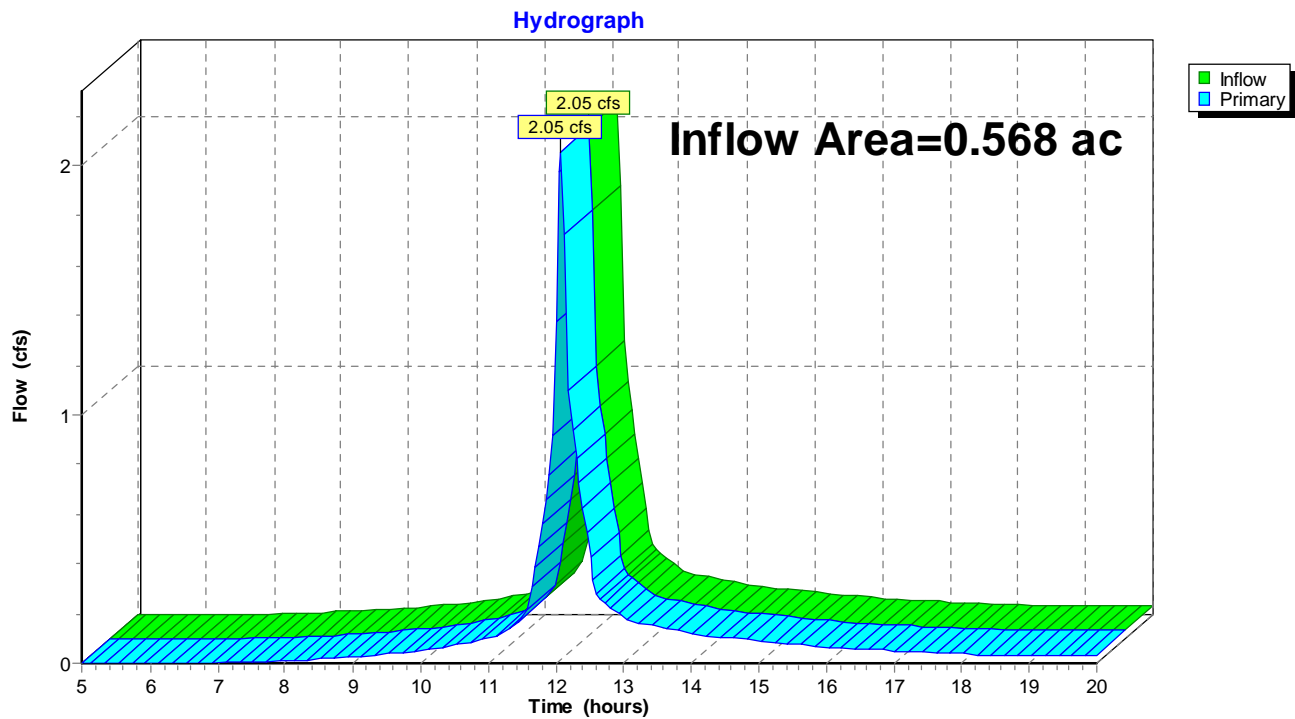
Page 12

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 2.90" for 10-Year event
Inflow = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af
Primary = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

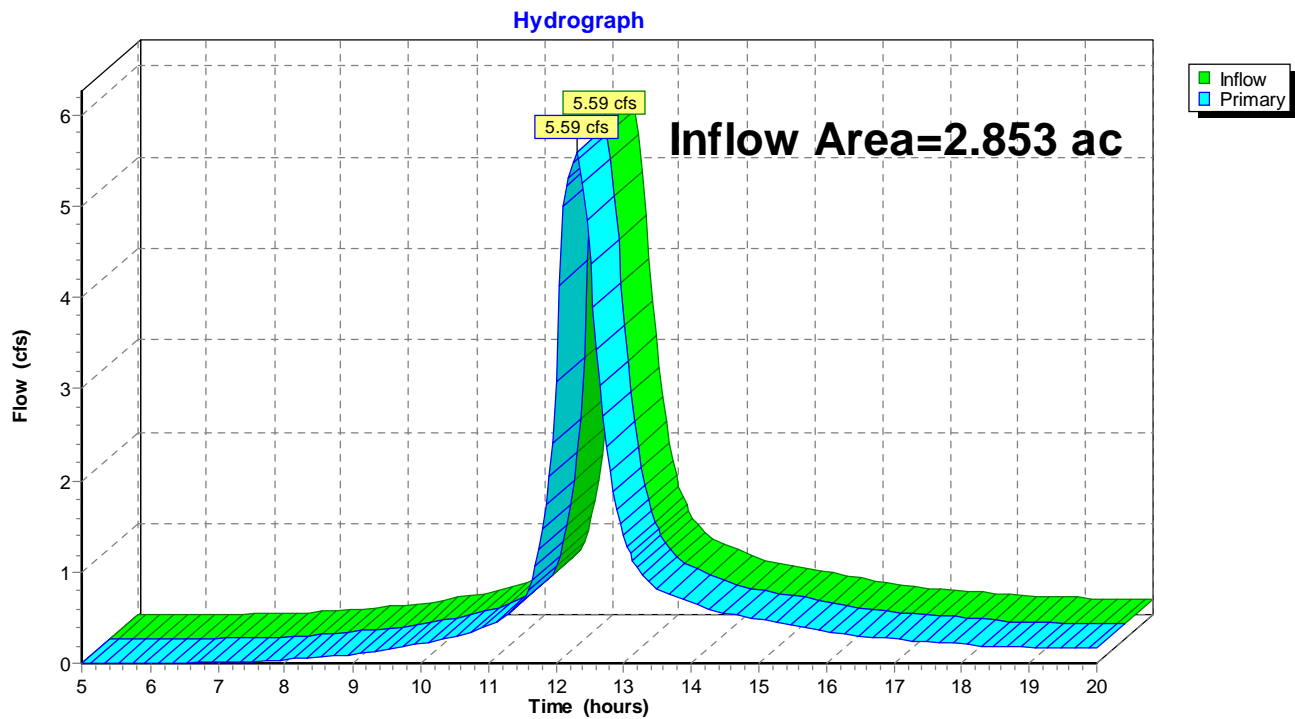
Page 13

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 6.54% Impervious, Inflow Depth > 2.83" for 10-Year event
Inflow = 5.59 cfs @ 12.30 hrs, Volume= 0.672 af
Primary = 5.59 cfs @ 12.30 hrs, Volume= 0.672 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 14

Summary for Subcatchment 1: Majority of Site to East Side

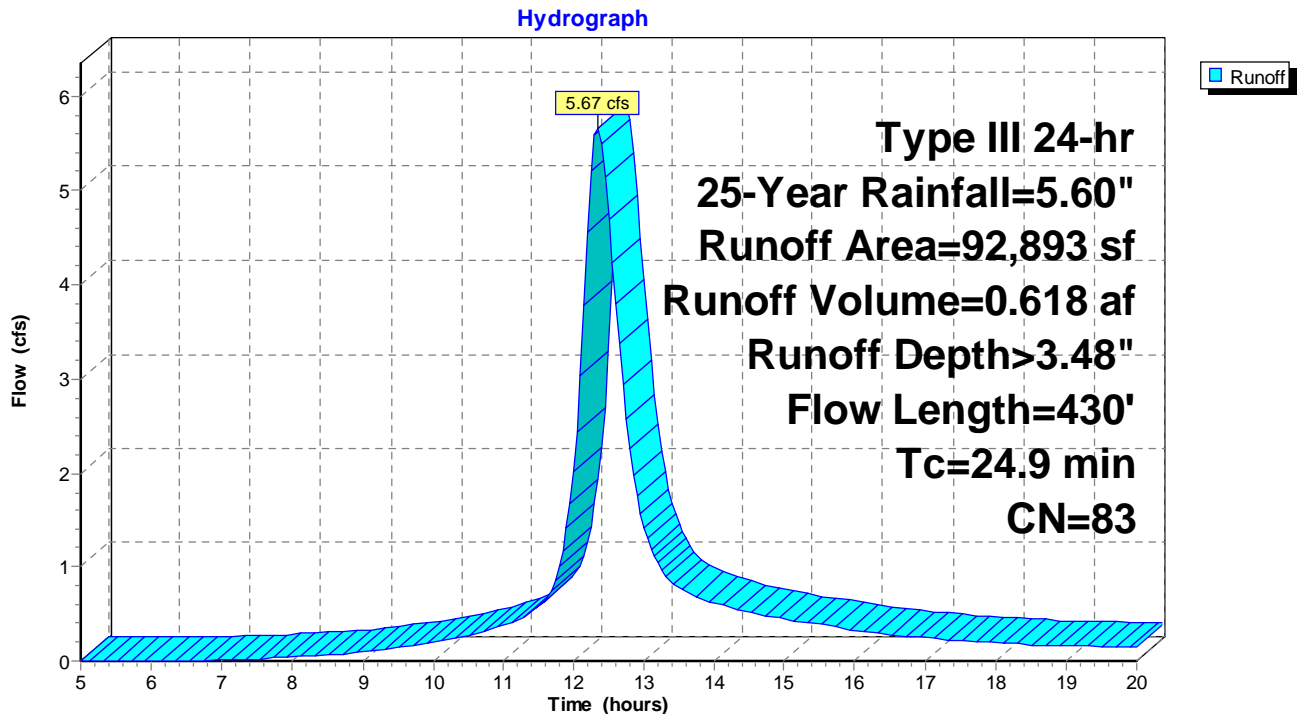
Runoff = 5.67 cfs @ 12.34 hrs, Volume= 0.618 af, Depth> 3.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
92,893	83	Woods, Poor, HSG D
92,893		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	50	0.0130	0.06		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.40"
10.7	380	0.0140	0.59		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
24.9	430	Total			

Subcatchment 1: Majority of Site to East Side



Existing

Type III 24-hr 25-Year Rainfall=5.60"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 15

Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 3.32 cfs @ 12.10 hrs, Volume= 0.241 af, Depth> 4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	8,135	98	Impervious Surfaces
	7,746	84	50-75% Grass cover, Fair, HSG D
	13,072	83	Woods, Poor, HSG D
	2,451	96	Gravel surface, HSG D
	31,404	88	Weighted Average
	23,269		74.10% Pervious Area
	8,135		25.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
0.7	45	0.0460	1.07		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
0.2	50	0.0460	3.45		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
0.3	100	0.0700	5.37		Shallow Concentrated Flow, DE
					Paved Kv= 20.3 fps
7.0	245	Total			

Existing

Prepared by {enter your company name here}

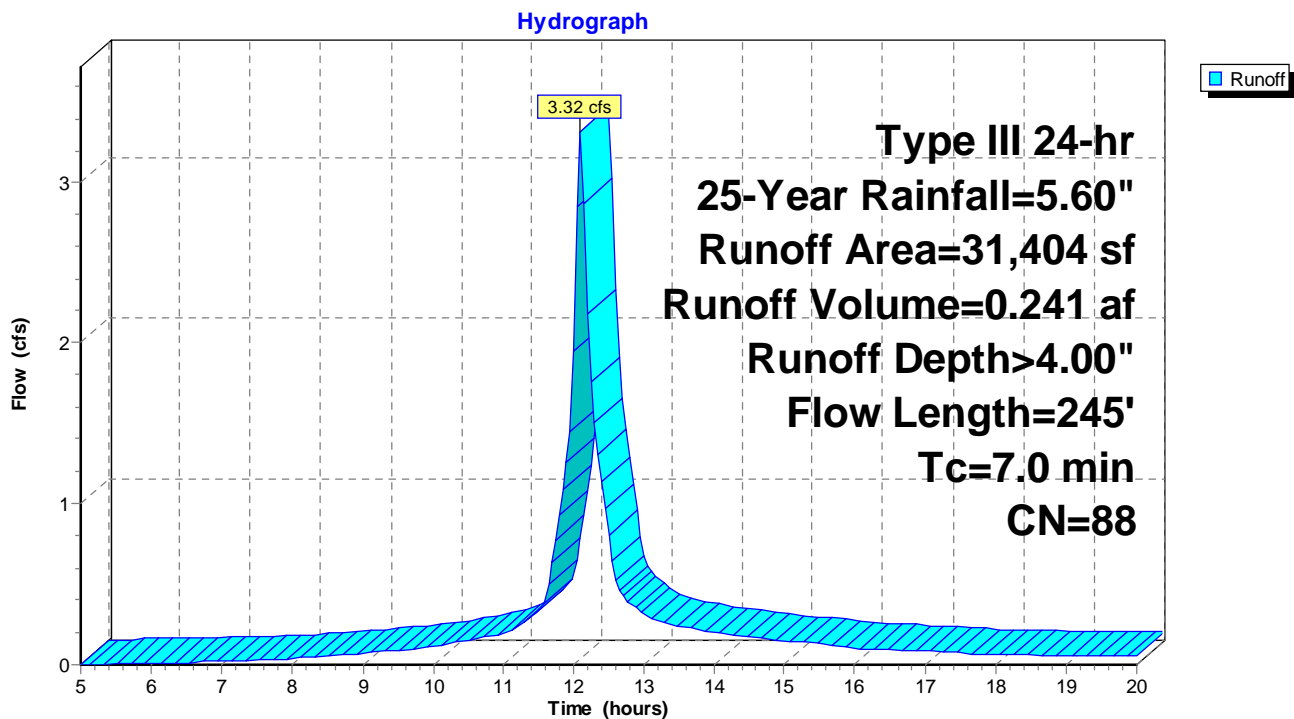
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 16

Subcatchment 2: Portion of Site to Park Ave.



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 17

Summary for Subcatchment 3: Portion of Site to West Side

Runoff = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af, Depth> 3.70"

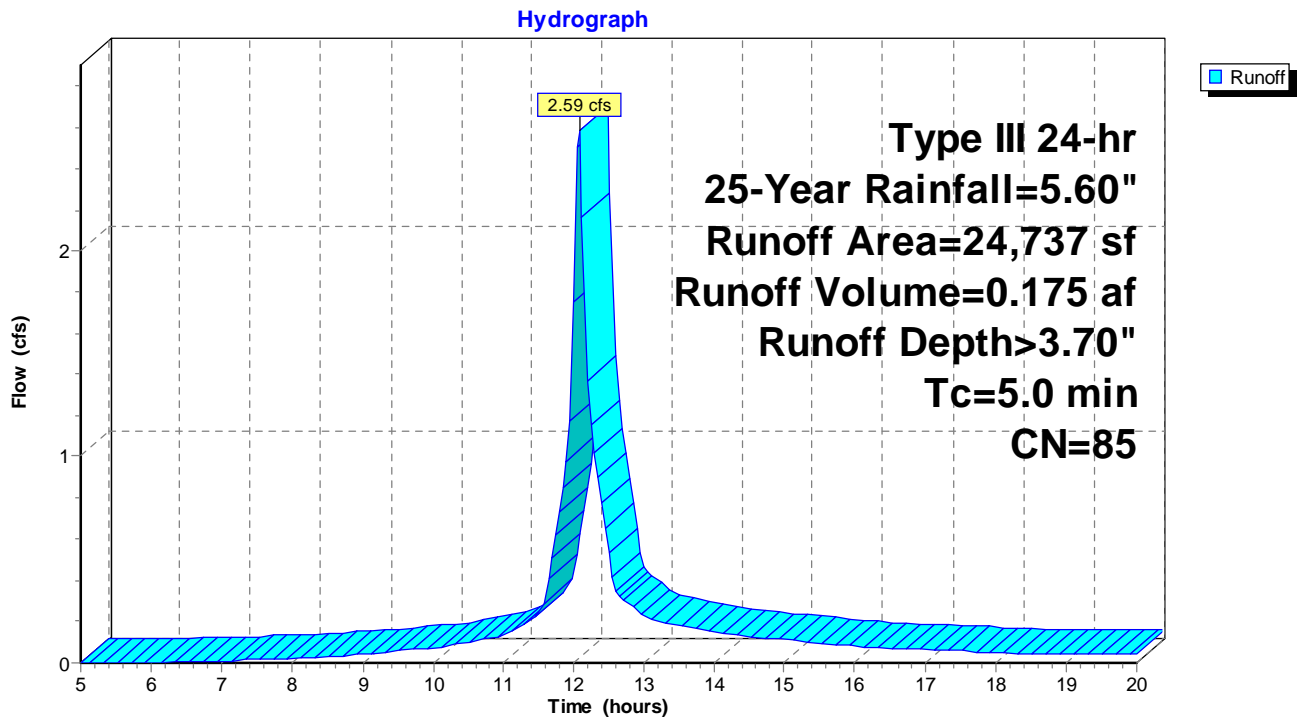
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

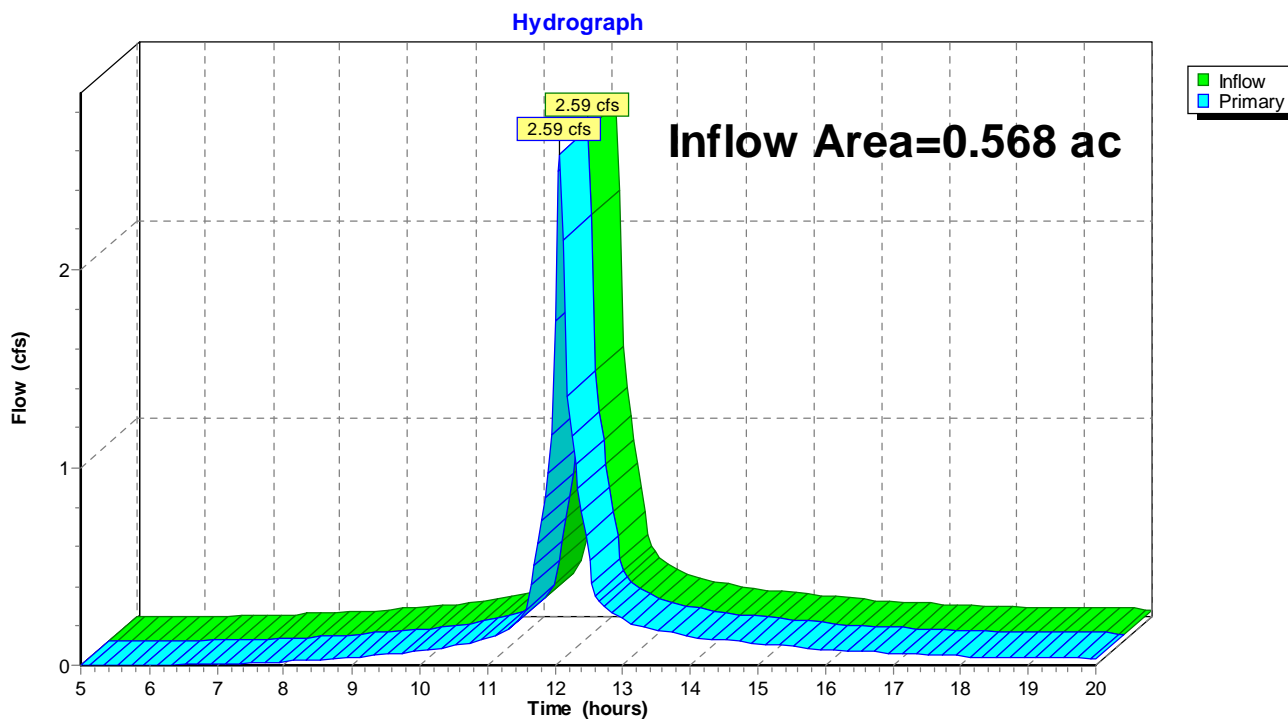
Page 18

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 3.70" for 25-Year event
Inflow = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af
Primary = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

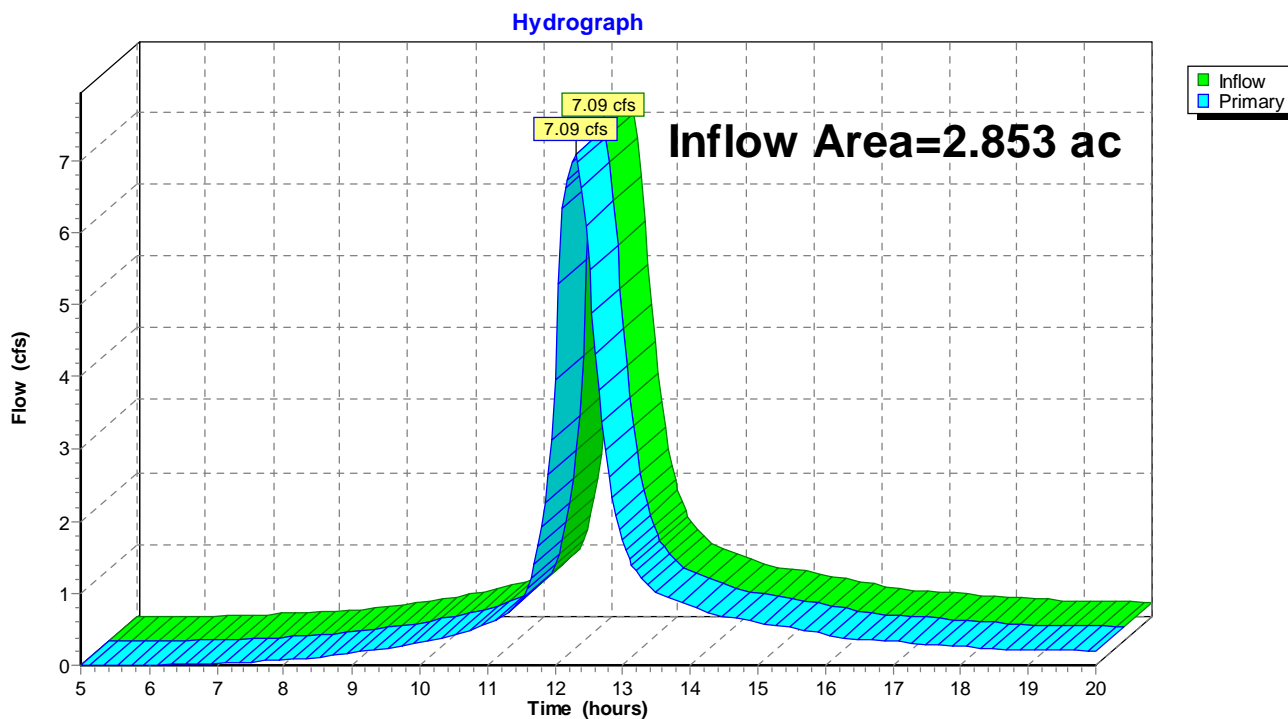
Page 19

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 6.54% Impervious, Inflow Depth > 3.61" for 25-Year event
Inflow = 7.09 cfs @ 12.30 hrs, Volume= 0.858 af
Primary = 7.09 cfs @ 12.30 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 20

Summary for Subcatchment 1: Majority of Site to East Side

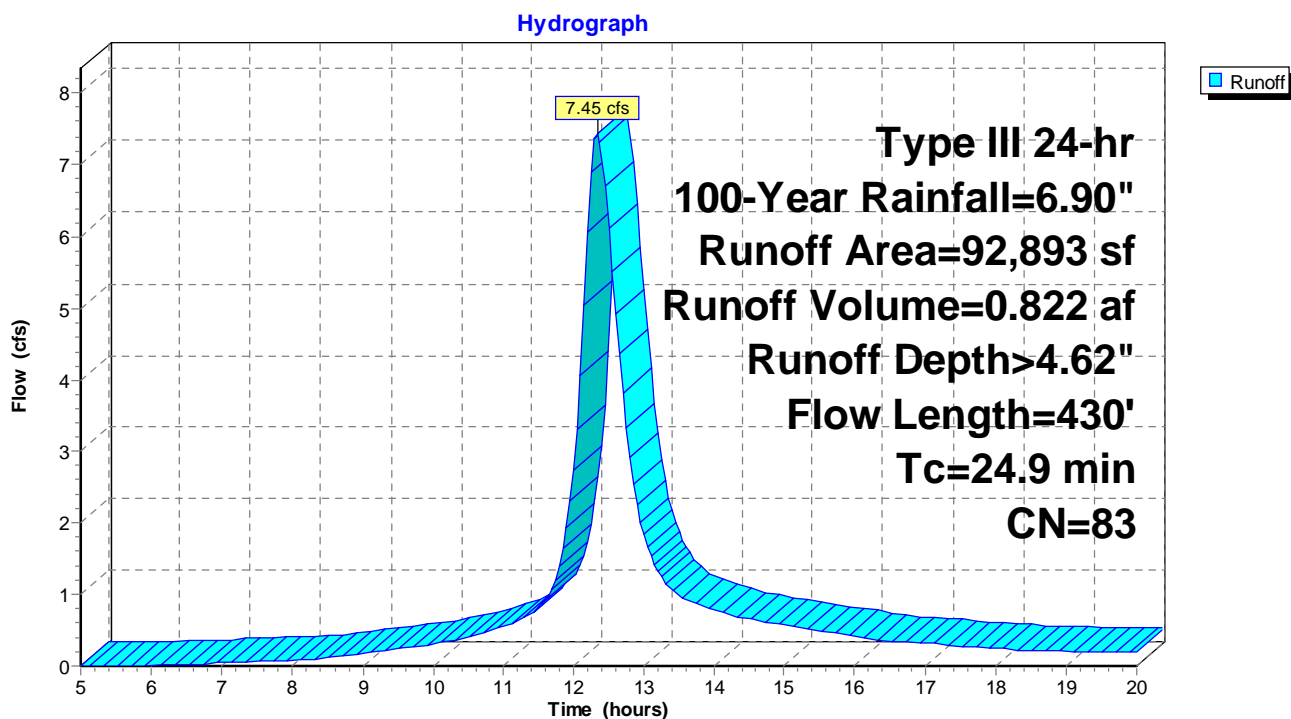
Runoff = 7.45 cfs @ 12.34 hrs, Volume= 0.822 af, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

Area (sf)	CN	Description
92,893	83	Woods, Poor, HSG D
92,893		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	50	0.0130	0.06		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.40"
10.7	380	0.0140	0.59		Shallow Concentrated Flow, BC Woodland Kv= 5.0 fps
24.9	430	Total			

Subcatchment 1: Majority of Site to East Side



Existing

Type III 24-hr 100-Year Rainfall=6.90"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 21

Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 4.24 cfs @ 12.10 hrs, Volume= 0.312 af, Depth> 5.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (sf)	CN	Description
*	8,135	98	Impervious Surfaces
	7,746	84	50-75% Grass cover, Fair, HSG D
	13,072	83	Woods, Poor, HSG D
	2,451	96	Gravel surface, HSG D
	31,404	88	Weighted Average
	23,269		74.10% Pervious Area
	8,135		25.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		Sheet Flow, AB
					Woods: Light underbrush n= 0.400 P2= 3.40"
0.7	45	0.0460	1.07		Shallow Concentrated Flow, BC
					Woodland Kv= 5.0 fps
0.2	50	0.0460	3.45		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
0.3	100	0.0700	5.37		Shallow Concentrated Flow, DE
					Paved Kv= 20.3 fps
7.0	245	Total			

Existing

Prepared by {enter your company name here}

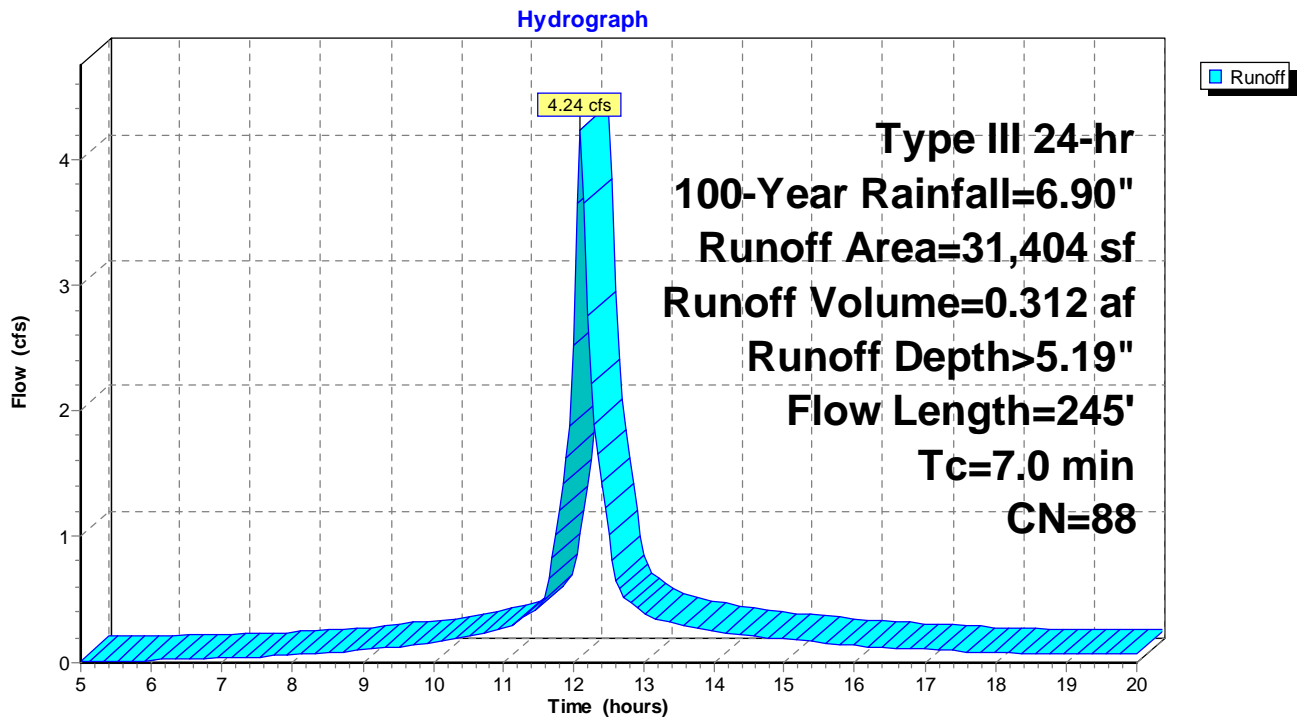
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 22

Subcatchment 2: Portion of Site to Park Ave.



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 23

Summary for Subcatchment 3: Portion of Site to West Side

Runoff = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af, Depth> 4.87"

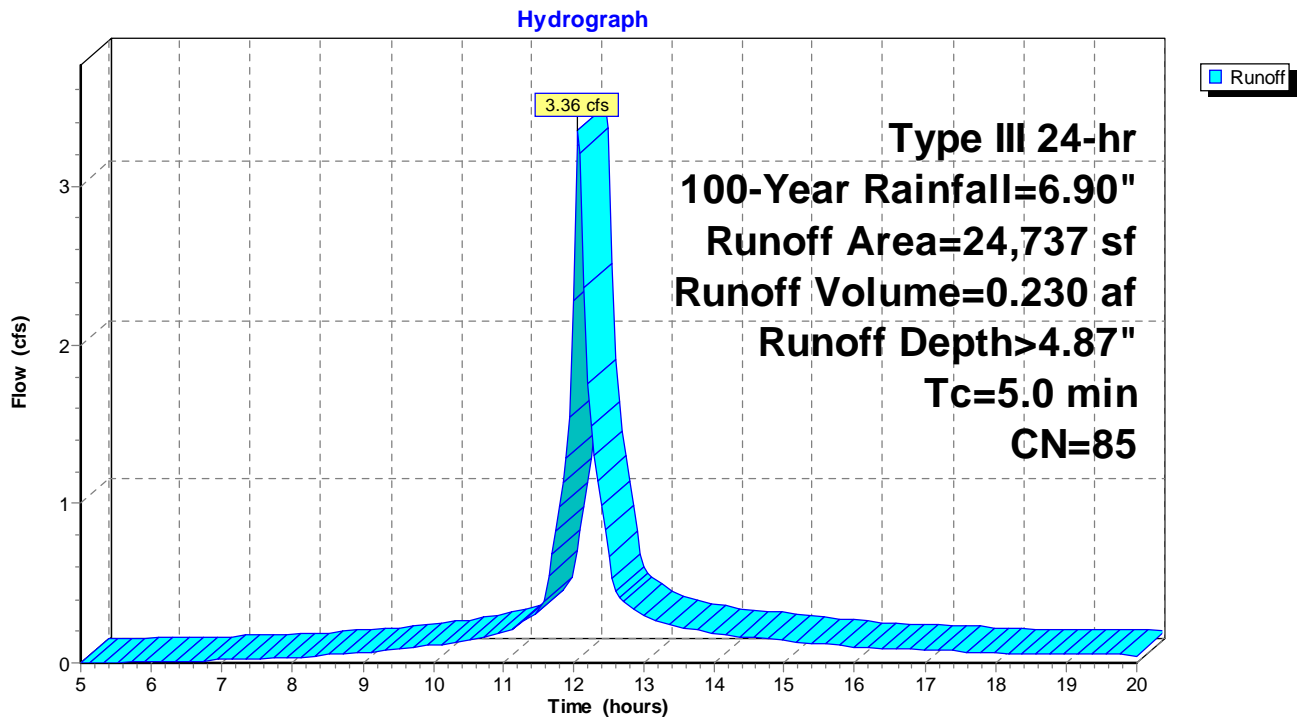
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 100-Year Rainfall=6.90"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

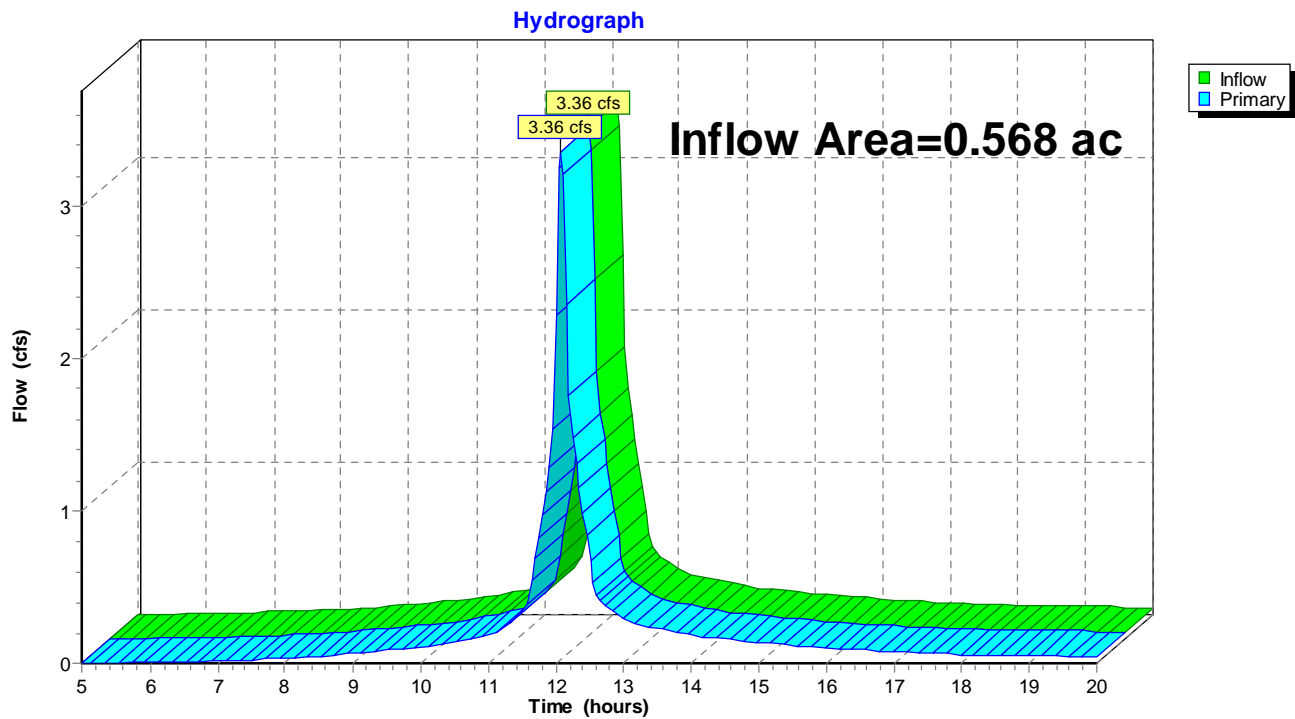
Page 24

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 4.87" for 100-Year event
Inflow = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af
Primary = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Existing

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

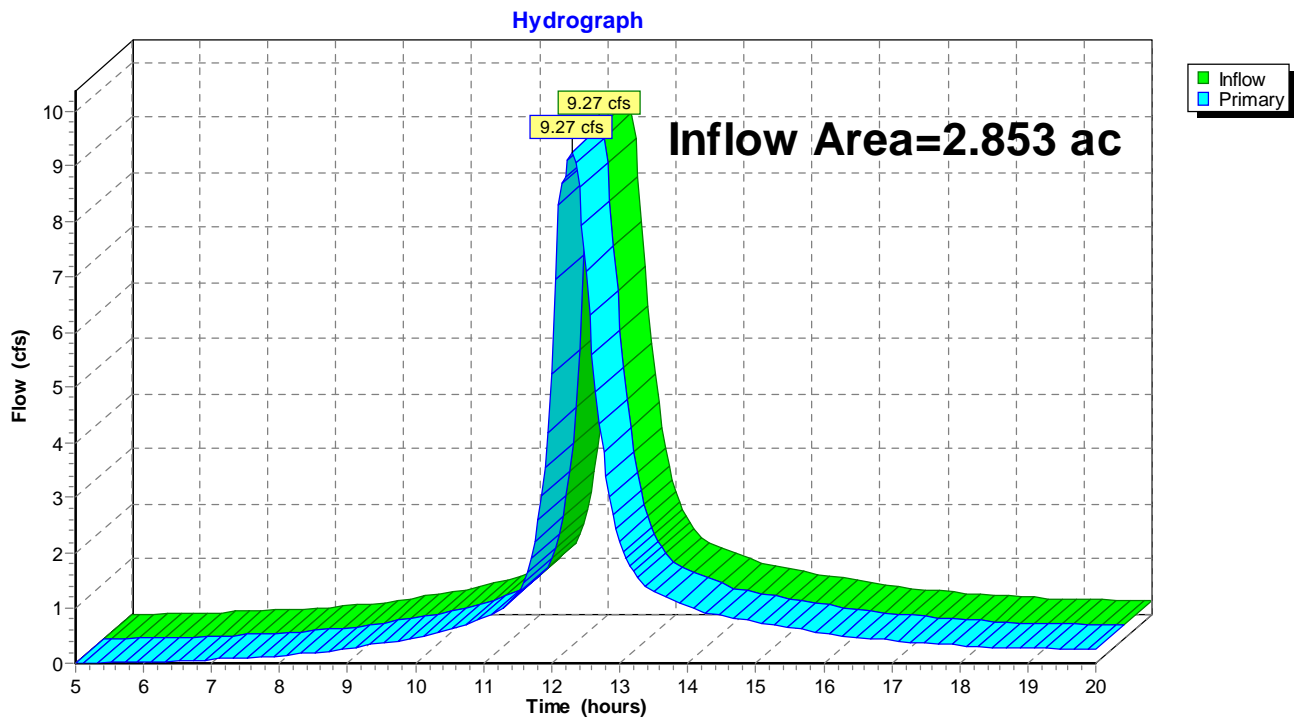
Page 25

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 6.54% Impervious, Inflow Depth > 4.77" for 100-Year event
Inflow = 9.27 cfs @ 12.30 hrs, Volume= 1.134 af
Primary = 9.27 cfs @ 12.30 hrs, Volume= 1.134 af, Atten= 0%, Lag= 0.0 min

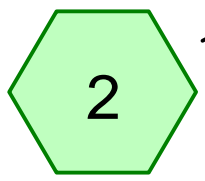
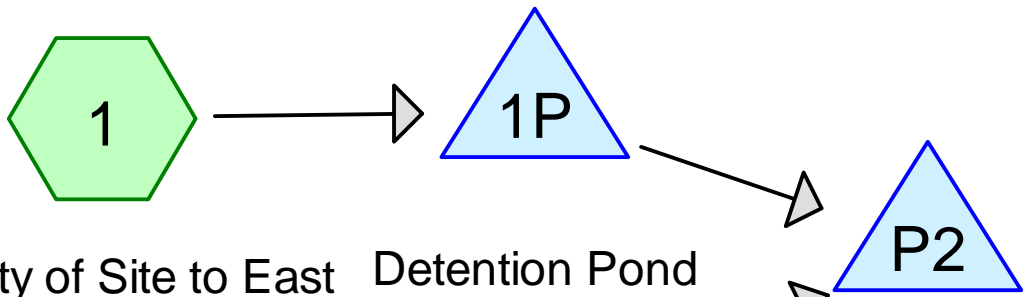
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue

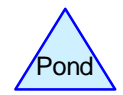
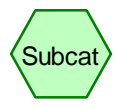
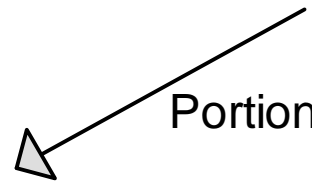
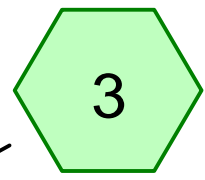




Proposed Conditions Drainage Area Plan and Calculations



Portion of Site to Park Ave.



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 2

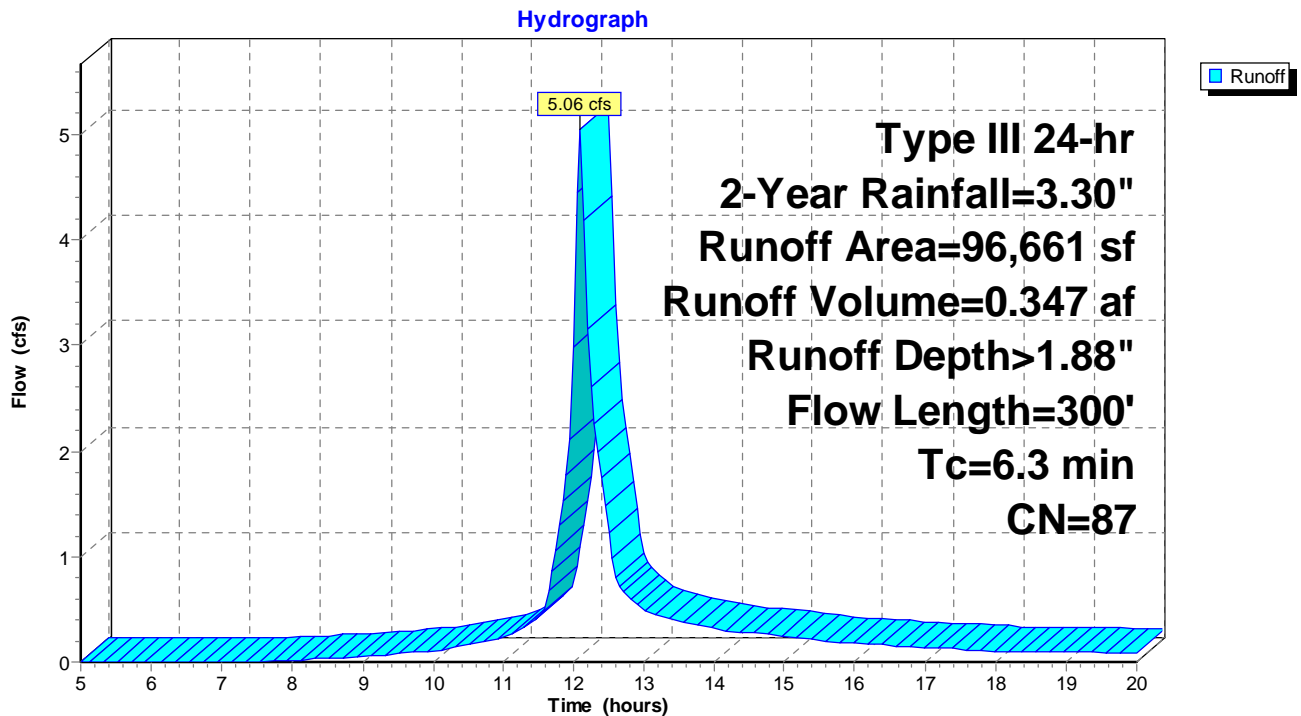
Summary for Subcatchment 1: Majority of Site to East Side

Runoff = 5.06 cfs @ 12.10 hrs, Volume= 0.347 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
96,661	87	1/4 acre lots, 38% imp, HSG D
59,930		62.00% Pervious Area
36,731		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0280	0.17		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.40"
1.0	70	0.0280	1.17		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
0.5	180	0.0060	5.99	10.58	Pipe Channel, CD 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
6.3	300	Total			

Subcatchment 1: Majority of Site to East Side

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 3

Summary for Subcatchment 2: Portion of Site to Park Ave.

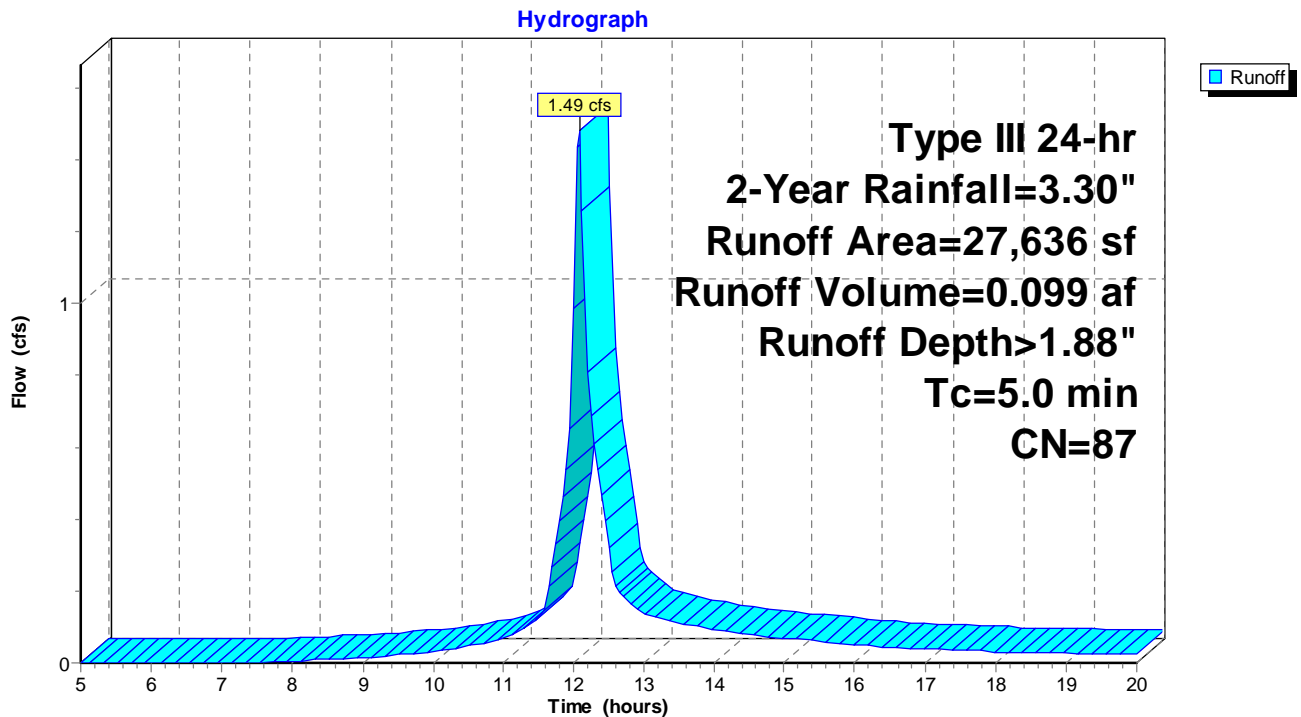
Runoff = 1.49 cfs @ 12.08 hrs, Volume= 0.099 af, Depth> 1.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	9,786	98	Impervious Surfaces
	15,823	80	>75% Grass cover, Good, HSG D
	2,027	83	Woods, Poor, HSG D
	27,636	87	Weighted Average
	17,850		64.59% Pervious Area
	9,786		35.41% Impervious Area

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

Subcatchment 2: Portion of Site to Park Ave.

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 4

Summary for Subcatchment 3: Portion of Site to West Side

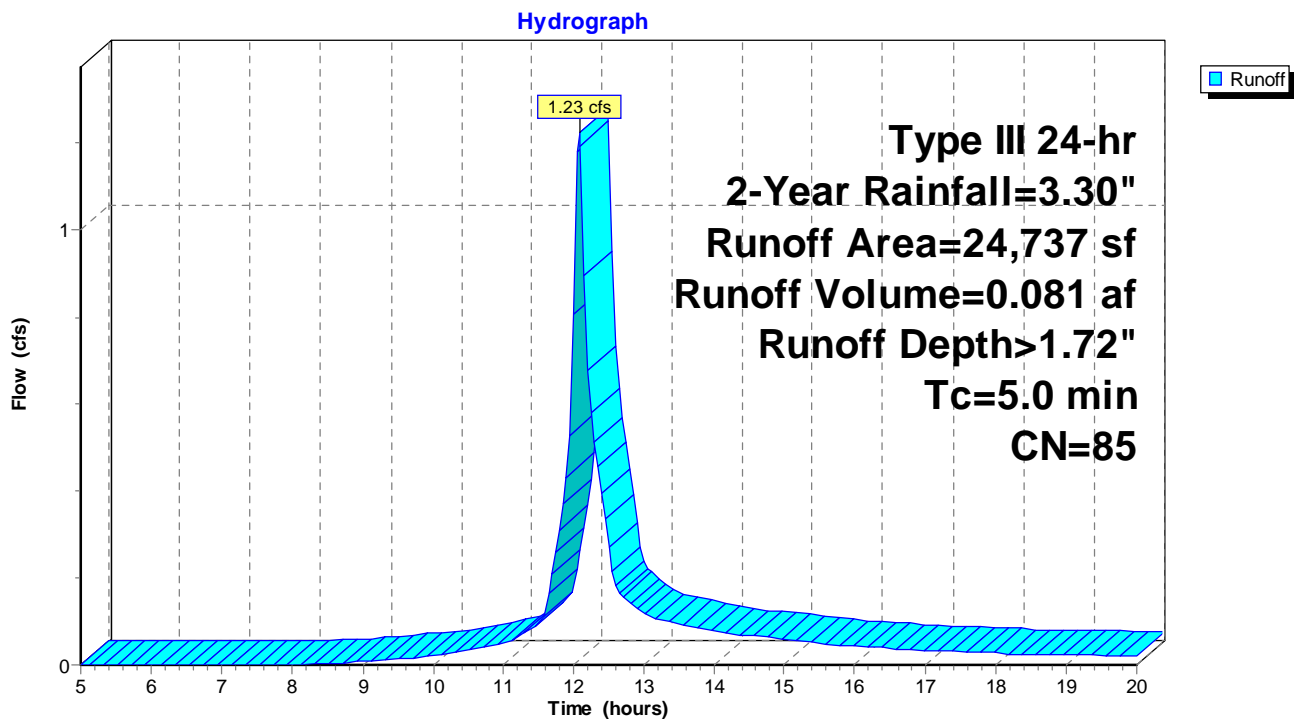
Runoff = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af, Depth> 1.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 2-Year Rainfall=3.30"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side

Proposed

Type III 24-hr 2-Year Rainfall=3.30"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 5

Summary for Pond 1P: Detention Pond

Inflow Area = 2.219 ac, 38.00% Impervious, Inflow Depth > 1.88" for 2-Year event
 Inflow = 5.06 cfs @ 12.10 hrs, Volume= 0.347 af
 Outflow = 1.94 cfs @ 12.36 hrs, Volume= 0.298 af, Atten= 62%, Lag= 16.0 min
 Discarded = 0.11 cfs @ 12.36 hrs, Volume= 0.084 af
 Primary = 1.83 cfs @ 12.36 hrs, Volume= 0.214 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 156.34' @ 12.36 hrs Surf.Area= 4,526 sf Storage= 5,279 cf

Plug-Flow detention time= 82.3 min calculated for 0.297 af (86% of inflow)
 Center-of-Mass det. time= 40.9 min (824.7 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	14,039 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	3,351	0	0
156.00	4,219	3,785	3,785
157.00	5,119	4,669	8,454
158.00	6,051	5,585	14,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.00'	1.020 in/hr Exfiltration over Surface area
#2	Primary	155.55'	7.0" Vert. Orifice/Grate X 2.00 C= 0.600
#3	Primary	157.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Primary	156.28'	5.0" Vert. Orifice/Grate C= 0.600
#5	Primary	156.81'	5.0" Vert. Orifice/Grate C= 0.600
#6	Primary	157.00'	5.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.11 cfs @ 12.36 hrs HW=156.34' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=1.83 cfs @ 12.36 hrs HW=156.34' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 1.82 cfs @ 3.40 fps)
 — **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
 — **4=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.84 fps)
 — **5=Orifice/Grate** (Controls 0.00 cfs)
 — **6=Orifice/Grate** (Controls 0.00 cfs)

Proposed

Prepared by {enter your company name here}

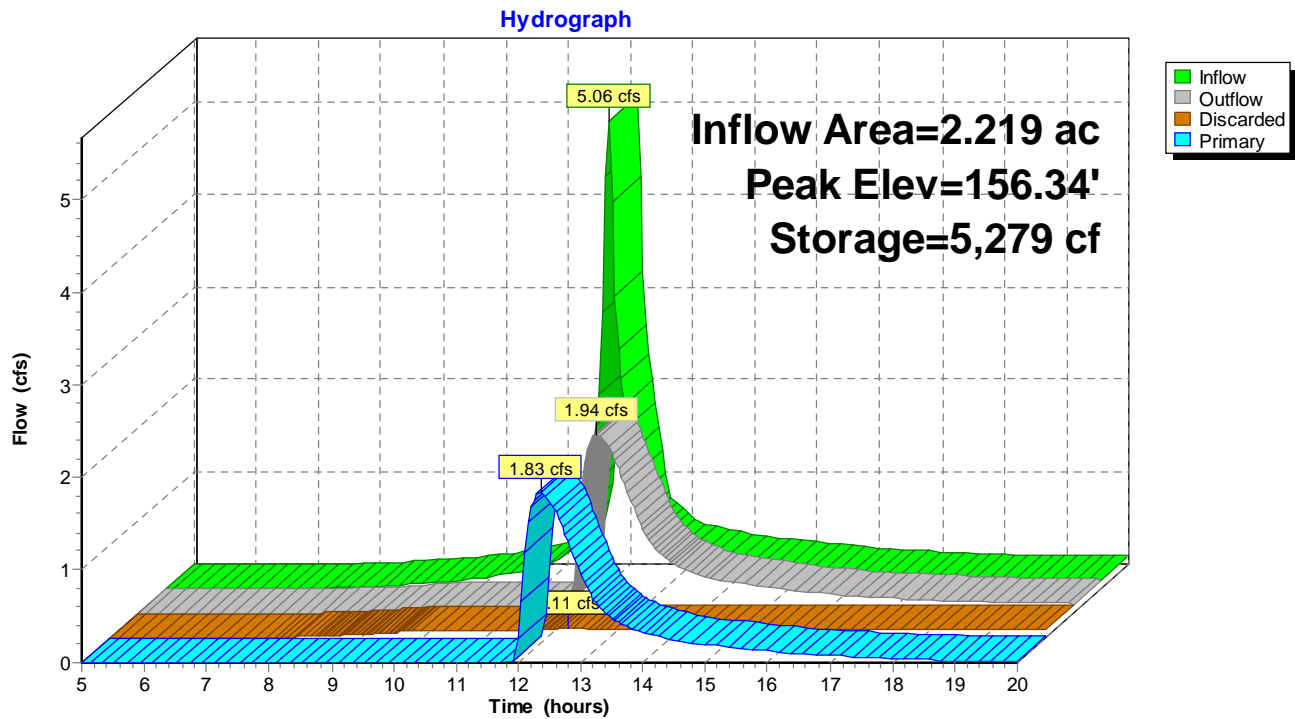
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

Page 6

Pond 1P: Detention Pond



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

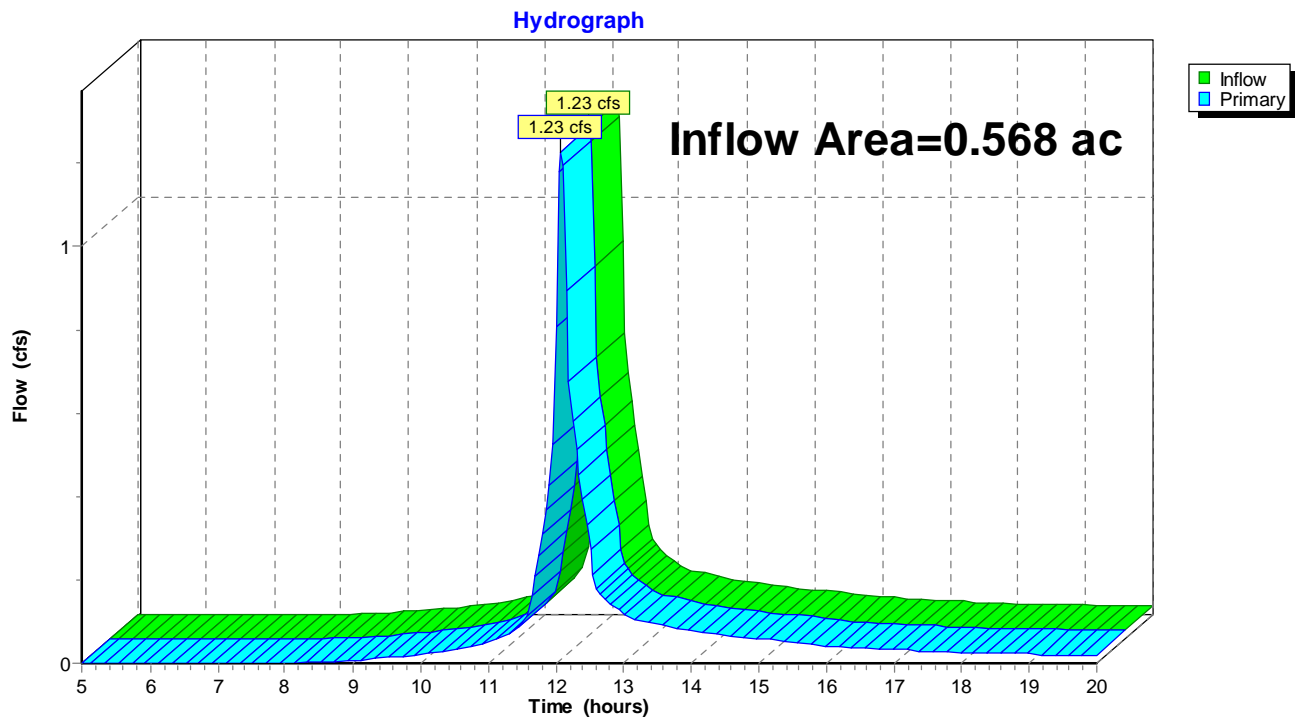
Page 7

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 1.72" for 2-Year event
Inflow = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af
Primary = 1.23 cfs @ 12.08 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2-Year Rainfall=3.30"

Printed 11/8/2023

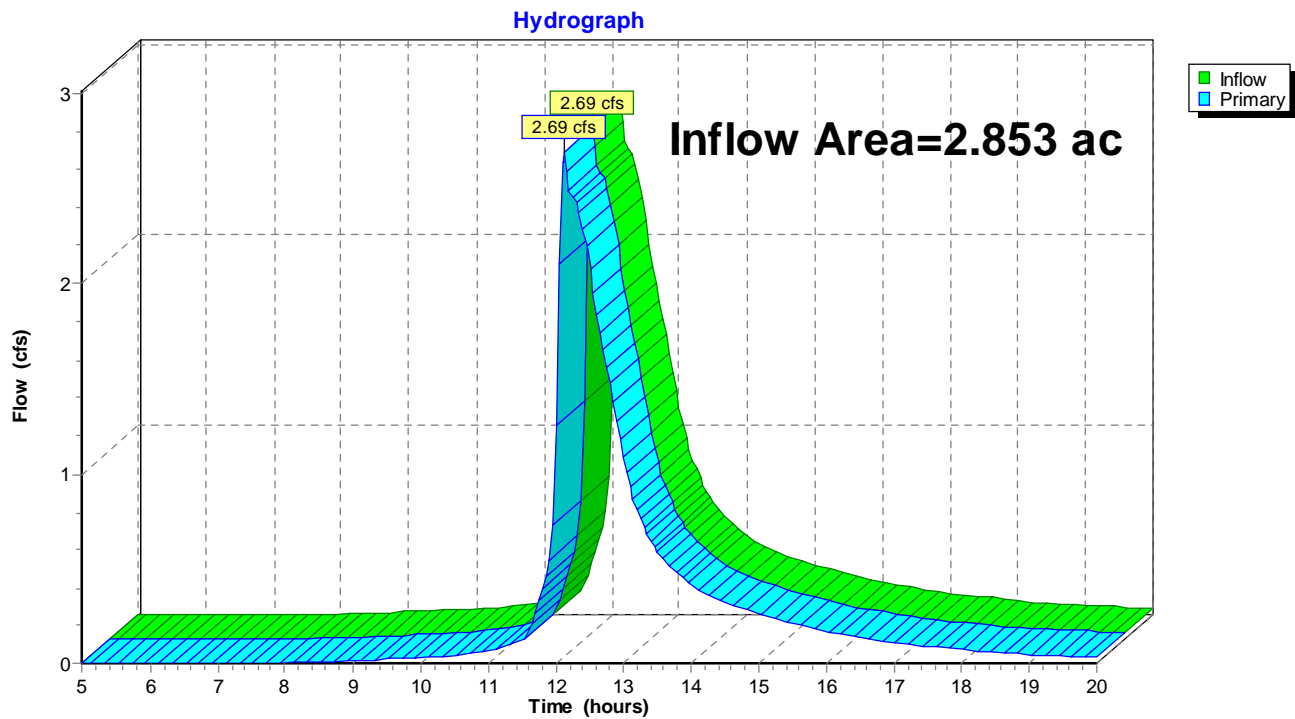
Page 8

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 37.42% Impervious, Inflow Depth > 1.32" for 2-Year event
Inflow = 2.69 cfs @ 12.12 hrs, Volume= 0.313 af
Primary = 2.69 cfs @ 12.12 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 9

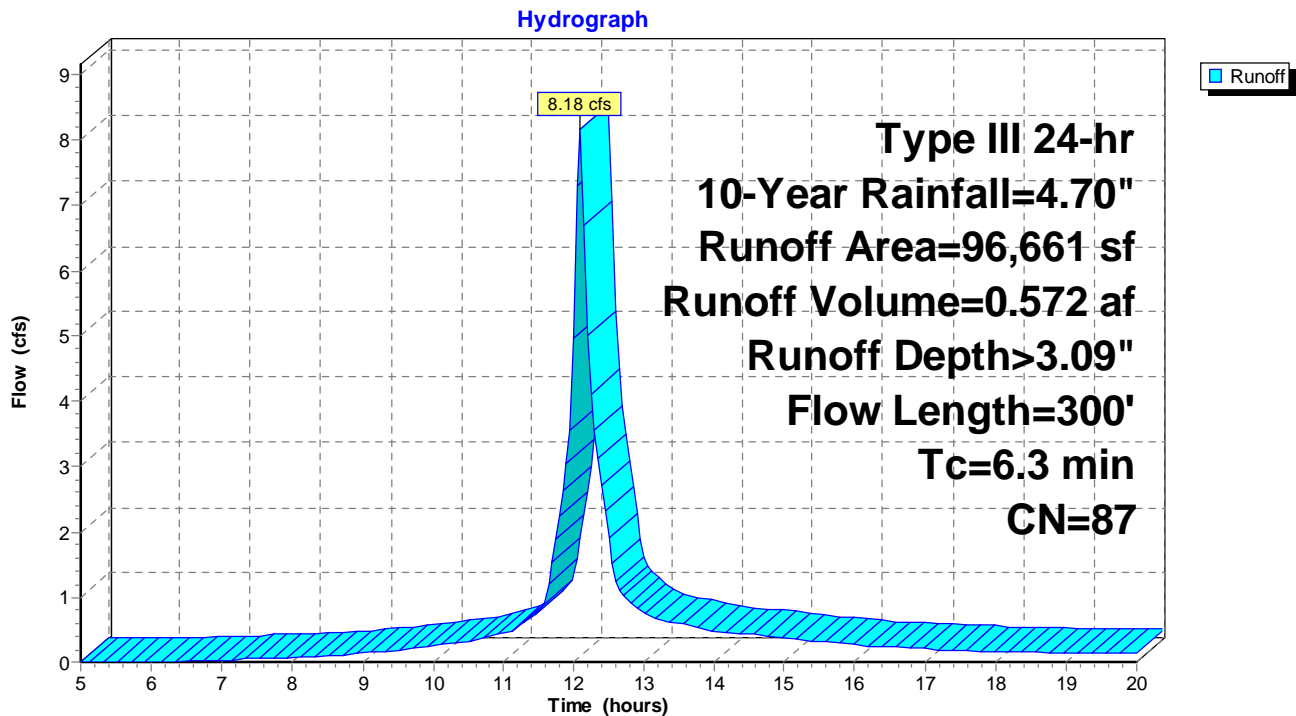
Summary for Subcatchment 1: Majority of Site to East Side

Runoff = 8.18 cfs @ 12.09 hrs, Volume= 0.572 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
96,661	87	1/4 acre lots, 38% imp, HSG D
59,930		62.00% Pervious Area
36,731		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0280	0.17		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.40"
1.0	70	0.0280	1.17		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
0.5	180	0.0060	5.99	10.58	Pipe Channel, CD 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
6.3	300	Total			

Subcatchment 1: Majority of Site to East Side

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 10

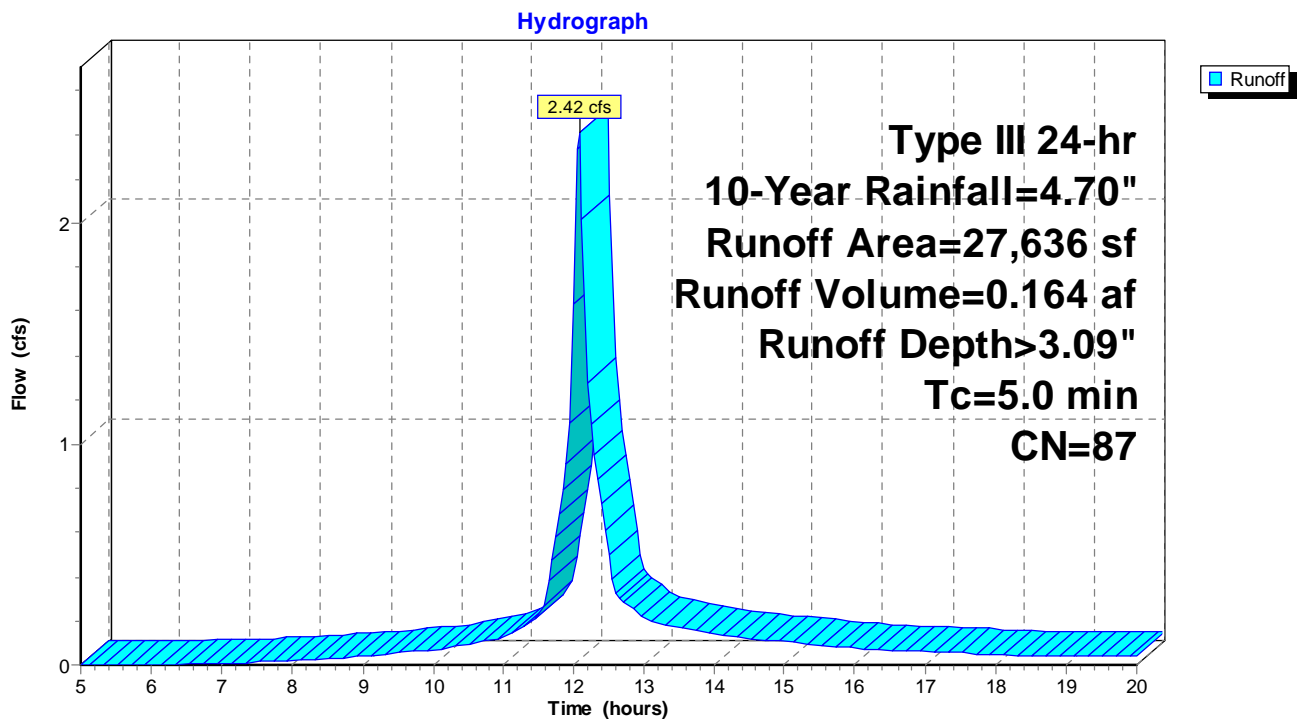
Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 2.42 cfs @ 12.07 hrs, Volume= 0.164 af, Depth> 3.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	9,786	98	Impervious Surfaces
	15,823	80	>75% Grass cover, Good, HSG D
	2,027	83	Woods, Poor, HSG D
	27,636	87	Weighted Average
	17,850		64.59% Pervious Area
	9,786		35.41% Impervious Area

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

Subcatchment 2: Portion of Site to Park Ave.

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 11

Summary for Subcatchment 3: Portion of Site to West Side

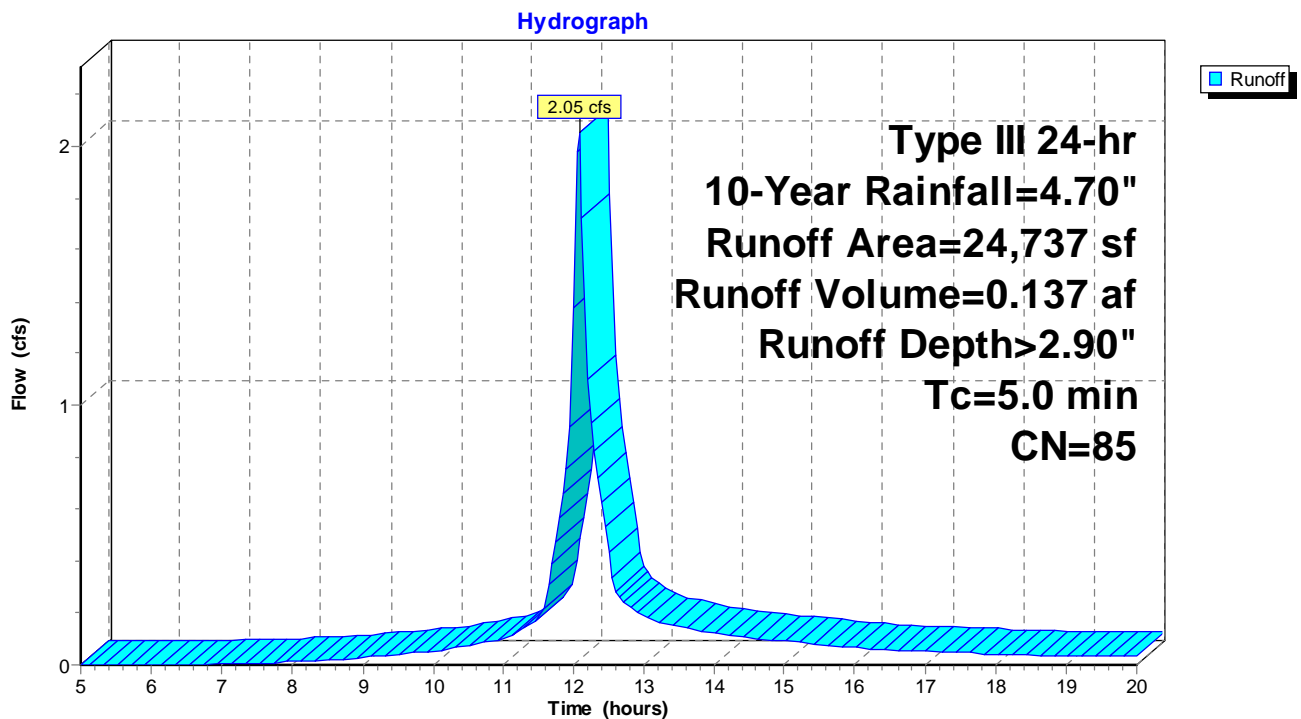
Runoff = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side

Proposed

Type III 24-hr 10-Year Rainfall=4.70"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 12

Summary for Pond 1P: Detention Pond

Inflow Area = 2.219 ac, 38.00% Impervious, Inflow Depth > 3.09" for 10-Year event
 Inflow = 8.18 cfs @ 12.09 hrs, Volume= 0.572 af
 Outflow = 3.32 cfs @ 12.33 hrs, Volume= 0.519 af, Atten= 59%, Lag= 14.0 min
 Discarded = 0.12 cfs @ 12.33 hrs, Volume= 0.096 af
 Primary = 3.20 cfs @ 12.33 hrs, Volume= 0.423 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 156.95' @ 12.33 hrs Surf.Area= 5,072 sf Storage= 8,190 cf

Plug-Flow detention time= 67.6 min calculated for 0.517 af (90% of inflow)
 Center-of-Mass det. time= 37.1 min (809.1 - 771.9)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	14,039 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	3,351	0	0
156.00	4,219	3,785	3,785
157.00	5,119	4,669	8,454
158.00	6,051	5,585	14,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.00'	1.020 in/hr Exfiltration over Surface area
#2	Primary	155.55'	7.0" Vert. Orifice/Grate X 2.00 C= 0.600
#3	Primary	157.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Primary	156.28'	5.0" Vert. Orifice/Grate C= 0.600
#5	Primary	156.81'	5.0" Vert. Orifice/Grate C= 0.600
#6	Primary	157.00'	5.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.12 cfs @ 12.33 hrs HW=156.95' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=3.20 cfs @ 12.33 hrs HW=156.95' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 2.71 cfs @ 5.06 fps)
 — **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
 — **4=Orifice/Grate** (Orifice Controls 0.44 cfs @ 3.26 fps)
 — **5=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.26 fps)
 — **6=Orifice/Grate** (Controls 0.00 cfs)

Proposed

Prepared by {enter your company name here}

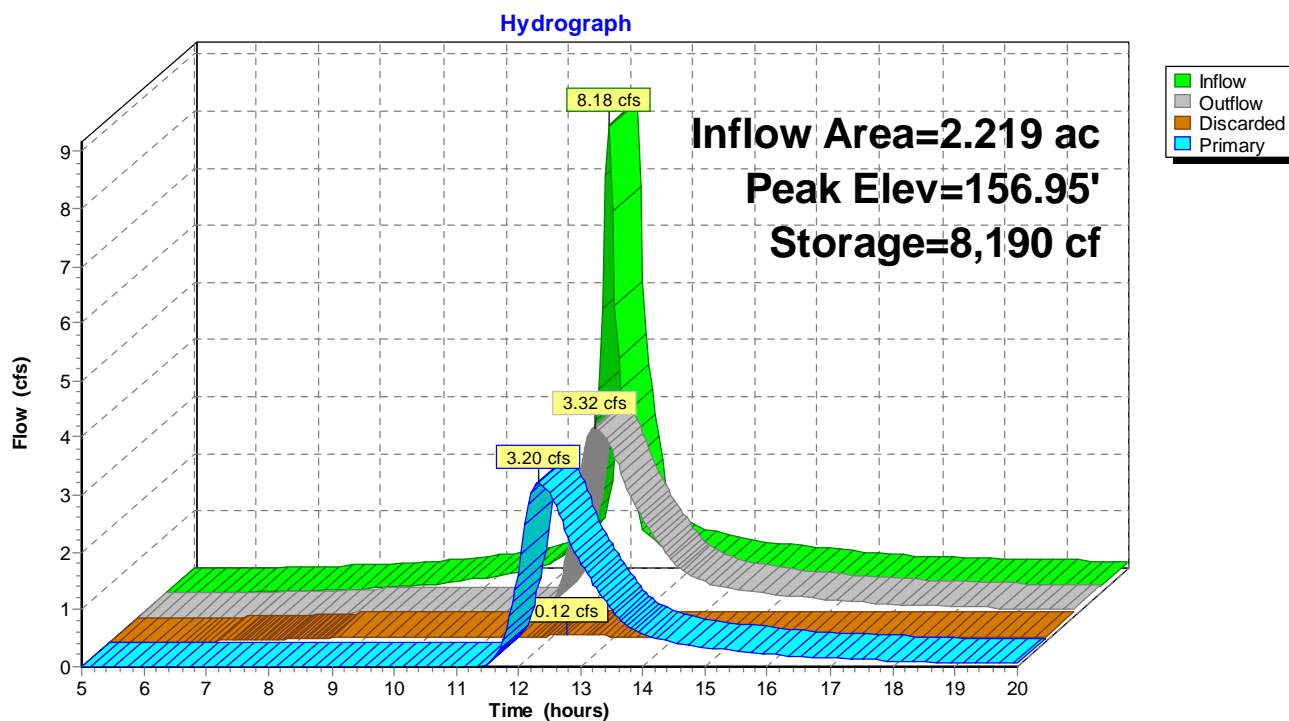
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

Page 13

Pond 1P: Detention Pond



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

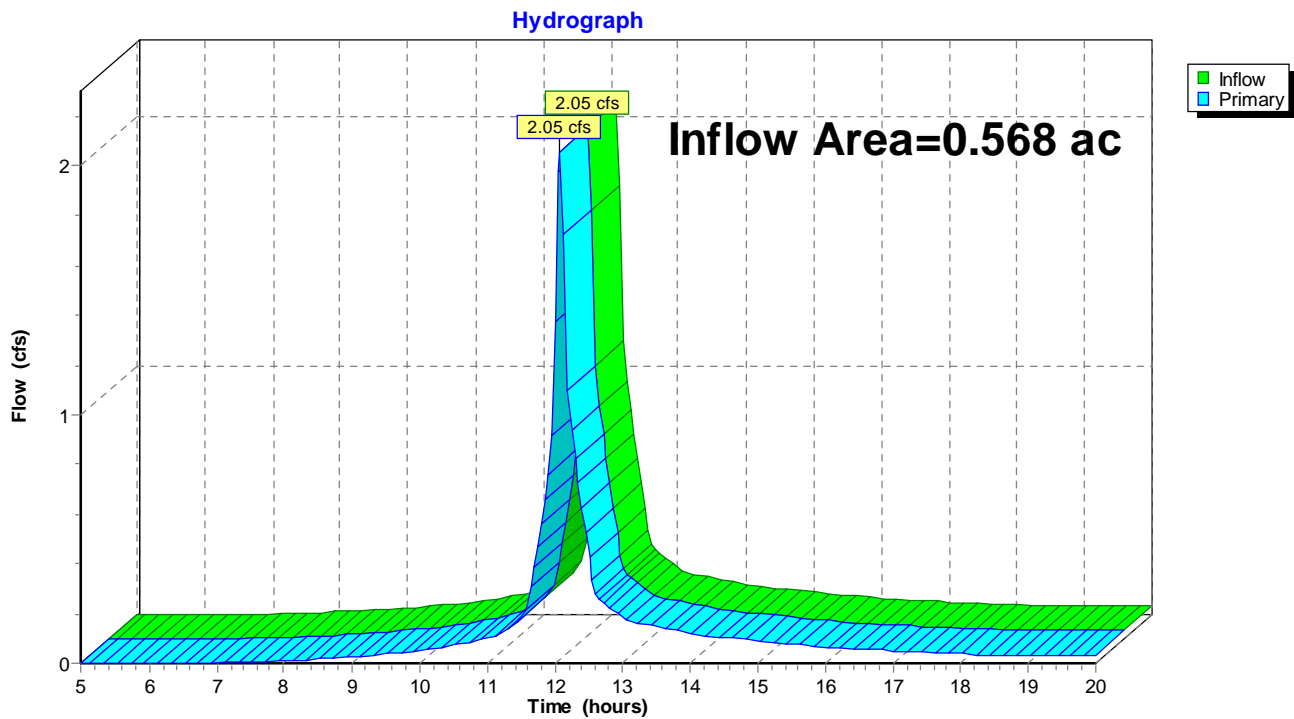
Page 14

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 2.90" for 10-Year event
Inflow = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af
Primary = 2.05 cfs @ 12.07 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 10-Year Rainfall=4.70"

Printed 11/8/2023

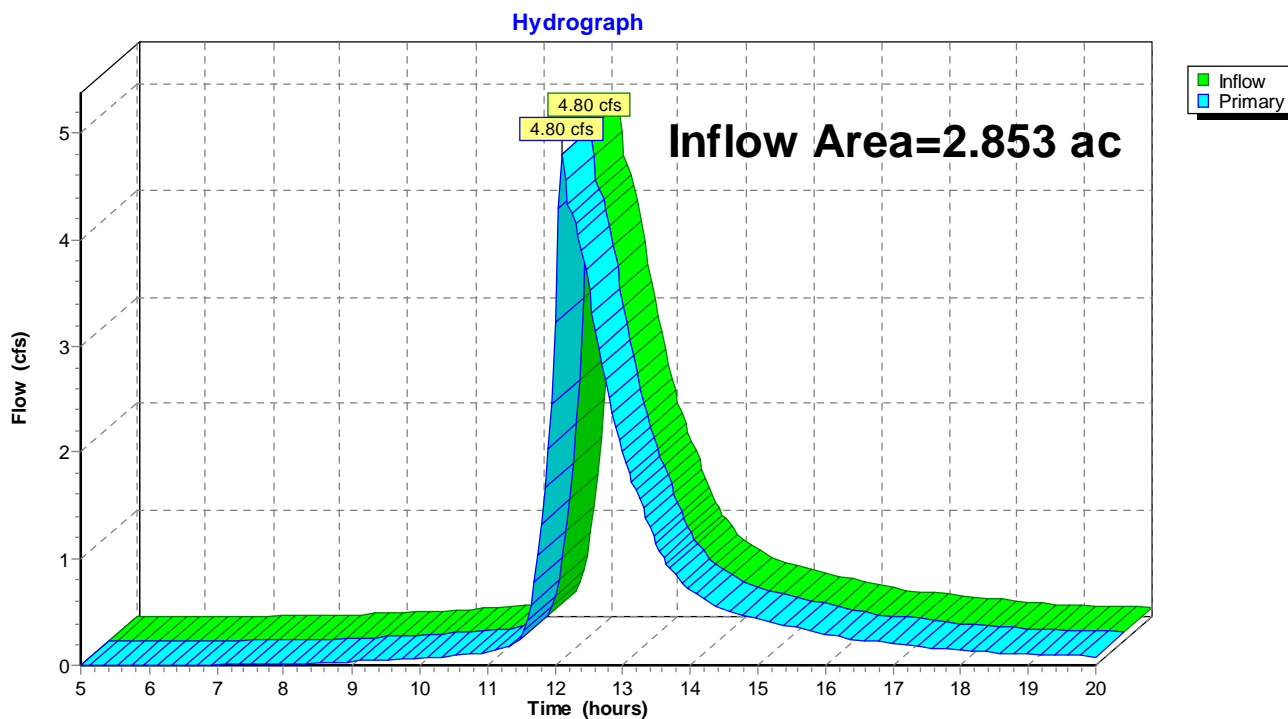
Page 15

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 37.42% Impervious, Inflow Depth > 2.47" for 10-Year event
Inflow = 4.80 cfs @ 12.11 hrs, Volume= 0.587 af
Primary = 4.80 cfs @ 12.11 hrs, Volume= 0.587 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 16

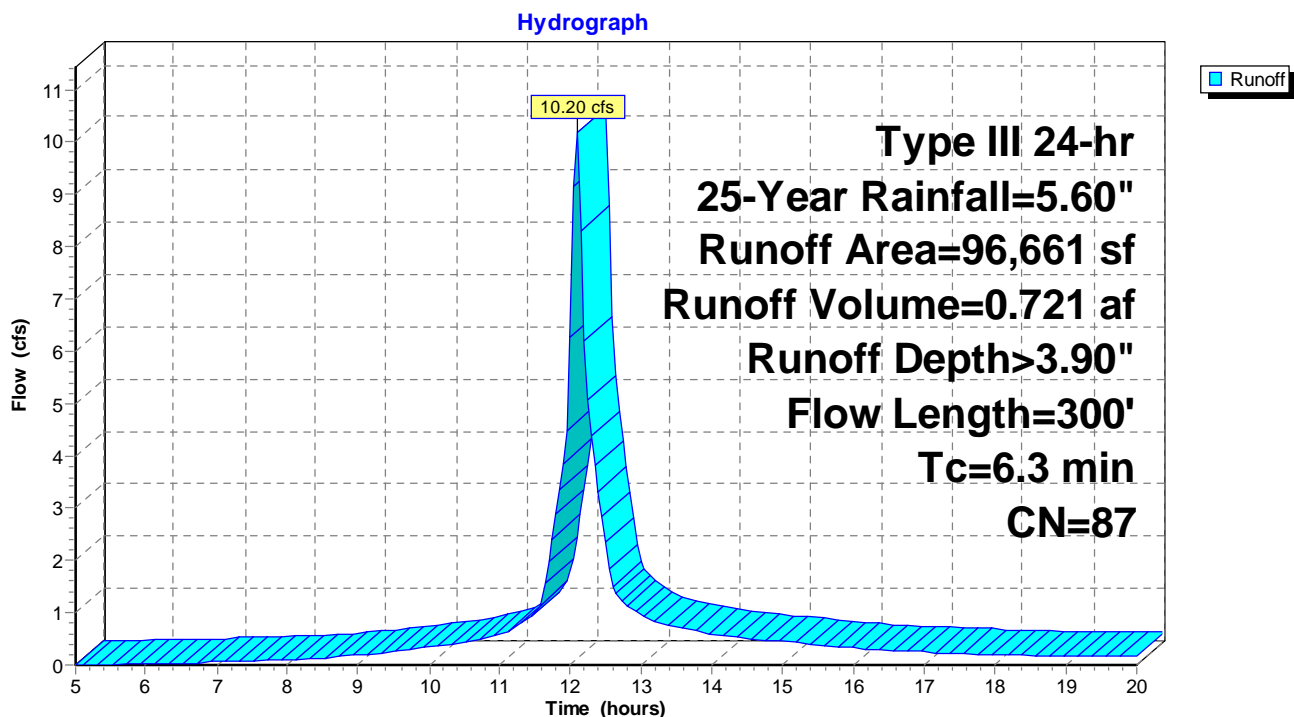
Summary for Subcatchment 1: Majority of Site to East Side

Runoff = 10.20 cfs @ 12.09 hrs, Volume= 0.721 af, Depth> 3.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
96,661	87	1/4 acre lots, 38% imp, HSG D
59,930		62.00% Pervious Area
36,731		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0280	0.17		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.40"
1.0	70	0.0280	1.17		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
0.5	180	0.0060	5.99	10.58	Pipe Channel, CD 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
6.3	300	Total			

Subcatchment 1: Majority of Site to East Side

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 17

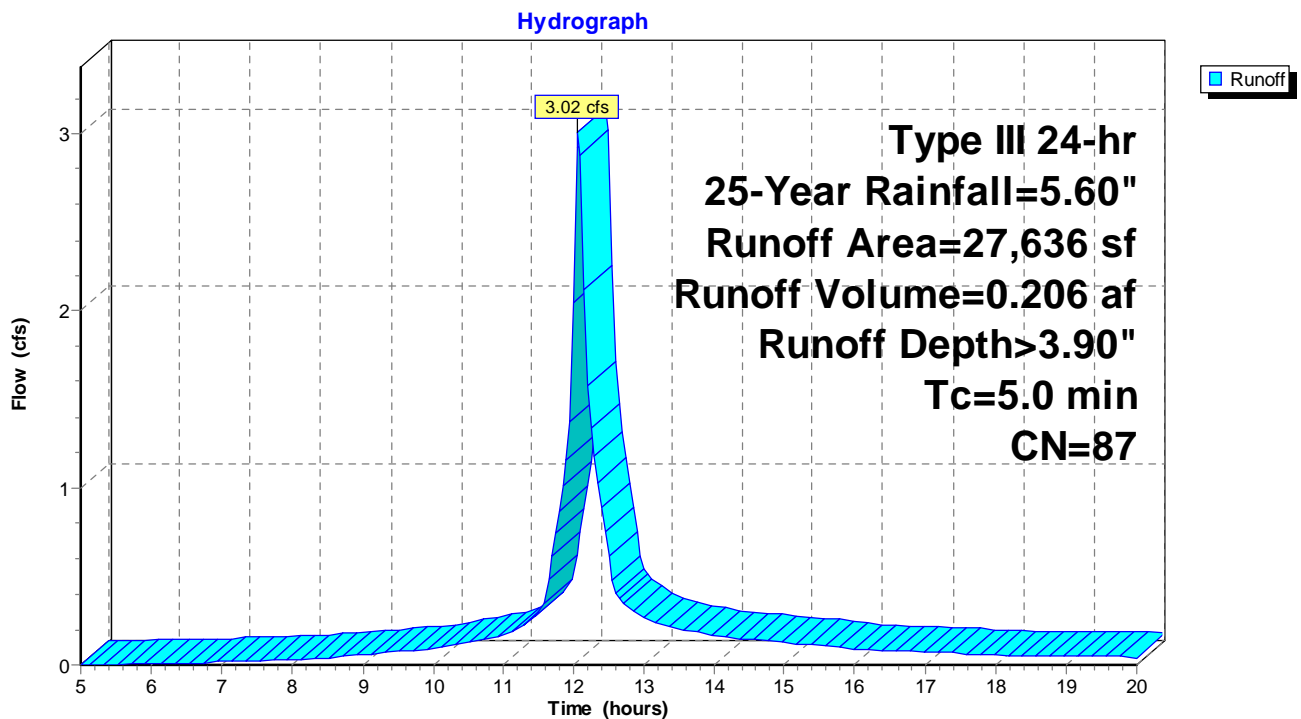
Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 3.02 cfs @ 12.07 hrs, Volume= 0.206 af, Depth> 3.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	9,786	98	Impervious Surfaces
	15,823	80	>75% Grass cover, Good, HSG D
	2,027	83	Woods, Poor, HSG D
	27,636	87	Weighted Average
	17,850		64.59% Pervious Area
	9,786		35.41% Impervious Area

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

Subcatchment 2: Portion of Site to Park Ave.

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 18

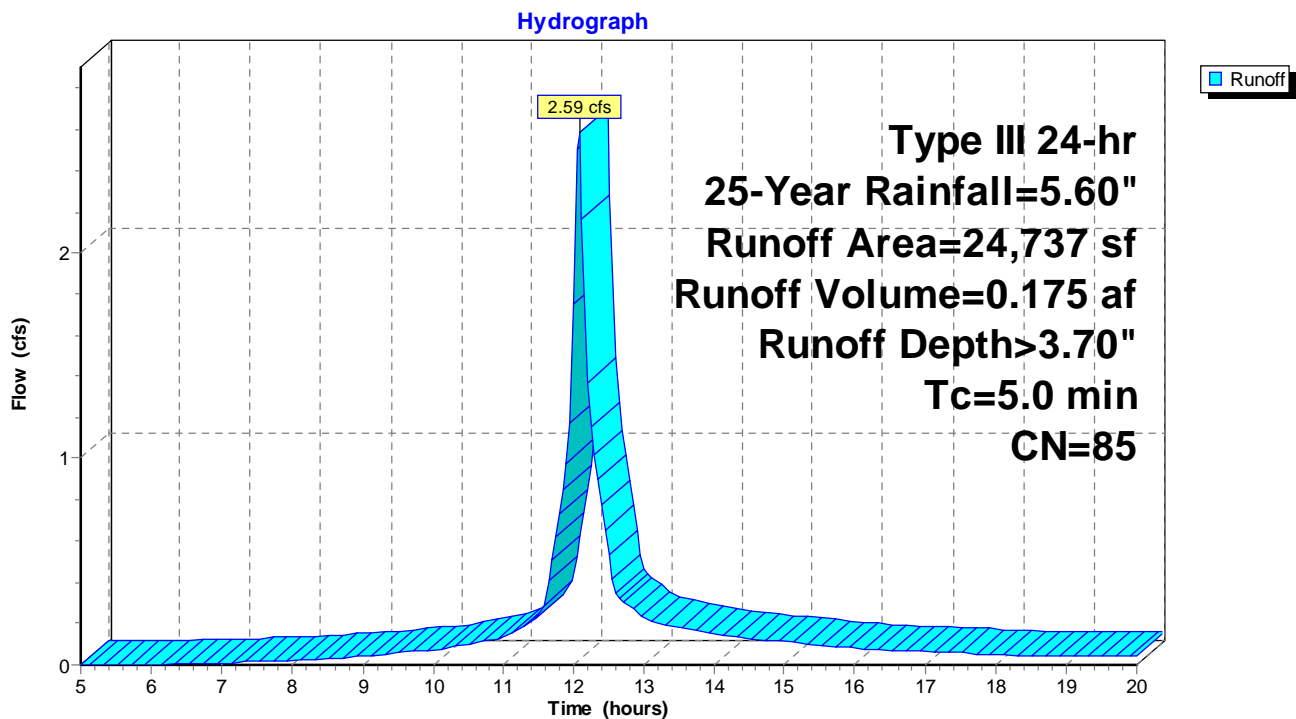
Summary for Subcatchment 3: Portion of Site to West Side

Runoff = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af, Depth> 3.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.60"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side

Proposed

Type III 24-hr 25-Year Rainfall=5.60"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 19

Summary for Pond 1P: Detention Pond

Inflow Area = 2.219 ac, 38.00% Impervious, Inflow Depth > 3.90" for 25-Year event
 Inflow = 10.20 cfs @ 12.09 hrs, Volume= 0.721 af
 Outflow = 4.29 cfs @ 12.31 hrs, Volume= 0.667 af, Atten= 58%, Lag= 13.1 min
 Discarded = 0.13 cfs @ 12.31 hrs, Volume= 0.102 af
 Primary = 4.16 cfs @ 12.31 hrs, Volume= 0.564 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 157.27' @ 12.31 hrs Surf.Area= 5,373 sf Storage= 9,885 cf

Plug-Flow detention time= 62.7 min calculated for 0.664 af (92% of inflow)
 Center-of-Mass det. time= 36.4 min (802.8 - 766.4)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	14,039 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	3,351	0	0
156.00	4,219	3,785	3,785
157.00	5,119	4,669	8,454
158.00	6,051	5,585	14,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.00'	1.020 in/hr Exfiltration over Surface area
#2	Primary	155.55'	7.0" Vert. Orifice/Grate X 2.00 C= 0.600
#3	Primary	157.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Primary	156.28'	5.0" Vert. Orifice/Grate C= 0.600
#5	Primary	156.81'	5.0" Vert. Orifice/Grate C= 0.600
#6	Primary	157.00'	5.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.13 cfs @ 12.31 hrs HW=157.27' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=4.15 cfs @ 12.31 hrs HW=157.27' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 3.08 cfs @ 5.76 fps)
 — **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
 — **4=Orifice/Grate** (Orifice Controls 0.58 cfs @ 4.26 fps)
 — **5=Orifice/Grate** (Orifice Controls 0.33 cfs @ 2.42 fps)
 — **6=Orifice/Grate** (Orifice Controls 0.17 cfs @ 1.77 fps)

Proposed

Prepared by {enter your company name here}

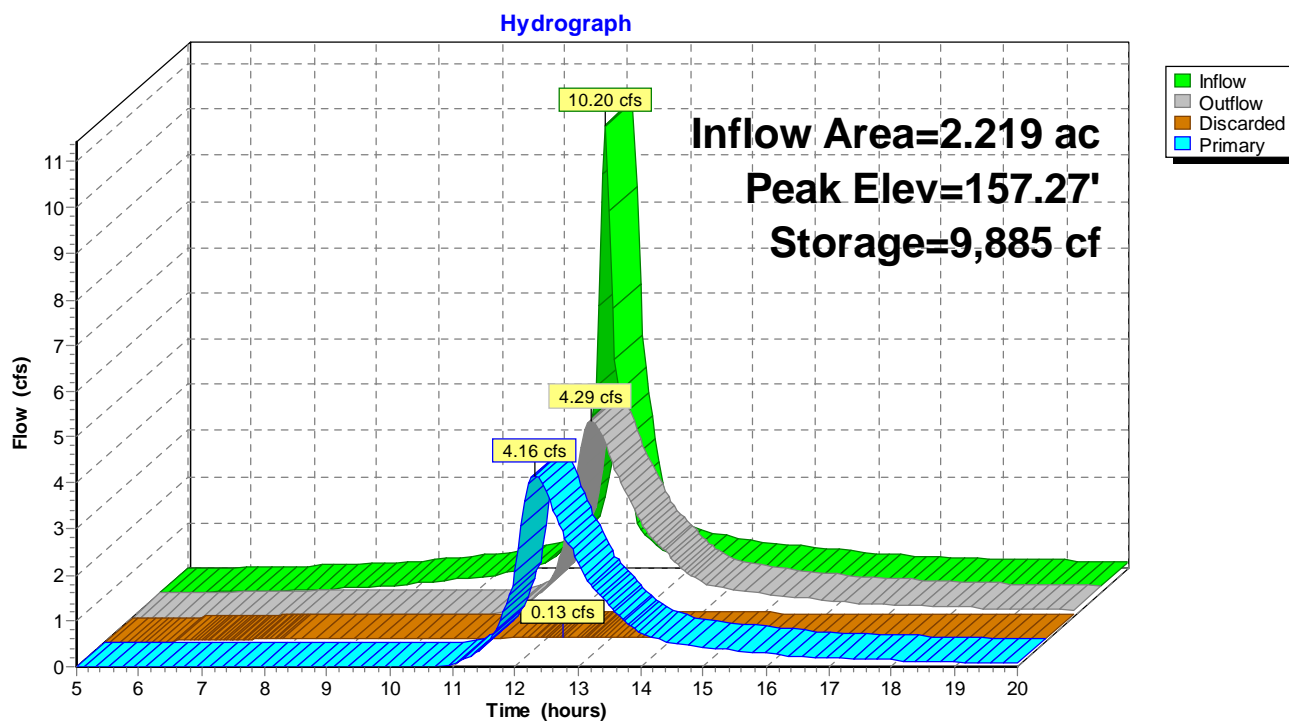
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

Page 20

Pond 1P: Detention Pond



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

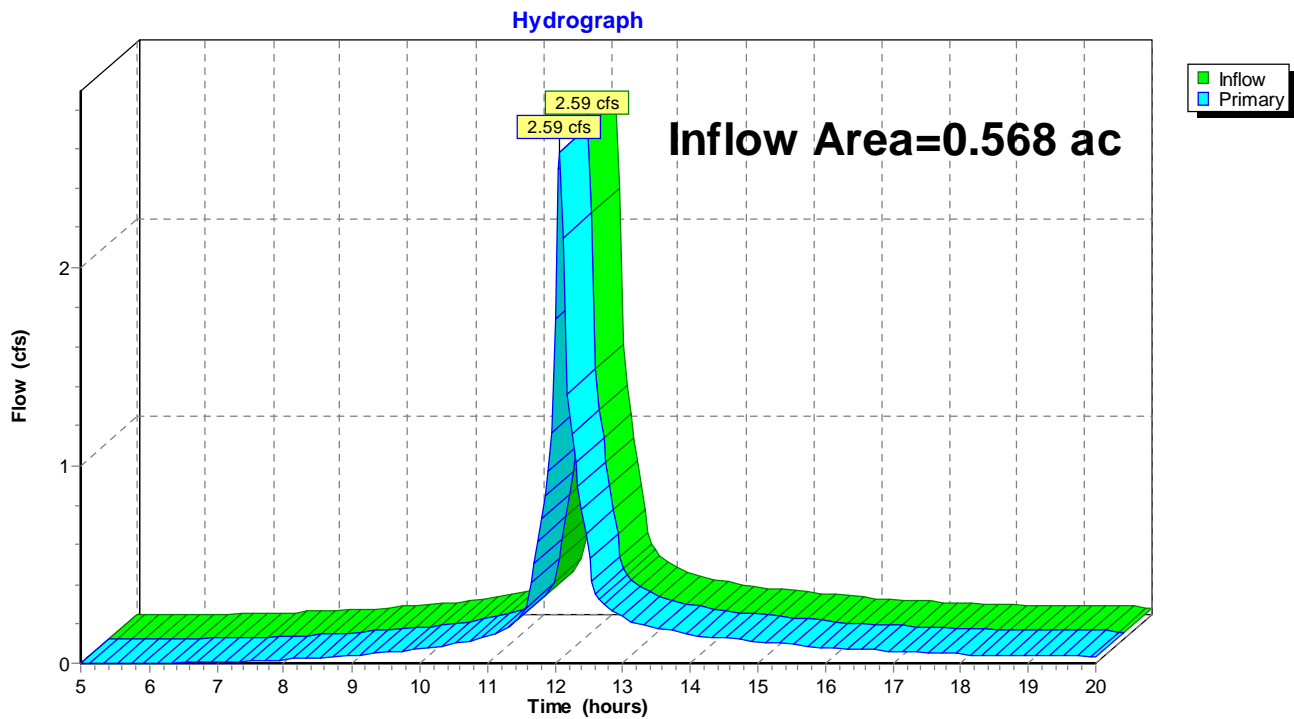
Page 21

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 3.70" for 25-Year event
Inflow = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af
Primary = 2.59 cfs @ 12.07 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 25-Year Rainfall=5.60"

Printed 11/8/2023

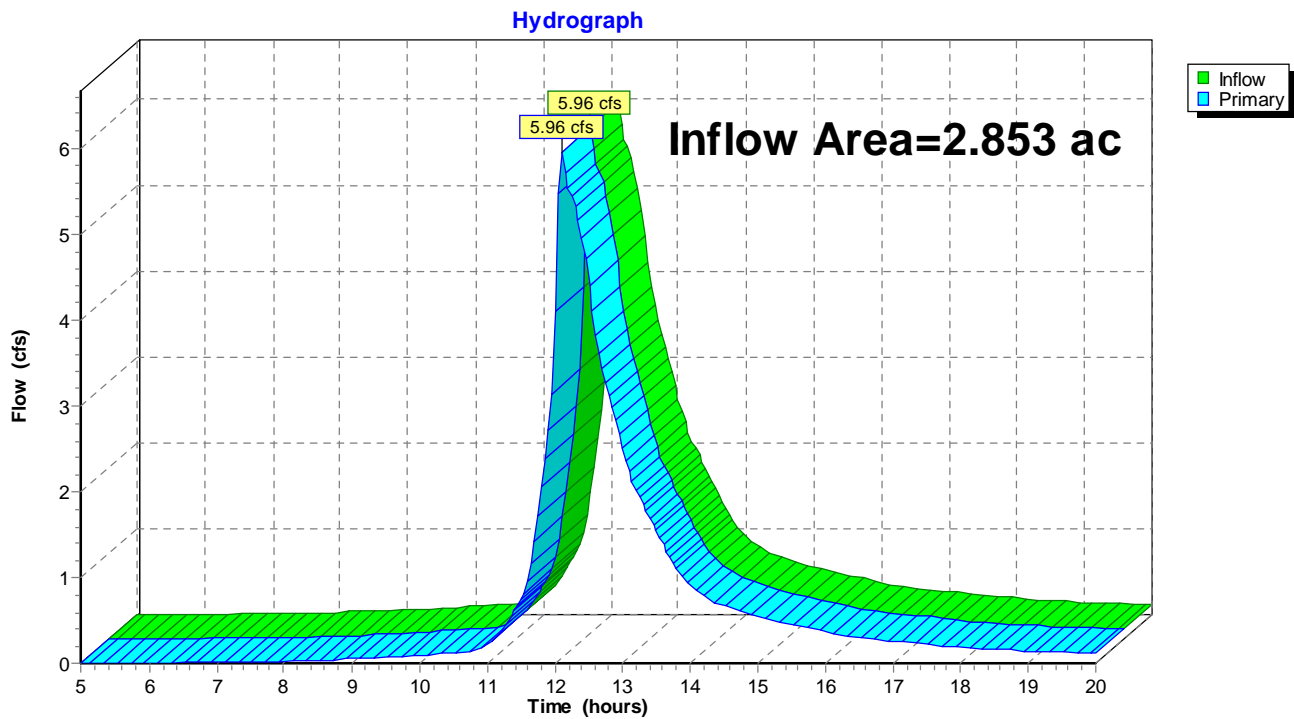
Page 22

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 37.42% Impervious, Inflow Depth > 3.24" for 25-Year event
Inflow = 5.96 cfs @ 12.11 hrs, Volume= 0.770 af
Primary = 5.96 cfs @ 12.11 hrs, Volume= 0.770 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 23

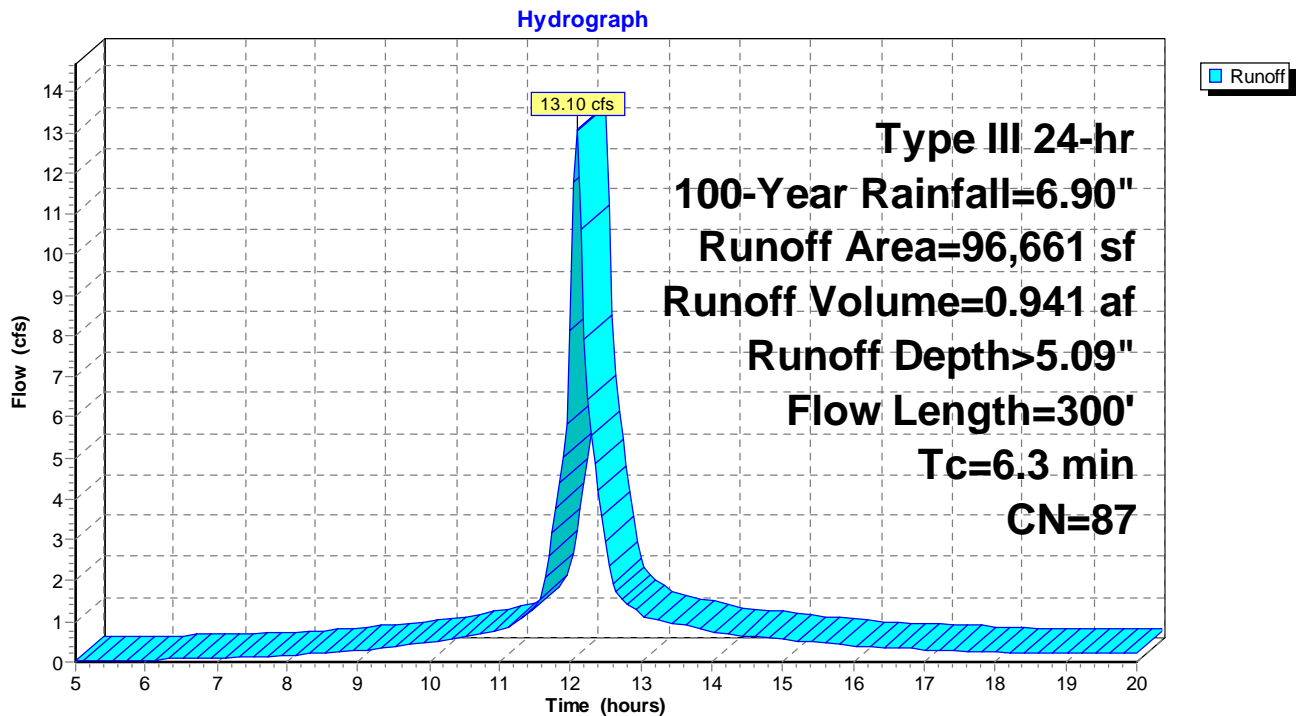
Summary for Subcatchment 1: Majority of Site to East Side

Runoff = 13.10 cfs @ 12.09 hrs, Volume= 0.941 af, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

Area (sf)	CN	Description
96,661	87	1/4 acre lots, 38% imp, HSG D
59,930		62.00% Pervious Area
36,731		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0280	0.17		Sheet Flow, AB Grass: Short n= 0.150 P2= 3.40"
1.0	70	0.0280	1.17		Shallow Concentrated Flow, BC Short Grass Pasture Kv= 7.0 fps
0.5	180	0.0060	5.99	10.58	Pipe Channel, CD 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.010
6.3	300	Total			

Subcatchment 1: Majority of Site to East Side

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 24

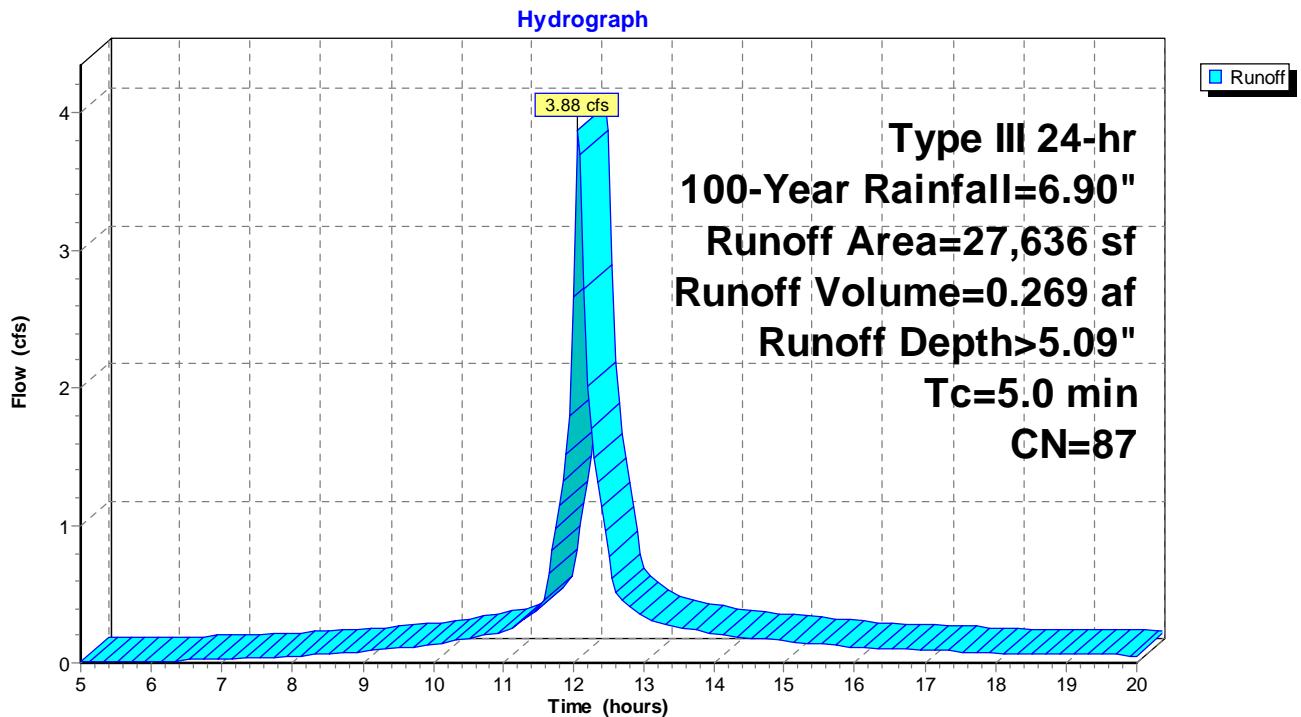
Summary for Subcatchment 2: Portion of Site to Park Ave.

Runoff = 3.88 cfs @ 12.07 hrs, Volume= 0.269 af, Depth> 5.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.90"

	Area (sf)	CN	Description
*	9,786	98	Impervious Surfaces
	15,823	80	>75% Grass cover, Good, HSG D
	2,027	83	Woods, Poor, HSG D
	27,636	87	Weighted Average
	17,850		64.59% Pervious Area
	9,786		35.41% Impervious Area

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

Subcatchment 2: Portion of Site to Park Ave.

Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 25

Summary for Subcatchment 3: Portion of Site to West Side

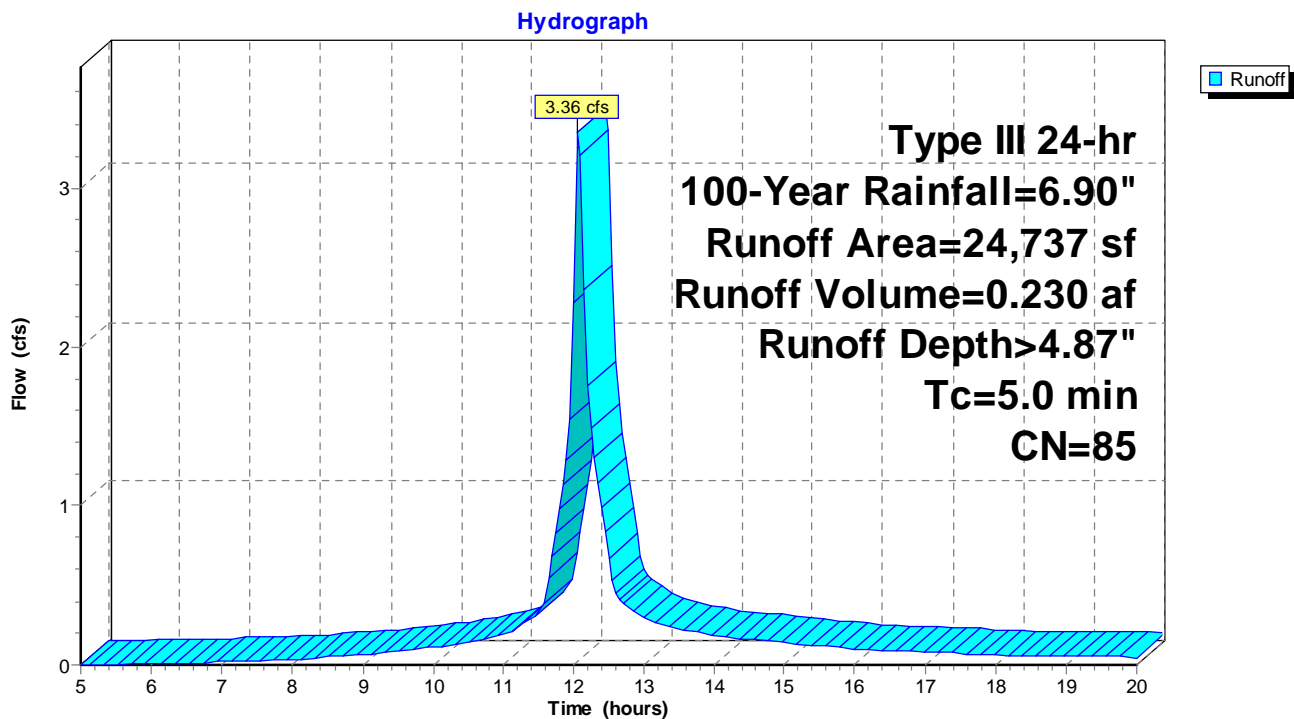
Runoff = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af, Depth> 4.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 100-Year Rainfall=6.90"

	Area (sf)	CN	Description
*	4,953	98	Impervious Surfaces
	8,827	83	Woods, Poor, HSG D
	10,957	80	>75% Grass cover, Good, HSG D
	24,737	85	Weighted Average
	19,784		79.98% Pervious Area
	4,953		20.02% Impervious Area

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

Subcatchment 3: Portion of Site to West Side

Proposed

Type III 24-hr 100-Year Rainfall=6.90"

Prepared by {enter your company name here}

Printed 11/8/2023

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Page 26

Summary for Pond 1P: Detention Pond

Inflow Area = 2.219 ac, 38.00% Impervious, Inflow Depth > 5.09" for 100-Year event
 Inflow = 13.10 cfs @ 12.09 hrs, Volume= 0.941 af
 Outflow = 6.51 cfs @ 12.26 hrs, Volume= 0.883 af, Atten= 50%, Lag= 10.0 min
 Discarded = 0.13 cfs @ 12.26 hrs, Volume= 0.110 af
 Primary = 6.38 cfs @ 12.26 hrs, Volume= 0.773 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 157.64' @ 12.26 hrs Surf.Area= 5,715 sf Storage= 11,919 cf

Plug-Flow detention time= 57.6 min calculated for 0.883 af (94% of inflow)
 Center-of-Mass det. time= 35.1 min (795.5 - 760.4)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	14,039 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	3,351	0	0
156.00	4,219	3,785	3,785
157.00	5,119	4,669	8,454
158.00	6,051	5,585	14,039

Device	Routing	Invert	Outlet Devices
#1	Discarded	155.00'	1.020 in/hr Exfiltration over Surface area
#2	Primary	155.55'	7.0" Vert. Orifice/Grate X 2.00 C= 0.600
#3	Primary	157.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Primary	156.28'	5.0" Vert. Orifice/Grate C= 0.600
#5	Primary	156.81'	5.0" Vert. Orifice/Grate C= 0.600
#6	Primary	157.00'	5.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.13 cfs @ 12.26 hrs HW=157.64' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=6.33 cfs @ 12.26 hrs HW=157.64' (Free Discharge)

↑ **2=Orifice/Grate** (Orifice Controls 3.45 cfs @ 6.45 fps)
 — **3=Broad-Crested Rectangular Weir** (Weir Controls 1.23 cfs @ 0.90 fps)
 — **4=Orifice/Grate** (Orifice Controls 0.70 cfs @ 5.16 fps)
 — **5=Orifice/Grate** (Orifice Controls 0.52 cfs @ 3.79 fps)
 — **6=Orifice/Grate** (Orifice Controls 0.43 cfs @ 3.15 fps)

Proposed

Prepared by {enter your company name here}

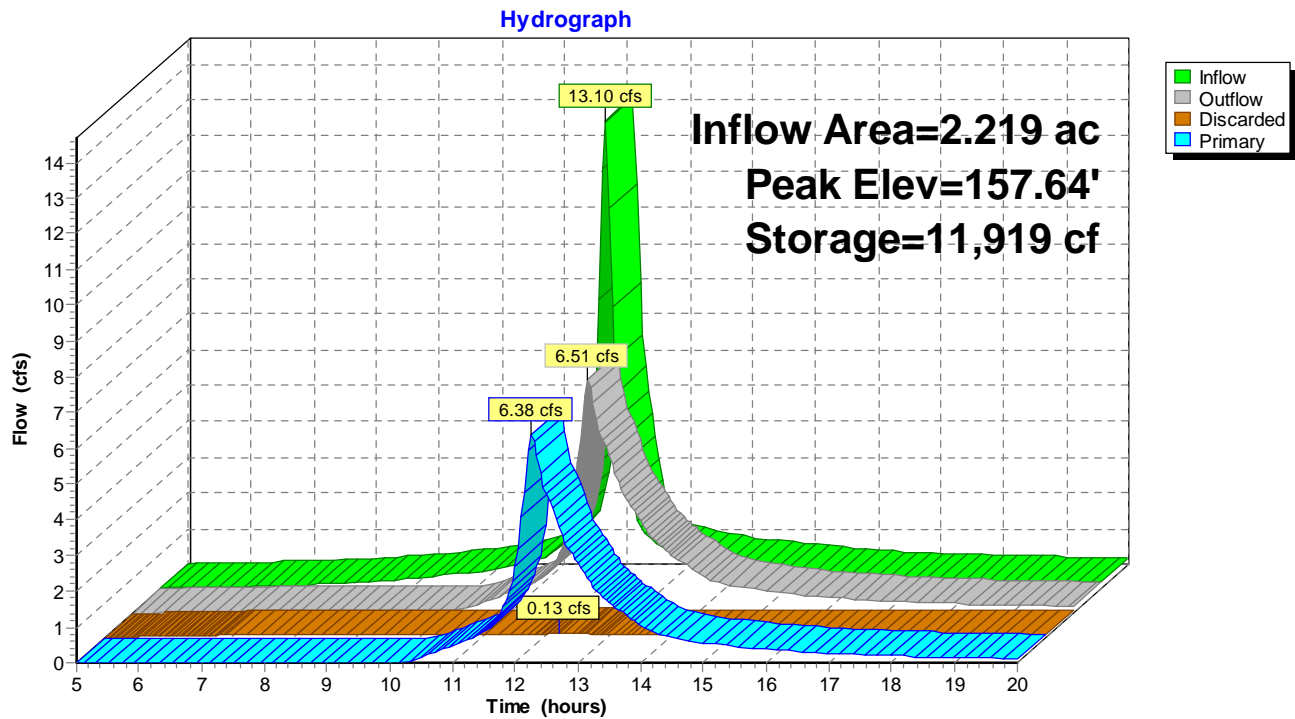
HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 27

Pond 1P: Detention Pond



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

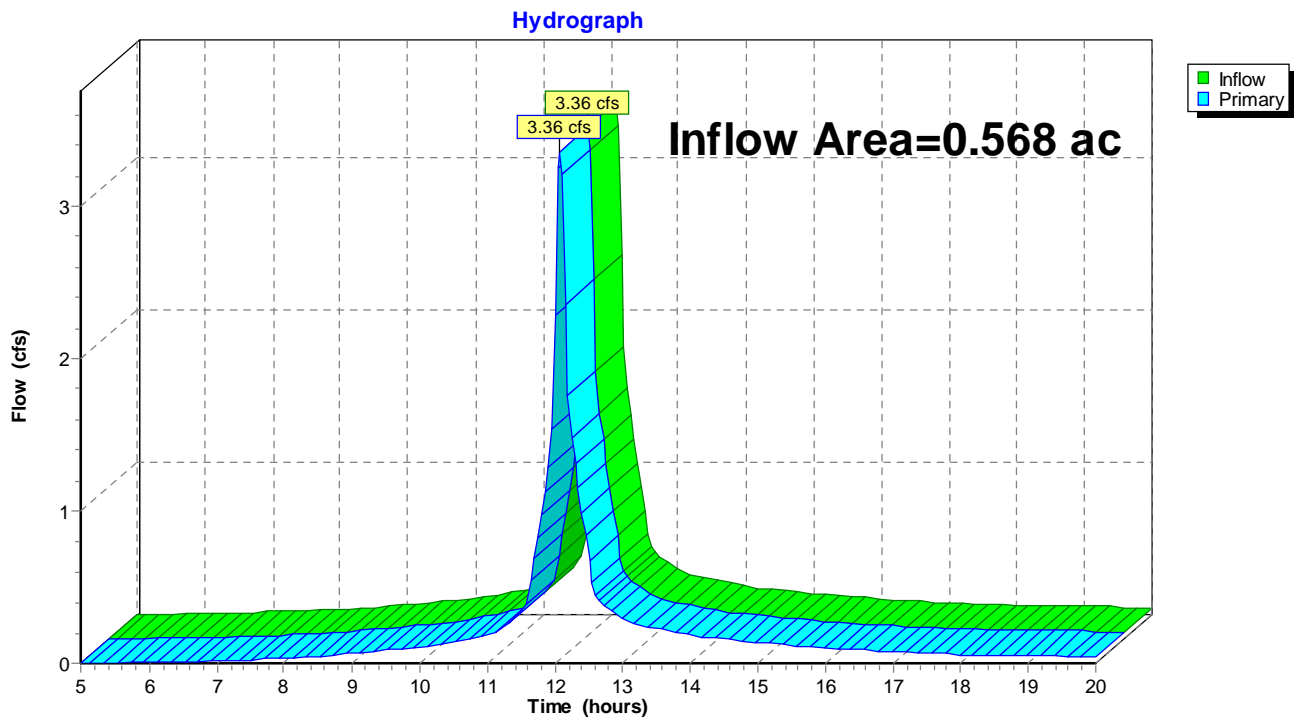
Page 28

Summary for Pond P1: To Main Street

Inflow Area = 0.568 ac, 20.02% Impervious, Inflow Depth > 4.87" for 100-Year event
Inflow = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af
Primary = 3.36 cfs @ 12.07 hrs, Volume= 0.230 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P1: To Main Street



Proposed

Prepared by {enter your company name here}

HydroCAD® 10.00-22 s/n 07502 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 100-Year Rainfall=6.90"

Printed 11/8/2023

Page 29

Summary for Pond P2: To Park Avenue

Inflow Area = 2.853 ac, 37.42% Impervious, Inflow Depth > 4.38" for 100-Year event
Inflow = 8.09 cfs @ 12.24 hrs, Volume= 1.042 af
Primary = 8.09 cfs @ 12.24 hrs, Volume= 1.042 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Pond P2: To Park Avenue

