

CASEY & KELLER, INC.

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N.J. STATE BOARD OF PROFESSIONAL ENGINEERS & LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NO. 24GA27985400

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STORMWATER **MANAGEMENT REPORT**

FOR

66 Main, LLC
66 Main Street
Borough of Madison
Morris County, New Jersey

BLOCK 1802 – LOT 4

CASEY & KELLER PROJECT #: 1210201

December 9, 2021


MICHAEL LANZAFAMA, P.E. & P.L.S.
NJ REG. # GB 30084

Preliminary & Final Site Plan
66 Main Street
Block 1802, Lot 4
1210201

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STORMWATER MANAGEMENT REPORT FOR 66 Main LLC

INTRODUCTION

The project is located at 66 Main Street. The subject parcel is a rectangular shaped corner lot. The parcel consists of 0.117 acre property which fronts on Main Street and Central Avenue. The subject property is located in the Borough of Madison's CBD-1 Zone, and is also known as Block 1802, Lot 4.

EXISTING CONDITIONS

The subject site currently is comprised of a 1-story retail building along Central Avenue and a 3 story retail (pharmacy)/office/apartment building. Between the buildings is a utility corridor shared by the two uses. The 1 story building is currently vacant. The pharmacy building is active with second floor office space and two residential units on the third floor. The cumulative area of the existing buildings is approximately 4,500 square feet and the remaining 604 square feet is impervious surface. Ultimately, the stormwater runoff generated by the site drains to the drainage system on Central Avenue.

PROPOSED DEVELOPMENT

The project proposes a four-story, mixed-use building containing 6 residential dwellings on the second, third and fourth floor and 1,603 square feet of retail on the ground floor. The proposed building coverage will be 4,650 square feet and the remaining will be impervious cover. The proposed development would result a zero increase in impervious cover.

The ground level will have retail space, a residential lobby, as well as other miscellaneous features which serve the building's proper function. The 2nd, 3rd and 4th floor of the proposed building would have 6 residential units.

A proposed blue roof is proposed on the roof level of the building. A blue roof controls the flow of roof drainage by increasing temporary storage and more slowly releasing rainwater by means of detention, which is considered a stormwater management practice (SMP). A blue roof serves as a post-construction stormwater control that helps to mimic pre-development drainage patterns and hydrologic processes by increasing detention at the point of rainfall.

The proposed development would result in zero increase in impervious cover. The proposed project would result in 2,712 square feet of land disturbances.

Since this project is less than one acre of land disturbance, the project is NOT considered a "major development" by the state's stormwater regulations outlined in N.J.A.C. 7:8. The project is exempt from stormwater management but a blue roof is being proposed.

TOPOGRAPHY & DRAINAGE PATTERNS

The site moderately slopes to the North. The stormwater drains to Central Avenue stormwater system. Surface runoff areas will not change for the proposed conditions. The entire proposed roof will be collected and stored on the roof and discharge to the Borough storm system at a rate less than existing.

GROUNDWATER RECHARGE

The project site is located with the New Jersey State PA-1 Planning Area, which means areas of previous and intense development (that is, impervious cover, disturbed soils, contaminated areas, et al.) (NJAC 7:8-5.4 (2)). The municipal ordinance, as well as the State's Stormwater Management Rules require every major development to provide for maintaining 100% of the average annual pre-project groundwater recharge volume. This project is exempt from this requirement because it is in Planning Area 1 and is previously developed.

WATER QUALITY

Water quality requirements are not applicable to this development since the proposed development will result in an increase of less than 0.25 acres of additional impervious area. As provided within the Township Stormwater Management Rules Water Quality standards and NJDEP (N.J.A.C.7:8-5.5) apply if there is a net increase of 0.25 acres or more of impervious surface onsite. Therefore, water quality requirements are not applicable to this development. With the reduction of bituminous pavement and increase in roof area, water quality has been provided because roof water is considered clean water.

HYDROLOGY & STORMWATER MANAGEMENT

The project will result in less than 1.0 acre of total disturbance, and increase impervious coverage by less than 0.25 acres, therefore the project does not meet the definition of "Major Development" as defined in the New Jersey Stormwater Management Regulations (N.J.A.C. 7:8 et seq). Though not required, the proposed blue roof will provide detention

Runoff Coefficients and Times of Concentration

Accordingly, the following CN values have been employed for the various existing and proposed combinations of soil types and land cover:

Impervious Surface=	98
Roof=	98

In addition to CN values, the NRCS Methodology for estimating stormwater runoff rates and volumes also necessitates the determination of a time of concentration for each subwatershed/drainage area. The times of concentration were estimated in accordance with the criteria given in the SCS 1986 TR-55. A minimum six-minute time of concentration was employed.

A stormwater detention blue roof is proposed to control the peak rates of runoff for the two-, ten-, and 100-year storm events. The proposed blue roof system will collect runoff and with an outlet pipe discharge to Central Avenue.

The "Natural Resources Conservation Service Method," outlined in *Technical Release 55* was used for the sizing and routing of stormwater through the detention basins. The methodology being used is the SCS Runoff Curve Number (CN) method. This methodology is best referenced in the USDA-SCS. 1985. National Engineering Handbook, Section 4 - Hydrology. Washington, D.C.: USDA-SCS. The SCS runoff equation is:

$$Q = \frac{(P - I_a)^2}{(P - I_a) + S}$$

where

Q = runoff (in)

P = rainfall (in)

S = Potential maximum retention after runoff begins (in)

I_a = initial abstraction (in)

To achieve this methodology, Hydrocad 10.1 was used, a software that will carry out and tabulate the answers for the different storm frequencies. There would not be any increase of peak runoff from what currently exists.

The areas and runoff coefficients were used to tabulate the peak flows for each drainage area. These figures can be found in **Appendix A** of this report. A summary of the peak rates are summarized below:

Total site Analysis Table 1

Storm	Existing Peak Rate of Runoff	Proposed Peak Rate of Runoff
2 year	0.21 cfs	0.12 cf
10 year	0.31 cfs	0.19 cfs
100 year	0.49 cfs	0.31 cfs

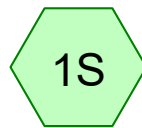
Though not required, the table shows that the proposed project would result in post-developed runoff rates considerably less than existing peak rates for the two-, ten-, and 100-year storm events. Calculations supporting our findings constitute the remainder of this report.

Preliminary & Final Site Plan
66 Main Street
Block 1802, Lot 4
1210201

APPENDIX A STORMWATER CALCULATION DATA



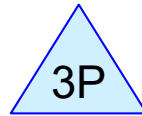
EXISTING



ROOF DETAINED



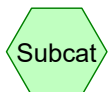
UNDETAINED



BLUE ROOF



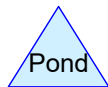
PROP



Subcat



Reach



Pond



Link

Routing Diagram for blue roof

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blue roof

NOAA 24-hr D 2 year storm Rainfall=3.50"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: ROOF DETAINED Runoff Area=1,873 sf 100.00% Impervious Runoff Depth>2.99"
Tc=6.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment 2S: EXISTING Runoff Area=2,783 sf 100.00% Impervious Runoff Depth>2.99"
Tc=6.0 min CN=98 Runoff=0.21 cfs 0.016 af

Subcatchment 5S: UNDETAINED Runoff Area=910 sf 100.00% Impervious Runoff Depth>2.99"
Tc=0.0 min CN=98 Runoff=0.08 cfs 0.005 af

Pond 3P: BLUE ROOF Peak Elev=0.05' Storage=96 cf Inflow=0.14 cfs 0.011 af
Outflow=0.08 cfs 0.011 af

Link 4L: PROP Inflow=0.12 cfs 0.016 af
Primary=0.12 cfs 0.016 af

Total Runoff Area = 0.128 ac Runoff Volume = 0.032 af Average Runoff Depth = 2.99"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.128 ac

blue roof

NOAA 24-hr D 2 year storm Rainfall=3.50"

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Summary for Subcatchment 1S: ROOF DETAINED

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.011 af, Depth> 2.99"

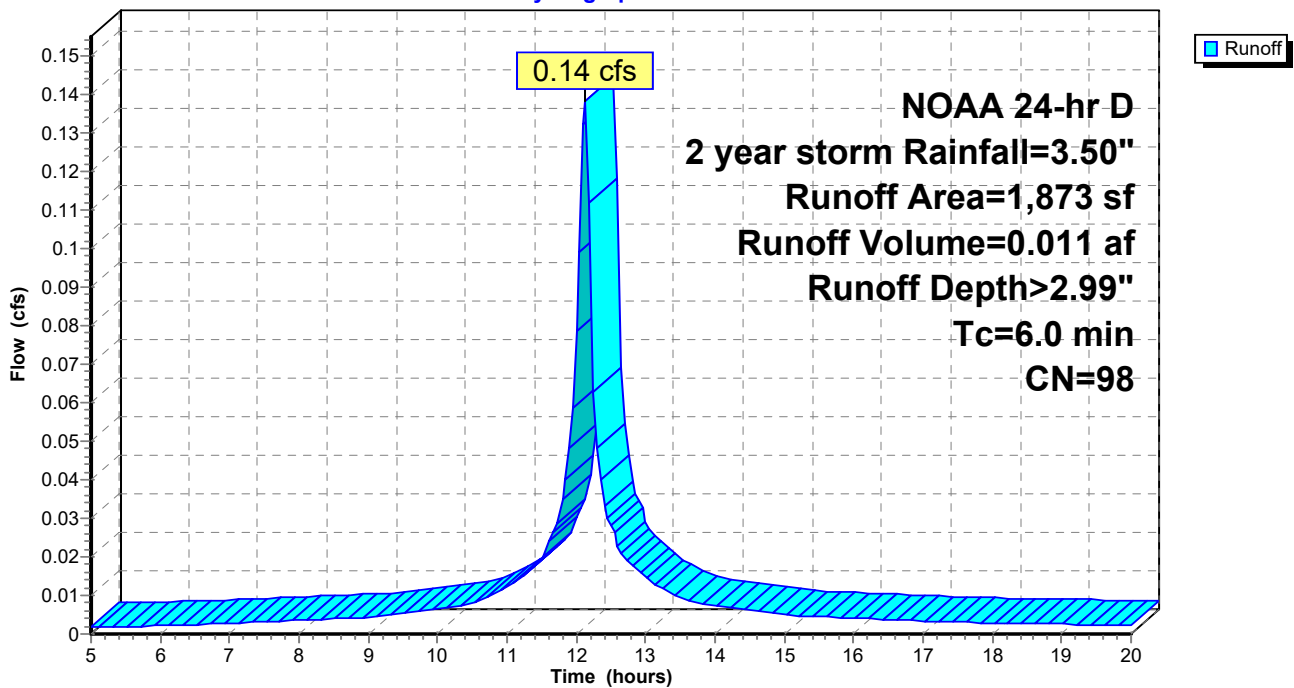
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2 year storm Rainfall=3.50"

Area (sf)	CN	Description
* 1,873	98	
1,873		100.00% Impervious Area

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

Subcatchment 1S: ROOF DETAINED

Hydrograph



blue roof

NOAA 24-hr D 2 year storm Rainfall=3.50"

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Summary for Subcatchment 2S: EXISTING

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af, Depth> 2.99"

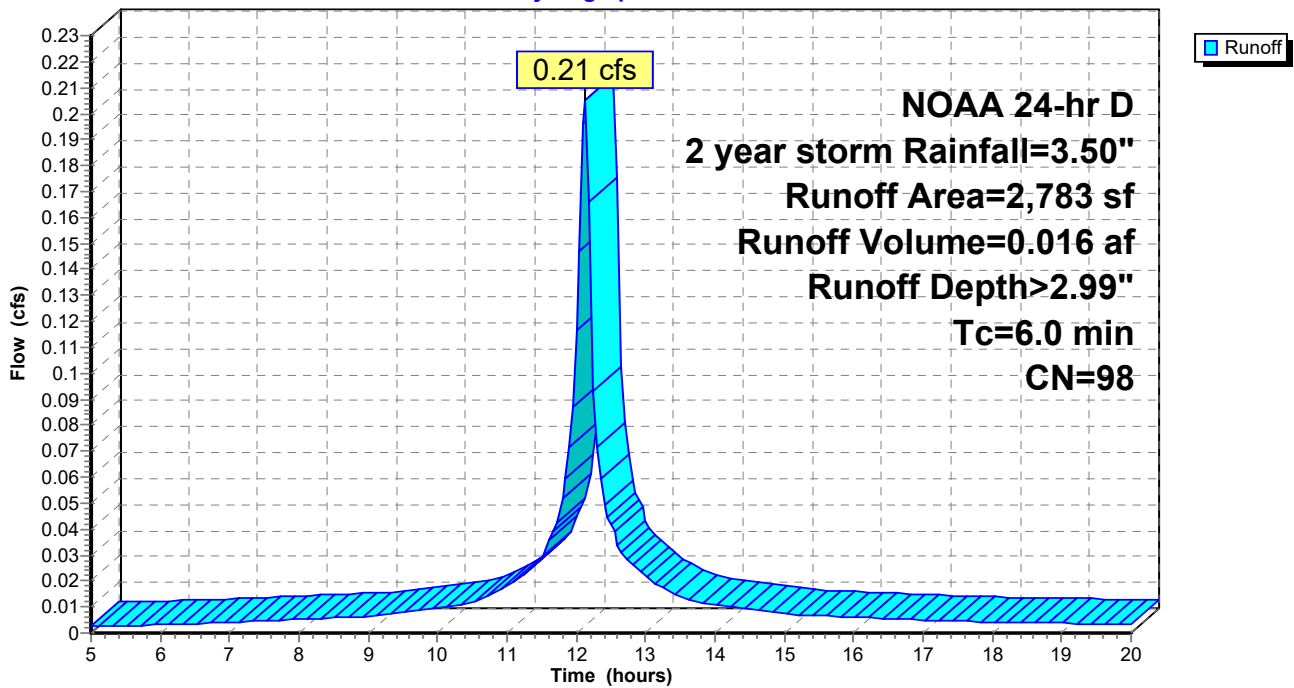
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2 year storm Rainfall=3.50"

	Area (sf)	CN	Description
*	2,050	98	existing roof
*	733	98	impervious
	2,783	98	Weighted Average
	2,783		100.00% Impervious Area

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

Subcatchment 2S: EXISTING

Hydrograph



blue roof

NOAA 24-hr D 2 year storm Rainfall=3.50"

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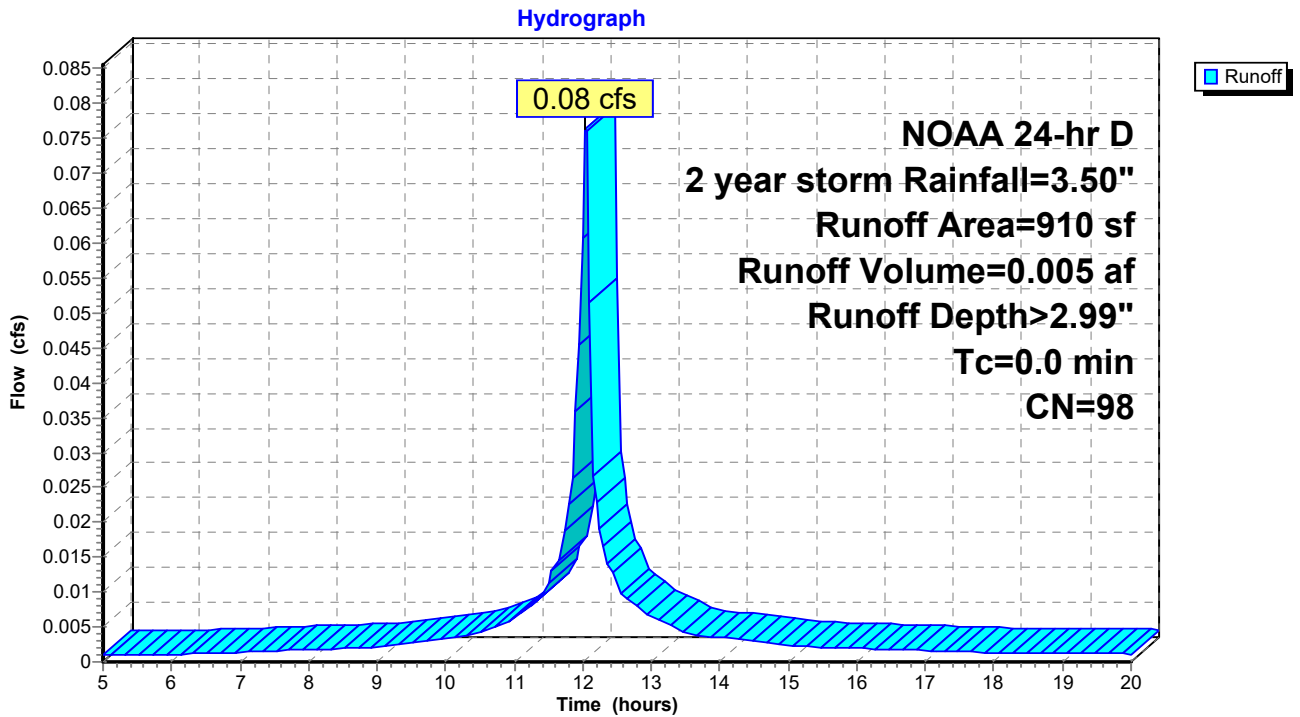
Summary for Subcatchment 5S: UNDETAINED

Runoff = 0.08 cfs @ 12.04 hrs, Volume= 0.005 af, Depth> 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 2 year storm Rainfall=3.50"

	Area (sf)	CN	Description
*	596	98	roof undetained
*	314	98	impervious
	910	98	Weighted Average
	910		100.00% Impervious Area

Subcatchment 5S: UNDETAINED



blue roof

NOAA 24-hr D 2 year storm Rainfall=3.50"

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Summary for Pond 3P: BLUE ROOF

Inflow Area = 0.043 ac, 100.00% Impervious, Inflow Depth > 2.99" for 2 year storm event
 Inflow = 0.14 cfs @ 12.13 hrs, Volume= 0.011 af
 Outflow = 0.08 cfs @ 12.22 hrs, Volume= 0.011 af, Atten= 42%, Lag= 5.7 min
 Primary = 0.08 cfs @ 12.22 hrs, Volume= 0.011 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 0.05' @ 12.22 hrs Storage= 96 cf

Plug-Flow detention time= 33.6 min calculated for 0.011 af (98% of inflow)
 Center-of-Mass det. time= 26.8 min (765.0 - 738.2)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,873 cf	BLUE ROOF Listed below

Elevation (feet)	Cum.Store (cubic-feet)
0.00	0
0.54	1,011
1.00	1,873

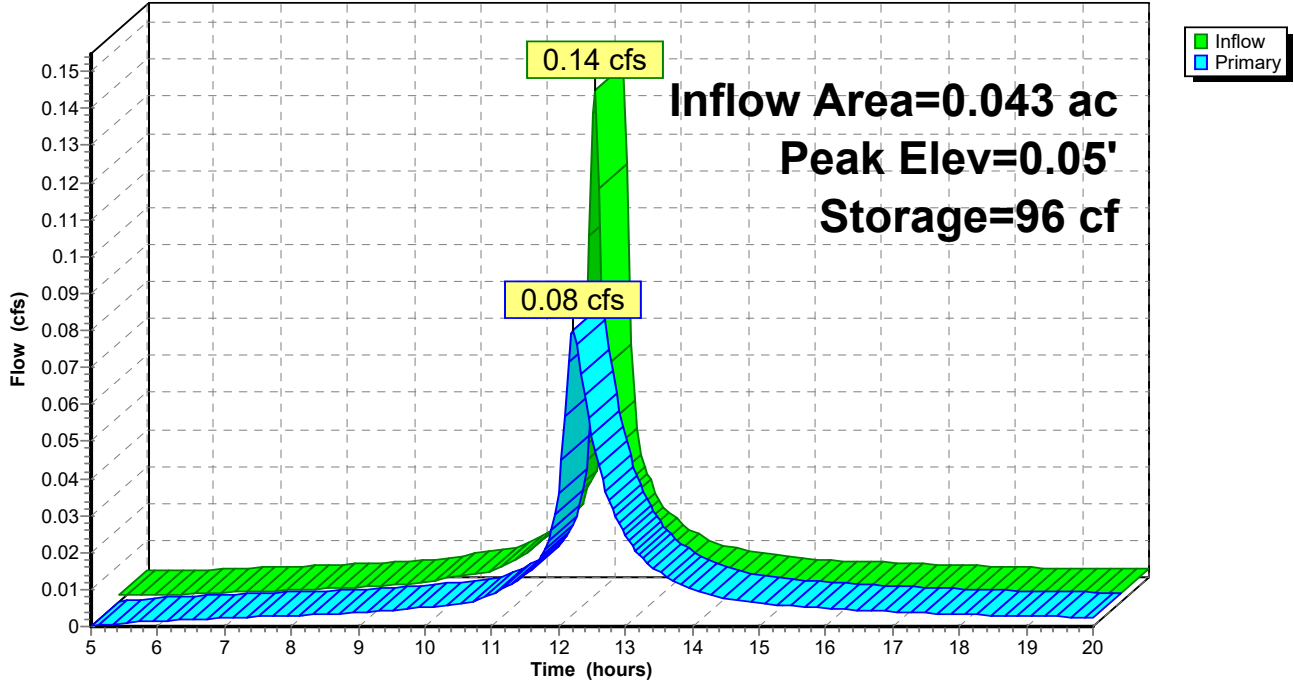
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	4.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#2	Primary	0.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 12.22 hrs HW=0.05' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 0.08 cfs @ 0.74 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: BLUE ROOF

Hydrograph



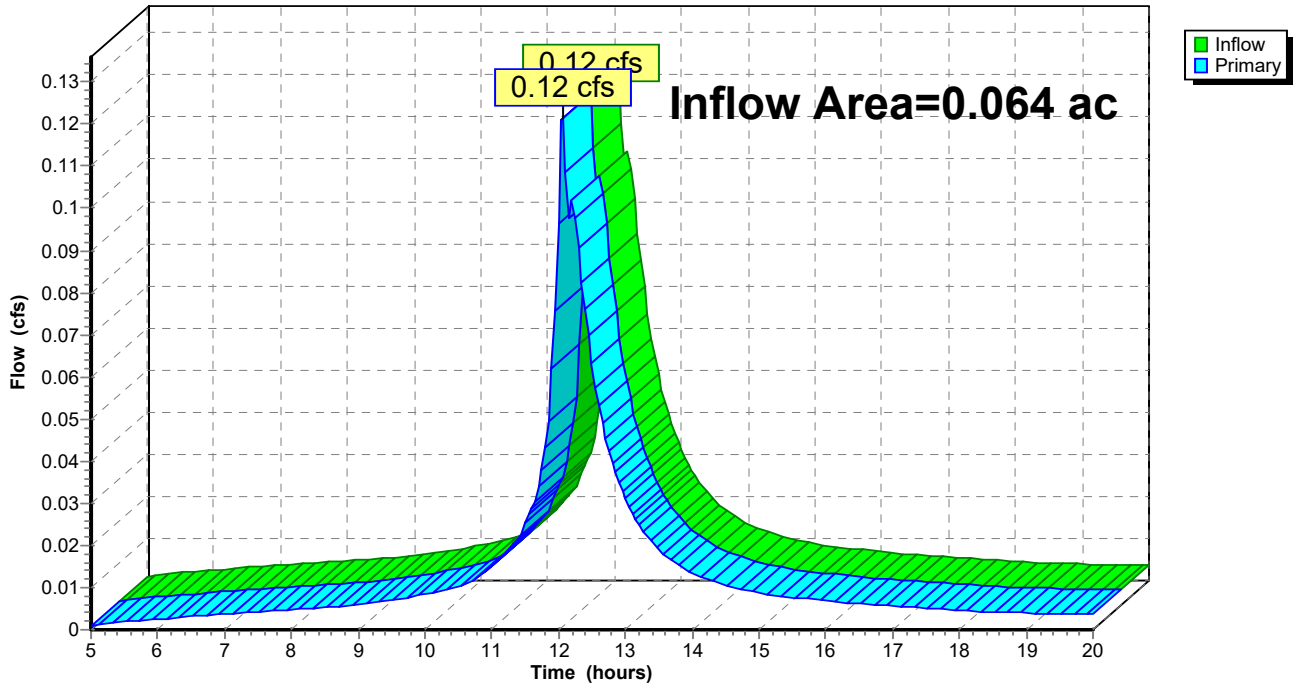
Summary for Link 4L: PROP

Inflow Area = 0.064 ac, 100.00% Impervious, Inflow Depth > 2.96" for 2 year storm event
Inflow = 0.12 cfs @ 12.06 hrs, Volume= 0.016 af
Primary = 0.12 cfs @ 12.06 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 4L: PROP

Hydrograph



blue roof

NOAA 24-hr D 10 year storm Rainfall=5.20"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: ROOF DETAINED Runoff Area=1,873 sf 100.00% Impervious Runoff Depth>4.50"
Tc=6.0 min CN=98 Runoff=0.21 cfs 0.016 af

Subcatchment 2S: EXISTING Runoff Area=2,783 sf 100.00% Impervious Runoff Depth>4.50"
Tc=6.0 min CN=98 Runoff=0.31 cfs 0.024 af

Subcatchment 5S: UNDETAINED Runoff Area=910 sf 100.00% Impervious Runoff Depth>4.50"
Tc=0.0 min CN=98 Runoff=0.11 cfs 0.008 af

Pond 3P: BLUE ROOF Peak Elev=0.07' Storage=132 cf Inflow=0.21 cfs 0.016 af
Outflow=0.13 cfs 0.016 af

Link 4L: PROP Inflow=0.19 cfs 0.024 af
Primary=0.19 cfs 0.024 af

Total Runoff Area = 0.128 ac Runoff Volume = 0.048 af Average Runoff Depth = 4.50"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.128 ac

Summary for Subcatchment 1S: ROOF DETAINED

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af, Depth> 4.50"

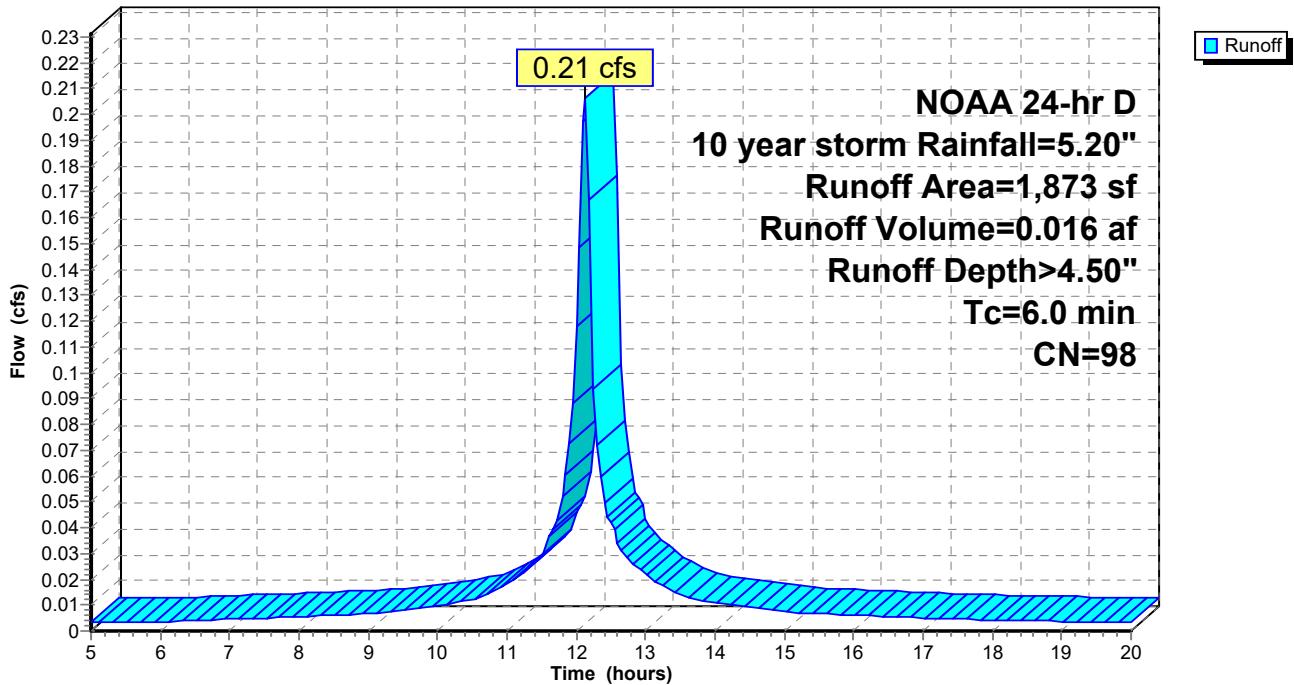
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10 year storm Rainfall=5.20"

Area (sf)	CN	Description
* 1,873	98	
1,873		100.00% Impervious Area

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

Subcatchment 1S: ROOF DETAINED

Hydrograph



blue roof

NOAA 24-hr D 10 year storm Rainfall=5.20"

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Summary for Subcatchment 2S: EXISTING

Runoff = 0.31 cfs @ 12.13 hrs, Volume= 0.024 af, Depth> 4.50"

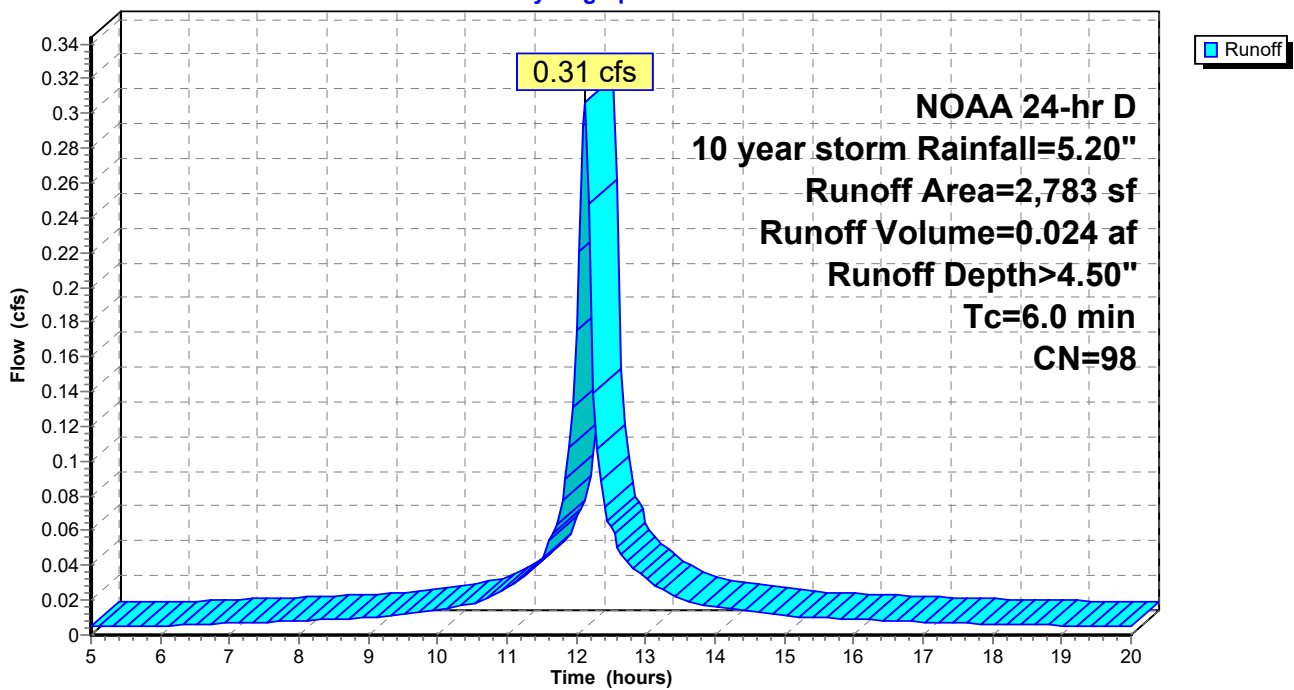
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10 year storm Rainfall=5.20"

	Area (sf)	CN	Description
*	2,050	98	existing roof
*	733	98	impervious
	2,783	98	Weighted Average
	2,783		100.00% Impervious Area

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

Subcatchment 2S: EXISTING

Hydrograph



blue roof

NOAA 24-hr D 10 year storm Rainfall=5.20"

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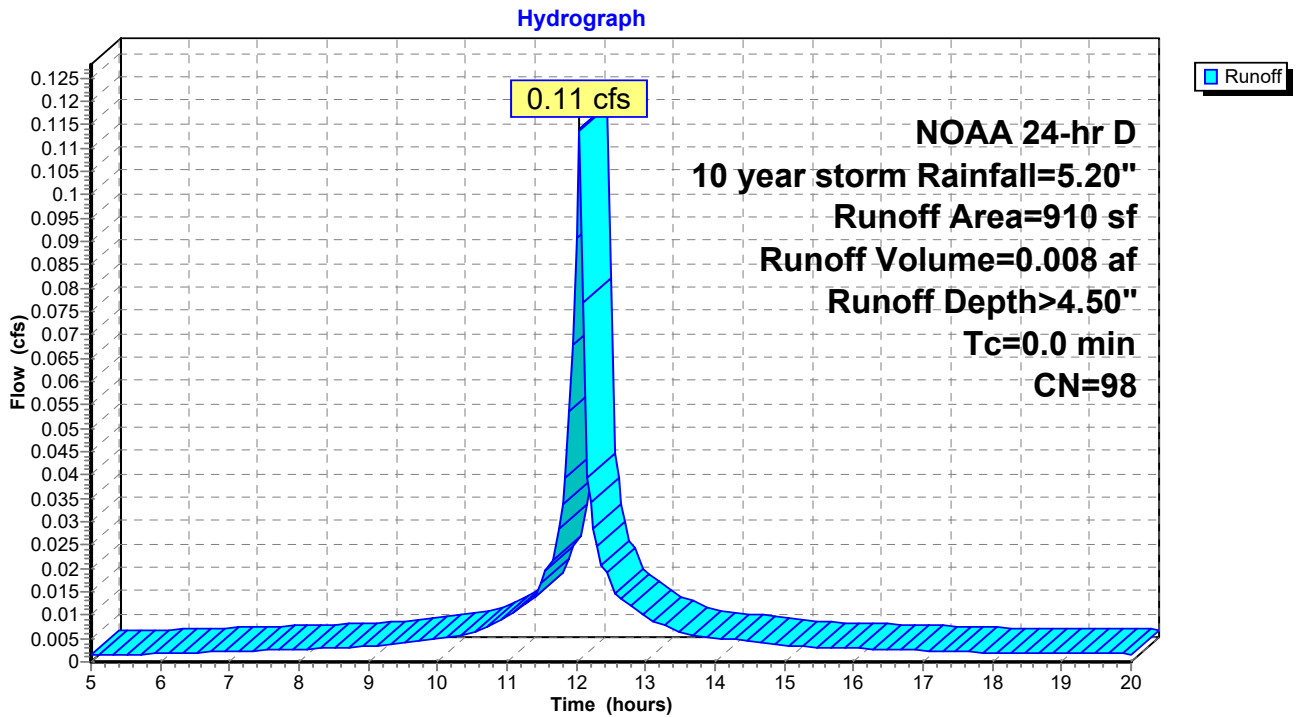
Summary for Subcatchment 5S: UNDETAINED

Runoff = 0.11 cfs @ 12.04 hrs, Volume= 0.008 af, Depth> 4.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 10 year storm Rainfall=5.20"

	Area (sf)	CN	Description
*	596	98	roof undetained
*	314	98	impervious
	910	98	Weighted Average
	910		100.00% Impervious Area

Subcatchment 5S: UNDETAINED



blue roof

NOAA 24-hr D 10 year storm Rainfall=5.20"

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Summary for Pond 3P: BLUE ROOF

Inflow Area = 0.043 ac, 100.00% Impervious, Inflow Depth > 4.50" for 10 year storm event
 Inflow = 0.21 cfs @ 12.13 hrs, Volume= 0.016 af
 Outflow = 0.13 cfs @ 12.21 hrs, Volume= 0.016 af, Atten= 38%, Lag= 5.3 min
 Primary = 0.13 cfs @ 12.21 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 0.07' @ 12.22 hrs Storage= 132 cf

Plug-Flow detention time= 30.7 min calculated for 0.016 af (99% of inflow)
 Center-of-Mass det. time= 23.9 min (759.5 - 735.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,873 cf	BLUE ROOF Listed below

Elevation (feet)	Cum.Store (cubic-feet)
0.00	0
0.54	1,011
1.00	1,873

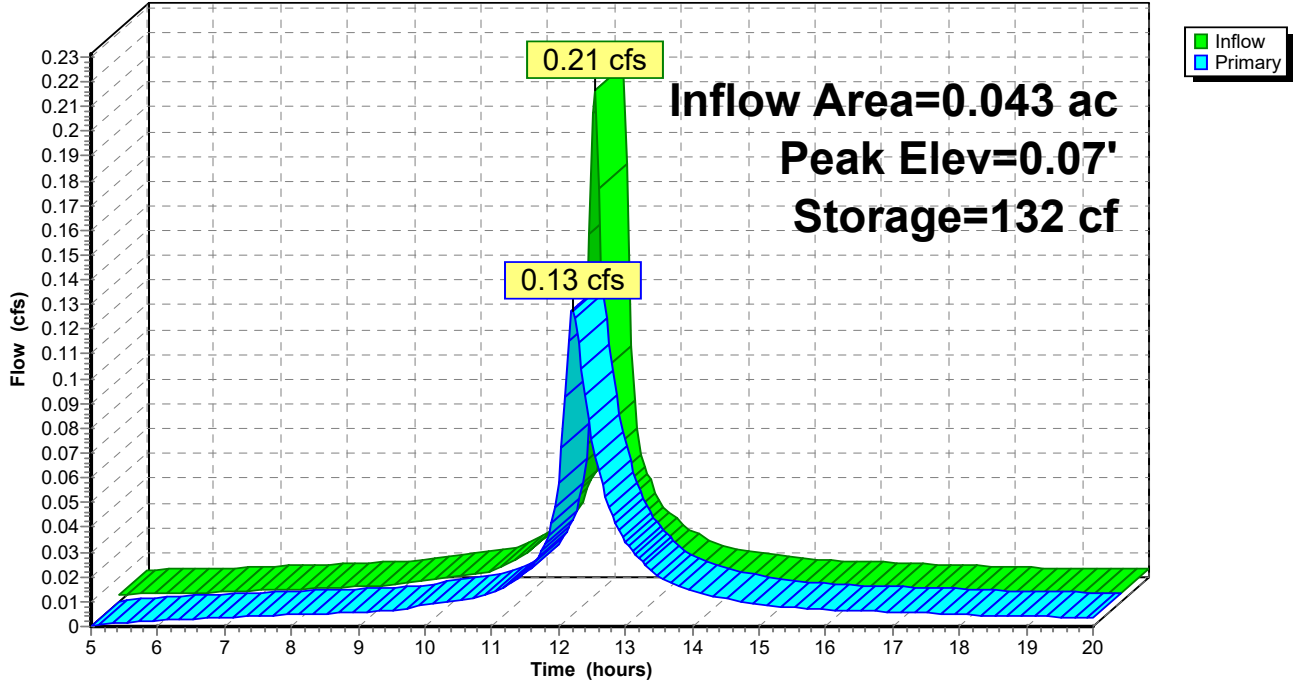
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	4.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#2	Primary	0.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 12.21 hrs HW=0.07' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 0.13 cfs @ 0.86 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: BLUE ROOF

Hydrograph



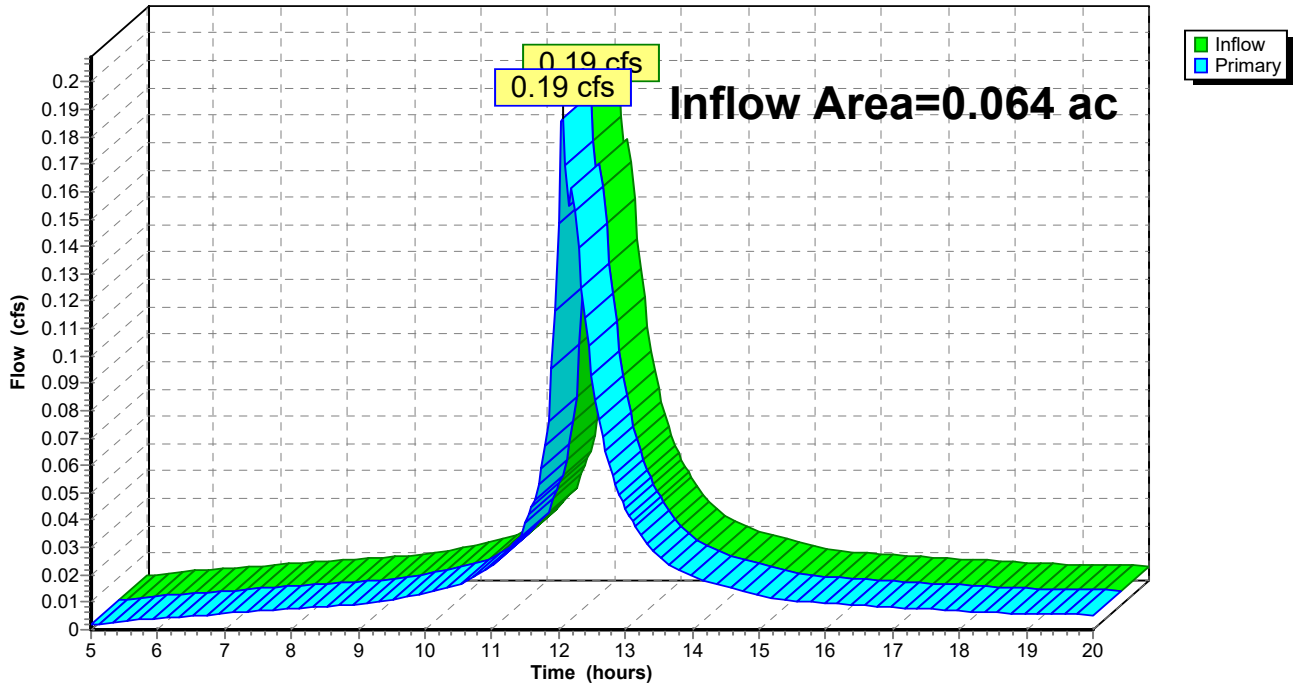
Summary for Link 4L: PROP

Inflow Area = 0.064 ac, 100.00% Impervious, Inflow Depth > 4.46" for 10 year storm event
Inflow = 0.19 cfs @ 12.06 hrs, Volume= 0.024 af
Primary = 0.19 cfs @ 12.06 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link 4L: PROP

Hydrograph



blue roof

NOAA 24-hr D 100 year storm Rainfall=8.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: ROOF DETAINED Runoff Area=1,873 sf 100.00% Impervious Runoff Depth>7.25"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment 2S: EXISTING Runoff Area=2,783 sf 100.00% Impervious Runoff Depth>7.25"
Tc=6.0 min CN=98 Runoff=0.49 cfs 0.039 af

Subcatchment 5S: UNDETAINED Runoff Area=910 sf 100.00% Impervious Runoff Depth>7.25"
Tc=0.0 min CN=98 Runoff=0.18 cfs 0.013 af

Pond 3P: BLUE ROOF Peak Elev=0.10' Storage=189 cf Inflow=0.33 cfs 0.026 af
Outflow=0.22 cfs 0.026 af

Link 4L: PROP Inflow=0.31 cfs 0.038 af
Primary=0.31 cfs 0.038 af

Total Runoff Area = 0.128 ac Runoff Volume = 0.077 af Average Runoff Depth = 7.25"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.128 ac

Summary for Subcatchment 1S: ROOF DETAINED

Runoff = 0.33 cfs @ 12.13 hrs, Volume= 0.026 af, Depth> 7.25"

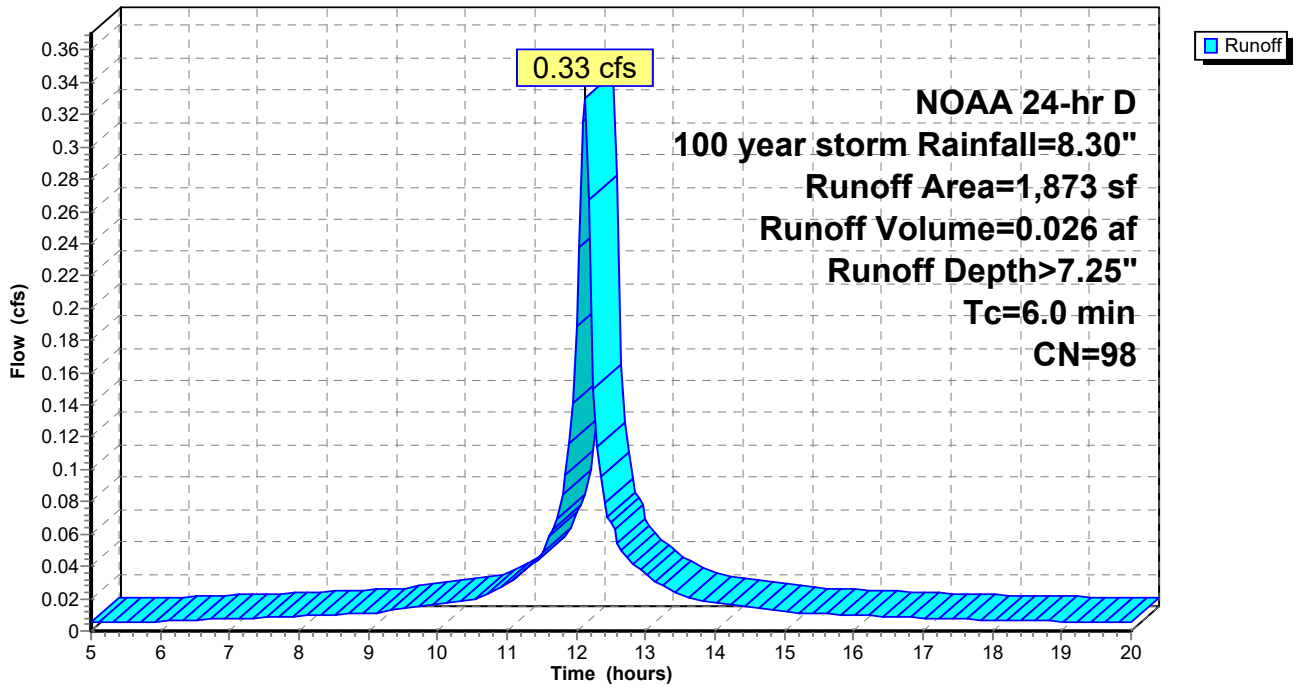
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100 year storm Rainfall=8.30"

Area (sf)	CN	Description
* 1,873	98	
1,873		100.00% Impervious Area

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

Subcatchment 1S: ROOF DETAINED

Hydrograph



blue roof

NOAA 24-hr D 100 year storm Rainfall=8.30"

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Summary for Subcatchment 2S: EXISTING

Runoff = 0.49 cfs @ 12.13 hrs, Volume= 0.039 af, Depth> 7.25"

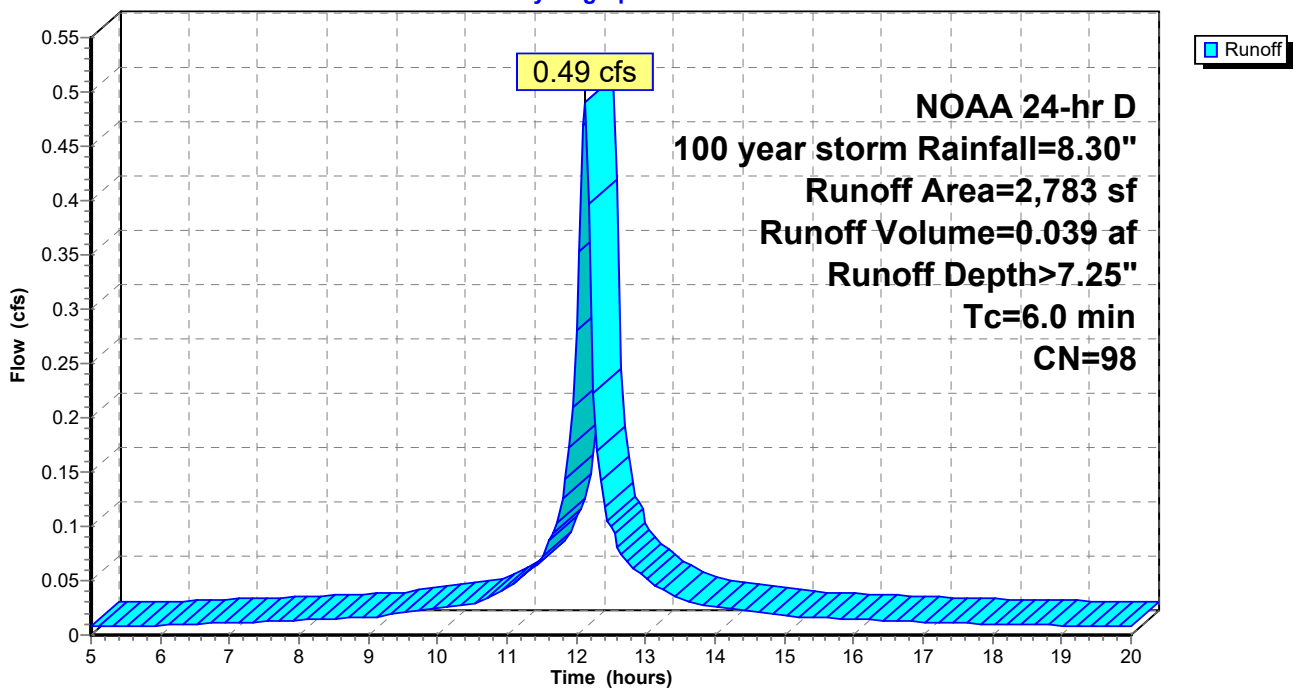
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100 year storm Rainfall=8.30"

	Area (sf)	CN	Description
*	2,050	98	existing roof
*	733	98	impervious
	2,783	98	Weighted Average
	2,783		100.00% Impervious Area

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

Subcatchment 2S: EXISTING

Hydrograph



blue roof

NOAA 24-hr D 100 year storm Rainfall=8.30"

Prepared by {enter your company name here}

Printed 12/9/2021

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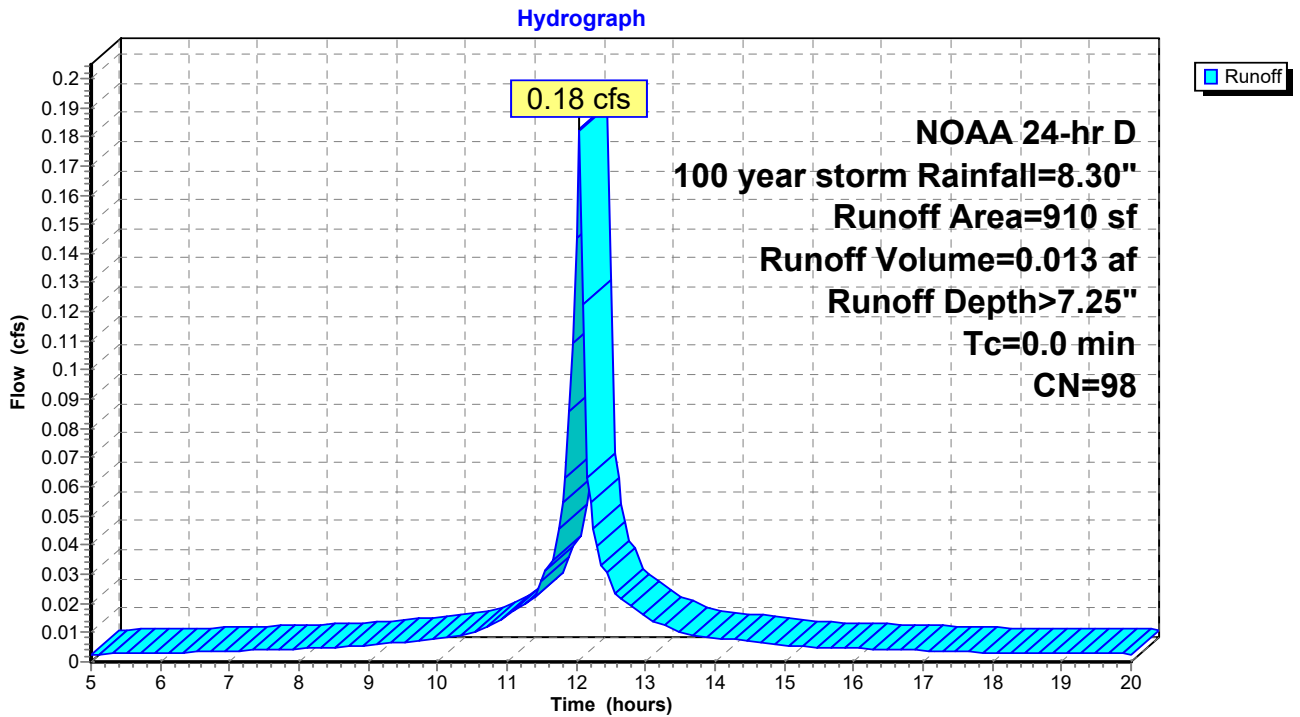
Summary for Subcatchment 5S: UNDETAINED

Runoff = 0.18 cfs @ 12.04 hrs, Volume= 0.013 af, Depth> 7.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr D 100 year storm Rainfall=8.30"

	Area (sf)	CN	Description
*	596	98	roof undetained
*	314	98	impervious
	910	98	Weighted Average
	910		100.00% Impervious Area

Subcatchment 5S: UNDETAINED



blue roof

NOAA 24-hr D 100 year storm Rainfall=8.30"

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Summary for Pond 3P: BLUE ROOF

Inflow Area = 0.043 ac, 100.00% Impervious, Inflow Depth > 7.25" for 100 year storm event
 Inflow = 0.33 cfs @ 12.13 hrs, Volume= 0.026 af
 Outflow = 0.22 cfs @ 12.21 hrs, Volume= 0.026 af, Atten= 34%, Lag= 4.9 min
 Primary = 0.22 cfs @ 12.21 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 0.10' @ 12.21 hrs Storage= 189 cf

Plug-Flow detention time= 26.9 min calculated for 0.026 af (98% of inflow)
 Center-of-Mass det. time= 20.2 min (754.1 - 733.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,873 cf	BLUE ROOF Listed below

Elevation (feet)	Cum.Store (cubic-feet)
0.00	0
0.54	1,011
1.00	1,873

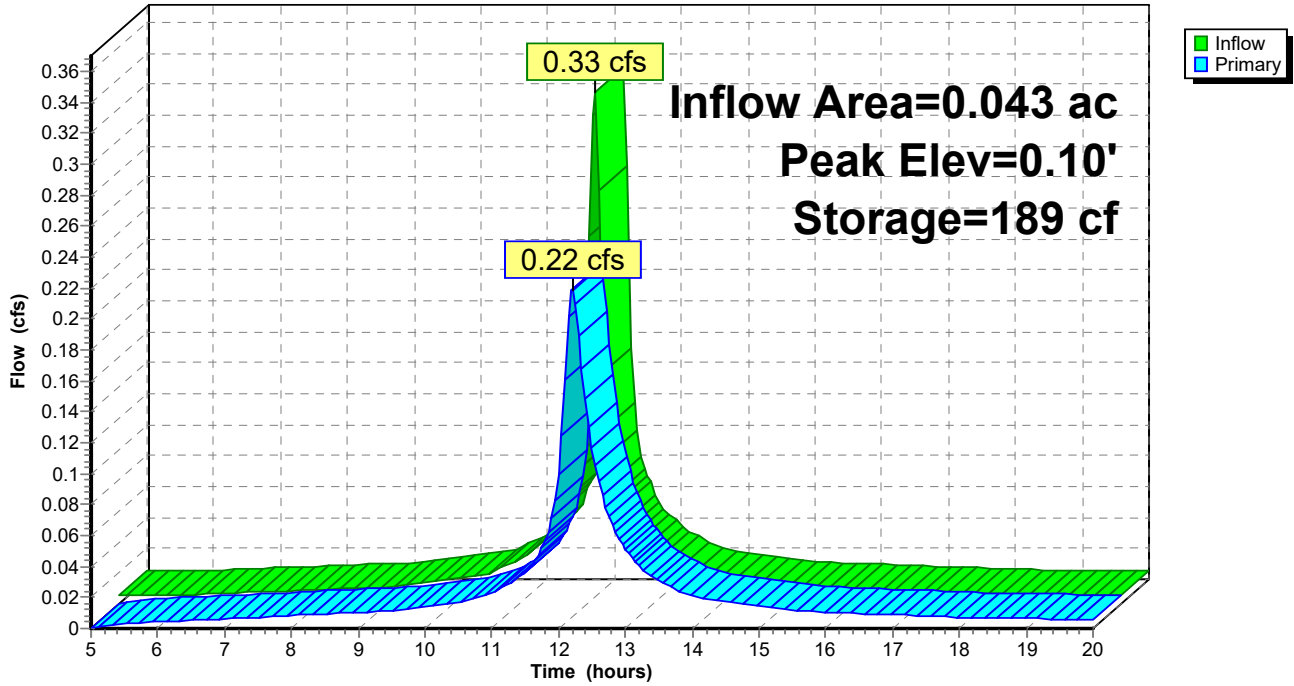
Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	4.0" Horiz. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#2	Primary	0.54'	6.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.21 hrs HW=0.10' (Free Discharge)

- 1=Orifice/Grate (Weir Controls 0.22 cfs @ 1.04 fps)
- 2=Orifice/Grate (Controls 0.00 cfs)

Pond 3P: BLUE ROOF

Hydrograph



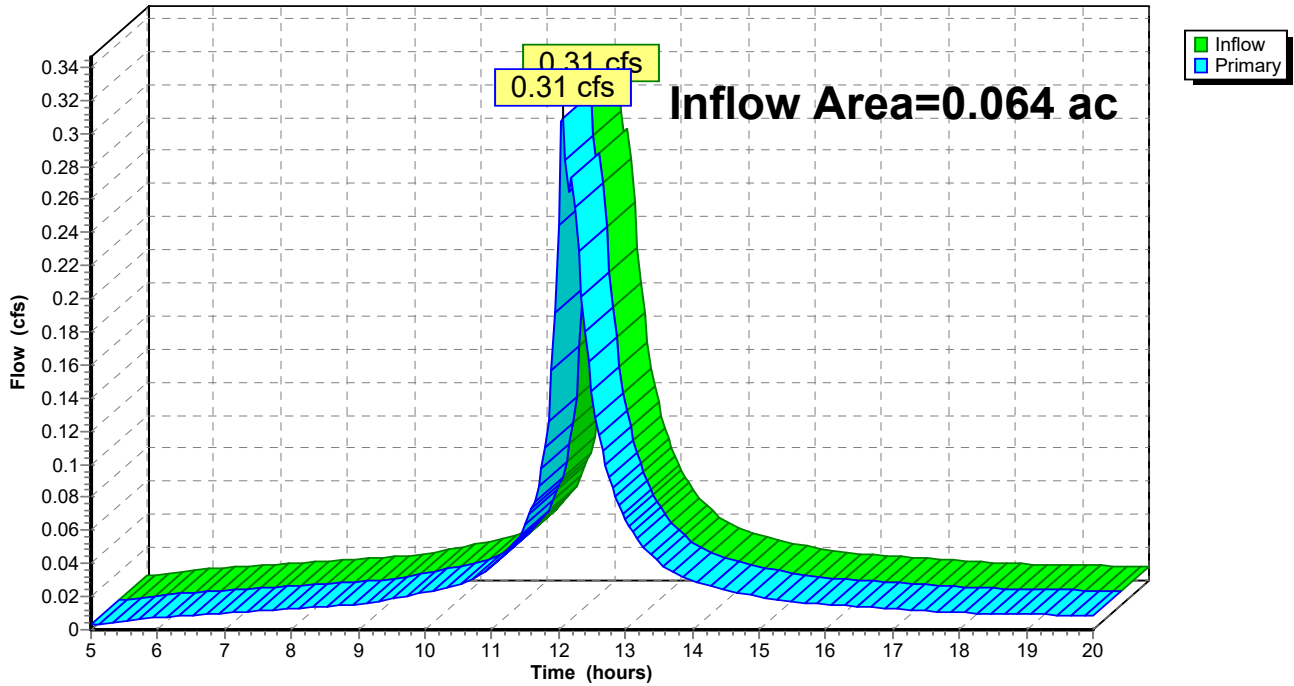
Summary for Link 4L: PROP

Inflow Area = 0.064 ac, 100.00% Impervious, Inflow Depth > 7.18" for 100 year storm event
Inflow = 0.31 cfs @ 12.06 hrs, Volume= 0.038 af
Primary = 0.31 cfs @ 12.06 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

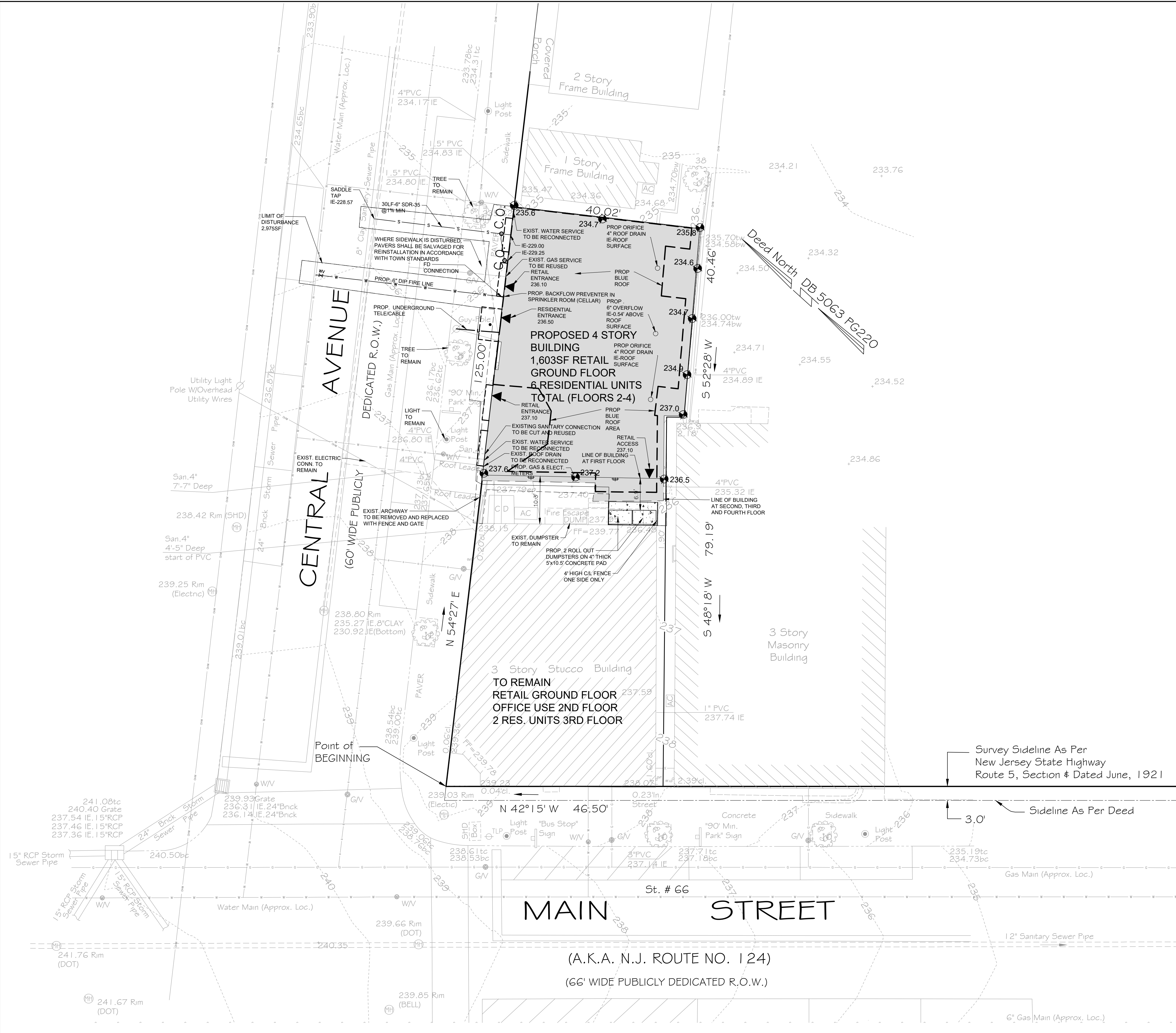
Link 4L: PROP

Hydrograph



Preliminary & Final Site Plan
66 Main Street
Block 1802, Lot 4
1210201

APPENDIX B EXISTING AND PROPOSED SITE PLANS



- REFERENCES:
- PO BEING LOT 4, IN BLOCK 1802, AS SHOWN ON BOROUGH OF MADISON TAX MAPS.
 - LOT AREA = 5,108 SF, OR 0.117 AC.
 - ELEVATIONS SHOWN HEREON ARE BASED UPON N.A.V.D. 1988 SURVEY DATUM AS DETERMINED BY RAPID STATIC GPS.
 - UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE BASED UPON SURFACE UTILITIES STRUCTURES VISIBLE ON THE DATE OF FIELD SURVEY. LOCATION OF UNDERGROUND BURIED UTILITIES STRUCTURES MAY BE ENCOUNTERED. ALL SUBSURFACE UTILITY LOCATIONS SHOULD BE VERIFIED AND FIELD MARKED BY APPROPRIATE UTILITY AUTHORITY PRIOR TO EXCAVATION/CONSTRUCTION. ANY DEVIATION IN LOCATION OF UTILITIES SHOULD BE REPORTED TO SURVEYOR AND ENGINEER PRIOR TO CONSTRUCTION.
 - A KNOX BOX FOR THE PROPOSED BUILDING SHALL BE PROVIDED NEAR THE RESIDENTIAL ENTRANCE IN A LOCATION APPROVED BY THE BOROUGH FIRE OFFICIAL. KNOX BOX LOCATION STICKERS SHALL BE PROVIDED AT RETAIL STORE ENTRIES DIRECTING EMERGENCY PERSONNEL TO THE KNOX BOX.
 - A RED LIGHT SHALL BE PROVIDED OVER ANY FIRE DEPARTMENT CONNECTION IF REQUIRED BY THE BUILDING DEPARTMENT.
 - F.O.S. SHALL BE LOCATED ALONG CENTRAL AVE.
 - TRUSS SIGNS SHALL BE PROVIDED IN A LOCATION APPROVED BY THE FIRE OFFICIAL.
 - ALL HVAC UNITS WILL BE ROOF MOUNTED.

AVERAGE GRADE CALCULATION

CENTRAL AVE.	MAIN ST.	SIDE	SIDE
234.9	238.53	235.6	234.58
235.4	238.35	235	234.6
235.7	238	234.7	234.89
236	237.7	235.1	234.77
236.3	237.25	235.8	237
236.6			236.5
237.13			236.5
237.3			236.8
237.6			237.2
238.1			237.47
238.3			238
238.54			238.07
238.6			

AVERAGE GRADE 236.65

BUILDING HEIGHT

maximum peak elevation	281.50
Average Grade	236.65
Height	44.85

SITE PLAN

3 CENTRAL AVENUE
TAX LOT 4, BLOCK 1802

BOROUGH OF MADISON
MORRIS COUNTY, NJ

CASEY &

KELLER
INCORPORATED

NJ State Board of Professional Engineers & Land Surveyors
Certificate of Authorization # 24002988400

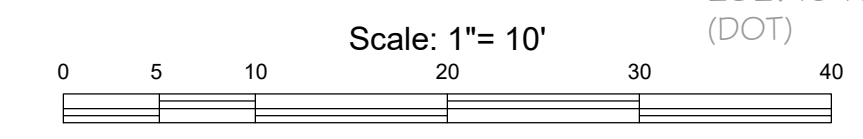
LICENSED PROFESSIONAL
CIVIL ENGINEERS
LAND SURVEYORS
PLANNERS

258 Main Street, PO Box 191
Millburn, New Jersey 07041
973-379-3280 Fax: 973-379-7993

MICHAEL T. LANZAFAMA

DATE: 08-25-21
TIME: 10:00 AM
DRAWN BY: MTL
CHECKED BY: CFA

REFERENCE	DESC.	MAP NO.	SCALE	DATE
1210201	Revised per completeness Comments	1-24-22	1"= 20' SCALE	1-24-22



REVISIONS

NO.	DESCRIPTION	DATE
1	Revised per completeness Comments	1-24-22