

STORMWATER MANAGEMENT REPORT

for

FULFILL FOOD BANK

Located at

BLOCK 2301, LOT 1

In

**TOWNSHIP OF NEPTUNE
MONMOUTH COUNTY, NJ**

Has been prepared for

**FOOD BANK OF MONMOUTH & OCEAN COUNTY
3300 ROUTE 66
TOWNSHIP OF NEPTUNE, NJ 07753**

on

May 10, 2023

Rev. 1 – August 25, 2023

Rev. 2 – September 27, 2023

Rev. 3 – October 20, 2023

Rev. 4 – January 10, 2024

Rev. 5 – March 8, 2024

**Christopher M. Bednarski, PE
NJPE 24GE05256400**

Insite Job #: 23-2111-01

InSite Engineering, LLC

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I. INTRODUCTION:

The subject property is known and designated as Block 2301, Lot 1, as shown on Sheet 23 of the current tax assessment maps for the Township of Neptune, Monmouth County, New Jersey. The vacant tract consists of 7.21 acres and is currently occupied by an existing food bank with associated loading and parking areas. The project site bound by New Jersey State Highway Route 66 and Wayside Road. The project proposes three additions to the main structure and an additional pavement section. The existing impervious coverage is 37.3% (2.68 ac. out of 7.21 ac.). The proposed impervious coverage is 40.5% (2.92 ac. out of 7.21 ac.).

The existing soils are labeled as EvuB (Evesboro-Urban land complex, 0 to 5 percent slopes). The Hydrologic soil group for this type of soil is listed in the Soil Conservation Service Technical Release No. 55 manual as HSG type A, see Appendix AI.

The following 24-hour storm events were studied using a NOAA, Type D Storm distribution:

Storm Frequency (Years)	Rainfall (Inches)
2	3.46
10	5.36
25	6.70
100	9.18

II. PRE-DEVELOPMENT CONDITIONS:

A summary of the previously discussed drainage areas for the pre-development condition follows below. Refer to the Appendix B for Pre-Development Hydrograph calculations and Appendix D for Pre-Development Drainage Area Map.

Existing Watershed A (Total Area 7.21 acres)

Subarea Ei: Impervious area
Area: 2.68 acres

Subarea Ep: Pervious area
Area: 4.53 acres

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III. POST-DEVELOPMENT CONDITIONS:

A summary of the previously discussed drainage areas for the post-development condition follows below. Refer to Appendix C for Post-Development Hydrograph calculations and Appendix E for a Post-Drainage Area Map.

Proposed Watershed A (Total Area 7.21 acres)

Subarea Pi: Impervious Area
Area: 2.92 acres

Subarea Pp: Pervious Area
Area: 4.29 acres

IV. STORMWATER MANAGEMENT SUMMARY:

Pre- and Post-development computations for the resultant hydrographs, routing computations, and runoff volumes are appended, respectively, to this report. For each drainage area, the following summaries were generated:

Watershed A

Pre-development: Subareas Ei and Ep (7.21 ac)

Post-development: Subareas Pi and Pp (7.21 ac.)

Storm (Year)	Pre- Development Peak Flow (cfs)	Post- Development Peak Flow (cfs)	Difference
2	8.82	9.60	+0.78
10	13.75	14.96	+1.21
25	18.63	20.07	+1.44
100	30.99	32.68	+1.69

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V. STORMWATER ANALYSIS SUMMARY:

Existing runoff from the site is directed to an infiltration basin along the west property line and drains to the existing stormwater system along the NJ Route 66 right-of-way. The system has been properly designed to provide sufficient capacity to manage runoff from the site. Currently, the project site consists of 7.21 acres and is currently developed. The existing site is mostly pervious, containing 4.53 acres of pervious coverage and only 2.68 acres of impervious coverage. Of that impervious coverage, 1.59 acres are regulated motor vehicle surface. The proposed development will have a total impervious coverage of 2.92 acres. Of that impervious coverage, 1.58 acres will be regulated motor vehicle surface. The proposed development will result in a net decrease of 0.014 acres of regulated motor vehicle surface and net increase of only 0.238 acres of new impervious areas.

As the proposed development does not result in a disturbance of greater than one (1) acre and does not increase regulated motor vehicle surfaces or overall impervious coverage by more than 0.25 acres, the project is not considered a 'major development' by New Jersey Stormwater Management regulations NJAC 7:8-5. Therefore, the project will not require additional storm water management measures.

VI. WATER QUALITY DISCUSSION

As discussed in Section V, this project is not considered a 'major development', therefore, stormwater runoff quality treatment is not required.

Construction activities may introduce suspended sediment into localized water in nearby areas, but this will be temporary in nature, occurring during the construction phase of the project. To preserve water quality during construction, soil erosion and sediment control measures will be implemented as part of an approved Soil Erosion and Sediment Control Plan.

VII. GROUNDWATER RECHARGE DISCUSSION

Groundwater recharge for the site is not required per N.J.A.C. 7:8-5.4a2 since the project lies within a previously developed Metropolitan Planning Area (PA-1).

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VIII. CONCLUSION

The proposed development will result in a slight increase of impervious coverage by 0.238 acres. This increase of impervious coverage will not cause any significant changes in stormwater runoff from the site. The limited grading efforts do not change any of the existing drainage patterns to maintain site stability throughout. The slight increase in flows for the 2-year, 10-year, 25-year, and 100-year storm events are de minimis and will not negatively affect the downstream drainage system and, therefore, no additional stormwater management improvements are needed. The site has been designed to properly and safely convey runoff from the proposed project and will meet the requirements of the Township of Neptune and the State of New Jersey.

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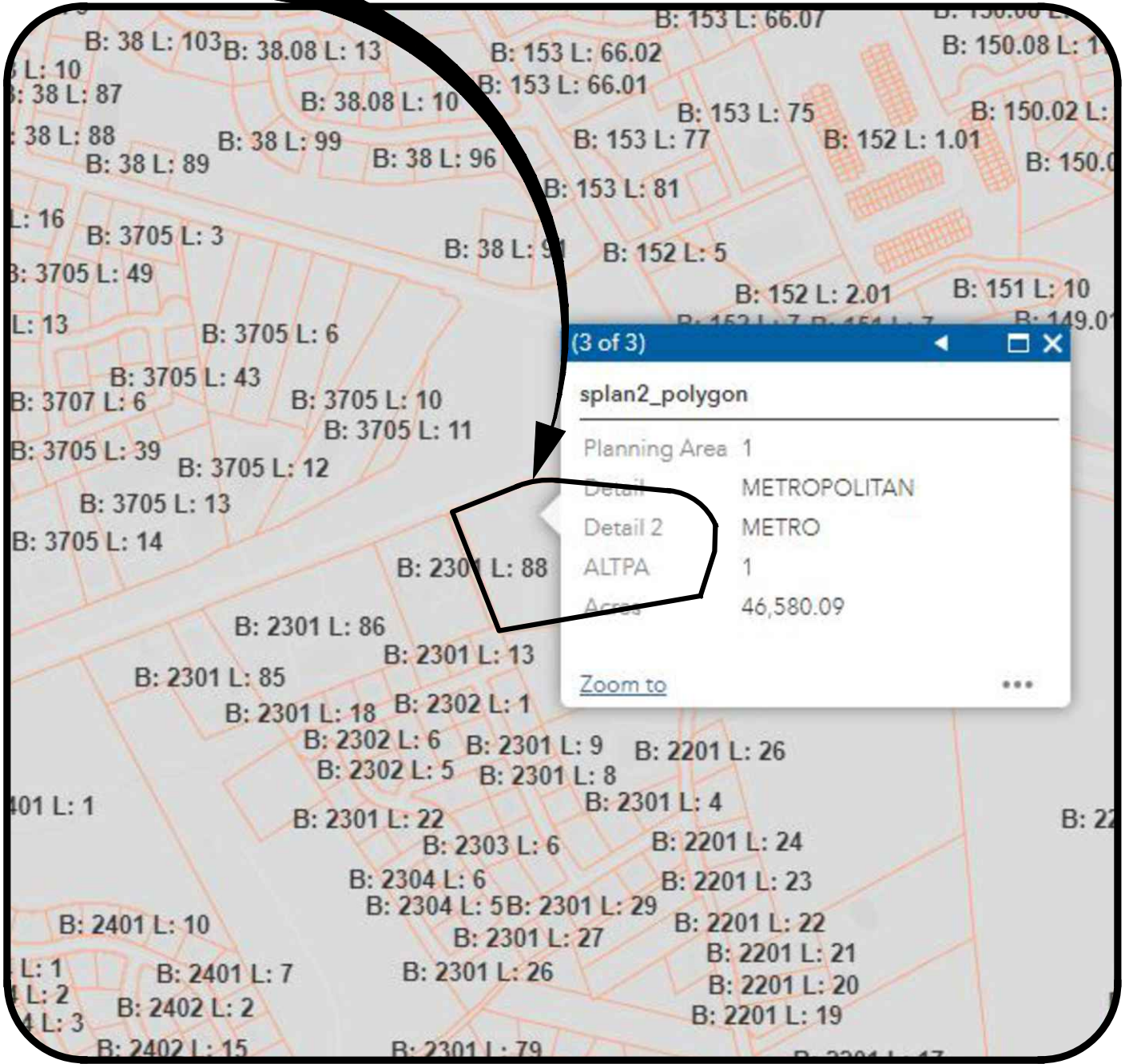
A P P E N D I X A

MAP EXHIBITS

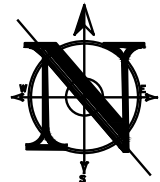
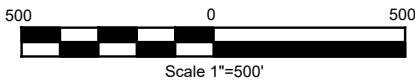
AI. Soils Map

AII. Planning Area Map

SITE



PLAN



PLANNING AREA EXHIBIT



InSite Engineering, LLC
 CERTIFICATE OF AUTHORIZATION:
 24GA28083200
 1955 ROUTE 34, SUITE 1A
 WALL, NJ 07719
 732-531-7100 (Ph)
 732-531-7344 (Fax)
 InSite@InSiteEng.net www.InSiteEng.net

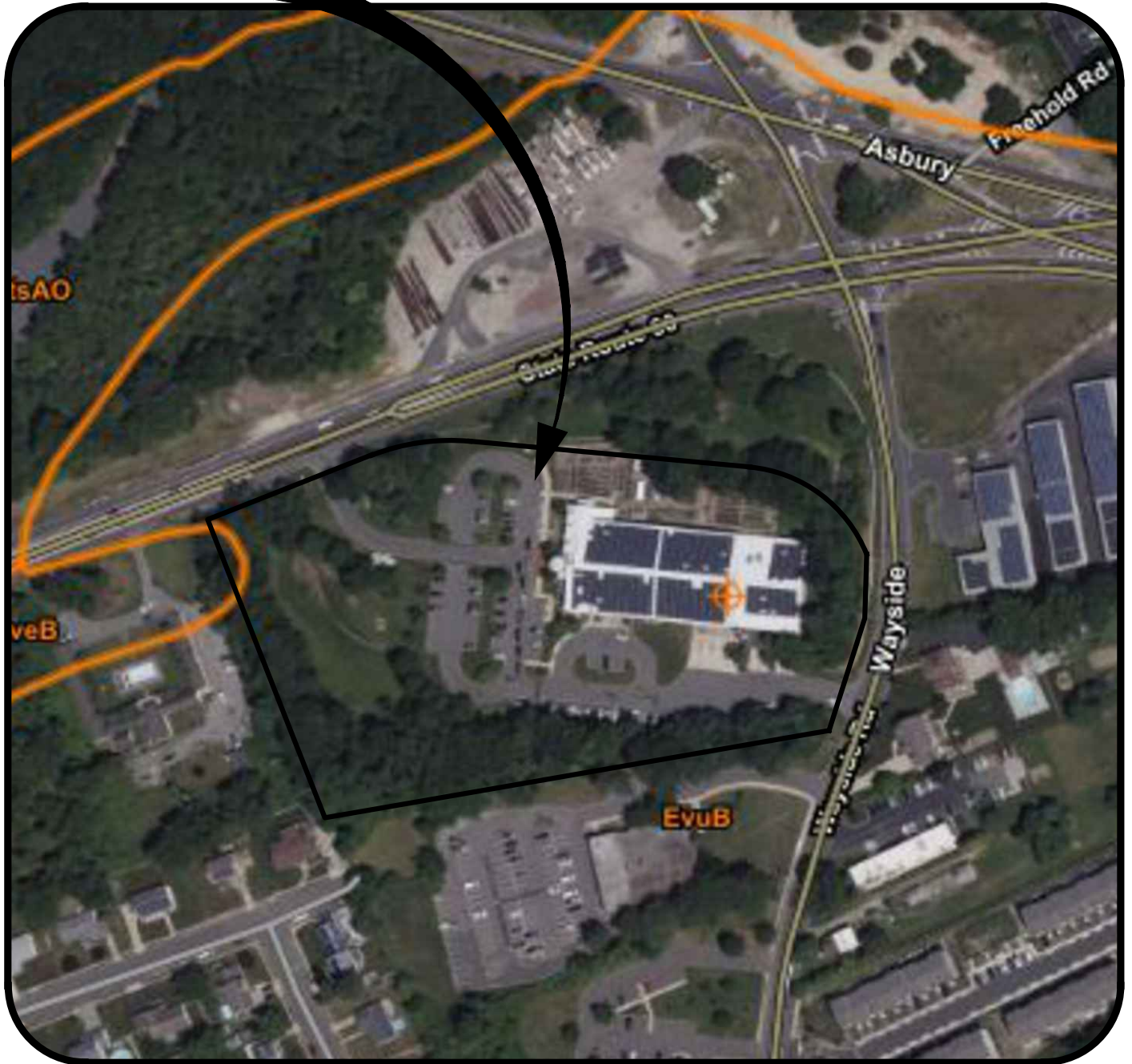
Site Location:
 Block 2301, Lot 1
 3300 Route 66
 Township of Neptune
 Monmouth County, NJ

Reference:
 NJGIS - State Planning Area

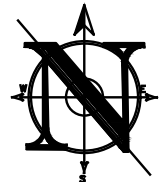
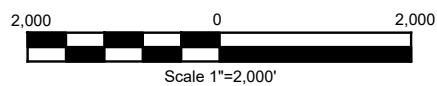
InSite Project No.
 23-2111-01
Drawing No.
 23-2111-01
Date
 May 5, 2023

Revisions

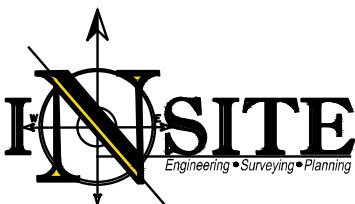
SITE



PLAN



SOILS EXHIBIT



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 CERTIFICATE OF AUTHORIZATION:
 24GA28083200
 1955 ROUTE 34, SUITE 1A
 WALL, NJ 07719
 732-531-7100 (Ph)
 732-531-7344 (Fax)
 InSite@InSiteEng.net www.InSiteEng.net

Site Location:
 Block 2301, Lot 1
 3300 Route 66
 Township of Neptune
 Monmouth County, NJ

Reference:
 Web Soil Survey

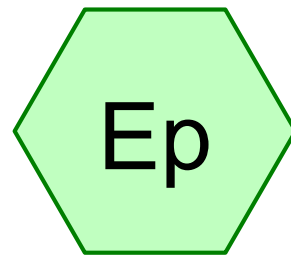
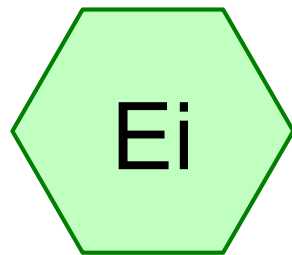
Soil Information:
 EvuB - Evesboro-Urban land complex, 0 to 5 percent slopes (HSG A)

InSite Project No.
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 23-2111-01
Date
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Revisions

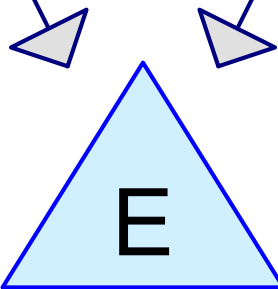
A P P E N D I X B

Pre-Development Flow Calculations

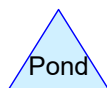
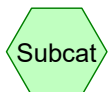


Ex Impervious

Ex Pervious



Existing POA



Routing Diagram for 240308 r5 SWM

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240308 r5 SWM

NOAA 24-hr D 2-Year Rainfall=3.46"

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Page 2

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Ei: Ex Impervious

Runoff Area=116,969 sf 100.00% Impervious Runoff Depth=3.23"

Tc=6.0 min CN=0/98 Runoff=8.82 cfs 0.722 af

Subcatchment Ep: Ex Pervious

Runoff Area=197,170 sf 0.00% Impervious Runoff Depth=0.01"

Tc=6.0 min CN=39/0 Runoff=0.01 cfs 0.003 af

Pond E: Existing POA

Inflow=8.82 cfs 0.725 af

Primary=8.82 cfs 0.725 af

Total Runoff Area = 7.212 ac Runoff Volume = 0.725 af Average Runoff Depth = 1.21"
62.77% Pervious = 4.526 ac 37.23% Impervious = 2.685 ac

Summary for Subcatchment Ei: Ex Impervious

Runoff = 8.82 cfs @ 12.13 hrs, Volume= 0.722 af, Depth= 3.23"
 Routed to Pond E : Existing POA

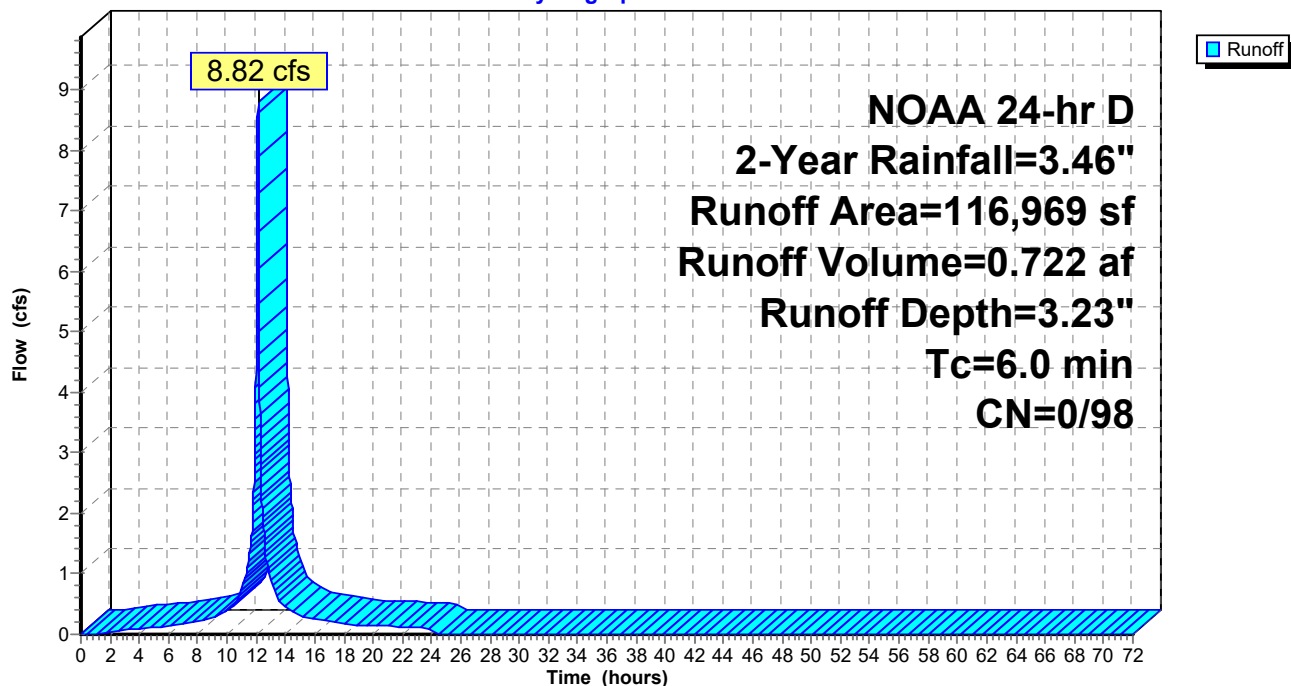
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
116,969	98	Unconnected pavement, HSG A
116,969	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious

Hydrograph



Summary for Subcatchment Ep: Ex Pervious

Runoff = 0.01 cfs @ 24.01 hrs, Volume= 0.003 af, Depth= 0.01"
 Routed to Pond E : Existing POA

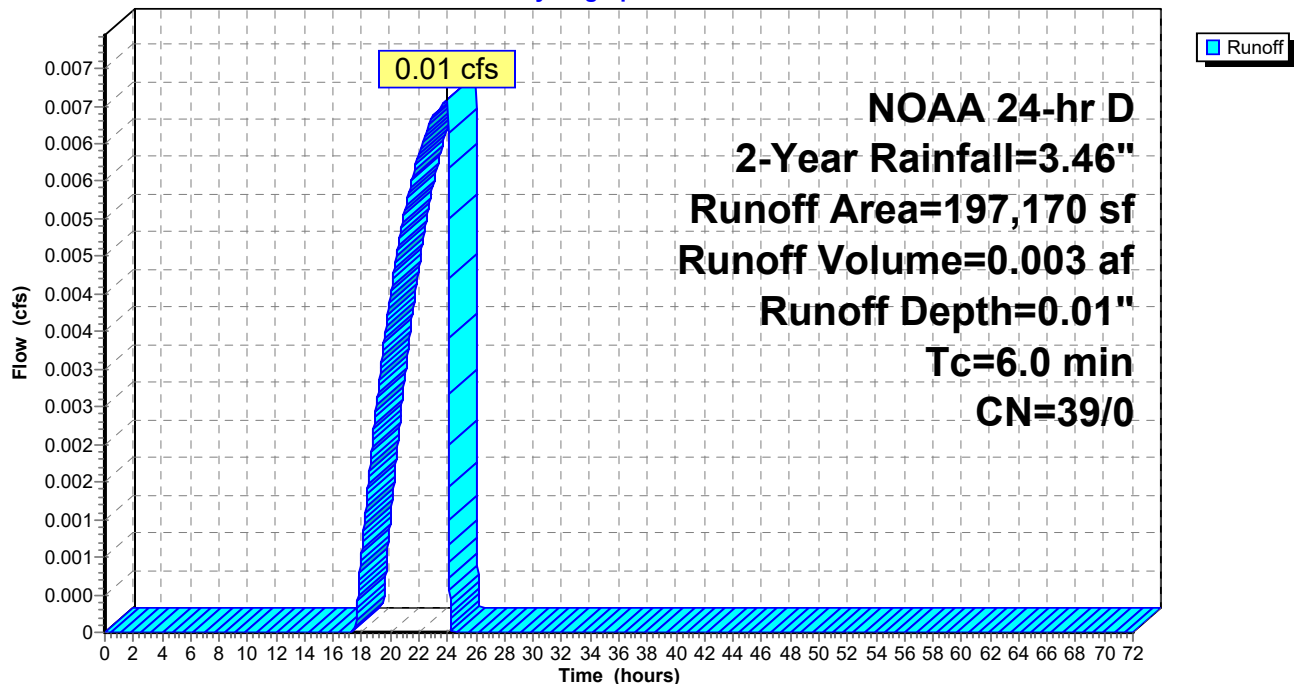
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
197,170	39	>75% Grass cover, Good, HSG A
197,170	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

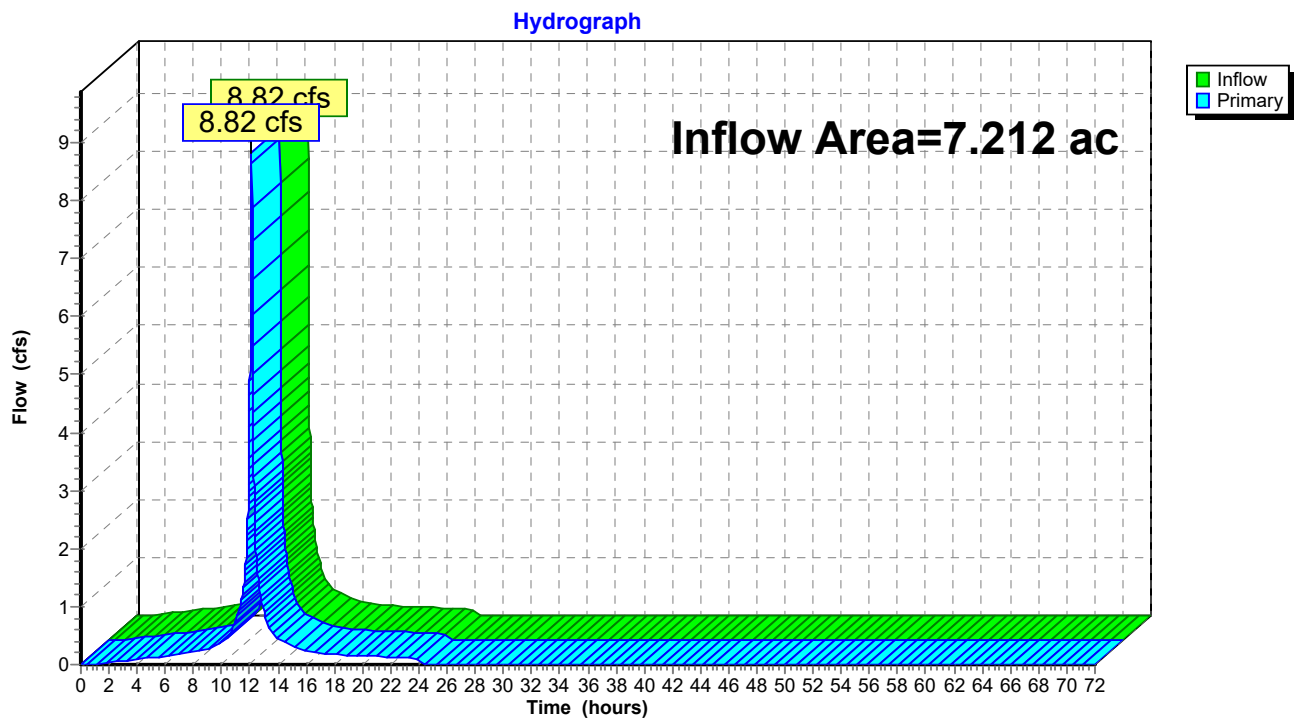
Hydrograph



Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 37.23% Impervious, Inflow Depth = 1.21" for 2-Year event
Inflow = 8.82 cfs @ 12.13 hrs, Volume= 0.725 af
Primary = 8.82 cfs @ 12.13 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA

240308 r5 SWM

NOAA 24-hr D 10-Year Rainfall=5.36"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Ei: Ex Impervious

Runoff Area=116,969 sf 100.00% Impervious Runoff Depth=5.12"

Tc=6.0 min CN=0/98 Runoff=13.75 cfs 1.146 af

Subcatchment Ep: Ex Pervious

Runoff Area=197,170 sf 0.00% Impervious Runoff Depth=0.28"

Tc=6.0 min CN=39/0 Runoff=0.26 cfs 0.105 af

Pond E: Existing POA

Inflow=13.75 cfs 1.251 af

Primary=13.75 cfs 1.251 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.251 af Average Runoff Depth = 2.08"
62.77% Pervious = 4.526 ac 37.23% Impervious = 2.685 ac

Summary for Subcatchment Ei: Ex Impervious

Runoff = 13.75 cfs @ 12.13 hrs, Volume= 1.146 af, Depth= 5.12"

Routed to Pond E : Existing POA

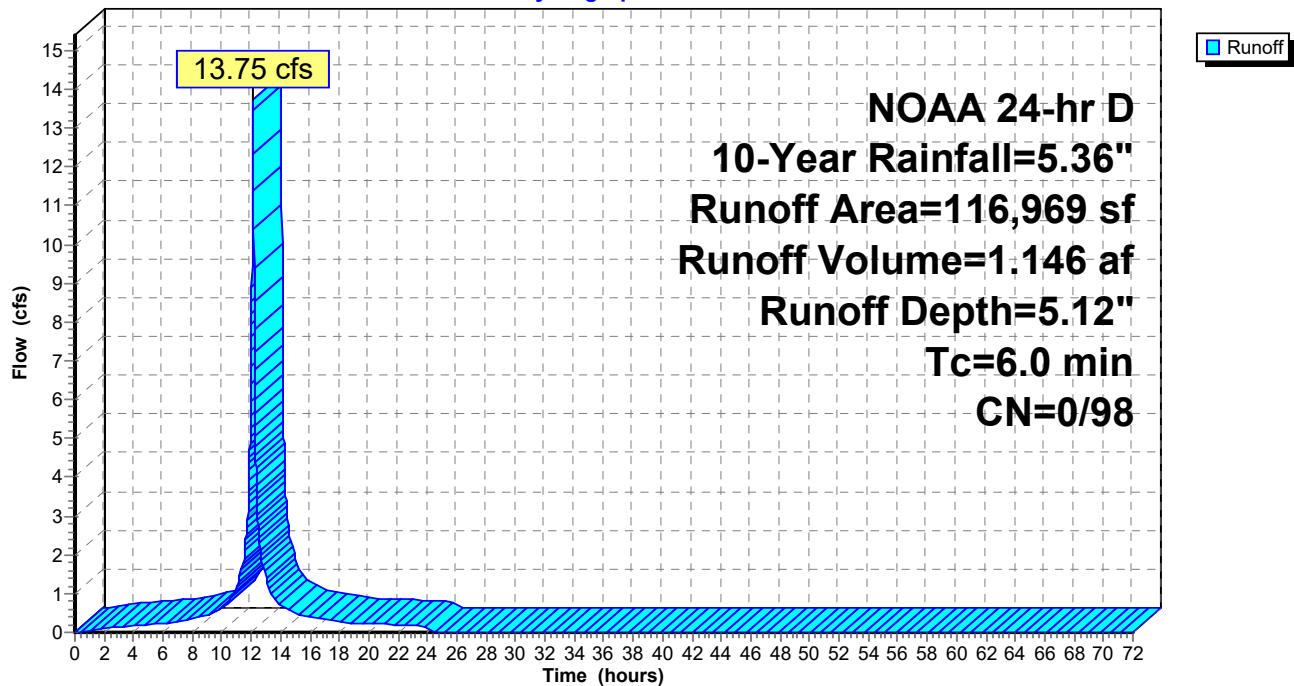
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
116,969	98	Unconnected pavement, HSG A
116,969	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious

Hydrograph



Summary for Subcatchment Ep: Ex Pervious

Runoff = 0.26 cfs @ 12.54 hrs, Volume= 0.105 af, Depth= 0.28"

Routed to Pond E : Existing POA

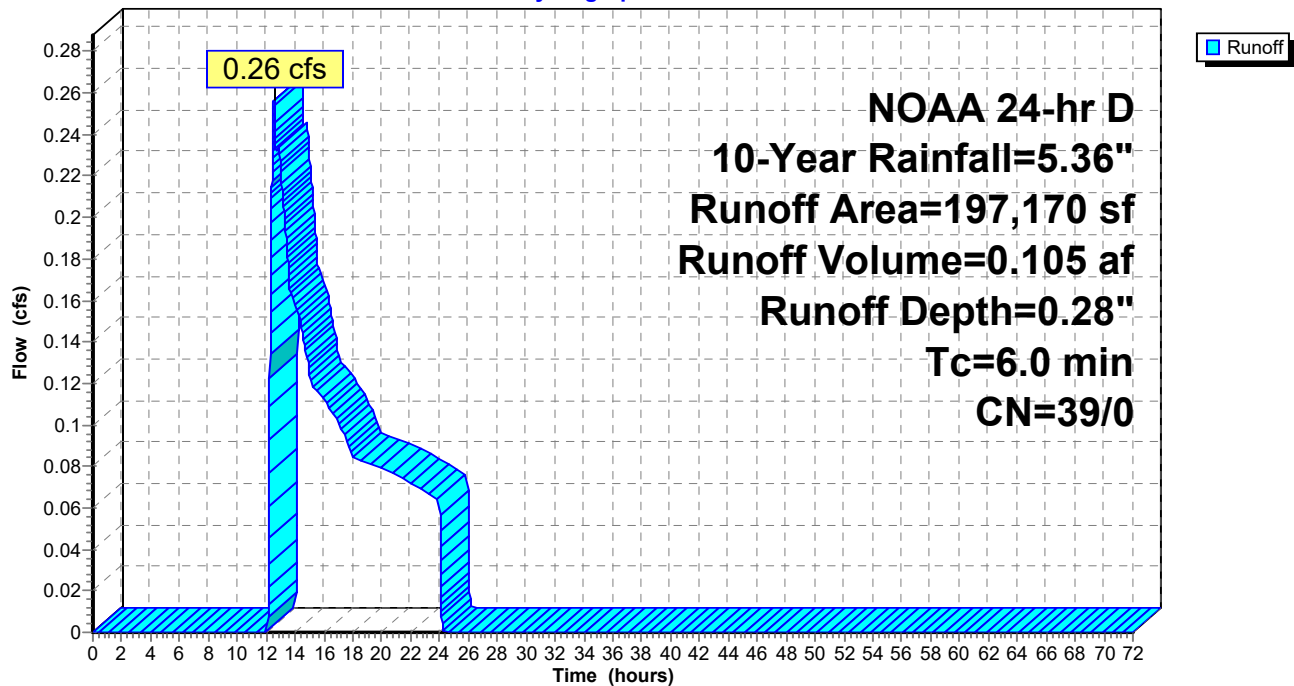
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
197,170	39	>75% Grass cover, Good, HSG A
197,170	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

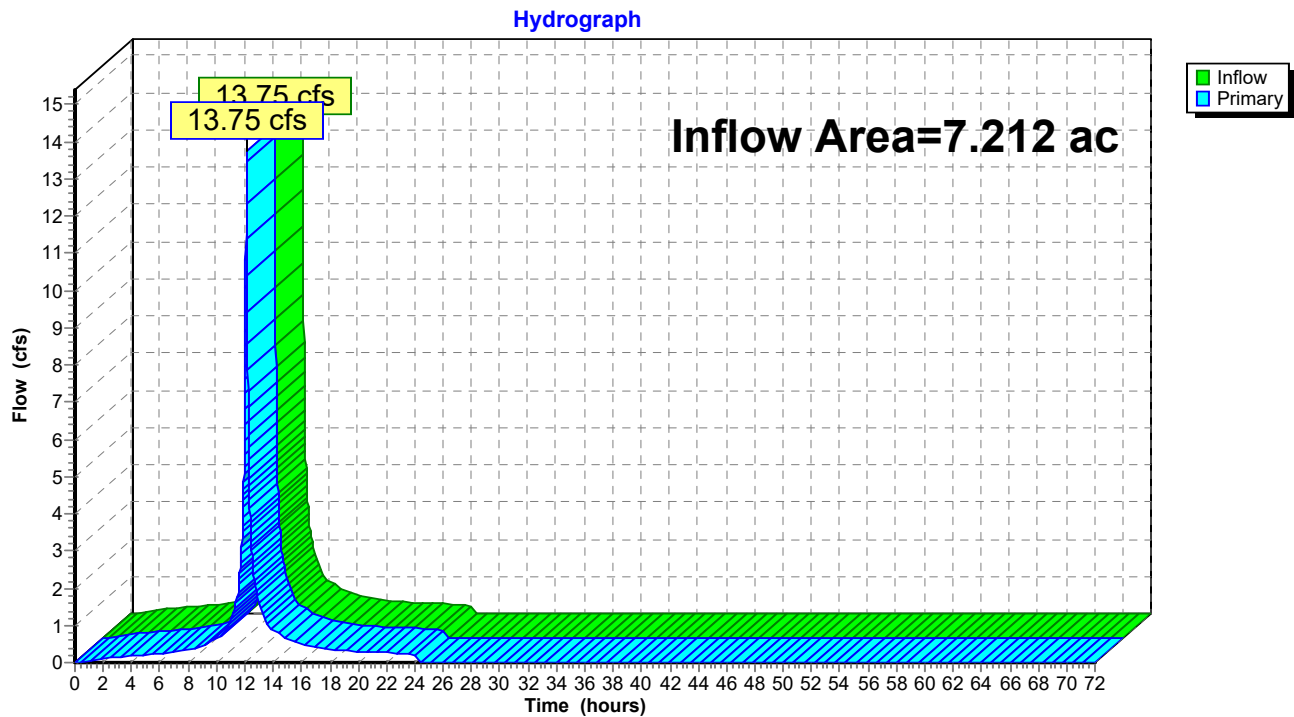
Hydrograph



Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 37.23% Impervious, Inflow Depth = 2.08" for 10-Year event
Inflow = 13.75 cfs @ 12.13 hrs, Volume= 1.251 af
Primary = 13.75 cfs @ 12.13 hrs, Volume= 1.251 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA

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NOAA 24-hr D 25-Year Rainfall=6.70"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Ei: Ex Impervious

Runoff Area=116,969 sf 100.00% Impervious Runoff Depth=6.46"

Tc=6.0 min CN=0/98 Runoff=17.21 cfs 1.446 af

Subcatchment Ep: Ex Pervious

Runoff Area=197,170 sf 0.00% Impervious Runoff Depth=0.66"

Tc=6.0 min CN=39/0 Runoff=1.65 cfs 0.250 af

Pond E: Existing POA

Inflow=18.63 cfs 1.696 af

Primary=18.63 cfs 1.696 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.696 af Average Runoff Depth = 2.82"
62.77% Pervious = 4.526 ac 37.23% Impervious = 2.685 ac

Summary for Subcatchment Ei: Ex Impervious

Runoff = 17.21 cfs @ 12.13 hrs, Volume= 1.446 af, Depth= 6.46"

Routed to Pond E : Existing POA

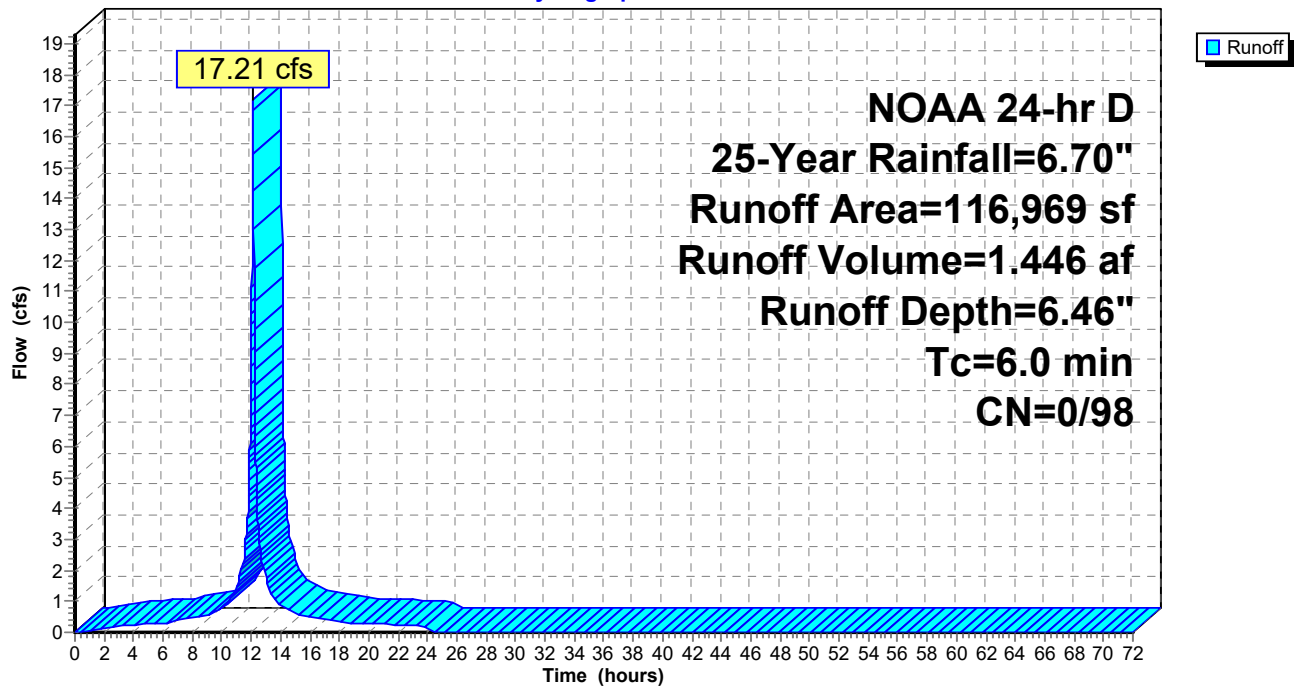
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NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
116,969	98	Unconnected pavement, HSG A
116,969	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious

Hydrograph



Summary for Subcatchment Ep: Ex Pervious

Runoff = 1.65 cfs @ 12.16 hrs, Volume= 0.250 af, Depth= 0.66"

Routed to Pond E : Existing POA

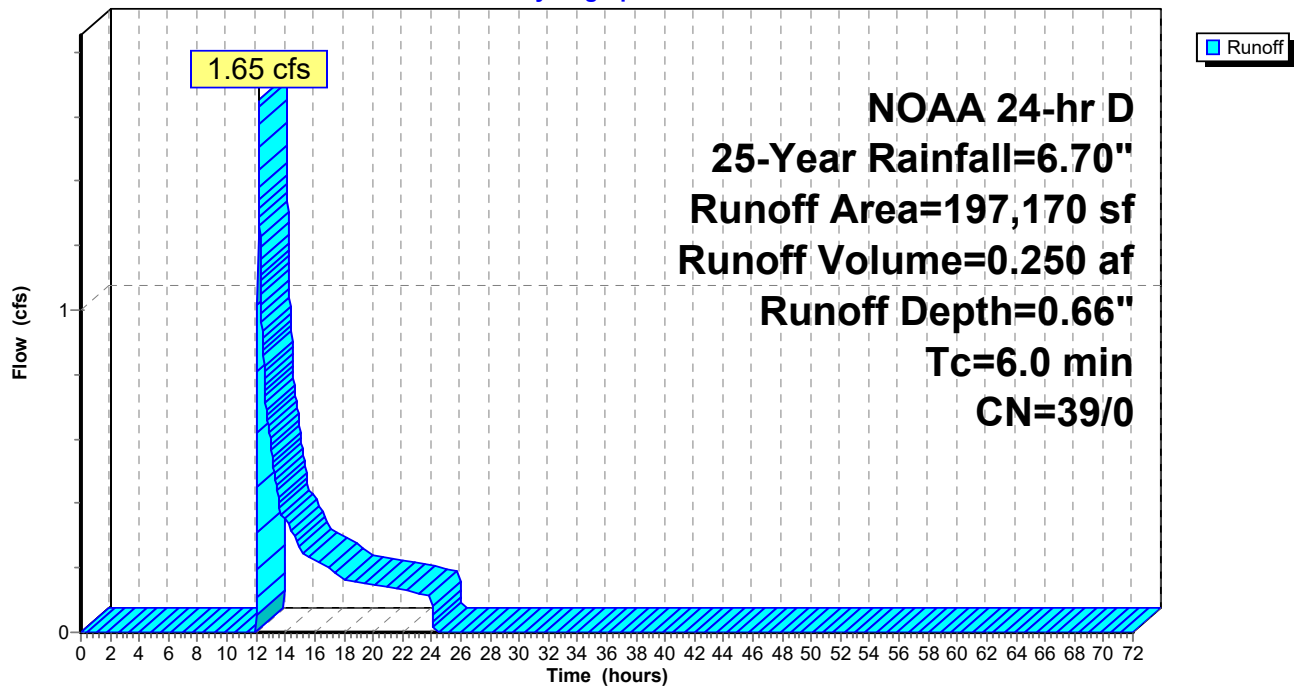
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
197,170	39	>75% Grass cover, Good, HSG A
197,170	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

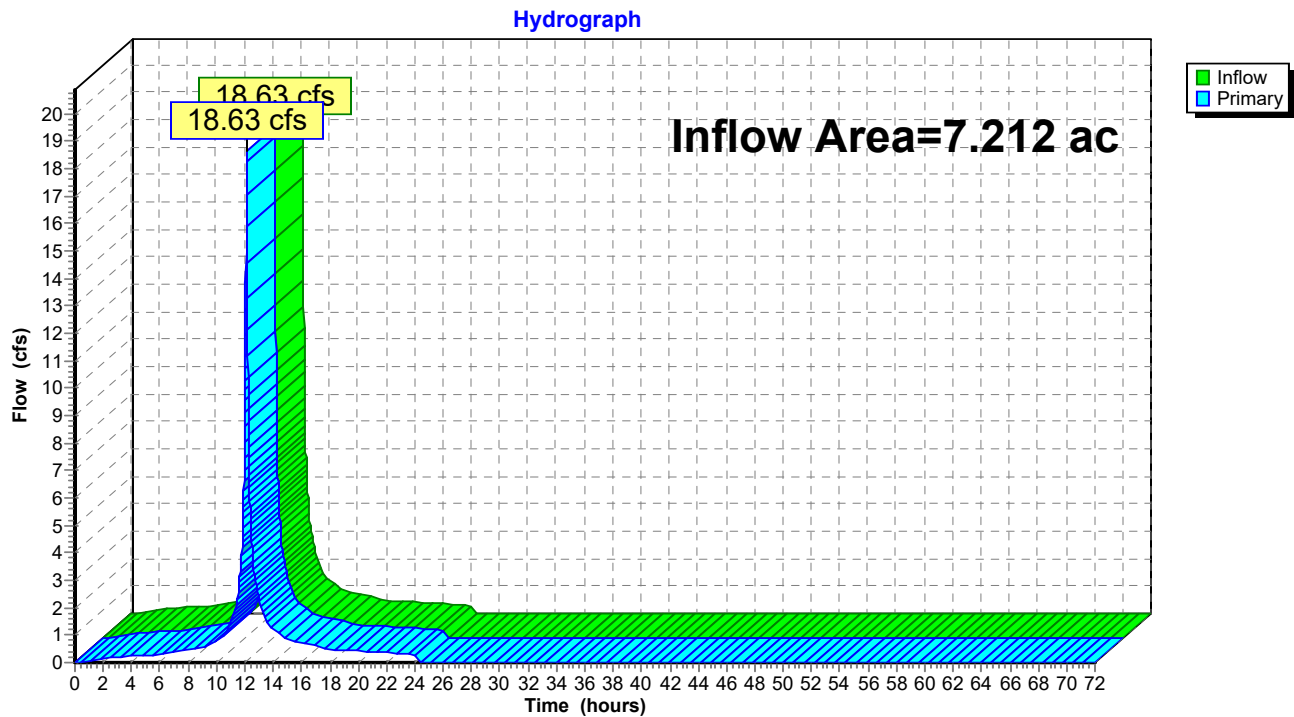
Hydrograph



Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 37.23% Impervious, Inflow Depth = 2.82" for 25-Year event
Inflow = 18.63 cfs @ 12.13 hrs, Volume= 1.696 af
Primary = 18.63 cfs @ 12.13 hrs, Volume= 1.696 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA

240308 r5 SWM

NOAA 24-hr D 100-Year Rainfall=9.18"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Ei: Ex Impervious

Runoff Area=116,969 sf 100.00% Impervious Runoff Depth=8.94"

Tc=6.0 min CN=0/98 Runoff=23.62 cfs 2.000 af

Subcatchment Ep: Ex Pervious

Runoff Area=197,170 sf 0.00% Impervious Runoff Depth=1.69"

Tc=6.0 min CN=39/0 Runoff=7.51 cfs 0.637 af

Pond E: Existing POA

Inflow=30.99 cfs 2.637 af

Primary=30.99 cfs 2.637 af

Total Runoff Area = 7.212 ac Runoff Volume = 2.637 af Average Runoff Depth = 4.39"
62.77% Pervious = 4.526 ac 37.23% Impervious = 2.685 ac

Summary for Subcatchment Ei: Ex Impervious

Runoff = 23.62 cfs @ 12.13 hrs, Volume= 2.000 af, Depth= 8.94"
 Routed to Pond E : Existing POA

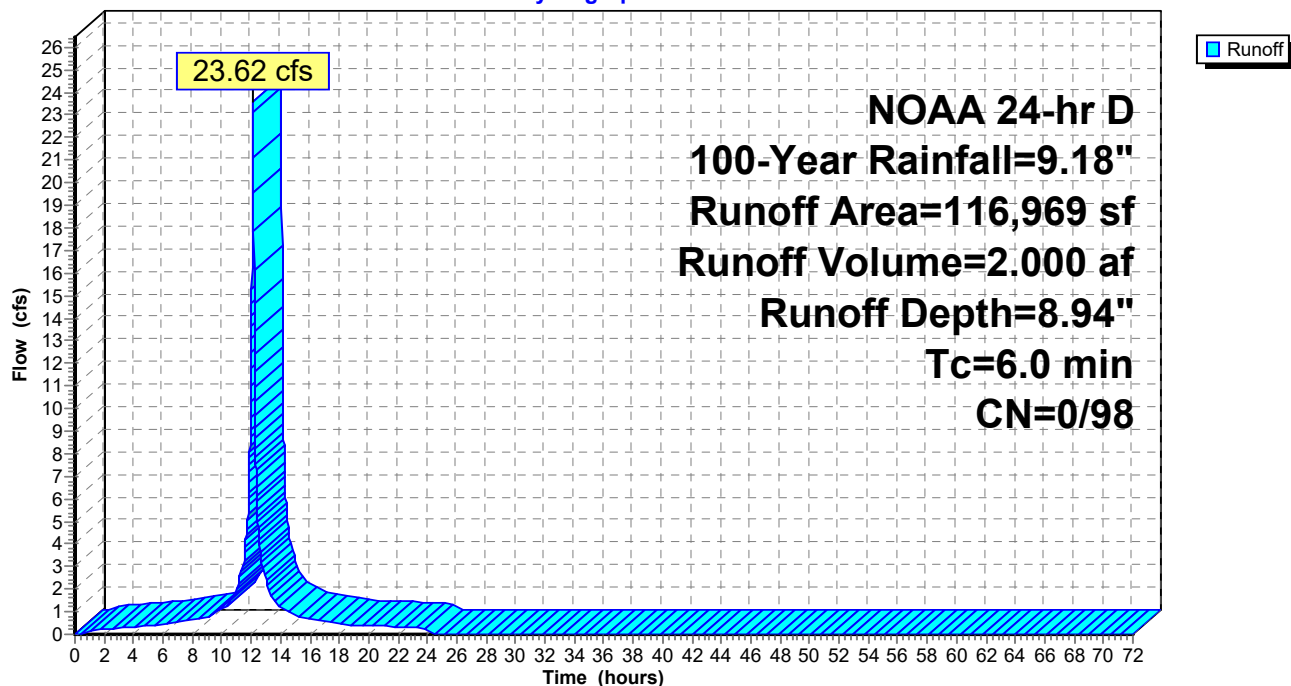
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
116,969	98	Unconnected pavement, HSG A
116,969	98	100.00% Impervious Area

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

Subcatchment Ei: Ex Impervious

Hydrograph



Summary for Subcatchment Ep: Ex Pervious

Runoff = 7.51 cfs @ 12.14 hrs, Volume= 0.637 af, Depth= 1.69"
 Routed to Pond E : Existing POA

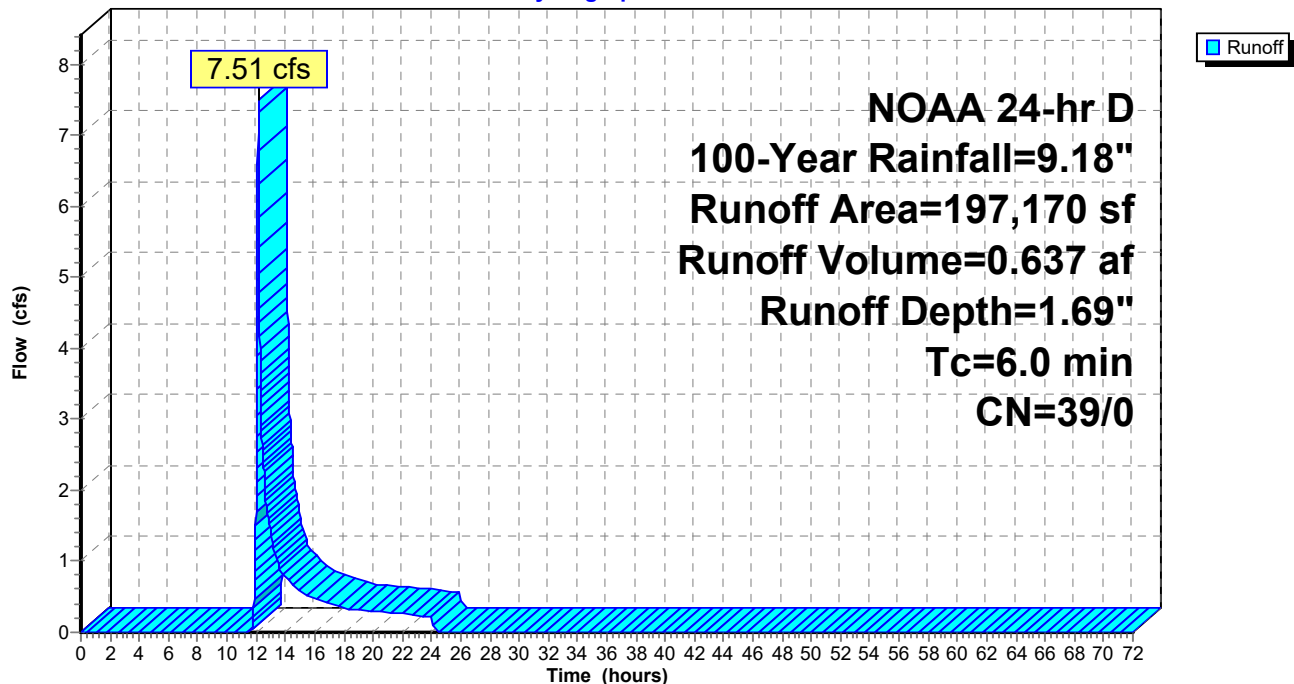
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
197,170	39	>75% Grass cover, Good, HSG A
197,170	39	100.00% Pervious Area

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

Subcatchment Ep: Ex Pervious

Hydrograph

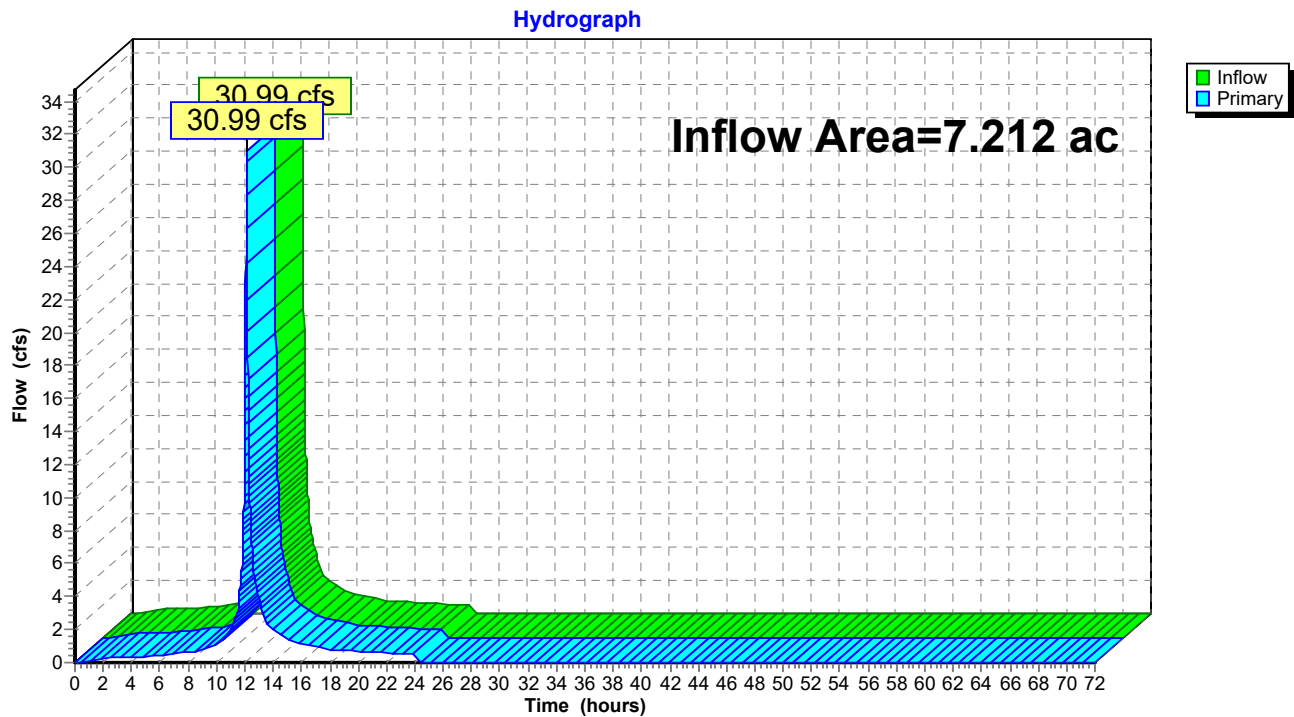


Summary for Pond E: Existing POA

Inflow Area = 7.212 ac, 37.23% Impervious, Inflow Depth = 4.39" for 100-Year event
Inflow = 30.99 cfs @ 12.13 hrs, Volume= 2.637 af
Primary = 30.99 cfs @ 12.13 hrs, Volume= 2.637 af, Atten= 0%, Lag= 0.0 min

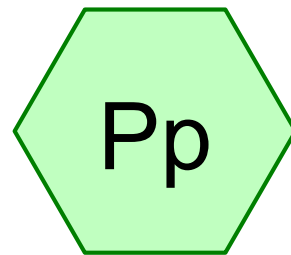
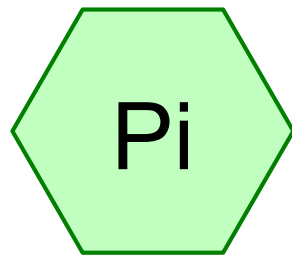
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond E: Existing POA



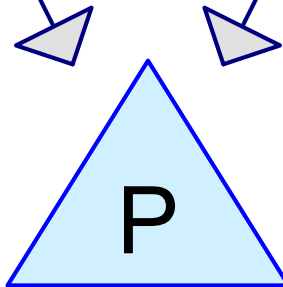
A P P E N D I X C

Post-Development Flow Calculations

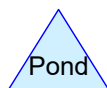
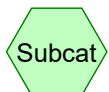


Pr Impervious

Pr Pervious



Proposed POA



Routing Diagram for 240308 r5 SWM

Prepared by InSite Engineering, LLC, Printed 3/8/2024

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240308 r5 SWM

NOAA 24-hr D 2-Year Rainfall=3.46"

Prepared by InSite Engineering, LLC

Printed 3/8/2024

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Page 2

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Pi: Pr Impervious

Runoff Area=127,326 sf 100.00% Impervious Runoff Depth=3.23"

Tc=6.0 min CN=0/98 Runoff=9.60 cfs 0.786 af

Subcatchment Pp: Pr Pervious

Runoff Area=186,813 sf 0.00% Impervious Runoff Depth=0.01"

Tc=6.0 min CN=39/0 Runoff=0.01 cfs 0.002 af

Pond P: Proposed POA

Inflow=9.60 cfs 0.788 af

Primary=9.60 cfs 0.788 af

Total Runoff Area = 7.212 ac Runoff Volume = 0.788 af Average Runoff Depth = 1.31"
59.47% Pervious = 4.289 ac 40.53% Impervious = 2.923 ac

Summary for Subcatchment Pi: Pr Impervious

Runoff = 9.60 cfs @ 12.13 hrs, Volume= 0.786 af, Depth= 3.23"
 Routed to Pond P : Proposed POA

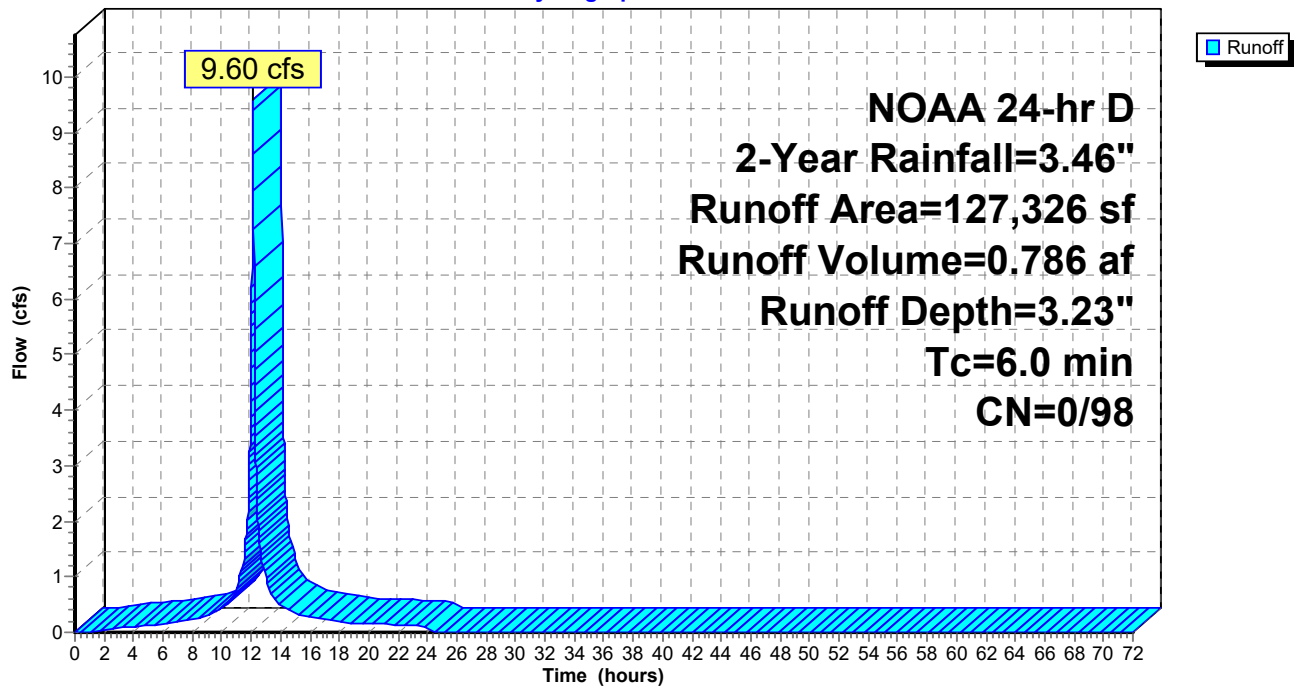
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 NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
127,326	98	Unconnected pavement, HSG A
127,326	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious

Hydrograph



Summary for Subcatchment Pp: Pr Pervious

Runoff = 0.01 cfs @ 24.01 hrs, Volume= 0.002 af, Depth= 0.01"
 Routed to Pond P : Proposed POA

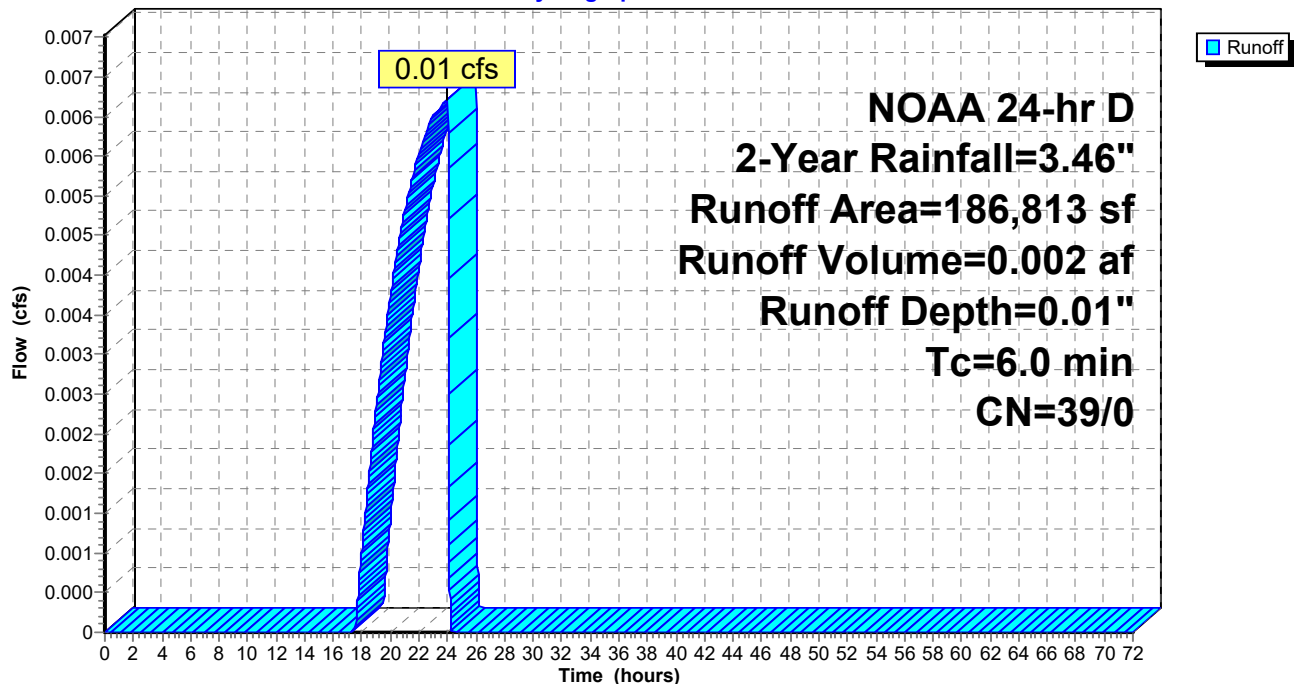
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 NOAA 24-hr D 2-Year Rainfall=3.46"

Area (sf)	CN	Description
186,813	39	>75% Grass cover, Good, HSG A
186,813	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

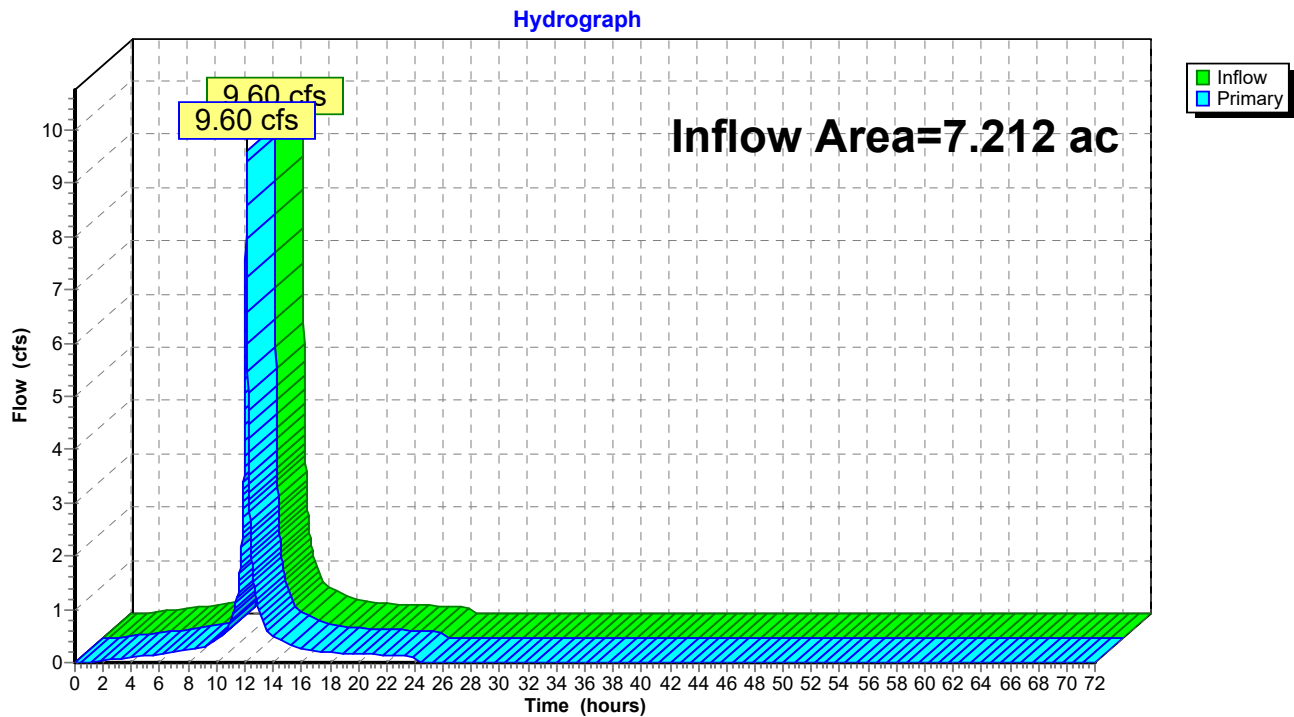
Hydrograph



Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.53% Impervious, Inflow Depth = 1.31" for 2-Year event
Inflow = 9.60 cfs @ 12.13 hrs, Volume= 0.788 af
Primary = 9.60 cfs @ 12.13 hrs, Volume= 0.788 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA

240308 r5 SWM

NOAA 24-hr D 10-Year Rainfall=5.36"

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Page 6

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Pi: Pr Impervious

Runoff Area=127,326 sf 100.00% Impervious Runoff Depth=5.12"

Tc=6.0 min CN=0/98 Runoff=14.96 cfs 1.248 af

Subcatchment Pp: Pr Pervious

Runoff Area=186,813 sf 0.00% Impervious Runoff Depth=0.28"

Tc=6.0 min CN=39/0 Runoff=0.24 cfs 0.100 af

Pond P: Proposed POA

Inflow=14.96 cfs 1.347 af

Primary=14.96 cfs 1.347 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.347 af Average Runoff Depth = 2.24"
59.47% Pervious = 4.289 ac 40.53% Impervious = 2.923 ac

Summary for Subcatchment Pi: Pr Impervious

Runoff = 14.96 cfs @ 12.13 hrs, Volume= 1.248 af, Depth= 5.12"
 Routed to Pond P : Proposed POA

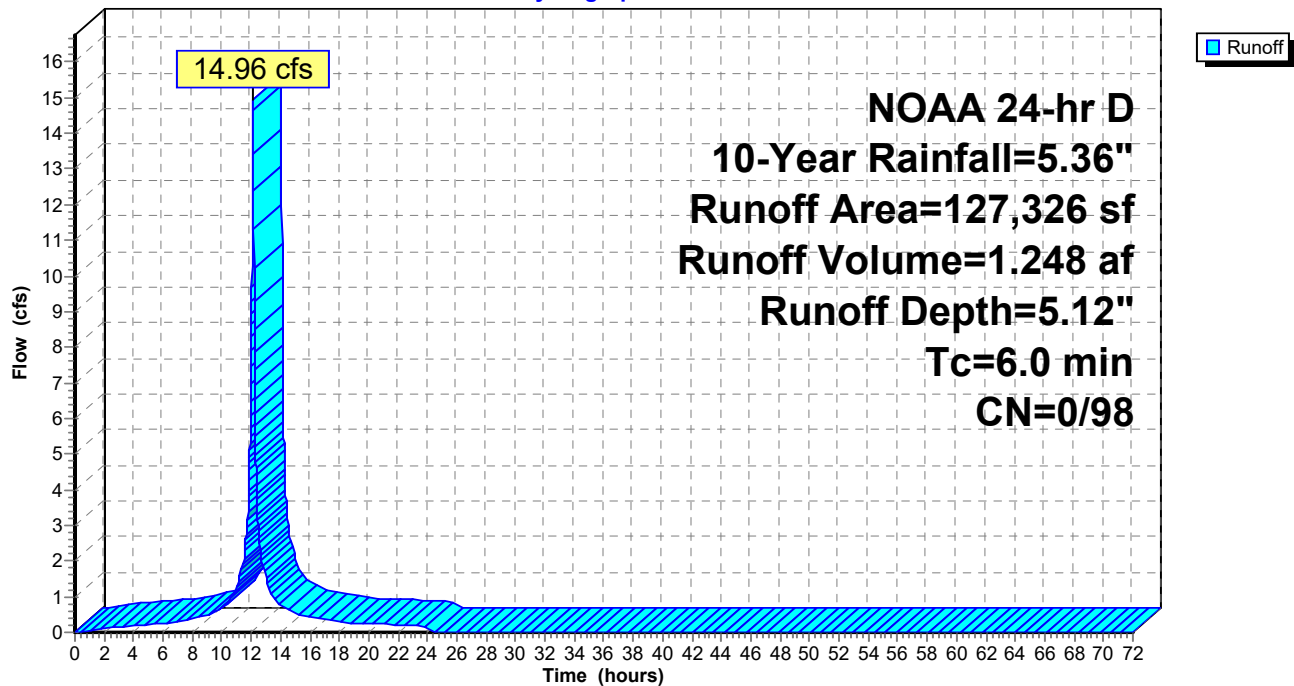
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
127,326	98	Unconnected pavement, HSG A
127,326	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious

Hydrograph



Summary for Subcatchment Pp: Pr Pervious

Runoff = 0.24 cfs @ 12.54 hrs, Volume= 0.100 af, Depth= 0.28"
 Routed to Pond P : Proposed POA

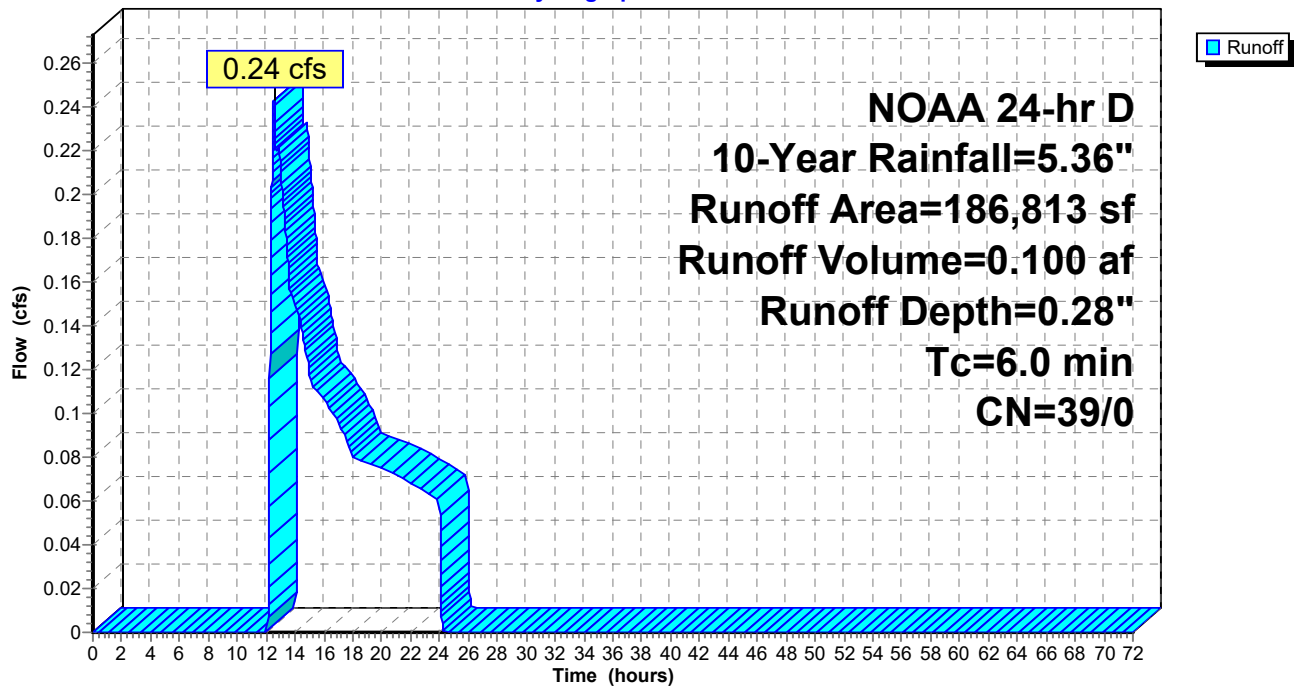
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 10-Year Rainfall=5.36"

Area (sf)	CN	Description
186,813	39	>75% Grass cover, Good, HSG A
186,813	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

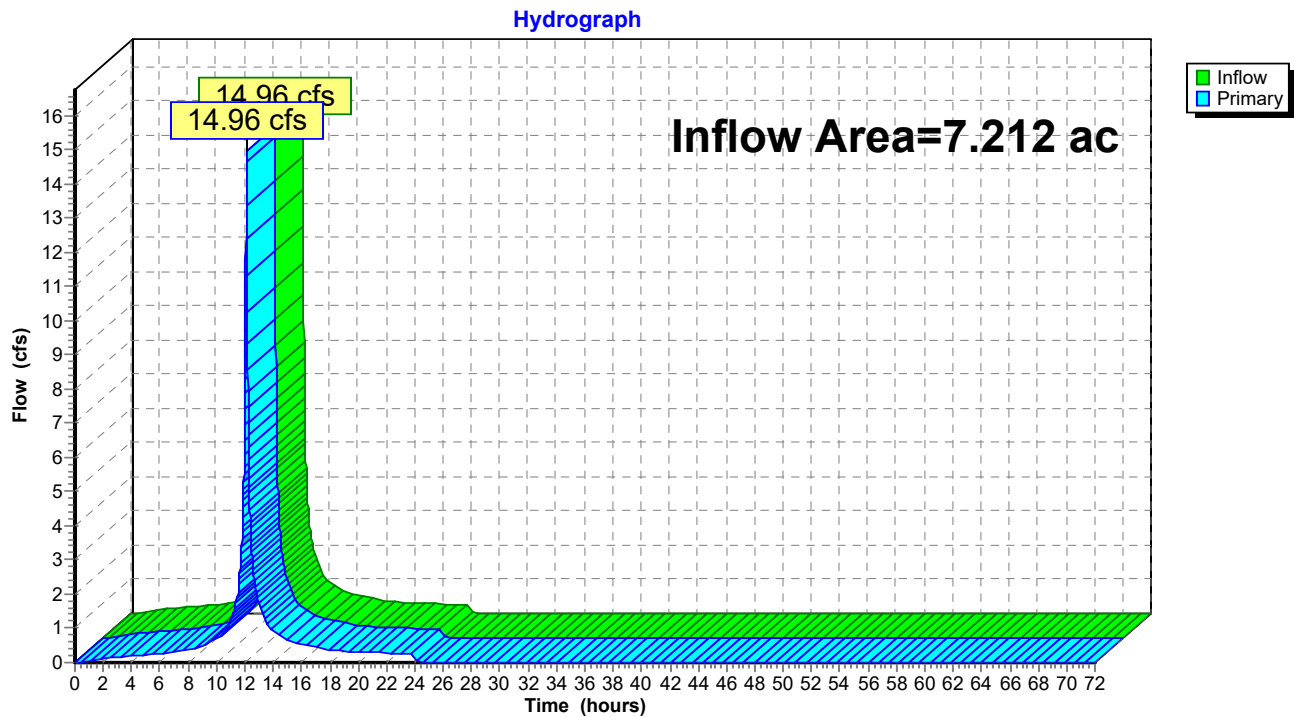
Hydrograph



Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.53% Impervious, Inflow Depth = 2.24" for 10-Year event
Inflow = 14.96 cfs @ 12.13 hrs, Volume= 1.347 af
Primary = 14.96 cfs @ 12.13 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA

240308 r5 SWM

NOAA 24-hr D 25-Year Rainfall=6.70"

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Page 10

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Pi: Pr Impervious

Runoff Area=127,326 sf 100.00% Impervious Runoff Depth=6.46"

Tc=6.0 min CN=0/98 Runoff=18.74 cfs 1.574 af

Subcatchment Pp: Pr Pervious

Runoff Area=186,813 sf 0.00% Impervious Runoff Depth=0.66"

Tc=6.0 min CN=39/0 Runoff=1.56 cfs 0.237 af

Pond P: Proposed POA

Inflow=20.07 cfs 1.811 af

Primary=20.07 cfs 1.811 af

Total Runoff Area = 7.212 ac Runoff Volume = 1.811 af Average Runoff Depth = 3.01"
59.47% Pervious = 4.289 ac 40.53% Impervious = 2.923 ac

Summary for Subcatchment Pi: Pr Impervious

Runoff = 18.74 cfs @ 12.13 hrs, Volume= 1.574 af, Depth= 6.46"
 Routed to Pond P : Proposed POA

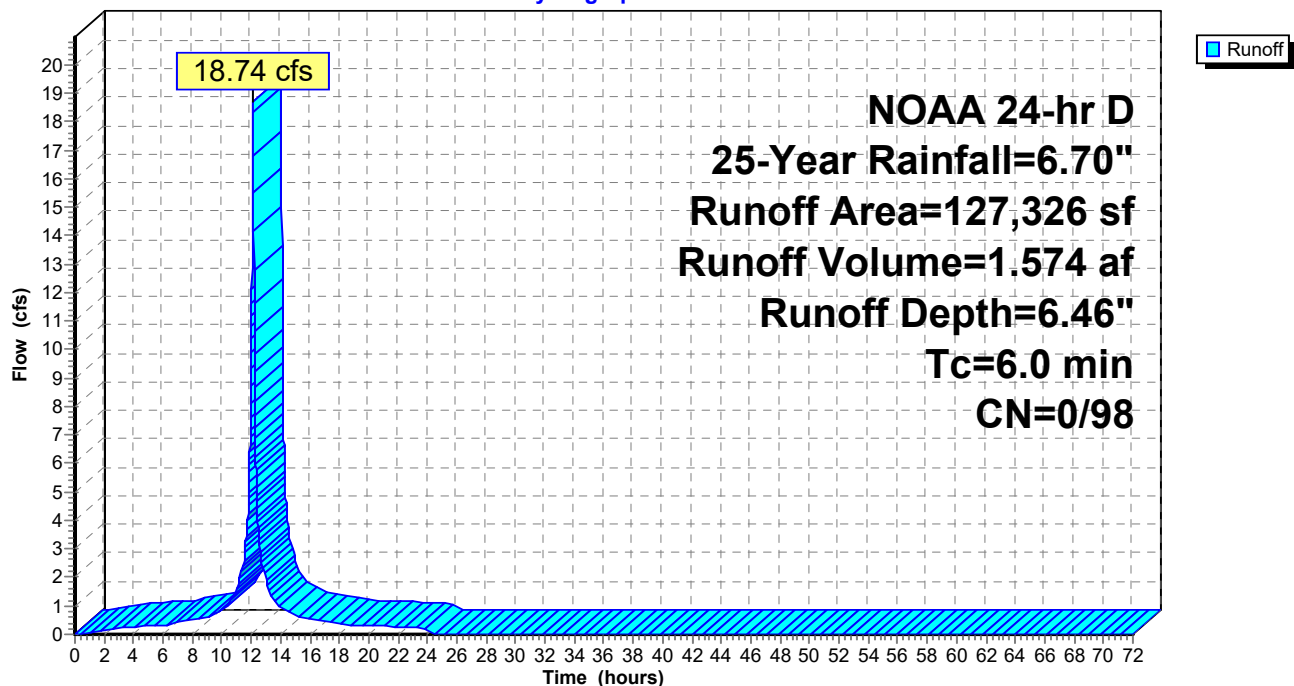
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
127,326	98	Unconnected pavement, HSG A
127,326	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious

Hydrograph



Summary for Subcatchment Pp: Pr Pervious

Runoff = 1.56 cfs @ 12.16 hrs, Volume= 0.237 af, Depth= 0.66"
 Routed to Pond P : Proposed POA

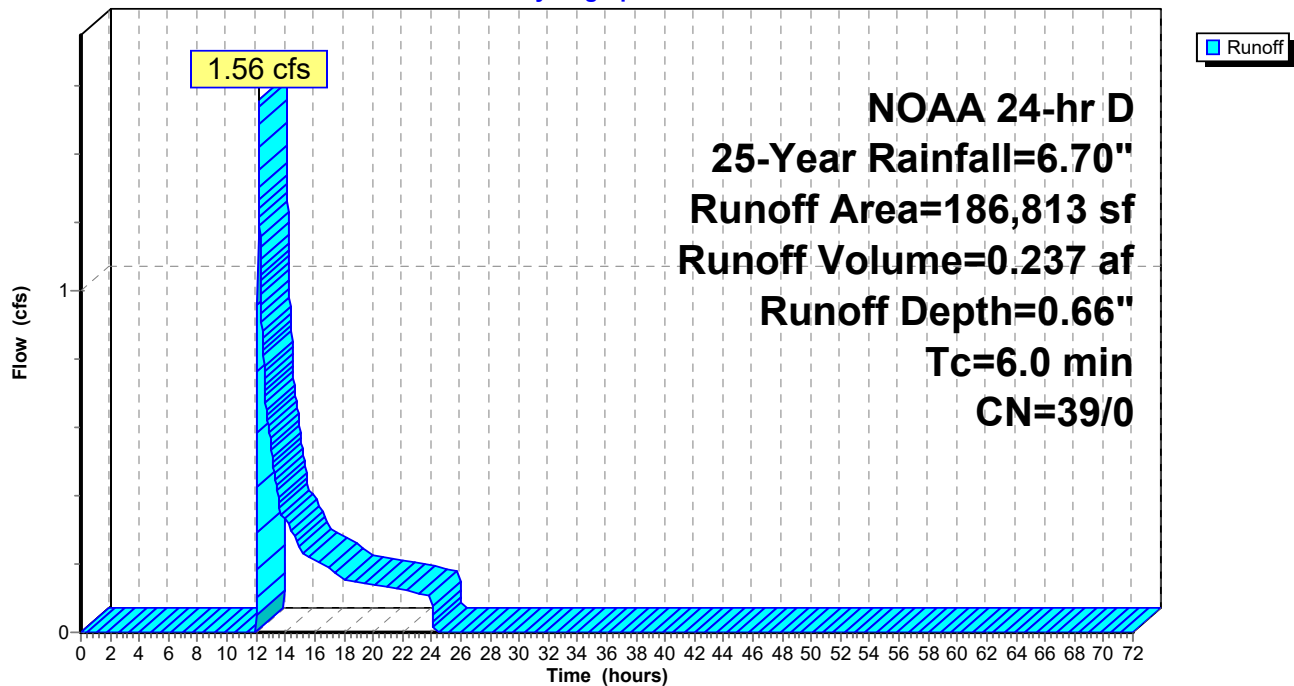
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 NOAA 24-hr D 25-Year Rainfall=6.70"

Area (sf)	CN	Description
186,813	39	>75% Grass cover, Good, HSG A
186,813	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

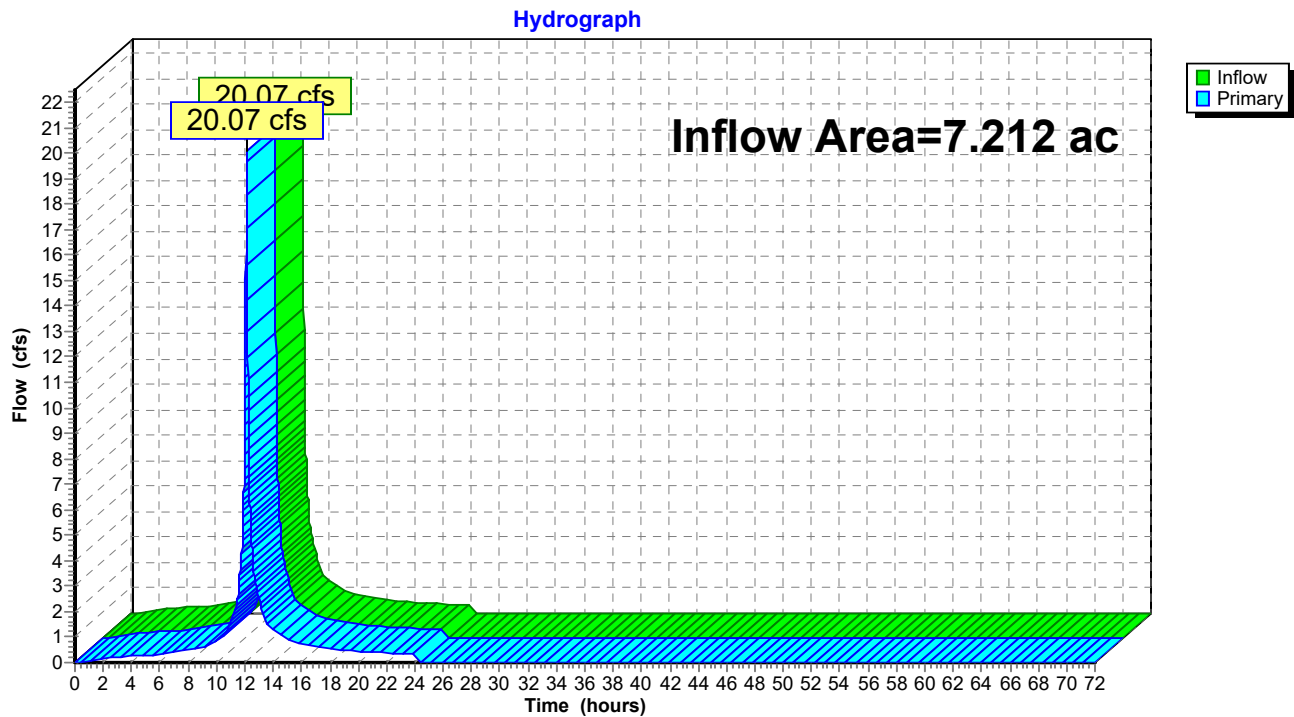
Hydrograph



Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.53% Impervious, Inflow Depth = 3.01" for 25-Year event
Inflow = 20.07 cfs @ 12.13 hrs, Volume= 1.811 af
Primary = 20.07 cfs @ 12.13 hrs, Volume= 1.811 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA

240308 r5 SWM

NOAA 24-hr D 100-Year Rainfall=9.18"

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Page 14

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points

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 Pi: Pr Impervious

Runoff Area=127,326 sf 100.00% Impervious Runoff Depth=8.94"

Tc=6.0 min CN=0/98 Runoff=25.71 cfs 2.178 af

Subcatchment Pp: Pr Pervious

Runoff Area=186,813 sf 0.00% Impervious Runoff Depth=1.69"

Tc=6.0 min CN=39/0 Runoff=7.12 cfs 0.603 af

Pond P: Proposed POA

Inflow=32.68 cfs 2.781 af

Primary=32.68 cfs 2.781 af

Total Runoff Area = 7.212 ac Runoff Volume = 2.781 af Average Runoff Depth = 4.63"
59.47% Pervious = 4.289 ac 40.53% Impervious = 2.923 ac

Summary for Subcatchment Pi: Pr Impervious

Runoff = 25.71 cfs @ 12.13 hrs, Volume= 2.178 af, Depth= 8.94"
 Routed to Pond P : Proposed POA

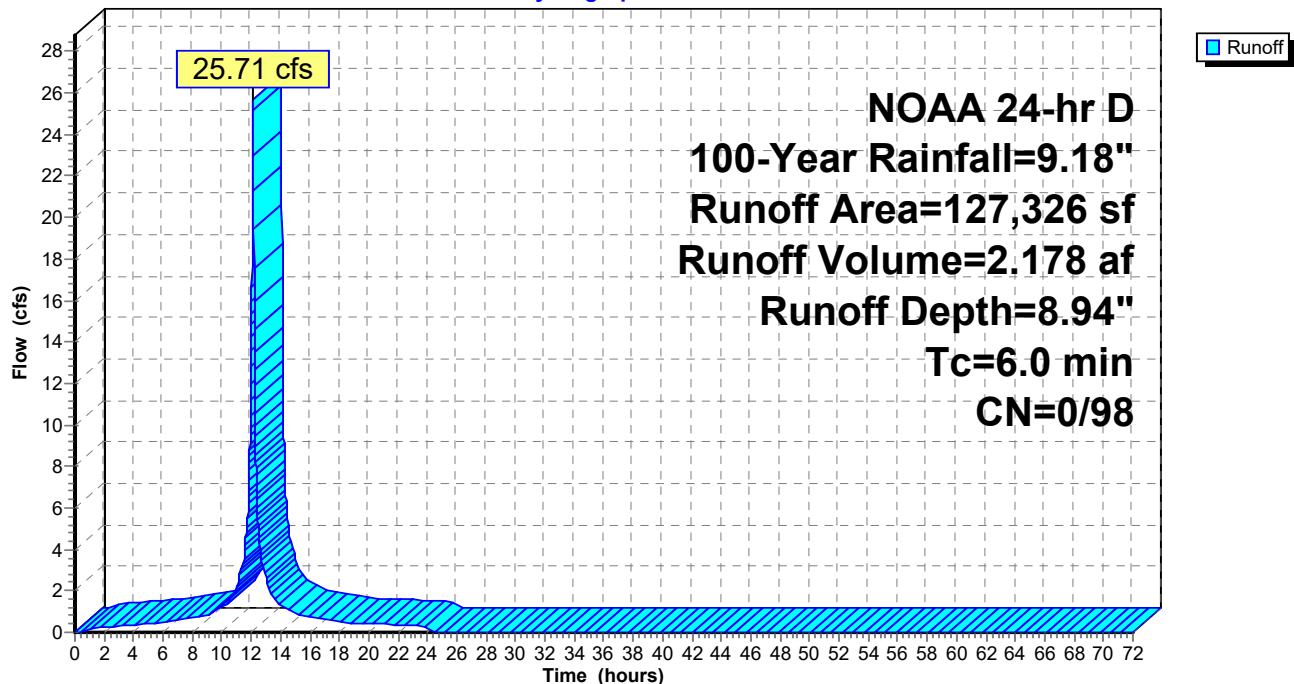
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 NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
127,326	98	Unconnected pavement, HSG A
127,326	98	100.00% Impervious Area

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

Subcatchment Pi: Pr Impervious

Hydrograph



Summary for Subcatchment Pp: Pr Pervious

Runoff = 7.12 cfs @ 12.14 hrs, Volume= 0.603 af, Depth= 1.69"
 Routed to Pond P : Proposed POA

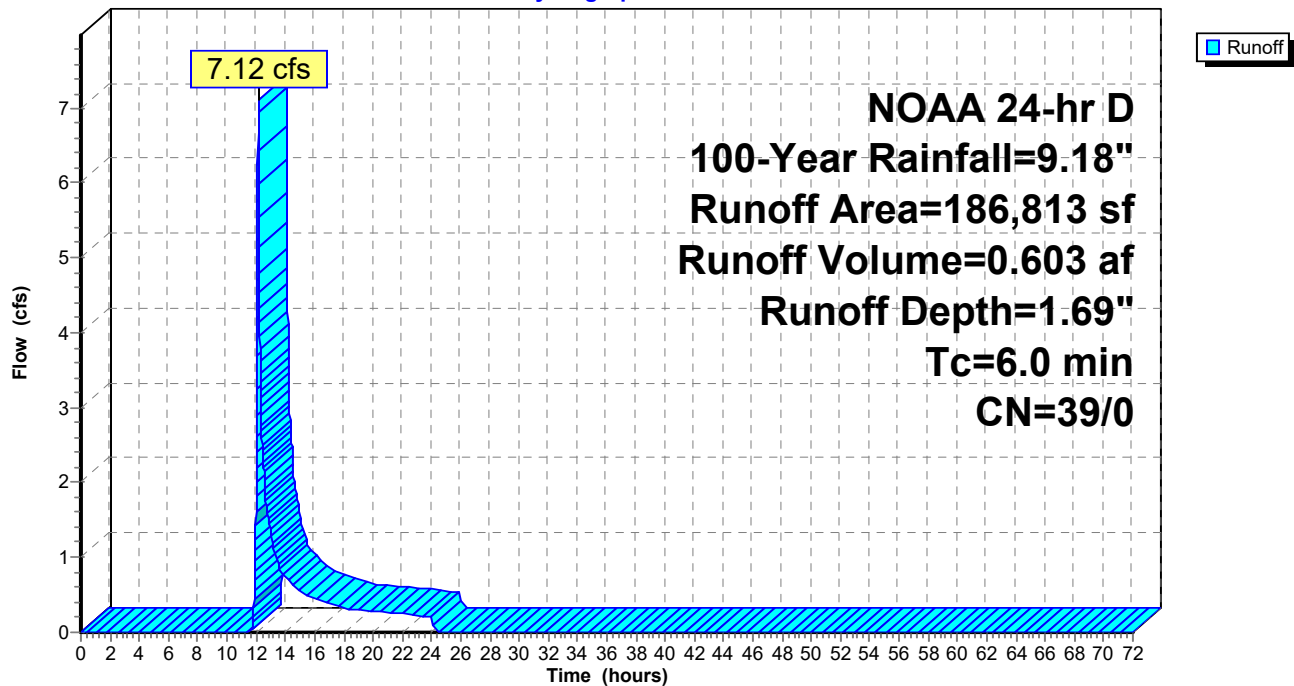
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-Year Rainfall=9.18"

Area (sf)	CN	Description
186,813	39	>75% Grass cover, Good, HSG A
186,813	39	100.00% Pervious Area

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

Subcatchment Pp: Pr Pervious

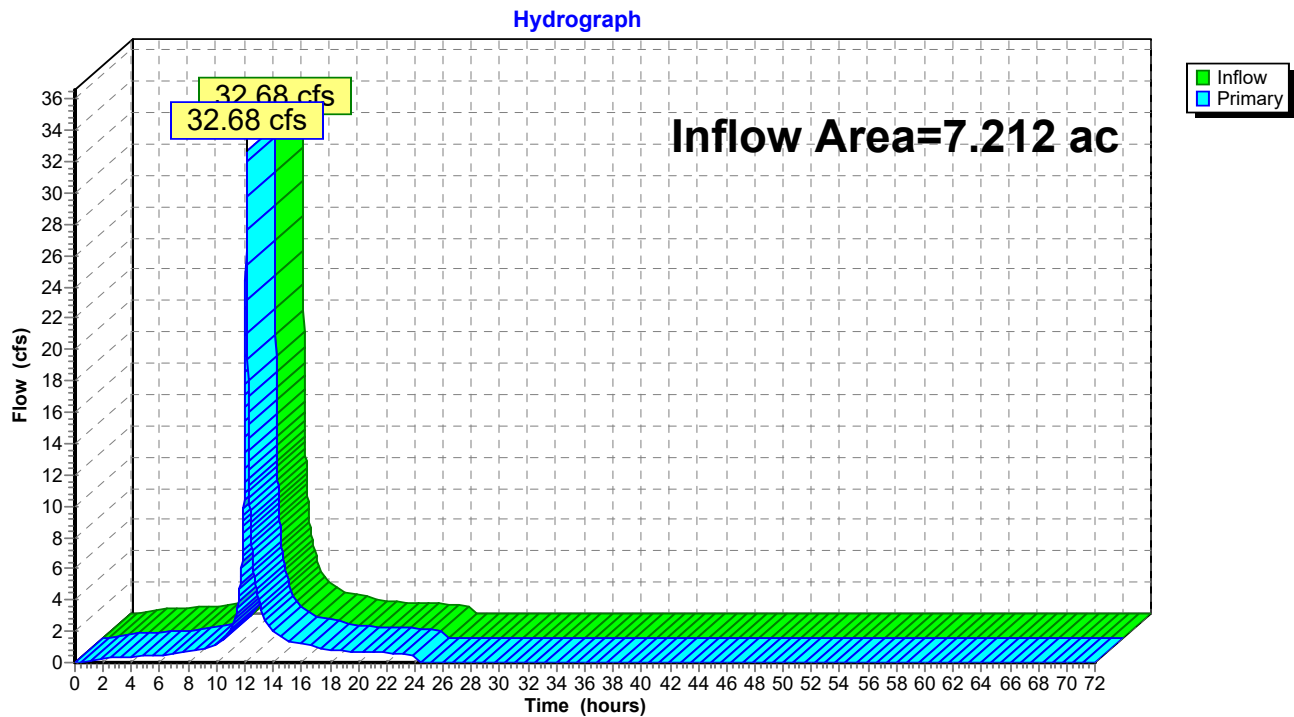
Hydrograph



Summary for Pond P: Proposed POA

Inflow Area = 7.212 ac, 40.53% Impervious, Inflow Depth = 4.63" for 100-Year event
Inflow = 32.68 cfs @ 12.13 hrs, Volume= 2.781 af
Primary = 32.68 cfs @ 12.13 hrs, Volume= 2.781 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond P: Proposed POA

A P P E N D I X D

Pre-Development Coverage Map

PROJECT INFORMATION

PROJECT NAME:

FULFILL
FOOD BANK

PROJECT LOCATION:

BLOCK 2301, LOT 1
TAX MAP #23
3300 ROUTE 66
TOWNSHIP OF NEPTUNE,
MONMOUTH COUNTY, NJ

OWNER/APPLICANT:

FOOD BANK OF MONMOUTH & OCEAN COUNTY
3300 ROUTE 66
TOWNSHIP OF NEPTUNE, NJ 07753

APPLICANT'S PROFESSIONALS

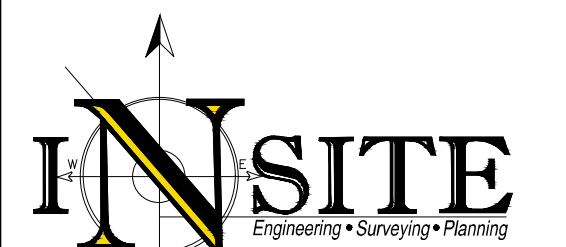
SURVEYOR:
INSITE SURVEYING, LLC
1955 NJ 34 #14
WALL TOWNSHIP, NJ 07719ARCHITECT:
PRECOM DESIGN AND
CONSTRUCTION, LLC
433 NORTH AVE EAST
P.O. BOX 160
WESTFIELD, NJ 07090ATTORNEY:
JENNIFER S. KRIMKO, ESQ.
ANSELL GRIMM & AARON, PC
1500 LAWRENCE AVENUE - CNT807
OCEAN, NJ 07712

CALL BEFORE YOU DIG!

NJ ONE CALL: 800-275-1900

(Call 2 Days prior to excavation)

EXISTING	RED
COMMENTS	YELLOW
TEMP. SURVEY MARKERS	GREEN
REPROCESSED DATA	WHITE

INSITE Engineering, LLC
CERTIFICATE OF AUTHORIZATION: 24GA28083200
1955 ROUTE 34, SUITE 1A, WALL, NJ 07719
732-531-1100 (PH) 732-531-7244 (FAX)
InSite@InSiteEng.net www.InSiteEng.netLICENSED IN: NEW JERSEY, NEW YORK, PENNSYLVANIA,
DELAWARE, CONNECTICUT, NORTH CAROLINA,
COLORADO, & DISTRICT OF COLUMBIACAUTION: IF THIS DOCUMENT DOES NOT CONTAIN THE SIGNATURE
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AND MAY HAVE BEEN REPRODUCED.*Christopher M. Bednarski*
CHRISTOPHER M. BEDNARSKI, P.E.
PROFESSIONAL ENGINEER
N.J.P.E. LIC. NO. 24GE05156400

REVISIONS

Rev #	Date	Description
1	03/08/24	REVISED PER PERM COMMENTS
2	07/10/24	REVISED PER PERM & CLIENT COMMENTS
3	10/20/23	PLANNING BOARD SUBMISSION
4	08/07/23	REV PER CLIENT COMMENTS
5	08/25/23	REV PER CLIENT COMMENTS
6	08/02/24	INITIAL PERM

SCALE: 1"=30'

DATE: 05/10/23 DESIGNED BY: STC

JOB #: 23-2111-01 DRAWN BY: STC

CAD ID: 23-2111-01r5

CHECKED BY: CMB

NOT FOR CONSTRUCTION

APPROVED BY:

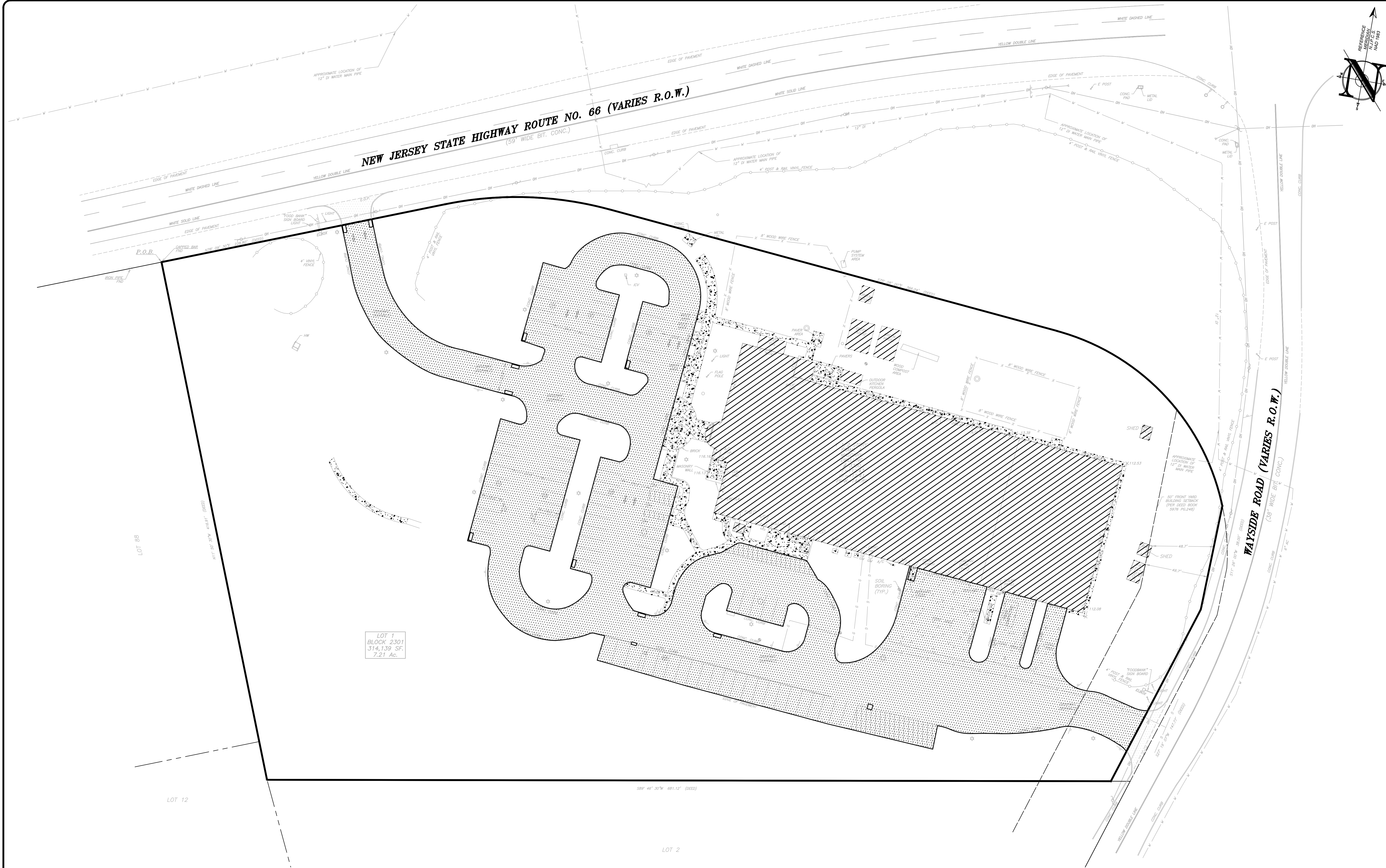
FOR CONSTRUCTION

DRAWING TITLE:

PRELIMINARY & FINAL
MAJOR SITE PLANSHEET TITLE:
PRE-DEVELOPMENT
COVERAGE MAP

SHEET NO.:

1 OF 2







LEGEND	
EXISTING	PROPOSED

PAVEMENT LEGEND		
HATCH	SURFACE	AREA
	MOTOR VEHICLE SURFACE	69,473 SF (1.59 AC) (22.1%)
	STRUCTURE	40,008 SF (0.92 AC) (12.8%)
	CONCRETE/WALKWAY/PAVERS	7,488 SF (0.17 AC) (2.4%)
	PERVIOUS	197,170 SF (4.53 AC) (62.7%)
	TOTAL	314,139 SF (7.21 AC)

A P P E N D I X E

Post-Development Coverage Map



PAVEMENT LEGEND		
HATCH	SURFACE	AREA
	MOTOR VEHICLE SURFACE	68,868 SF (1.58 AC) (21.9%)
	STRUCTURE	50,414 SF (1.16 AC) (16.0%)
	CONCRETE/ WALKWAY/ PAVERS	8,044 SF (0.18 AC) (2.6%)
	PERVIOUS	186,613 SF (4.29 AC) (65.5%)
TOTAL		314,139 SF (7.21 AC)
NET NEW MVS		- .605 SF
NET NEW IMPERVIOUS		+10,357 SF (0.238 AC)



fulfill
MONMOUTH
& OCEAN

JECT LOCATION: BLOCK 2301, LOT 1
TAX MAP #23
3300 ROUTE 66
TOWNSHIP OF NEPTUNE,
MONMOUTH COUNTY, NJ

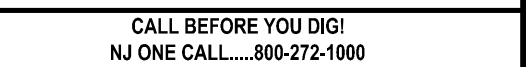
DEPOSIT BANK OF MONMOUTH & OCEAN COUNTY
3300 ROUTE 66
TOWNSHIP OF NEPTUNE, NJ 07753

APPLICANT'S PROFESSIONALS

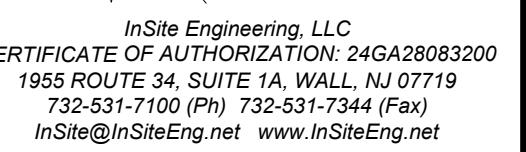
SURVEYOR:
INSITE SURVEYING, LLC
1955 NJ 34 #1A
WALL TOWNSHIP, NJ 07719

ARCHITECT:
REDCOM DESIGN AND
CONSTRUCTION, LLC
433 NORTH AVE EAST
P.O. BOX 160
WESTFIELD, NJ 07090

ATTORNEY:
JENNIFER S. KRIMKO, ESQ.
ANSELL GRIMM & AARON, PC
1500 LAWRENCE AVENUE - CN7807
OCEAN, NJ 07712



ELECTRIC	RED
GAS / OIL	YELLOW
COMMUNICATION / TV	ORANGE
WATER	BLUE
SEWER	GREEN
IMP. SURVEY MARKINGS	MAGENTA
PROPOSED EXCAVATION	WHITE



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Christopher M. Bednarski
CHRISTOPHER M. BEDNARSKI, P.E.
 PROFESSIONAL ENGINEER
 NJPE LIC. NO. 24GE05256400

REVISIONS

[illegible]

03/08/24	REVISED PER ZB COMMENTS
01/10/24	REVISED PER FSCD & CLIENT COMMENTS
10/20/23	PLANNING BOARD SUBMISSION
09/27/23	REV PER CLIENT COMMENTS
08/25/23	REV PER CLIENT COMMENTS
06/10/23	INITIAL RELEASE

SCALE: 1"=30'	DESIGNED BY: STC
DATE: 05/10/23	DRAWN BY: STC

AS #: 23-2111-01	CHECKED BY: CMB
------------------	-----------------

NOT FOR CONSTRUCTION

APPROVED BY:		
FOR CONSTRUCTION		

PLAN INFORMATION

WORK TITLE:

PRELIMINARY & FINAL

MAJOR SITE PLAN

STUDY

POST-DEVELOPMENT

COVERAGE MAP

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