STORMWATER MANAGEMENT REPORT

Prepared for

for

Proposed Restaurant with Outdoor Seating

for

Block 1007; Lot 25
101 South Orange Avenue
Township of South Orange Village
Essex County, New Jersey

Prepared by

BOHLER
ENGINEERING
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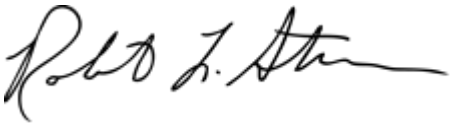

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BENJ #: J150742

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1. Introduction

The intention of this study is to analyze the stormwater drainage conditions that will occur as a result of the construction of a proposed 283 SF building addition for the proposed restaurant use located at 101 South Orange Avenue in the Township of South Orange Village, Essex County, New Jersey. The property in question is more specifically defined as a 0.455-acre parcel located on Block 1007; Lot 25, as described on the Township of South Orange Village Tax Map Sheet #10, and to be hereby referenced as the Site. The site is bordered to the south by South Orange Village Hall, PNC Bank, South Orange Avenue, commercial and residential beyond; to the east by commercial and retail uses beyond; to the north by residential, the Public Library beyond; and to the west by Scotland Road, commercial and retail uses beyond. The scope of the study includes an analysis of runoff generated by the existing and proposed conditions as well as an analysis of the resulting stormwater collection system and an underground detention basin as shown on the accompanying engineering drawings. The following items shall be addressed in this report:

- Narrative of pre and post development conditions with calculations to substantiate derived runoff coefficients and times of concentration.
- Calculations for pre and post development 2, 10, and 100-year design storm peak runoff rates from the tributary area to the proposed underground basin.
- Calculations for the proposed underground basin, including inflow hydrographs and storage volume versus depth tables.

2. Pre-Development Conditions

Under existing conditions, the site is a vacant building (formerly the municipal building). The paved area of the site currently drains to the west of the site into the county drainage system. The site contains very flat slopes ranging from 0% to 10% with a small area of steep slopes at the driveway to the north. Analysis of the existing site conditions is based on the survey prepared by Matrix New World and last revised May 11, 2016. Based on the existing contours the site breaks down into one (1) distinct drainage area which is further described below.

EDA:

Existing Drainage Area consists of 3,866 SF (19%) grassed areas, and 15,972 (81%) paved areas. The impervious area sheet flows into a series of inlets in the County Drainage System. The pervious areas sheet flows to the same entering the County Drainage System. Based on the existing topography and land cover, the minimum time of concentration of six (6) minutes was utilized.

3. Post Development Conditions

Under proposed conditions the majority of the site is to remain including the existing building. The site proposes a building addition of 283 SF, a parking lot addition and Stormwater Management System. The proposed grading for the site results one (1) overall distinct drainage area, which is further described below.

PDA

Proposed Drainage Area consists of 3,233 SF (16%) of grassed areas and 16,605 SF (84%) of paved areas. The increase of impervious coverage will run through an underground conveyance system which drains to a proposed manhole connecting to the existing 21" RCP in Scotland Road. The remainder of the site will bypass and sheet flow as existing drainage patterns do. The minimum time of concentration of six (6) minutes was utilized for this area.

Based on our review of the NRCS Essex County Survey (included in the appendix of this report), the subject parcel contains soils of the UrBOOB- Urban Land, Boonton substratum, 0 to 8 percent slopes. The URBOOB soil is classified as Type "D" soil by the "Urban Hydrology for small Watersheds Manual" published by New Jersey Department of Environmental Protection (NJDEP). For all purposes, Type "D" soil was used during design.

4. Methodology

The proposed development has been designed to comply with the Stormwater Management Regulations of the NJDEP. The proposed development is considered a "minor" development as defined by the NJDEP (over 1 acre of disturbance or ¼ acre of new impervious). The site is less than one (1) acre of disturbance and proposes less than ¼ acre of new impervious; therefore, NJDEP regulations are not in

effect. As such, the proposed development is not required to provide the NJDEP reductions in runoff and provide water quality measures. The increase in peak rates is de minimis.

The Stormwater management design was performed utilizing the TR55 Method as required by the NJDEP. Runoff curve numbers were determined for each drainage area and the time of concentration calculations have been prepared in accordance with the Urban Hydrology for Small Watersheds published by the NJDEP. Hydrographs were generated for each watershed under existing and proposed conditions depicting peak runoff rates and illustrating that reductions were made. These hydrographs were created utilizing HydroCAD 9.00 and are included within the appendix of this report.

Runoff "CN" values were assigned to various surfaces as follows:

Ground Cover	"CN" Value
Paved Parking	98
Grass Cover	84

5. Conclusion

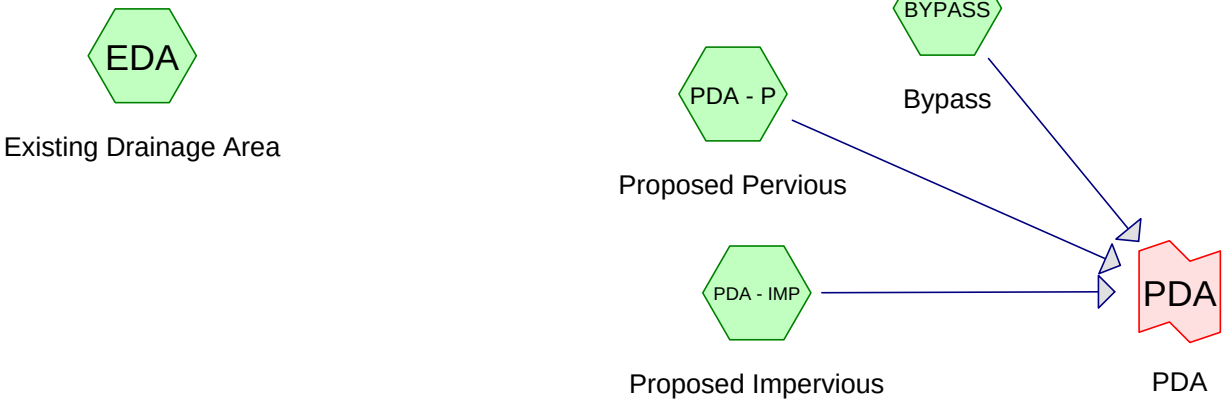
The proposed stormwater management system for the development has been designed with provisions for safe and efficient control of stormwater runoff in a manner which will not adversely affect the existing drainage patterns found in the surrounding areas. The increase in peak rates is de minimis.

The following table summarizes the total peak discharge rates for existing and proposed conditions for the stormwater runoff directly offsite and runoff rate summary for the proposed underground detention basin:

Table 1: Pre vs Post Peak Runoff Rates
(EDA VS PDA)

Design Storm	(A) Pre-Development Runoff Rate (cfs)	(B) Post-Development Runoff Rate (cfs)	Reduction in Peak Rate (cfs)
2-year	1.42	1.44	+0.02
10-year	2.23	2.25	+0.02
100-year	3.79	3.81	+0.02

APPENDIX



Subcat Reach Pond Link

Drainage Diagram for Drainage 05-2017

Prepared by {enter your company name here}, Printed 5/11/2017

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.163	84	50-75% Grass cover, Fair, HSG D (BYPASS, EDA, PDA - P)
0.748	98	Paved parking, HSG D (BYPASS, EDA, PDA - IMP)
0.911		**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Goup	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.911	HSG D	BYPASS, EDA, PDA - IMP, PDA - P
0.000	Other	
0.911		**TOTAL AREA**

2-YEAR STORM EVENT

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 9
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment BYPASS: Bypass Runoff Area=16,616 sf 82.52% Impervious Runoff Depth=2.98"
Tc=6.0 min CN=84/98 Runoff=1.20 cfs 0.095 af

Subcatchment EDA: Existing Drainage Runoff Area=19,838 sf 80.51% Impervious Runoff Depth=2.95"
Tc=6.0 min CN=84/98 Runoff=1.42 cfs 0.112 af

Subcatchment PDA - IMP: Proposed Runoff Area=2,893 sf 100.00% Impervious Runoff Depth=3.21"
Tc=6.0 min CN=0/98 Runoff=0.22 cfs 0.018 af

Subcatchment PDA - P: Proposed Pervious Runoff Area=329 sf 0.00% Impervious Runoff Depth=1.89"
Tc=6.0 min CN=84/0 Runoff=0.02 cfs 0.001 af

Link PDA: PDA Inflow=1.44 cfs 0.114 af
Primary=1.44 cfs 0.114 af

Total Runoff Area = 0.911 ac Runoff Volume = 0.225 af Average Runoff Depth = 2.97"
17.89% Pervious = 0.163 ac 82.11% Impervious = 0.748 ac

Summary for Subcatchment BYPASS: Bypass

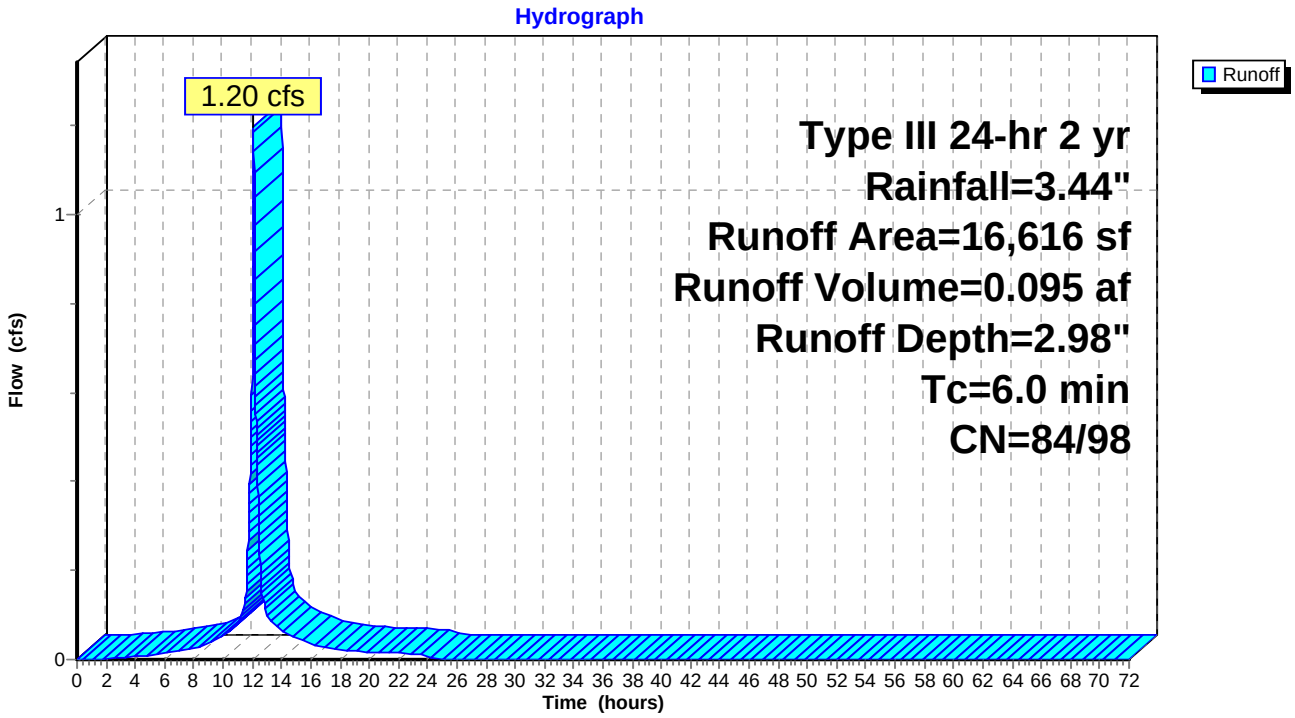
Runoff = 1.20 cfs @ 12.08 hrs, Volume= 0.095 af, Depth= 2.98"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.44"

Area (sf)	CN	Description
13,712	98	Paved parking, HSG D
2,904	84	50-75% Grass cover, Fair, HSG D
16,616	96	Weighted Average
2,904	84	17.48% Pervious Area
13,712	98	82.52% Impervious Area

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

Subcatchment BYPASS: Bypass



Summary for Subcatchment EDA: Existing Drainage Area

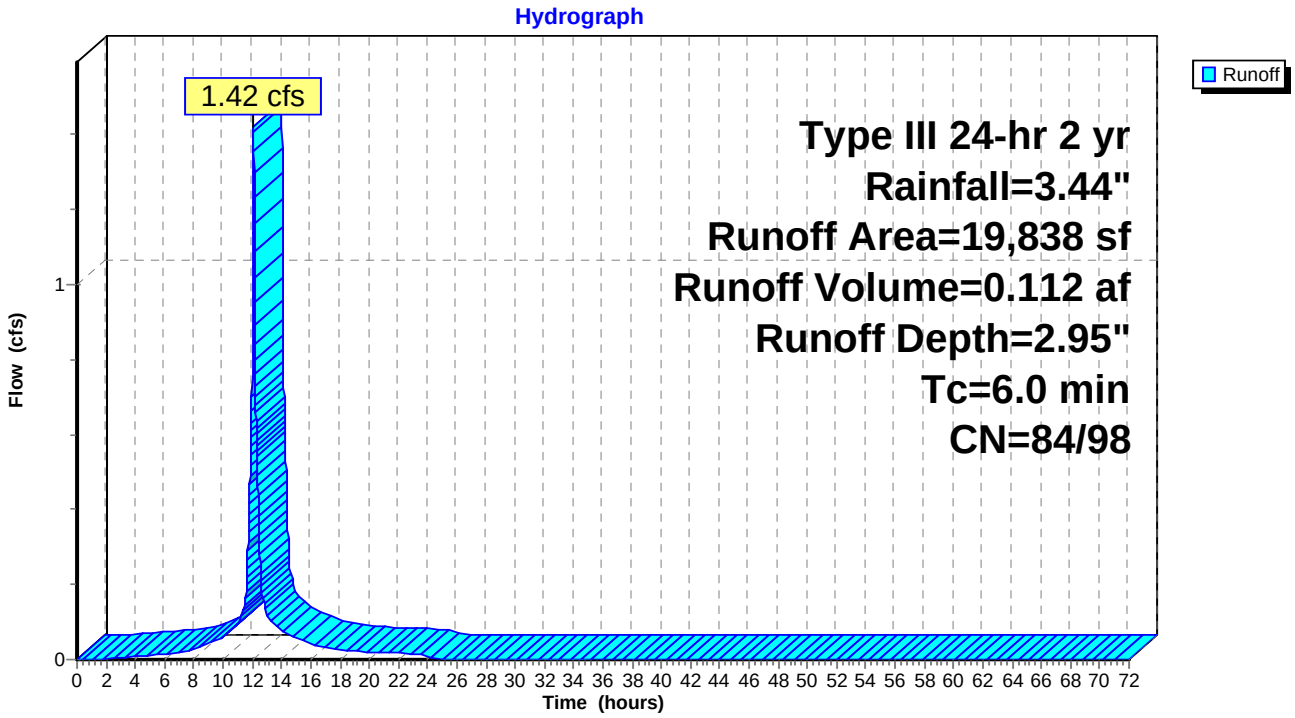
Runoff = 1.42 cfs @ 12.08 hrs, Volume= 0.112 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.44"

Area (sf)	CN	Description
15,972	98	Paved parking, HSG D
3,866	84	50-75% Grass cover, Fair, HSG D
19,838	95	Weighted Average
3,866	84	19.49% Pervious Area
15,972	98	80.51% Impervious Area

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

Subcatchment EDA: Existing Drainage Area



Summary for Subcatchment PDA - IMP: Proposed Impervious

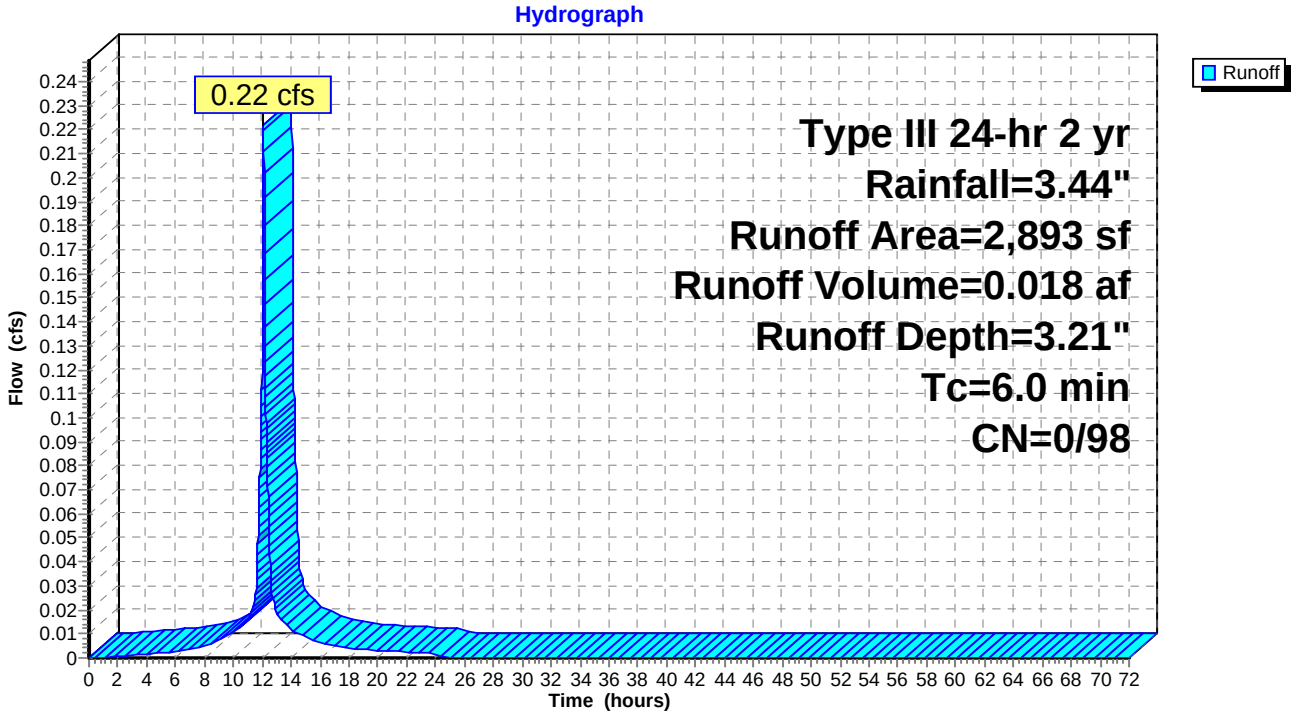
Runoff = 0.22 cfs @ 12.08 hrs, Volume= 0.018 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.44"

Area (sf)	CN	Description
2,893	98	Paved parking, HSG D
2,893	98	100.00% Impervious Area

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

Subcatchment PDA - IMP: Proposed Impervious



Summary for Subcatchment PDA - P: Proposed Pervious

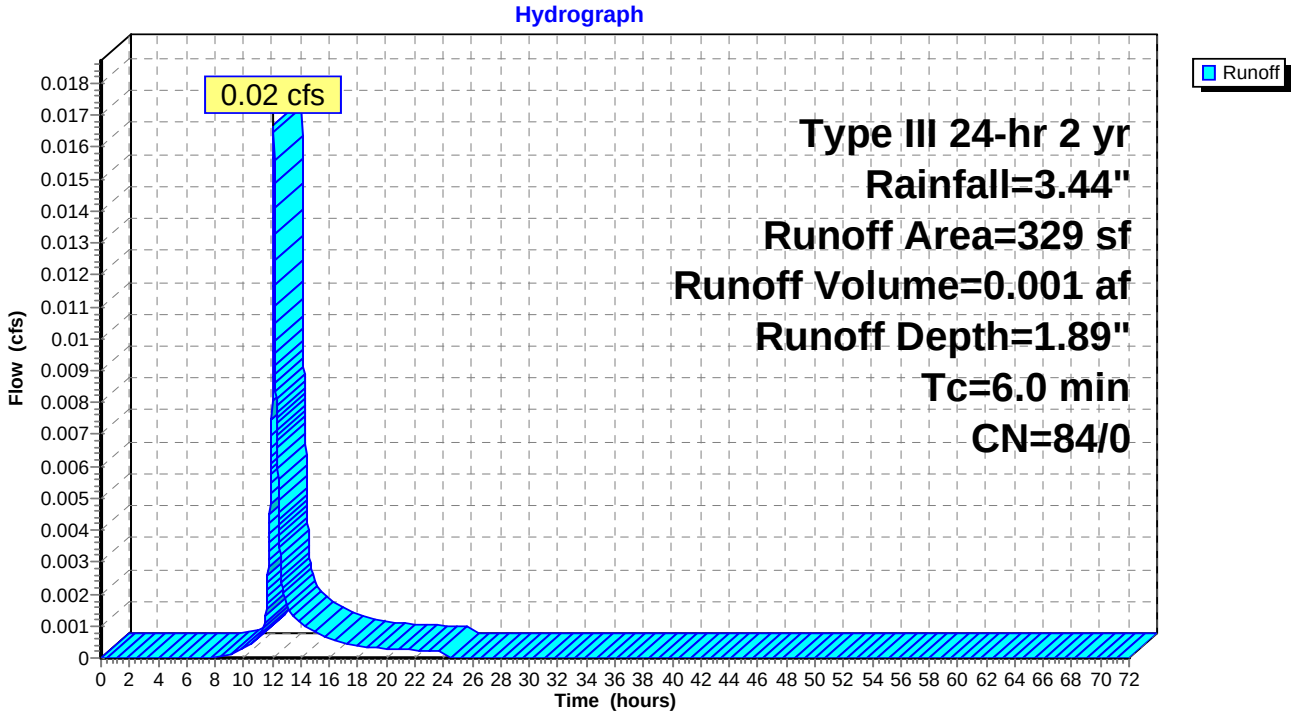
Runoff = 0.02 cfs @ 12.09 hrs, Volume= 0.001 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.44"

Area (sf)	CN	Description
329	84	50-75% Grass cover, Fair, HSG D
329	84	100.00% Pervious Area

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

Subcatchment PDA - P: Proposed Pervious

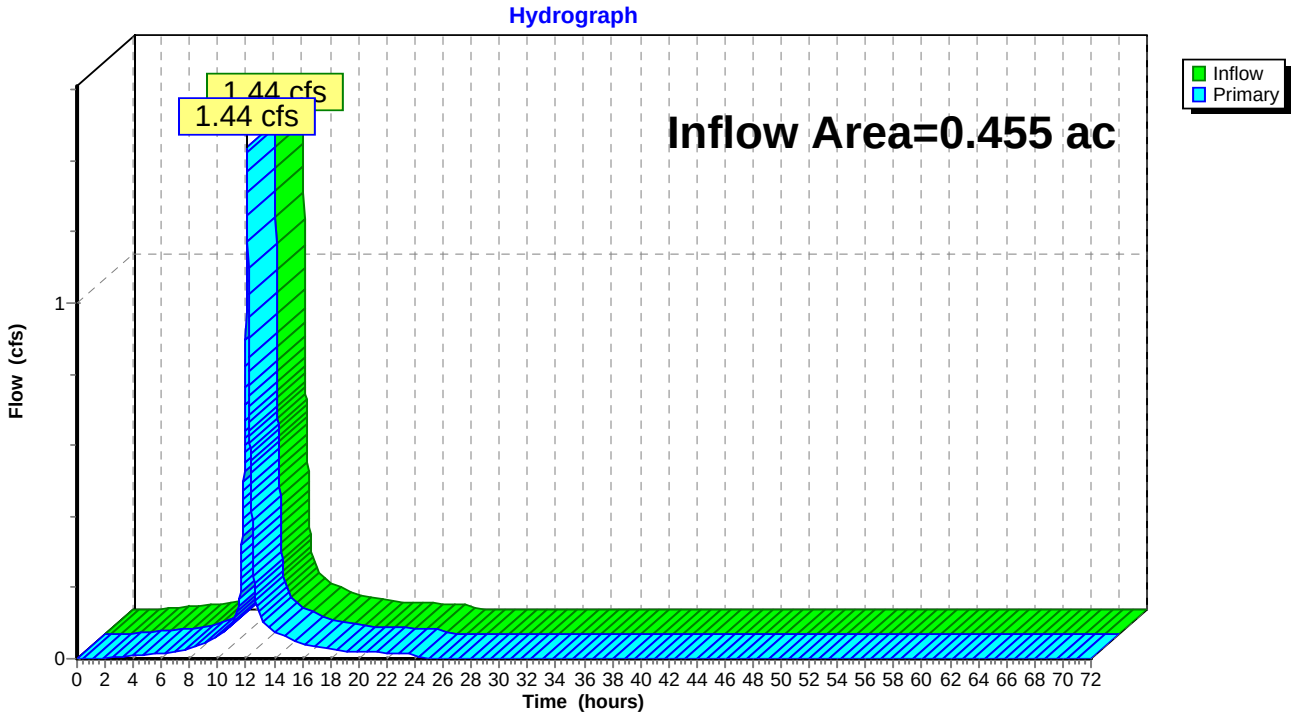


Summary for Link PDA: PDA

Inflow Area = 0.455 ac, 83.70% Impervious, Inflow Depth = 2.99" for 2 yr event
Inflow = 1.44 cfs @ 12.08 hrs, Volume= 0.114 af
Primary = 1.44 cfs @ 12.08 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link PDA: PDA



10-YEAR STORM EVENT

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 9
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment BYPASS: Bypass Runoff Area=16,616 sf 82.52% Impervious Runoff Depth=4.72"
Tc=6.0 min CN=84/98 Runoff=1.88 cfs 0.150 af

Subcatchment EDA: Existing Drainage Runoff Area=19,838 sf 80.51% Impervious Runoff Depth=4.69"
Tc=6.0 min CN=84/98 Runoff=2.23 cfs 0.178 af

Subcatchment PDA - IMP: Proposed Runoff Area=2,893 sf 100.00% Impervious Runoff Depth=4.98"
Tc=6.0 min CN=0/98 Runoff=0.34 cfs 0.028 af

Subcatchment PDA - P: Proposed Pervious Runoff Area=329 sf 0.00% Impervious Runoff Depth=3.47"
Tc=6.0 min CN=84/0 Runoff=0.03 cfs 0.002 af

Link PDA: PDA Inflow=2.25 cfs 0.180 af
Primary=2.25 cfs 0.180 af

Total Runoff Area = 0.911 ac Runoff Volume = 0.358 af Average Runoff Depth = 4.71"
17.89% Pervious = 0.163 ac 82.11% Impervious = 0.748 ac

Summary for Subcatchment BYPASS: Bypass

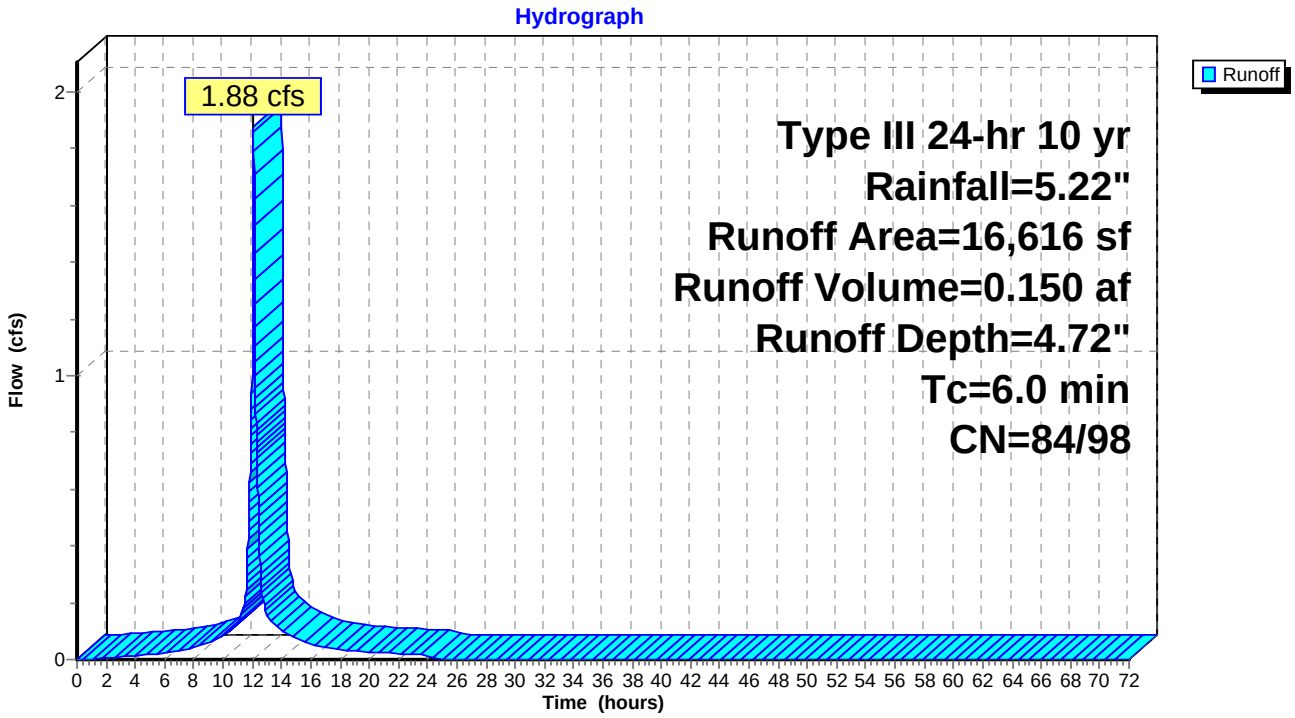
Runoff = 1.88 cfs @ 12.08 hrs, Volume= 0.150 af, Depth= 4.72"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.22"

Area (sf)	CN	Description
13,712	98	Paved parking, HSG D
2,904	84	50-75% Grass cover, Fair, HSG D
16,616	96	Weighted Average
2,904	84	17.48% Pervious Area
13,712	98	82.52% Impervious Area

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

Subcatchment BYPASS: Bypass



Summary for Subcatchment EDA: Existing Drainage Area

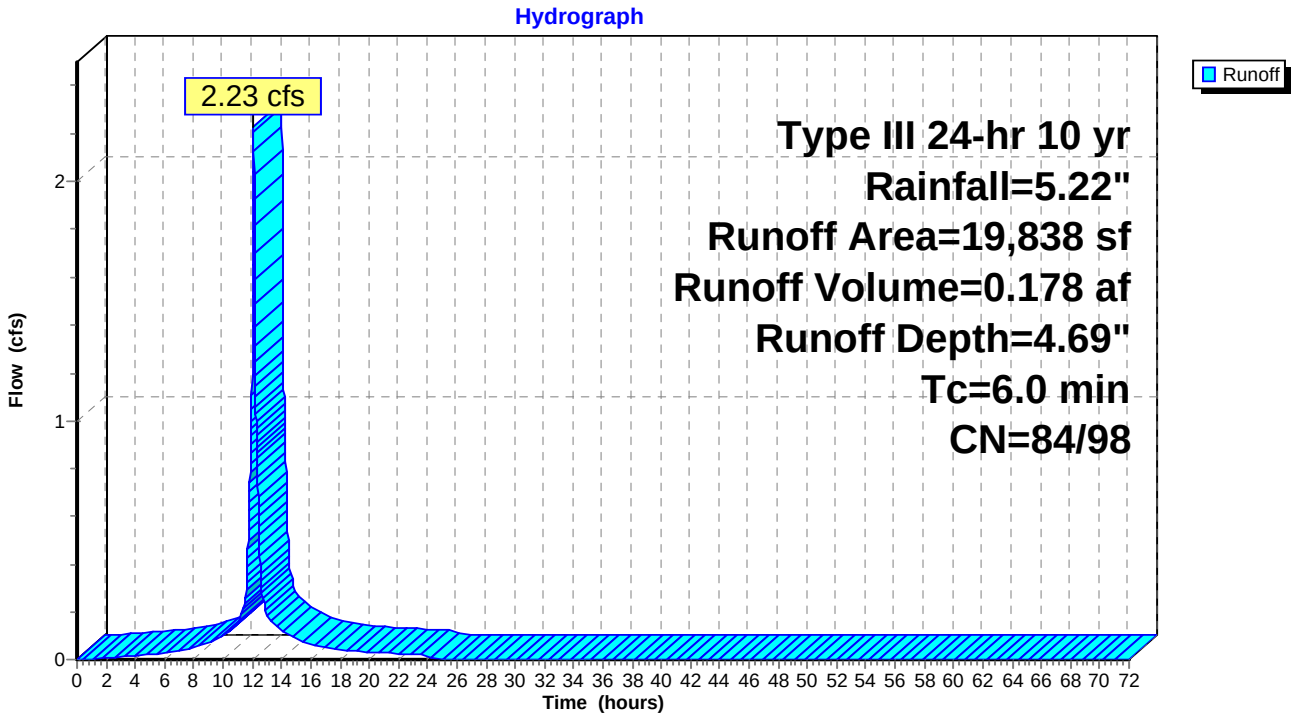
Runoff = 2.23 cfs @ 12.08 hrs, Volume= 0.178 af, Depth= 4.69"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.22"

Area (sf)	CN	Description
15,972	98	Paved parking, HSG D
3,866	84	50-75% Grass cover, Fair, HSG D
19,838	95	Weighted Average
3,866	84	19.49% Pervious Area
15,972	98	80.51% Impervious Area

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

Subcatchment EDA: Existing Drainage Area



Summary for Subcatchment PDA - IMP: Proposed Impervious

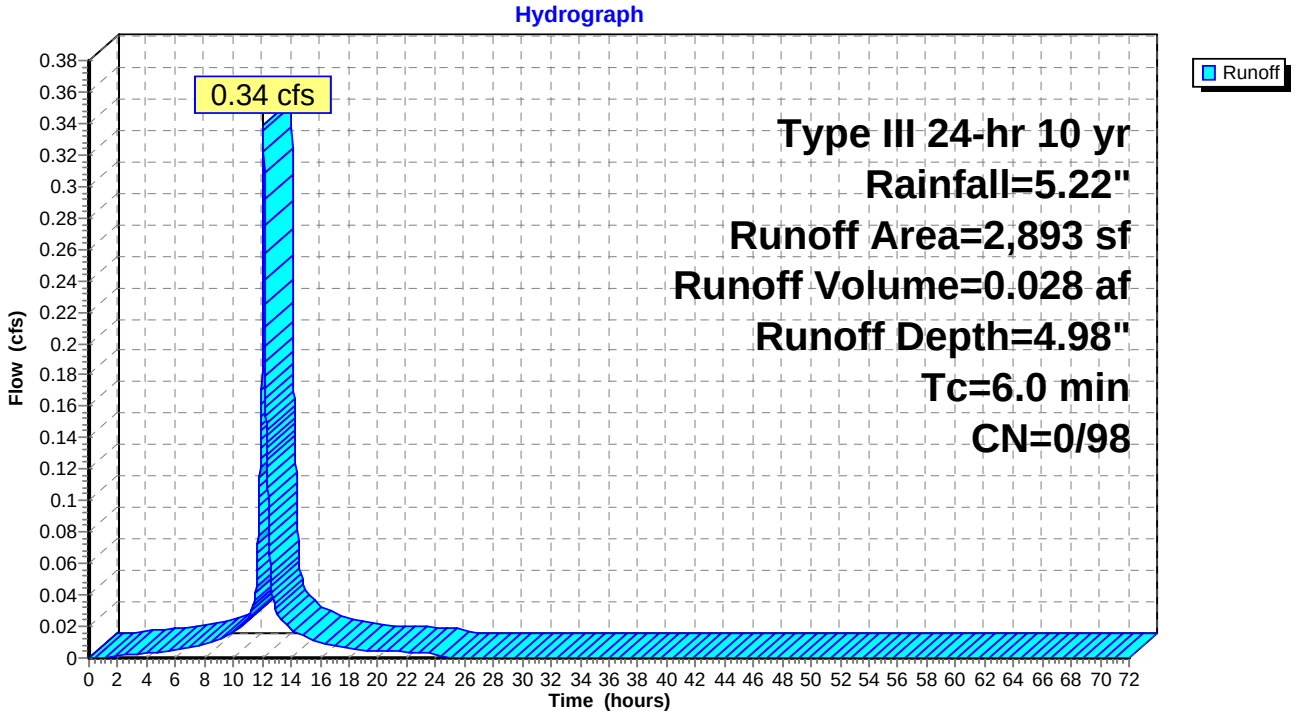
Runoff = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 4.98"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.22"

Area (sf)	CN	Description
2,893	98	Paved parking, HSG D
2,893	98	100.00% Impervious Area

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

Subcatchment PDA - IMP: Proposed Impervious



Summary for Subcatchment PDA - P: Proposed Pervious

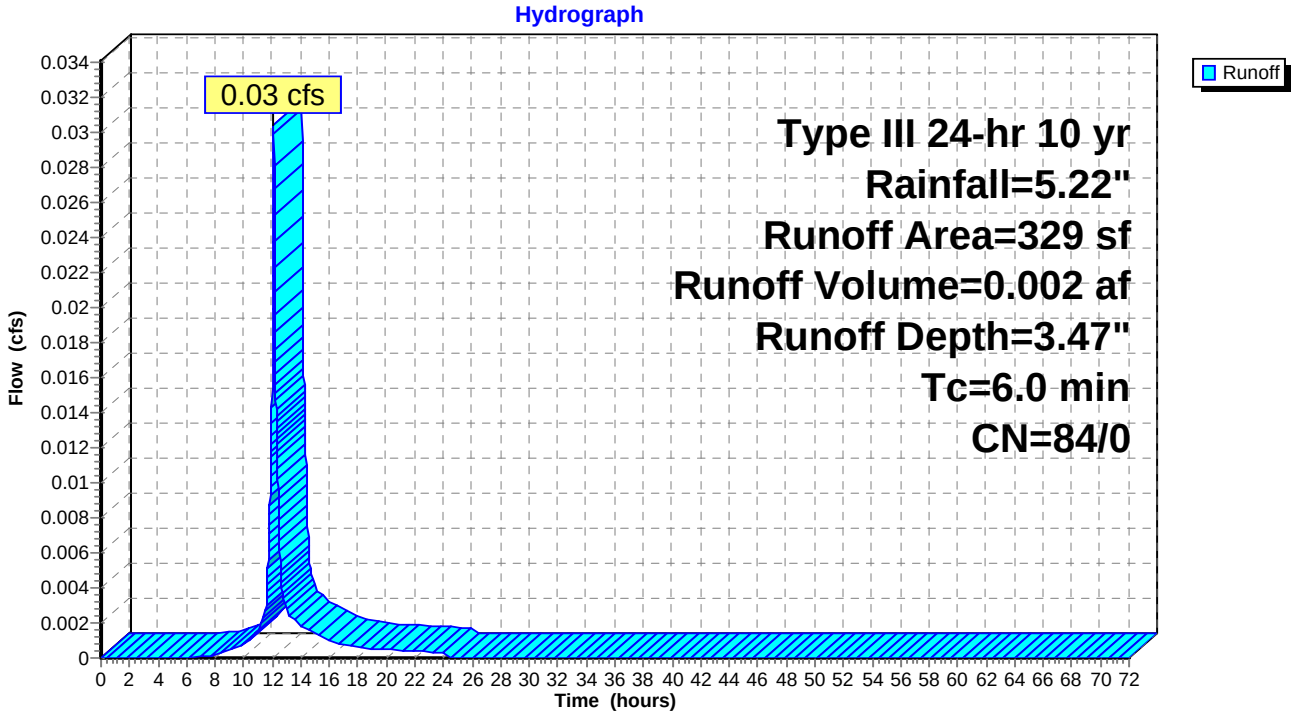
Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 3.47"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.22"

Area (sf)	CN	Description
329	84	50-75% Grass cover, Fair, HSG D
329	84	100.00% Pervious Area

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

Subcatchment PDA - P: Proposed Pervious

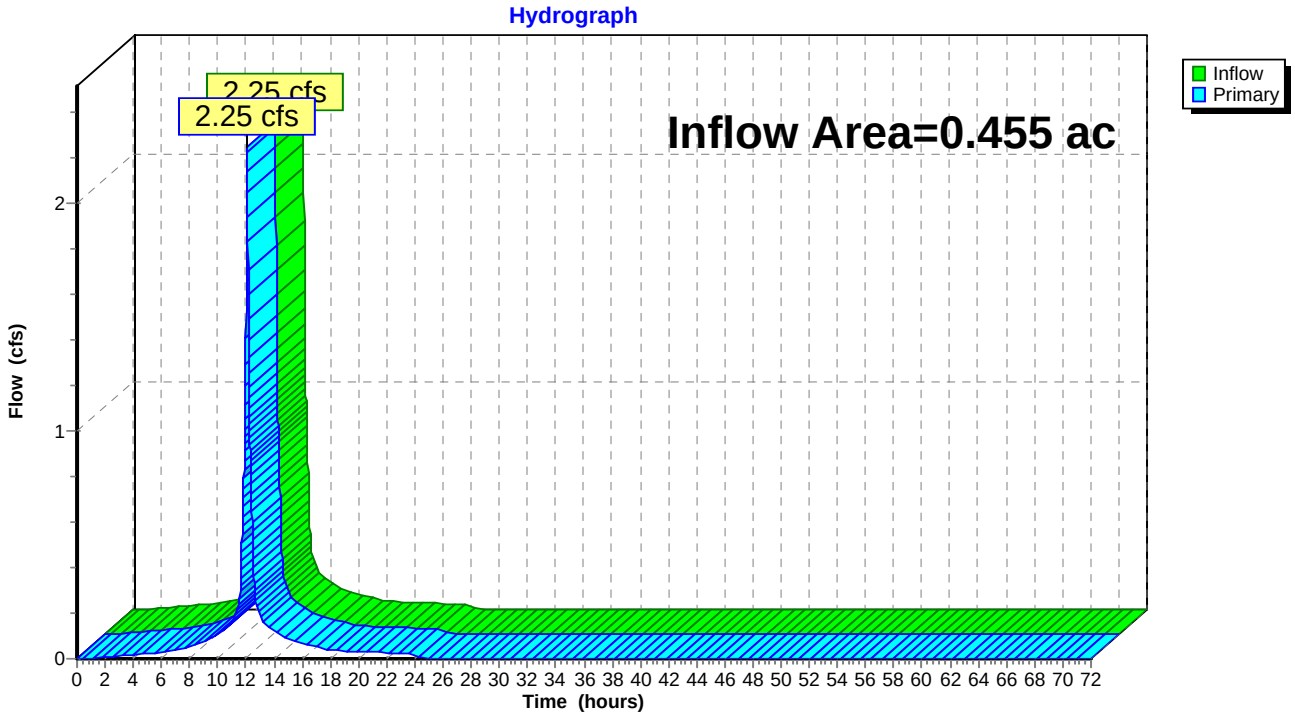


Summary for Link PDA: PDA

Inflow Area = 0.455 ac, 83.70% Impervious, Inflow Depth = 4.74" for 10 yr event
Inflow = 2.25 cfs @ 12.08 hrs, Volume= 0.180 af
Primary = 2.25 cfs @ 12.08 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link PDA: PDA



100-YEAR STORM EVENT

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 9
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment BYPASS: Bypass Runoff Area=16,616 sf 82.52% Impervious Runoff Depth=8.12"
Tc=6.0 min CN=84/98 Runoff=3.18 cfs 0.258 af

Subcatchment EDA: Existing Drainage Runoff Area=19,838 sf 80.51% Impervious Runoff Depth=8.09"
Tc=6.0 min CN=84/98 Runoff=3.79 cfs 0.307 af

Subcatchment PDA - IMP: Proposed Runoff Area=2,893 sf 100.00% Impervious Runoff Depth=8.42"
Tc=6.0 min CN=0/98 Runoff=0.56 cfs 0.047 af

Subcatchment PDA - P: Proposed Pervious Runoff Area=329 sf 0.00% Impervious Runoff Depth=6.73"
Tc=6.0 min CN=84/0 Runoff=0.06 cfs 0.004 af

Link PDA: PDA Inflow=3.81 cfs 0.309 af
Primary=3.81 cfs 0.309 af

Total Runoff Area = 0.911 ac Runoff Volume = 0.616 af Average Runoff Depth = 8.12"
17.89% Pervious = 0.163 ac 82.11% Impervious = 0.748 ac

Summary for Subcatchment BYPASS: Bypass

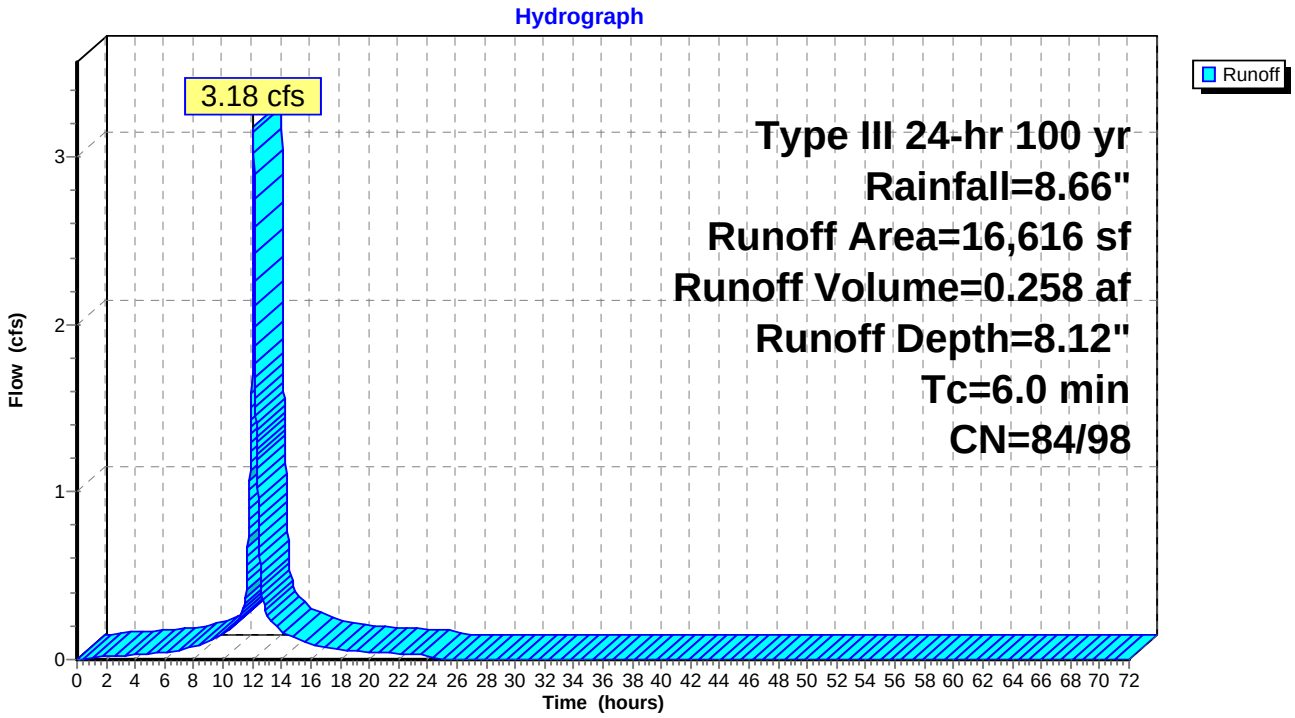
Runoff = 3.18 cfs @ 12.08 hrs, Volume= 0.258 af, Depth= 8.12"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.66"

Area (sf)	CN	Description
13,712	98	Paved parking, HSG D
2,904	84	50-75% Grass cover, Fair, HSG D
16,616	96	Weighted Average
2,904	84	17.48% Pervious Area
13,712	98	82.52% Impervious Area

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

Subcatchment BYPASS: Bypass



Summary for Subcatchment EDA: Existing Drainage Area

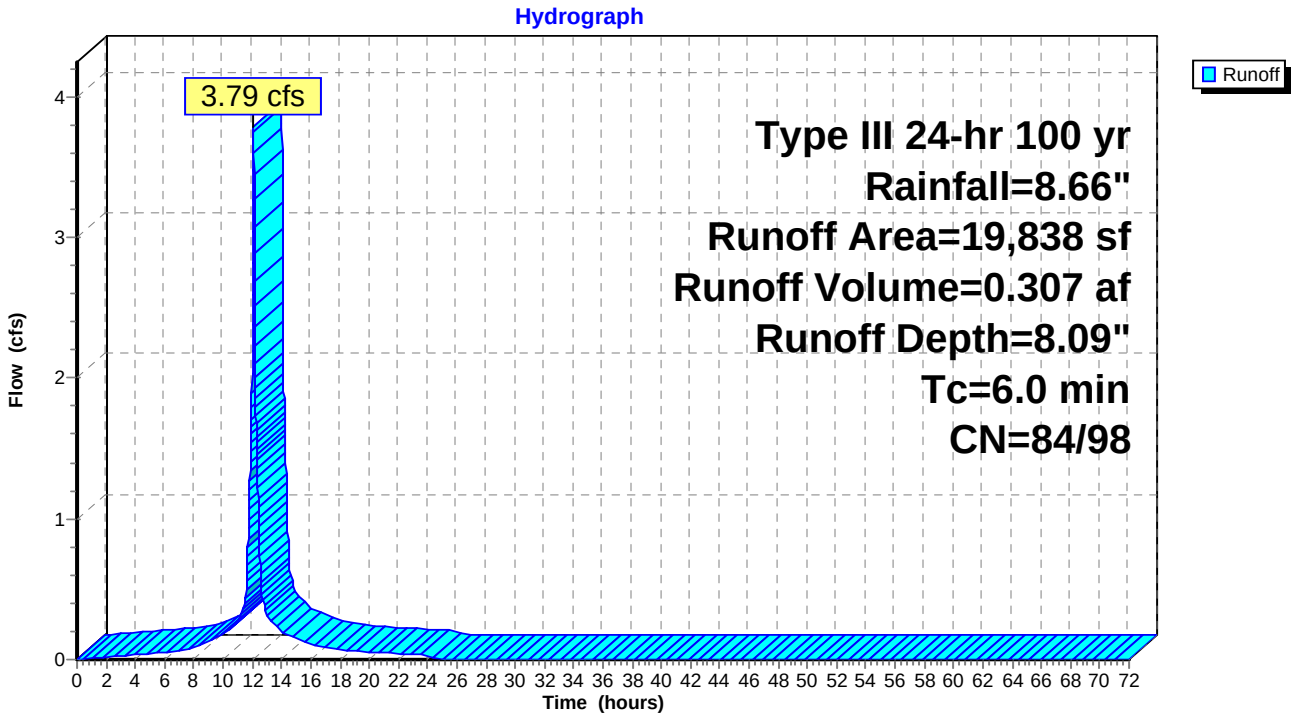
Runoff = 3.79 cfs @ 12.08 hrs, Volume= 0.307 af, Depth= 8.09"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.66"

Area (sf)	CN	Description
15,972	98	Paved parking, HSG D
3,866	84	50-75% Grass cover, Fair, HSG D
19,838	95	Weighted Average
3,866	84	19.49% Pervious Area
15,972	98	80.51% Impervious Area

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

Subcatchment EDA: Existing Drainage Area



Summary for Subcatchment PDA - IMP: Proposed Impervious

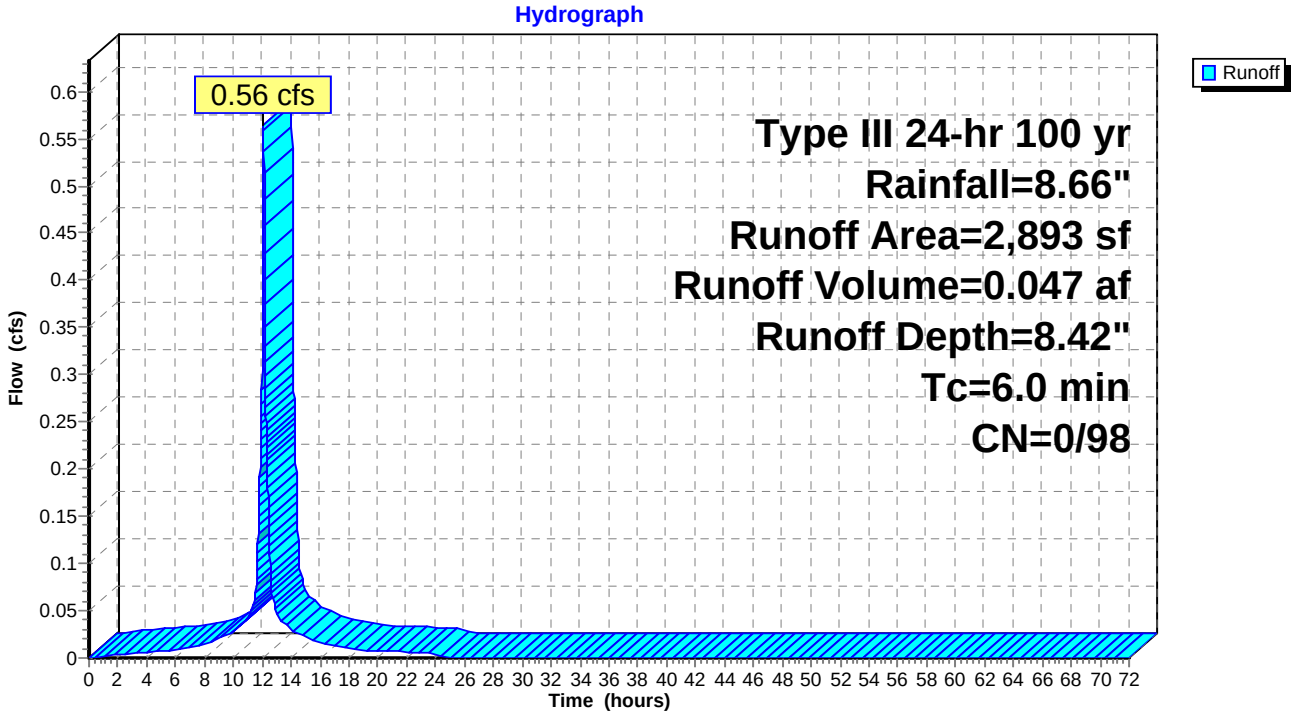
Runoff = 0.56 cfs @ 12.08 hrs, Volume= 0.047 af, Depth= 8.42"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.66"

Area (sf)	CN	Description
2,893	98	Paved parking, HSG D
2,893	98	100.00% Impervious Area

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

Subcatchment PDA - IMP: Proposed Impervious



Summary for Subcatchment PDA - P: Proposed Pervious

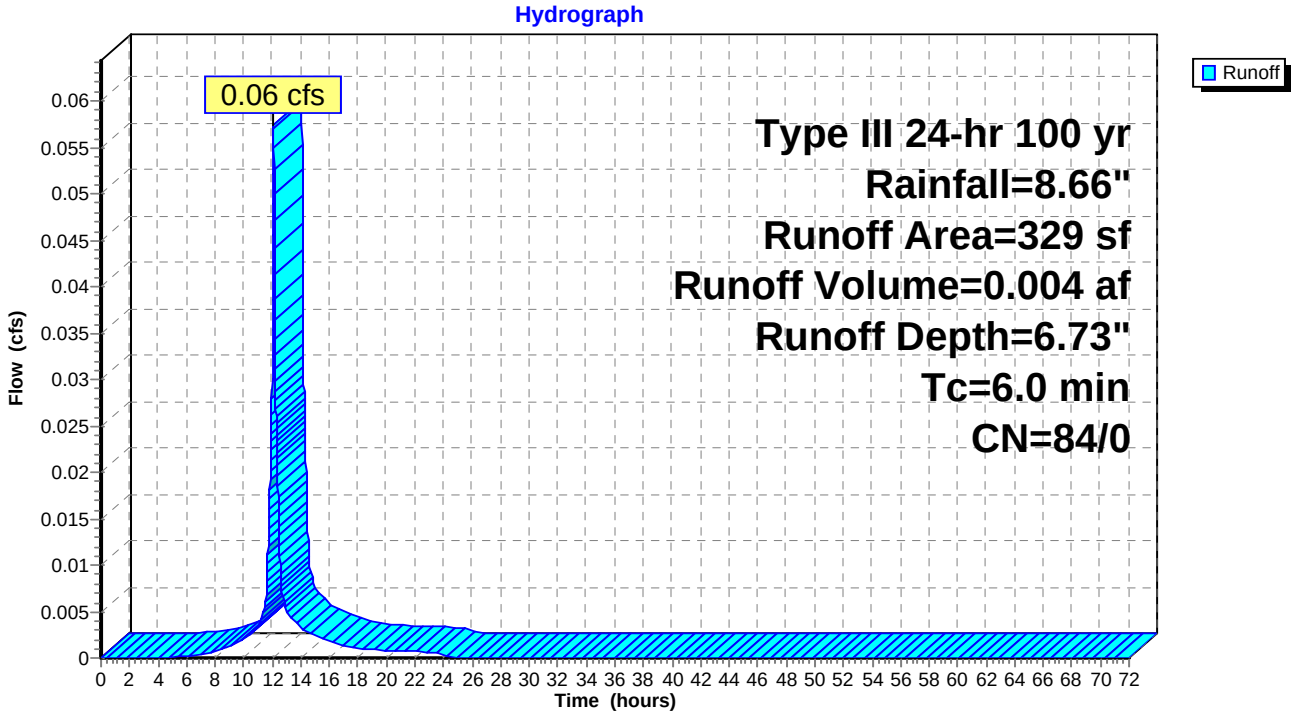
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 6.73"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.66"

Area (sf)	CN	Description
329	84	50-75% Grass cover, Fair, HSG D
329	84	100.00% Pervious Area

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

Subcatchment PDA - P: Proposed Pervious

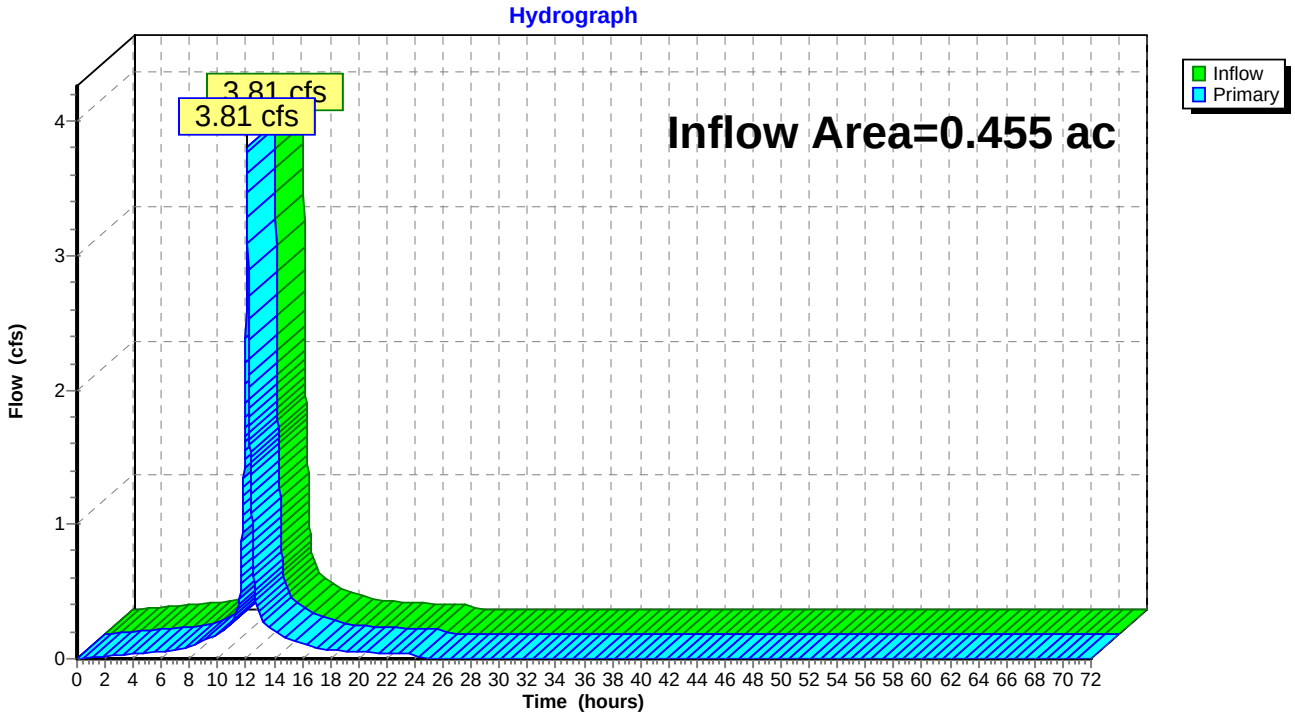


Summary for Link PDA: PDA

Inflow Area = 0.455 ac, 83.70% Impervious, Inflow Depth = 8.14" for 100 yr event
Inflow = 3.81 cfs @ 12.08 hrs, Volume= 0.309 af
Primary = 3.81 cfs @ 12.08 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link PDA: PDA



NRCS SOIL SURVEY OF ESSEX COUNTY

Map Scale: 1:431 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

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 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
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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: http://websoilsurvey.nrcs.usda.gov
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: Essex County, New Jersey
Survey Area Data: Version 11, Sep 18, 2015

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

Date(s) aerial images were photographed: Aug 25, 2014—Sep 27, 2014

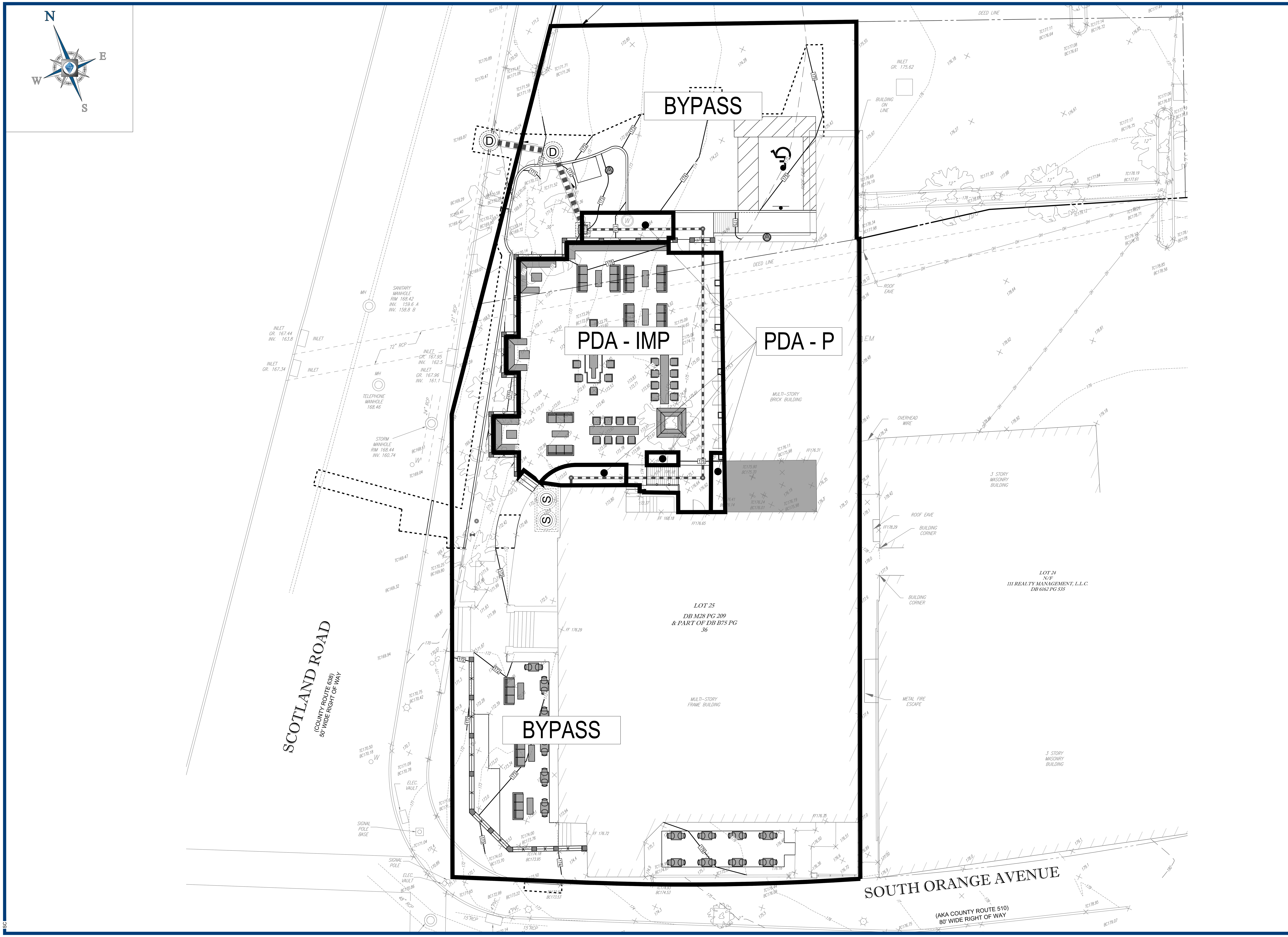
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Essex County, New Jersey (NJ013)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
URBOOB	Urban land, Boonton substratum, 0 to 8 percent slopes, red sandstone lowland	0.5	100.0%
Totals for Area of Interest		**0.5**	**100.0%**

DRAINAGE AREA MAPS

Existing Drainage Area Map
Proposed Drainage Area Map



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CHARLOTTE, NC · ATLANTA, GA · TAMPA, FL · SOUTH FLORIDA · DALLAS, TX

REVISIONS

REV	DATE	COMMENT	DRAWN BY / CHECKED BY
1	11/22/2016	REV. PER SURVEY UPDATE	AR / SC
2	12/16/2016	REV. PER CLIENT COMMENTS	JAP / SC
3	04/20/2017	REV PER GENERAL COMMENTS	BM / BE
4	5/11/2017	REV. PER REVIEW LETTER	BM / BE

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PROJECT No.:	J150742
DRAWN BY:	SC
CHECKED BY:	RLS
DATE:	05/20/2016
SCALE:	AS SHOWN
CAD I.D.:	J150742-DRN-0A

PROJECT:

PRELIMINARY & FINAL SITE PLAN

FOR

Landmark developers

PROPOSED RESTAURANT WITH OUTDOOR SEATING

BLOCK 1007; LOTS 24-26
BLOCK 2007; LOTS 1 & 2
BLOCK 2006; LOT 5
101 SOUTH ORANGE AVENUE
TOWNSHIP OF SOUTH ORANGE VILLAGE
ESSEX COUNTY, NEW JERSEY

BOHLER ENGINEERING
35 TECHNOLOGY DRIVE
WARREN , NJ 07059
Phone: (908) 668-8300
Fax: (908) 754-4401
www.BohlerEngineering.com
NJ CERT. OF AUTHORIZATION NO. 24GA28161700

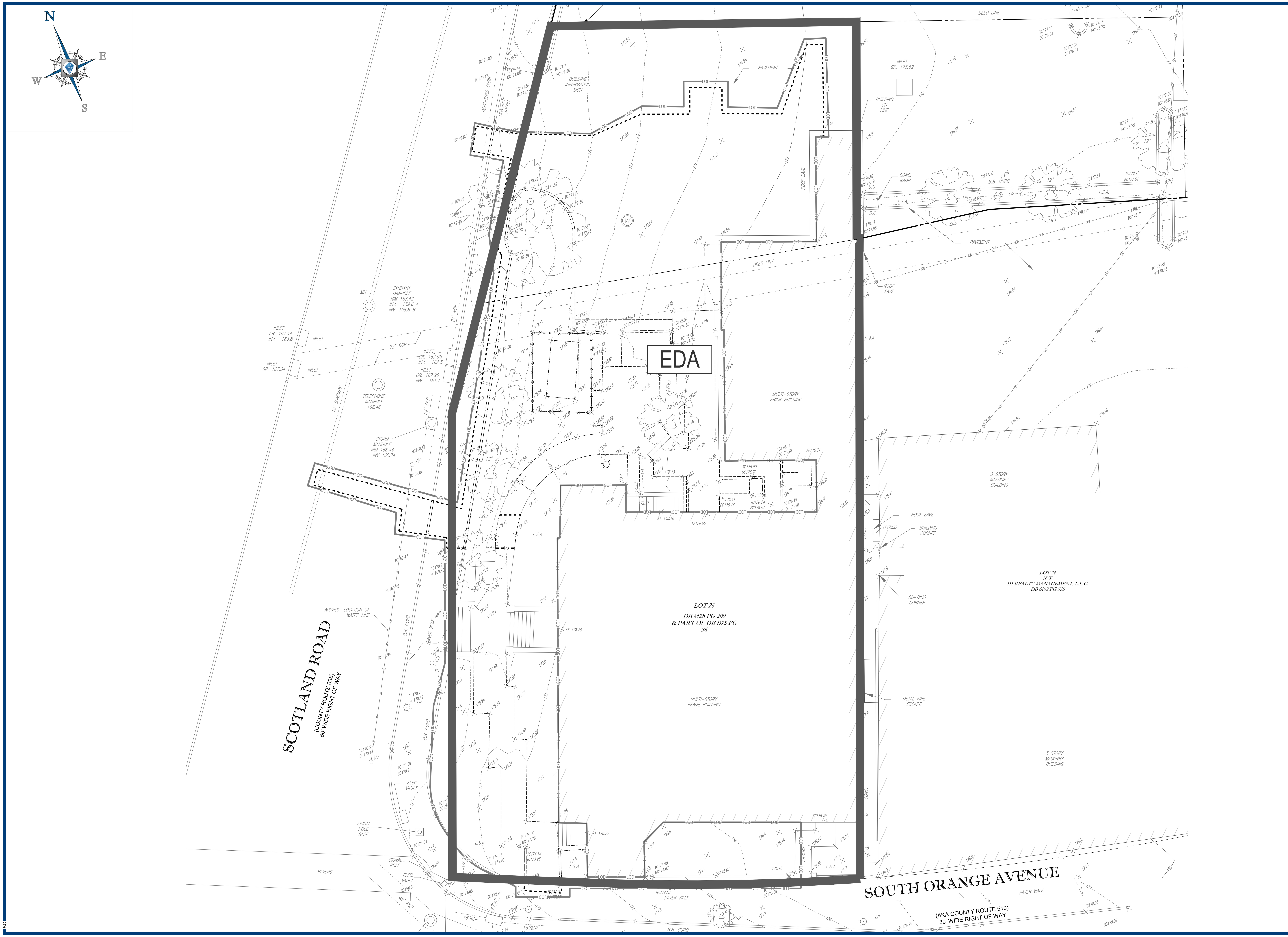
R.L. STREKER
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 45344
NEW YORK LICENSE No. 079512

SHEET TITLE:

PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:
2
OF 2

REVISION 4 - 5/11/2017



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REVISION 4 - 5/11/2017