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Stormwater Pollution Prevention Plan

for

North Edge Realty Corporation

Route 6
Tax Map: Sec. 4.19, Block 2, Lots 2,3 & 4
Town of Somers, Westchester County, New York

Revised: December 17, 2025
Revised: October 22, 2025
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Prepared by:

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Project Information:

Project Title:	North Edge Realty Corporation.
Project Address:	Route 6
	Town of Somers, Westchester County, New York
Tax Map Number:	Sec. 4.19, Block 2, Lot 2, 3 & 4
Project Area:	15.62 acres

Applicant/Owner Information:

North Edge Realty Corporation
c/o Gus Boniello
165 Waccabuc Road
Goldens Bridge, NY 10526

Certifying Engineer Information:

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Short-Term Responsible Party for SWPPP Implementation:

Short-term responsible parties for SWPPP Implementation will be the property owner.

Long-Term Responsible Party for SWPPP Implementation:

Long-term responsible parties for SWPPP Implementation will be the Homeowners Association

Potential Party Responsible for Inspections as Required Under SPDES Permit:

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CONTACT INFORMATION AND CERTIFICATION

Applicant:

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Project Engineer & Qualified Inspector:

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Contractor's Certification:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Name & Title: _____

Signature: _____

Company Name: _____

Company Address _____

Phone: _____

Date: _____

Trained Contractor:
(On-site, Daily) _____

Table of Contents:

Appendices:

Figures:

1.0 Introduction

This analysis has been prepared in support of the proposed development as identified on site plans entitled, "North Edge Realty, Town of Somers". This report follows the most recent guidelines set forth by the New York State Department of Environmental Conservation Stormwater Management Design Manual Standards and the New York City Department of Environmental Protection as outlined in the Applicant's Guide to Stormwater Pollution Prevention Plans and Crossing, Piping or Diversion Permits.

1.1 Project Overview

The proposed development plans consist of a 73-unit townhouse development, construction of associated roadway and parking infrastructure, closed piping drainage conveyance systems and stormwater treatment facilities. The proposed townhouses will be served by sewer collection and water distribution systems which will be owned by the Town of Somers Sewer District No. 1 and the Town of Somers Consolidated Water District No.1 respectively.

Stormwater peak runoff rates following development will not exceed those in the existing condition. As proposed, stormwater runoff rates following development would have no adverse impacts on downstream properties or stormwater conveying systems. Similarly, considering the nature of the existing site conditions and the stormwater treatment proposed in the post-development condition, it is predicted that this development will not represent a negative impact to stormwater quantity or degradation in the quality to any reservoir, stream, wetlands or watercourses.

Runoff from all proposed impervious surfaces will be captured and treated through the use of stormwater management practices (SMP's) designed in accordance with the New York State Stormwater Management Design Manual (Design Manual).

The total land disturbance resulting from the proposed development is approximately 13.4 ac.±. As the total land disturbance exceeds 1-acre and the project is located in the within the NYC East of Hudson Watershed (Muscoot River, Upper and Tribs: Segment ID: 1302-0050), coverage under the SPDES General Permit for Temporary Stormwater Discharges from Construction Activity (GP-0-25-001) is required and all proposed SMP's must be designed in accordance with the Enhanced Phosphorous Removal standards specified in Chapter 10 of the Design Manual. In addition, the project will also require a SWPPP approval from the NYCDEP per section 18-39 of their Rules and Regulations. For further discussion regarding NYCDEP requirements, refer to section 2.6 of this report.

The project SWPPP has been designed with the intent of providing stormwater runoff quality treatment and quantitative management. It should be noted that the proposed development on site will be limited to areas onsite located outside the 100' NYSDEC Wetland adjacent area.

Assuming a timely permitting process construction is anticipated to begin in the Summer of 2026 with an anticipated duration of approximately 36-48 months.

The following permits are required for the subject project:

North Edge Realty Corporation – Required Approvals

Agency and Approval Required:	Status:
Town of Somers Town Board: Zoning Overlay	 Pending
Town of Somers Planning Board / Town Board: Site Plan Steep Slopes Permit Tree Removal Permit Stormwater Management and Erosion & Sediment Control Permit	 Pending Pending Pending Pending Pending
Westchester County Health Department Realty Subdivision Approval Sewer and Water Approval	
Ney York State Dept. of Transportation Highway Work Permit	
New York City Dept. of Environmental Protection: SWPPP Approval	
New York State Dept. of Environmental Conservation: Coverage under SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-25-001)	

1.2 Existing Conditions

The subject property currently consists as three adjoining parcels consisting of 11.84 ac, 2.77 ac and 1.02 ac, comprising a total acreage of 15.62 acres. An existing single-family residence exists on the 1.02 ac parcel which fronts on NYS Route 6, the remaining parcels are undeveloped. The properties are located within the R-40 and R-80 Residential Zoning Districts in the Town of Somers. Land cover is mostly wooded with a small portion of impervious surface and lawn area associated with the existing residence. A wetland buffer associated with NYSDEC wetland ML-10 exists along the western property line. There is no proposed disturbance within the 100' regulated buffer area.

The Natural Resource Conservation Service Soil Survey identifies the onsite soils as Paxton (PnB), (PnC), and (PnD) which are identified as Hydrologic Soil Group "C", Ridgebury Complex (RgB) which is specified as Hydrologic Soil Group "D". Based on soil testing and onsite investigations by Steve Marino, PWS, Principal/Senior Wetland Scientist for Tim Miller Associates, Inc. has reclassified the NRCS soil Boundary Ridgebury (RgB) further west and reclassified the areas

previously noted as Ridgebury as Paxton (PnB).

1.3 Proposed Conditions

As described above, the proposed development will include the construction of impervious surfaces such as dwelling roofs, access roads, parking areas, walkways and driveways. The balance of the disturbed areas will be developed as landscaped lawn areas with integrated stormwater treatment facilities. The proposed stormwater management facilities have been designed to provide quality and quantity treatment as per the N.Y.C.D.E.P Watershed Rules and Regulations. Two proposed infiltration basins, sized to provide storage volume for 100% of the contributing WQv to each practice in accordance with the NYSDEC, will capture runoff from approximately 96% of the new impervious surface. The remaining proposed impervious surface will porous patios or decks and will be considered pervious.

Stormwater peak runoff rates following development will not exceed those in the existing condition. As proposed, stormwater runoff rates following development would have no adverse impacts on downstream properties or stormwater conveying systems. Similarly, considering the nature of the existing site conditions and the level of stormwater treatment proposed in the post-development condition, it is predicted that this development will not result in any adverse impacts to downstream reservoirs, streams, wetlands or watercourses.

The development program will alter the existing site land coverage such that perviousness will be modified. An impervious ground cover comparison between the existing conditions and the proposed conditions have been summarized in Table A:

Table A
Land Cover Comparison - Existing and Proposed

	Subbasin	Woods (Acres)	Lawn (Acres)	Meadow (Acres)	Impervious/Gravel (Acres)	Total Area (Acres)
Existing Conditions	1.0S	5.507	1.972	0.000	0.247	7.76
	2.0S	4.550	1.314	0.000	1.390	7.254
	3.0S	8.091	1.230	0.000	1.379	10.700
	Total	18.148	4.516	0.000	3.016	25.680
Proposed Conditions	1.1S	0.724	0.766	0.000	0.012	1.502
	1.2S	1.492	0.209	0.298	0.073	2.072
	2.1S	0.864	4.522	0.000	3.888	9.274
	2.2S	0.904	0.000	0.196	0.000	1.100
	3.1S	0.000	2.623	0.000	3.822	6.445
	3.2S	2.123	1.692	0.166	1.379	5.360
	Total	6.107	9.812	0.660	9.174	25.753
Change		*(12.401)*	*5.296*	*0.559*	*6.158*	*0.073*

2.0 Stormwater Management

2.1 Methodology

Stormwater management computations provided in this report are based upon the Soil Conservation Service (SCS), a.k.a. Natural Resource Conservation Service (NRCS), TR-20 methodologies and recommendations included in the NYSDEC

Design Manual and GP-0-25-001 requirements. Pre-and post-development rates for stormwater runoff have been computed for comparison of the 1, 10, and 100-year storm events using the precip.net, Northeast Regional Climate Center (NRCC) precipitation data website for New York and New England. Extreme precipitation tables for the specific site location for various storms have been provided in Appendix H of this report.

The computer software entitled "HydroCAD Version 10.00-24" by Applied Microcomputer Systems has been utilized to determine runoff volumes, peak runoff rates, and high-water elevations in the stormwater treatment facilities. The precipitation values obtained for the above-mentioned storm events are summarized in the Table provided below:

TABLE 1
Extreme Precipitation Values based on 24-hours Accumulation Period and Recurrence Interval -NRCC-

Storm Frequency	Precipitation (inches) – 24-hour
1-year	2.76
10-year	5.04
100-year	9.10

2.2 NYSDEC Requirements

The subject project lies within The New York City East of Hudson watershed as identified in Appendix C of GP-0-25-001 and proposes to disturb in excess of 1 acre of land. Therefore, a SWPPP with post construction stormwater management practices must be provided, and all proposed stormwater management practices must conform to the Enhanced Phosphorous Removal Standards specified in Chapter 10 of the NYSDEC Design Manual.

2.3 Water Quality Volume (WQv) / Runoff Reduction Volume (RRv)

The stormwater management practices employed have been sized to satisfy the Water Quality Volume (RRv) and Runoff Reduction Volume (RRv) requirements specified in the Design Manual. In accordance with chapter 10, the minimum WQv/RRv for the subject project was determined based on the volume of runoff generated by the 1 year 24-hour storm event.

The WQv requirements set forth in the Design Manual specify that the goal for each site is to reduce the entire WQv through the use of green infrastructure practices (GIP's) and standard stormwater management practices (SMP's) with

runoff reduction capacity.

Calculations for the required water quality volumes at the design line can be found in Appendix "A" of this report and are summarized in the table provided below. It should be noted that the table provided below summarizes the required WQv/RRv for areas treated by standard SMP's with runoff reduction capacity. Impervious areas treated through the application of green infrastructure area reduction practices have been excluded.

TABLE 2
Water Quality Volume Summary

Design Line	Watershed Area (Ac.)*	WQv Required (AF)**	RRv Minimum (AF)***	RRv Provided (AF)****
2	9.274	1.021	0.248	1.021
3	6.445	0.863	0.251	0.863

(*) Watershed area identified above is based on contributing drainage area to the proposed infiltration basin. All subcatchments which are either treated through the use of GIP's or do not contain proposed impervious surfaces have been excluded from the WQv calculations summarized above
(**) Refer to HydroCAD output provided in Appendix C for 1-year storm runoff Volumes.
(***) Refer to Minimum RRv calculations provided in Appendix A.
(****) Refer to stage storage tables in HydroCAD routing contained in Appendix C. 100% RRv has been provided through the use of infiltration basins.

As indicated in the above table, the project SWPPP provides treatment for 100% of the contributing WQv to the proposed infiltration practices which are designated as standard SMP's with runoff reduction capacity. The HydroCAD routings contained in Appendix C account for an exfiltration rate utilized for modeling purposes to minimize oscillations within the infiltration system outflow hydrographs. The exfiltration rate utilized has been confirmed based on soil testing results.

The results of witnessed deep test pits and infiltration testing are provided in Appendix J. The test results indicate suitable soils exist for infiltration as well as adequate separation to groundwater or ledge rock. A conservative rate of 12 in/hr was used in the design of the infiltration basin.

Pretreatment for the infiltration practices will consist of a hydrodynamic separator unit for each infiltration practice.

Runoff Reduction Volume (RRv) for portions of the proposed development will be provided by an existing Riparian Buffer associated with the offsite NYSDEC Wetlands. The existing soils are hydrologic group "C" in the area of the proposed development and discharge point to the Riparian Buffer and hydrologic group "D" further to the west towards the existing stream. The designated undisturbed natural riparian buffer has slightly varying slopes towards the stream averaging

about 6.0%, average length of the buffer is approximately 100 feet to the edge of the wetland and then continues to the stream edge. The riparian buffer has no potential for development and is owned by the same Owner. The proposed riparian buffer is contained entirely within a NYSDEC wetland setback. It is intended to provide 100% WQv –Stormwater Quality Volume for the contributing runoff from the portion of proposed development not directed to the infiltration basins.

Upon completion of construction an As-Built survey of all completed stormwater improvements shall be provided to the local MS4 Stormwater Management Officer to confirm construction was completed in accordance with approved design.

2.4 Stream Channel Protection Volume (CPv)

Stream Channel Protection is intended to protect stream channels from erosion and the requirements are met by providing 24-hr extended detention of the 1-yr 24-hr rainfall event. However, this requirement may be waived if the entire Stream Channel Protection Volume (CP_v) is reduced through the use of green infrastructure practices and or infiltration. Or if the site discharges directly to tidal waters or fifth order or larger streams as determined by the Strahler-Horton methodology (Section 4.3 of the Design Manual).

As a result of chapter 10 design specifications, this project satisfies the CPv requirement as infiltration has been provided for 100% of the WQv which is equivalent to the 1-year storm runoff volume.

2.5 Overbank and Extreme Flood Control

Overbank Flood Control is intended to prevent an increase in the frequency and magnitude of out-of–bank flooding resulting from the proposed development. To achieve Overbank Flood Control at a site the post-development peak rate of runoff generated by the 10-yr design storm must be attenuated to pre-development levels. The exception to this is for sites that discharge to fifth order streams or larger.

Extreme Flood Control is intended to prevent the risk of flood damage from large storms, maintain the pre-development 100-yr floodplain boundary, and protect the integrity of stormwater management practices. The requirement for Extreme Flood Control is met by attenuating the post-development peak flow rates generated by the 100-yr storm event to pre-development levels, unless the site discharges to a fifth order or larger stream.

The combination of the storage volume provided within the infiltration basins to satisfy WQv requirements, and the well-drained sub soils allowing for infiltration of runoff through the SMP's, results in the attenuation of 10- and 100-year storm peak flows at the design line. It should be noted that the NYSDEC Design Manual allows for the use of infiltration practices for peak flow attenuation purposes if infiltration rates are in excess of 5 in/hr. Soil testing results can be found in appendix H of this report which indicate infiltration rates exceed this threshold. A conservative rate of 12 in/hr was used in the design of the infiltration basins.

As shown in the HydroCAD routings contained in Appendix C, and summarized in the table provided below. Peak flows from the 10- and 100-year storm events have been reduced to predevelopment levels, thus satisfying the overbank and extreme flood control requirements.

TABLE 3
Peak Runoff Discharges to Design Line 1

Design Storm (yr)	Pre-Development Peak Runoff (cfs)	Post-Development Peak Runoff (cfs)
1	2.71	1.85
10	9.37	6.71
100	22.09	15.59

TABLE 4
Peak Runoff Discharges to Design Line 2

Design Storm (yr)	Pre-Development Peak Runoff (cfs)	Post-Development Peak Runoff (cfs)
1	4.78	0.68
10	13.71	2.50
100	29.37	22.82

TABLE 5
Peak Runoff Discharges to Design Line 3

Design Storm (yr)	Pre-Development Peak Runoff (cfs)	Post-Development Peak Runoff (cfs)
1	5.69	4.23
10	17.78	11.27
100	39.67	23.23

2.6 NYCDEP Requirements

The subject project is located within the NYC East of Hudson Watershed and a NYCDEP SWPPP approval is required as it meets or exceeds the following thresholds listed in the Rules and Regulations described below:

§18-39(b)(3)(i): Plans for the development or sale of land that will result in the disturbance of five (5) or more acres of total land area as described in the

definition of "larger common plan of development".;

18-39(b)(3)(iii): Construction of a new industrial, institutional, municipal, commercial, or multi-family residential project that will result in creation of an impervious surface totaling over 40,000 sq ft in size;

§18-39(b)(3)(iv): A land clearing or land grading project, involving two (2) or more acres, located at least in part within the limiting distance of 100 feet of a watercourse or wetland, or within the limiting distance of 300 feet of a reservoir, reservoir stem or controlled lake or on a slope exceeding 15 percent;

The proposed site improvements will result in land disturbance of 13.4 acres, a portion of which will take on slopes exceeding 15% thus exceeding the threshold specified in §18-39(b)(3)(iv) of the Rules and Regulations.

The NYCDEP Rules and Regulations generally match the requirements of the NYSDEC and Town of Somers with several exceptions. There are two (2) exceptions to note discussed below.

The first exception of note being that two (2) different standard SMP's are required in series when the contributing drainage area to that SMP is greater than 20% impervious or an infiltration practice is not provided. As noted previously a infiltration practice will provide treatment of stormwater runoff from all proposed impervious surfaces, therefore two (2) SMP's in series are not required.

The second exception is that the NYCDEP requires that the minimum required stormwater treatment volume used shall be the greater of the 1-year 24-hour storm event or the volume generated by the 90% storm.

In accordance with chapter 4 of the Design Manual the following equation was used to determine the water quality volume generated by the 90% rainfall event:

$$WQv = \frac{(P)(Rv)(A)}{12}$$

Where:

WQv = Runoff Volume (acre-feet)
P = 90% Rainfall Value (inches) – (Use 1. 5")
Rv = 0.05 + 0.009(I), where I is percent Impervious Cover (use 0.2 min)
A = Contributing Drainage Area in acres

A comparison of the Runoff volumes for each infiltration system's respective contributing area are summarized in the table below:

Water Quality Volume Comparison Summary (90% Storm Runoff Volume vs 1-Year Storm Runoff Volume)					
Sub Area	**P (in.) Rainfall Value**	**Rv**	**Area (Ac.)**	**WQv (af) (90% Storm)**	**WQv (af) (1-Yr Storm)**
2.1S	1.5	0.417	9.274	0.484	1.021
3.1S	1.5	0.584	6.380	0.470	0.863

As discussed in previous sections of this report the proposed SMP's have been sized based on their contributing runoff volume generated by the 1-year 24-hour storm event, which as summarized above provides the larger runoff volume.

In addition to the 1-year storm runoff comparison discussed above, Pre and Post Development runoff volumes were analyzed and compared to evaluate potential downstream impacts from the proposed development. A table is provided below to summarize the runoff volumes in the Pre- and Post Development conditions.

Pre vs Post Development Runoff Volumes (af.)						
	1-Year		**10-Year**		**100-Year**	
	Pre	Post	Pre	Post	Pre	Post
Design Line 1	0.431	0.192	1.435	0.650	3.652	1.668
Design Line 2	0.518	0.054	1.553	0.189	3.729	1.595
Design Line 3	0.677	0.429	2.137	1.226	5.279	3.344

As summarized in the previous table and indicated in the HydroCAD Report in Appendix "B" and "C", runoff volumes will decrease in the Post Development conditions as a result of the proposed infiltration practices. As such, no downstream analysis impacts are anticipated, and a downstream analysis is not required.

3.0 Erosion and Sediment Control

The plans provide for specific erosion and sediment controls to be employed during construction. It is the intent to provide effective erosion control by minimizing land disturbance at one given time, containing sediment from disturbed areas, treating runoff where possible, and stabilizing disturbed soil as soon as possible. The directives specified on the plans and in this report serve as a minimum for erosion and sediment control. Further practices and measures may be required pursuant to onsite inspections in conformance with the requirements of GP-0-25-001. It should be noted that the project will be constructed in phases so as not to disturb in excess of 5 acres of land at one time as per NYSDEC

requirements.

3.1 Temporary Erosion and Sediment Control Practices

Listed below are the Temporary Erosion and Sediment Control Practices specified for the subject project. All practices shall be installed and maintained in conformance with the New York Standards & Specifications for Erosion & Sediment Control:

- Stabilized Construction Entrance
- Silt Fence
- Drop Inlet Protection
- Soil Stockpiles
- Temporary Soil Stabilization
- Temporary Sediment Basins
- Water Bars
- Temporary Concrete Washout Area
- Waste Material Storage
- Hazardous Material Storage
- Spill Prevention & Response

A stabilized construction entrance should be installed at construction vehicle access points. The construction entrance is designed to prevent outgoing trucks from tracking soil onto the public roads. Construction details specifying installation requirements can be found on the plan.

The silt fence for the site will consist of a geotextile fabric installed at the toe of all disturbed slopes and parallel to the contours. The silt fence is intended to reduce runoff velocity and intercept sediment-laden runoff. Construction details specifying the proposed installation and type of permissible silt fence can be found on the plans.

Drop inlet protection for the site will consist of stone and concrete block wrapped with wire mesh surrounding the catch basins. The purpose of the stone and block inlet protection is to filter stormwater runoff and prevent sediment laden runoff from entering the drainage system through existing or proposed drain inlet structures.

Soil stockpiles are to be stabilized with vegetation and surrounded with silt fencing. This will ensure the topsoil that is stripped from the site during construction will be protected for use during final grading and that no sediment from the stockpiles will be deposited downstream.

The proposed infiltration basins will serve as temporary sediment basins during construction; the infiltration basins will be under excavated. Temporary sediment basins should be inspected to ensure that 50% of the original capacity is remaining. Should sediment accumulate to 50% of the original volume the sediment should be removed and mixed with onsite soils. Upon achievement of final

stabilization, the sediment basin can be removed and the stormwater quality basins constructed in their place. The intent of a temporary sediment basin is to intercept sediment laden water and trap the sediment. Temporary sediment basins will be providing 3,600 cu.ft. of volume per acre of drainage area.

Temporary swales may be proposed to further mitigate the potential erosion during construction. Temporary swales should be checked for erosion. Any observed erosion should be corrected immediately. In addition, it should be verified that non-erosive velocities are maintained at the outlet of the swale. If erosive velocities are observed, i.e. scouring or riling in down gradient areas, the design engineer should be contacted immediately, and an outlet protection will be designed and installed.

Water bars will be utilized to temporarily direct runoff around disturbed areas. Water bars should be checked for erosion of the temporary berm. Any observed erosion should be corrected immediately. In addition, it should be verified that non-erosive velocities are maintained at the outlet of the swale. If erosive velocities are observed, i.e. scouring or riling in down gradient areas, the design engineer should be contacted immediately, and an outlet protection will be designed and installed.

In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven days.

A Temporary concrete washout area shall be provided in the location shown on the project drawings and constructed per the provided detail. The purpose of the washout area is to provide a suitable location where concrete truck mixers and equipment can be washed after their loads have been discharged to prevent highly alkaline runoff from entering storm drainage systems or leaching into the soil.

Construction waste material, such as sheet metal, wood scrap, paper and insulation products, Styrofoam cups and paper wrappers can become windblown litter over and off the site if neglected. Suitable and ample refuse containers clearly marked for designation between recyclable and waste materials shall be provided on the site and emptied when full. Any scattered debris shall be picked up and placed in containers on a daily basis. The contractor shall be responsible for ensuring all people working on site practice proper methods for waste material collection storage and disposal, litter prevention, spill prevention and response.

Although hazardous waste materials are not expected to be used during the proposed construction. The site contractor shall be responsible for collecting and storing any hazardous waste material as necessary, in accordance with all applicable rules and regulations. Hazardous waste shall be disposed of off-site. Material safety data sheets, and emergency contact numbers will be posted in the onsite construction trailer. The contractor shall be responsible for ensuring all persons working on site practice proper methods for hazardous waste storage and disposal.

Fuel for construction equipment will be delivered on an as needed basis, as such no onsite fuel storage is proposed. However, the contractor shall be responsible for ensuring

all workers on site are aware of proper methods for spill prevention. Construction equipment should be routinely checked for leaks and equipment refueling should be completed in designated staging areas and only minor equipment maintenance is to be performed onsite. Material to be utilized in the event of a spill for mitigation measures shall be provided by the contractor and be readily available onsite. Any fuel spill during construction which cannot be immediately cleaned up with available onsite spill mitigation materials shall be reported to the local emergency services.

3.2 Permanent Erosion and Sediment Control Practices

The intent of the permanent erosion and sediment control practices is to permanently stabilize the ground surface via vegetative and structural practices, while controlling and reducing runoff velocities. The following permanent erosion & sediment control practices are proposed for the site:

- Land Grading
- Vegetation / Permanent Soil Stabilization

Land grading is the reshaping of the existing land surface in accordance with the grading plan. Proper land grading is an essential component of the erosion control plan, as well as the stormwater pollution prevention plan. Proper grading will ensure the intended drainage areas are directed to the stormwater management practices.

Vegetation will be provided on all disturbed soils not covered by the proposed impervious surfaces. Permanent vegetation will reduce runoff velocities, filter stormwater runoff, and minimize soil erosion. Optimum times for planting are the early spring and fall; however, planting can be started in the summer provided adequate mulch and moisture is supplied.

3.3 Winter Stabilization

Winter Stabilization is intended for ongoing land disturbance and exposure between November 15th to the following April 1st.

The following Erosion Control measures should be followed:

- Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5 feet apart.
- Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.
- Sediment barriers must be installed at all appropriate perimeter and sensitive locations.
- Silt fence must be installed before the ground freezes.
- Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A silt fence barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil

- In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
- To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:

  a. Work will resume within 24 hours in the same area and no precipitation is forecast or;

  b. The work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
- Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.

Note: If the site will not have earth disturbing activities ongoing during the "winter season", all bare exposed soil must be stabilized by established vegetation, straw or other acceptable means such as approved materials like mulch, matting, rock, rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

4.0 Maintenance & Inspection Requirements

4.1 Short Term Maintenance and Inspection Requirements

As per the SPDES permit onsite, inspections are to be performed at a rate of at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days and be performed by a "qualified inspector" as defined in GP-0-25-001. All erosion and sediment control practices specified for this site shall be in conformance with the New York Standards & Specifications for Erosion & Sediment Control.

Inspections performed during construction should verify that all practices are functioning properly, correctly maintained, and that accumulated sediment is removed from all control structures. The inspector must also examine the site for any evidence of soil erosion, the potential for pollutants to enter the storm drain system, turbid discharge at all outfalls, and the potential for soil and mud to be transported on the public roadway at the site entrance. In addition to these general

guidelines, the project plans will provide more specific erosion control guidelines, as well as a construction sequence to guide the contractor through the construction process. Discussed below are specific maintenance and inspection requirements for the temporary practices to be employed at the site.

During construction, the silt fence should be inspected weekly to ensure correct installation. In addition, any accumulated sediment resulting in "bulges" in the silt fence should be removed and mixed with onsite soil. Any damaged or torn silt fence should be replaced.

The construction entrances should be checked to ensure no sediment is being deposited onto the public roadway. Should sediment be observed, it should be removed from the street, and the stone in the construction entrance replaced.

The drop inlet protection shall be checked for accumulated sediment on a monthly basis and after significant rainfall. Any accumulated sediment shall be removed, and the crushed stone shall be replaced as needed.

The concrete washout area shall be inspected daily. If the washout area is damaged or leaking it shall be repaired immediately. Accumulated hardened material shall be removed when 75% of the storage capacity is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off-site. The project site shall be frequently inspected to ensure no concrete discharges are taking place in non-designated areas.

Once construction is completed and the site has been stabilized, a "Notice of Termination" shall be filed. At this point limited maintenance requirements are anticipated.

4.2 Long Term Maintenance and Inspection Requirements

Once final stabilization is achieved and construction complete, only limited maintenance will be required. A copy of the Maintenance and Inspection Checklists from Appendix "G" of the New York State Stormwater Management Design Manual is included in Appendix "F" of this report to serve as a guide for maintaining and inspecting the stormwater infiltration practices.

Inspections of the following items should be performed at a minimum annually and following significant rainstorms in excess of ½" of rainfall within 24 hours.

Infiltration Basin:

- Inspect emergency spillway and rock outlet protection for any dislodged stones or signs of erosion; additional stone / rip-rap shall be added as needed.

- Inspect outlet structure for clogging and debris/sediment accumulation. Any accumulated sediment/debris shall be removed and properly disposed of.
- Basin berm shall be inspected annually and mowed as needed to prevent woody growth.
- Vegetative establishment within the infiltration basin is critical to its function. Any dead, invasive, or diseased species shall be removed immediately and replaced. Additional seed and mulch shall be used as needed to maintain healthy vegetative cover.

Hydrodynamic Separator (Downstream Defender) - Pretreatment Unit:
Refer to manufacturer's maintenance schedule in Appendix K for more specific maintenance requirements.

- Inspect after heavy rainfall greater than ½" in 24 hours for the first year to determine an appropriate maintenance schedule. Subsequent inspections are reduced to quarterly.
- When the sediment volume reaches within 24"-30" of the water surface, the system should be maintained.
- Maintenance is to be performed using a vacuum truck and removing the accumulated sediment pile and debris.

Catch Basins, Yard Drains, and Drain Manholes:

- Inspect monthly and after heavy rain storms >½" in 24 hours for sediment accumulation in sumps. Accumulated sediment should be removed immediately.

Inspection and maintenance of all drainage infrastructure shall be completed in accordance with all applicable safety requirements. Steps will be provided in all drain structures in excess of 4' in depth for safe access.

4.3 Winter Maintenance and Inspection Requirements

Maintenance:

- The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function

5.0 Outstanding Violations or Enforcement Actions

There are no known outstanding violations or enforcement actions against this property, the owner or the applicant. There are no stormwater discharges associated with industrial activity from this site.

6.0 Climate Change

Pursuant to 6 NYCRR Part 490, this project will not significantly impact potential climate change risks per Part 490. The project has been designed and

planned at an elevation above all flood risks and incorporates post-construction stormwater conveyance systems which have been sized to convey large storm events. The project site has been located and designed will not negatively impact any endangered species.

7.0 **Conclusion**

The Stormwater Pollution Prevention Plan prepared for the subject project has been prudently designed to manage stormwater runoff from both qualitative and quantitative standpoints. Proper implementation of this plan will ensure meeting water quality and quantity standards as required by the NYSDEC based on current New York State guidelines as well as the most recent guidelines set forth by the NYCDEP.

Appendix A:

Water Quality Volume (WQv) / Runoff Reduction Volume (RRv) Calculations

BIBBO ASSOCIATES ENGINEERING, P.C.
Consulting Engineers

Project **North Edge Realty**

September 25, 2025

Water Quality Volume (WQv) Calculation

Basin ID: **2.1S**

The required stormwater quality volume will be determined using “New York State Stormwater Management Design Manual – GP 0-25-001" Unified Stormwater Sizing Criteria. Since the project is located within the NYCDEP Watershed the “Chapter 10- Enhanced Phosphorus Removal Standards” will apply.

Rainfall events for this project have been obtained from "precip.net", Northeast Regional Climate Center - NRCC - Precipitation Data website for New York and New Englans. Extreme Precipitation Tables for the specific site location for various storms have been downloaded to HydroCAD Version 10.00-24 computer model.

Precipitation distribution curves are generated for each grid directly eliminating the need to use a static Type III curve.

Original WQv:	Subcatchment Area (A):	403,975	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	164,831	sq.ft.
	Percent Imperviousness(I):	40.80	%
	WQv from HydroCAD =	44,475	cu.ft.
		or	
		1.021	ac.ft.
Area Reduced WQv:	Subcatchment Area (A):	403,975	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	164,831	sq.ft.
	Percent Imperviousness(I):	40.80	%
	WQv from HydroCAD =	44,475	cu.ft.
		or	
		1.0210	ac.ft.
Remaining WQv for Standard Treatment:			
	Subcatchment Area (A):	0	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	0	sq.ft.
	Percent Imperviousness(I):	0.00	%
	WQv from HydroCAD =	0	cu.ft.
		or	
		0.0000	ac.ft.

Project **North Edge Realty**

Specified Runoff Reduction Volume (S-RRv)

RRv (in acre-feet of storage) = [(P)(Rv)(Ai)] /12

Basin ID: **2.1S** HSG: **C**

P = Rainfall (inches)	2.76	in
Rv = 0.05+0.009(I) where I is 100% impervious	0.95	
Aic = Total area of new impervious cover	164,831	ft²
S = Hydrologic Soil Group (HSG) Specific Reduction Factor (S)	0.30	

HSG A = 0.55 HSG C = 0.30
HSG B = 0.40 HSG D = 0.20

Ai = (S)(Aic) 49,449 ft²

Ai = impervious cover targeted for runoff reduction

therefore:

RRv =	[(P)	(Rv)	(Ai)]	/ 12		
	2.76	0.95	49,449	/ 12	=	**10,805 cu.ft.**
						0.2480 ac.ft

Project **North Edge Realty**

Area Reduction Practices

Basin ID: **2.1S**

		Total Area			Area of Impervious (AI)	
Original Drainage Area (DA):		403,975	sq.ft.		164,831	sq.ft.
Conservation of Natural Areas:	-	0	sq.ft.	-	0	sq.ft.
Riparian Buffers / Filter Strips:	-	0	sq.ft.	-	0	sq.ft.
Tree Planting / Tree Preservation:	-	0	sq.ft.	-	0	sq.ft.
Total Area Reduction:	=	0	sq.ft.			
Total AI Reduction:	=				0	sq.ft.
Remaining DA:		**403,975**	**sq.ft.**		-	
Remaining AI:		-			**164,831**	**sq.ft.**
	or	**9.2740**	**ac.ft.**		**3.7840**	**ac.ft.**

Project **North Edge Realty**

Source Control Practices

Basin ID: **Stormwater Infiltration Basin #1** HSG: C

Practice Type: I = Infiltration

(I)=Infiltration, (B)=Bioretention, (D)=Dry Swale, (V)=Vegetated Swale, (G)=Green Roof, (R)=Rain Garden, (S)=Stormwater Planters, (C)=Cisterns/Rain Barrels, (P)=Porous Pavement

	Total Area:
DA Tributary to Practice(s):	403,975 sq.ft.
AI to Practice(s):	164,831 sq.ft.

Subcatchment Area (A):	403,975	sq.ft.
Rainfall (P):	2.78	in.
Impervious Area	164,831	sq.ft.
Percent Imperviousness(I):	40.80	%

WQv from HydroCAD = **44,475 cu.ft.**
or
1.0210 ac.ft.

Allowable Runoff Reduction Volume (RRv)

Practice Type: I = Infiltration **HSG:** C

Allowable runoff reduction volume for Infiltration in C soil = 100% of WQv

44,475 x 1.00 = **44,475 cu.ft.**
or
1.0210 ac.ft.

Project North Edge Realty

Total Runoff Reduction Volume

Basin ID: **2.1S**

Total RRv provided:

				RRv	
Original WQv - Area Reduced WQv:	44,475	-	44,475	=	0 cu.ft.
Source Control WQv Treatment Practices:					
Basin:					
Stormwater Infiltration Basin #1				=	44,475 cu.ft.

Total RRv provided: **44,475 cu.ft.**
or
1.021 ac.ft.

Is RRv provided	**44,475 cu.ft.** 1.021 ac.ft	≥ Original WQv	**44,475 cu.ft.** 1.021 ac.ft	
			Yes	
Is RRv provided	**44,475 cu.ft.** 1.021 ac.ft	≥ S-RRv (min. RRv)	**10,805 cu.ft.** 0.248 ac.ft	
			Yes	

Total drainage area treated with runoff reduction / source control practices:

Area Reduction Practices:	0 sq.ft.	or	**0.000 Acres**
Source Control Practices:	403,975 sq.ft.	or	**9.274 Acres**
		Total:	**9.274 Acres**

Total impervious area treated with runoff reduction / source control practices:

Area Reduction Practices:	0 sq.ft.	or	**0.000 Acres**
Source Control Practices:	164,831 sq.ft.	or	**3.784 Acres**
		Total:	**3.784 Acres**

Project North Edge Realty

90% Rainfall Event

Basin ID: **2.1S**

Total Post Development Subareas:

WQv (CF) = (P) x (Rv) x (A)/12
P = 90% Rainfall event runoff for the project locaated in Westchester County (P=1.50")
(NYSDEC SW Manual 2015))
Rv = 0.05+0.009(I)
I = Watershed imperviousness percentage
A = Total watershed area (sf)

A =	403,975
I (sf) =	164,831
I (%) =	0.4080
Rv =	0.4172
WQv (CF) =	**21,068**
(AF)	**0.484**

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Consulting Engineers

Project **North Edge Realty**

September 25, 2025

Water Quality Volume (WQv) Calculation

Basin ID: **Design Line 3**

The required stormwater quality volume will be determined using “New York State Stormwater Management Design Manual – GP 0-25-001" Unified Stormwater Sizing Criteria. Since the project is located within the NYCDEP Watershed the “Chapter 10- Enhanced Phosphorus Removal Standards” will apply.

Rainfall events for this project have been obtained from "precip.net", Northeast Regional Climate Center - NRCC - Precipitation Data website for New York and New Englans. Extreme Precipitation Tables for the specific site location for various storms have been downloaded to HydroCAD Version 10.00-24 computer model.

Precipitation distribution curves are generated for each grid directly eliminating the need to use a static Type III curve.

Original WQv:	Subcatchment Area (A):	280,744	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	166,486	sq.ft.
	Percent Imperviousness(I):	59.30	%
	WQv from HydroCAD =	37,592	cu.ft.
		or	
		0.863	ac.ft.
Area Reduced WQv:	Subcatchment Area (A):	280,744	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	166,486	sq.ft.
	Percent Imperviousness(I):	59.30	%
	WQv from HydroCAD =	37,592	cu.ft.
		or	
		0.8630	ac.ft.
Remaining WQv for Standard Treatment:			
	Subcatchment Area (A):	0	sq.ft.
	Rainfall (P):	2.76	in.
	Impervious Area	0	sq.ft.
	Percent Imperviousness(I):	0.00	%
	WQv from HydroCAD =	0	cu.ft.
		or	
		0.0000	ac.ft.

Project **North Edge Realty**

Specified Runoff Reduction Volume (S-RRv)

RRv (in acre-feet of storage) = [(P)(Rv)(Ai)] /12

Basin ID: **3.1S** HSG: **C**

P = Rainfall (inches)	2.76	in
Rv = 0.05+0.009(I) where I is 100% impervious	0.95	
Aic = Total area of new impervious cover	166,486	ft²
S = Hydrologic Soil Group (HSG) Specific Reduction Factor (S)	0.30	

HSG A = 0.55 HSG C = 0.30
HSG B = 0.40 HSG D = 0.20

Ai = (S)(Aic) 49,946 ft²

Ai = impervious cover targeted for runoff reduction

therefore:

RRv =	[(P)	(Rv)	(Ai)]	/ 12		
	2.76	0.95	49,946	/ 12	=	**10,913 cu.ft.**
						0.2505 ac.ft

Project **North Edge Realty**

Area Reduction Practices

Basin ID: **Design Line 3**

		Total Area			Area of Impervious (AI)	
Original Drainage Area (DA):		280,744	sq.ft.		166,486	sq.ft.
Conservation of Natural Areas:	-	0	sq.ft.	-	0	sq.ft.
Riparian Buffers / Filter Strips:	-	0	sq.ft.	-	0	sq.ft.
Tree Planting / Tree Preservation:	-	0	sq.ft.	-	0	sq.ft.
Total Area Reduction:	=	0	sq.ft.			
Total AI Reduction:	=				0	sq.ft.
Remaining DA:		**280,744**	**sq.ft.**		-	
Remaining AI:		-			**166,486**	**sq.ft.**
	or	**6.4450**	**ac.ft.**		**3.8220**	**ac.ft.**

Project **North Edge Realty**

Source Control Practices

Basin ID: **Stormwater Infiltration Basin #2** HSG: C

Practice Type: I = Infiltration

(I)=Infiltration, (B)=Bioretention, (D)=Dry Swale, (V)=Vegetated Swale, (G)=Green Roof, (R)=Rain Garden, (S)=Stormwater Planters, (C)=Cisterns/Rain Barrels, (P)=Porous Pavement

	Total Area:
DA Tributary to Practice(s):	280,744 sq.ft.
AI to Practice(s):	166,486 sq.ft.

Subcatchment Area (A):	280,744	sq.ft.
Rainfall (P):	2.78	in.
Impervious Area	166,486	sq.ft.
Percent Imperviousness(I):	59.30	%

WQv from HydroCAD = **37,592 cu.ft.**
or
0.8630 ac.ft.

Allowable Runoff Reduction Volume (RRv)

Practice Type: I = Infiltration **HSG:** C

Allowable runoff reduction volume for Infiltration in C soil = 100% of WQv

37,592 x 1.00 = **37,592 cu.ft.**
or
0.8630 ac.ft.

Project North Edge Realty

Total Runoff Reduction Volume

Basin ID: **Design Line 3**

Total RRv provided:

				RRv	
Original WQv - Area Reduced WQv:	37,592	-	37,592	=	0 cu.ft.
Source Control WQv Treatment Practices:					
Basin:					
Stormwater Infiltration Basin #2				=	37,592 cu.ft.

Total RRv provided: **37,592 cu.ft.**
or
0.863 ac.ft.

Is RRv provided **37,592 cu.ft.** 0.863 ac.ft ≥ Original WQv **37,592 cu.ft.** 0.863 ac.ft

Yes

Is RRv provided **37,592 cu.ft.** 0.863 ac.ft ≥ S-RRv (min. RRv) **10,913 cu.ft.** 0.251 ac.ft

Yes

Total drainage area treated with runoff reduction / source control practices:

Area Reduction Practices:	0 sq.ft.	or	**0.000 Acres**
Source Control Practices:	280,744 sq.ft.	or	**6.445 Acres**
		Total:	**6.445 Acres**

Total impervious area treated with runoff reduction / source control practices:

Area Reduction Practices:	0 sq.ft.	or	**0.000 Acres**
Source Control Practices:	166,486 sq.ft.	or	**3.822 Acres**
		Total:	**3.822 Acres**

Project North Edge Realty

90% Rainfall Event

Basin ID: **3.1S**

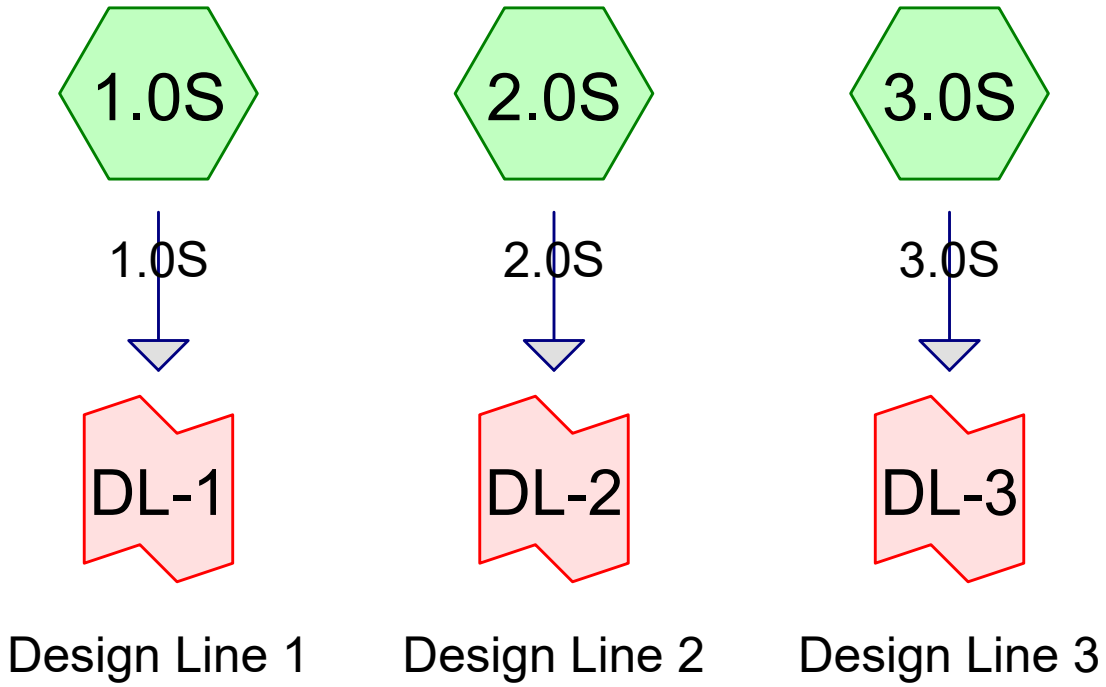
Total Post Development Subareas:

WQv (CF) = (P) x (Rv) x (A)/12
P = 90% Rainfall event runoff for the project locaated in Westchester County (P=1.50")
(NYSDEC SW Manual 2015))
Rv = 0.05+0.009(I)
I = Watershed imperviousness percentage
A = Total watershed area (sf)

A =	280,744
I (sf) =	166,486
I (%) =	0.5930
Rv =	0.5837
WQv (CF) =	**20,484**
(AF)	**0.470**

Appendix B:

Pre Development Peak Flow Analysis - (HydroCAD Output for 1, 10 & 100-year Storm Events)



Subcat Reach Pond Link

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.516	74	>75% Grass cover, Good, HSG C (1.0S, 2.0S, 3.0S)
2.774	98	Ex. Imp. (1.0S, 2.0S, 3.0S)
0.242	96	Gravel surface, HSG C (2.0S, 3.0S)
18.148	70	Woods, Good, HSG C (1.0S, 2.0S, 3.0S)
25.680	**74**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.0S: 1.0S Runoff Area=7.726 ac 3.20% Impervious Runoff Depth=0.67"
Flow Length=781' Tc=33.2 min CN=72 Runoff=2.71 cfs 0.431 af

Subcatchment2.0S: 2.0S Runoff Area=7.254 ac 17.95% Impervious Runoff Depth=0.86"
Flow Length=1,034' Tc=18.3 min CN=76 Runoff=4.78 cfs 0.518 af

Subcatchment3.0S: 3.0S Runoff Area=10.700 ac 11.45% Impervious Runoff Depth=0.76"
Flow Length=1,028' Tc=20.6 min CN=74 Runoff=5.69 cfs 0.677 af

Link DL-1: Design Line 1 Inflow=2.71 cfs 0.431 af
Primary=2.71 cfs 0.431 af

Link DL-2: Design Line 2 Inflow=4.78 cfs 0.518 af
Primary=4.78 cfs 0.518 af

Link DL-3: Design Line 3 Inflow=5.69 cfs 0.677 af
Primary=5.69 cfs 0.677 af

Total Runoff Area = 25.680 ac Runoff Volume = 1.626 af Average Runoff Depth = 0.76"
89.20% Pervious = 22.906 ac 10.80% Impervious = 2.774 ac

Summary for Subcatchment 1.0S: 1.0S

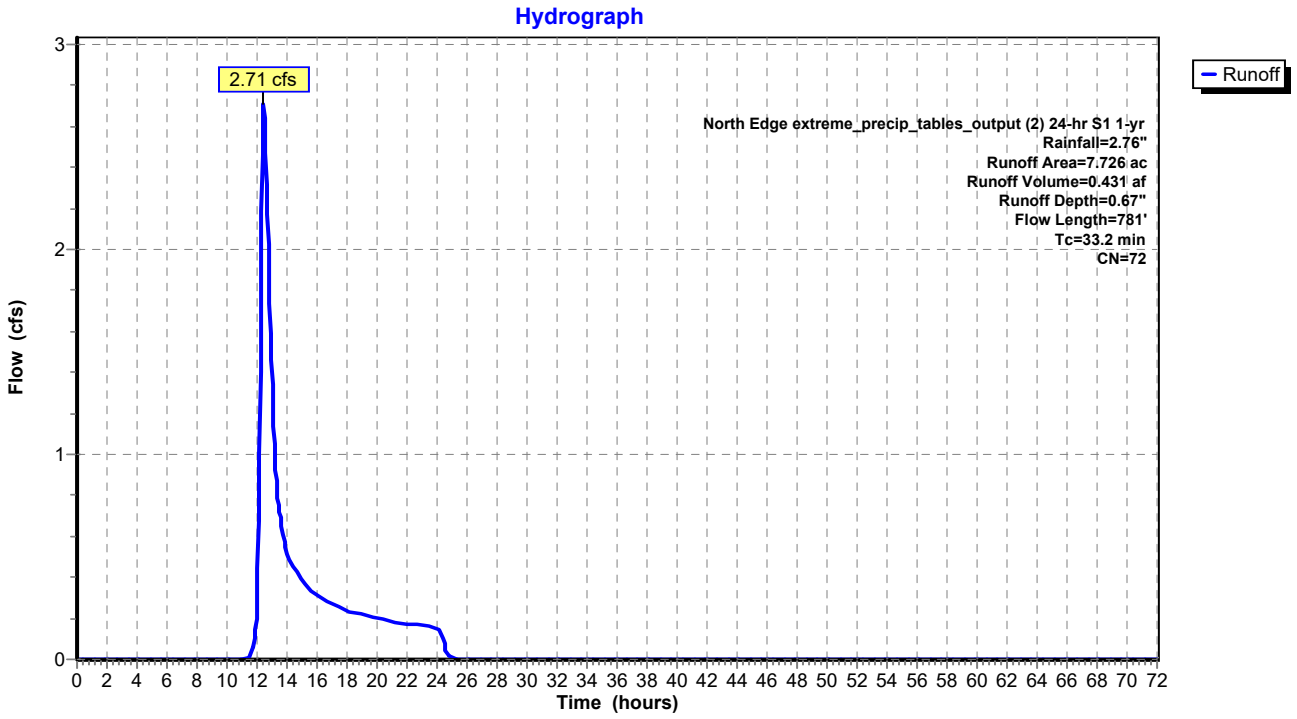
Runoff = 2.71 cfs @ 12.47 hrs, Volume= 0.431 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	5.507	70	Woods, Good, HSG C
	1.972	74	>75% Grass cover, Good, HSG C
*	0.247	98	Ex. Imp.
	7.726	72	Weighted Average
	7.479		96.80% Pervious Area
	0.247		3.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0020	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
3.6	136	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	545	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
33.2	781	Total			

Subcatchment 1.0S: 1.0S



Summary for Subcatchment 2.0S: 2.0S

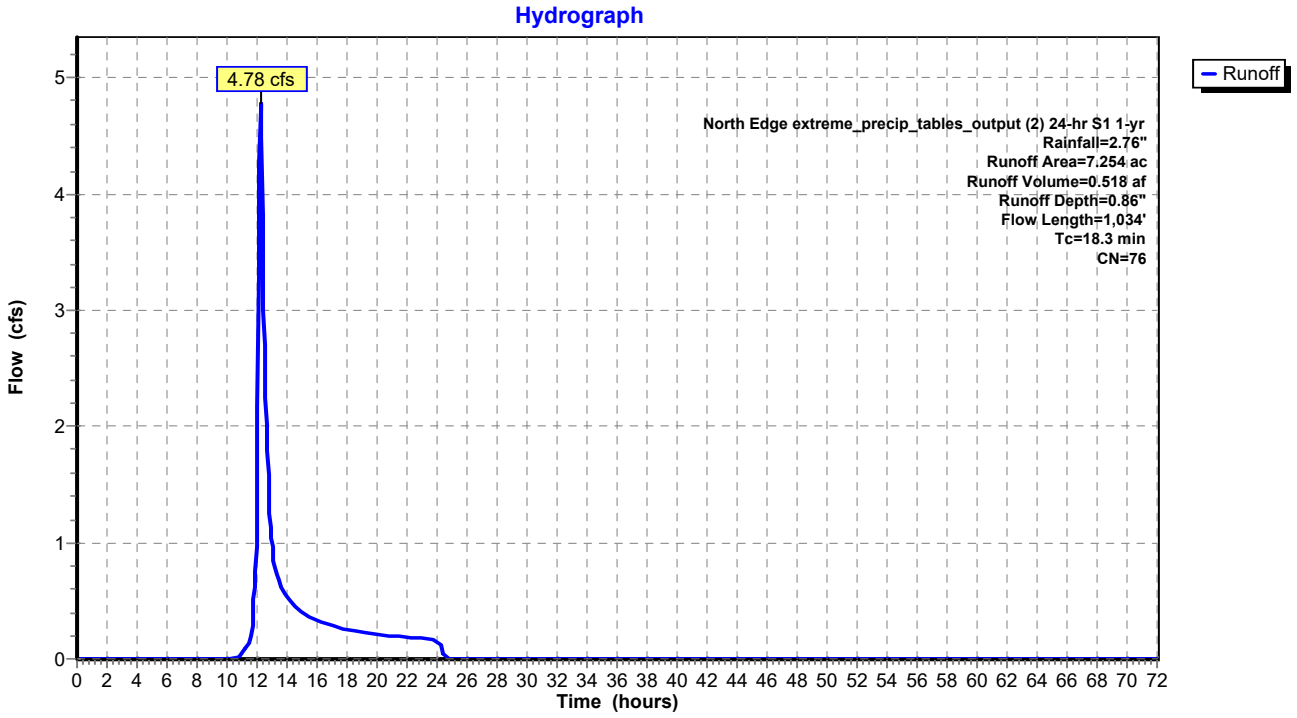
Runoff = 4.78 cfs @ 12.22 hrs, Volume= 0.518 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	4.550	70	Woods, Good, HSG C
	1.314	74	>75% Grass cover, Good, HSG C
*	1.302	98	Ex. Imp.
	0.088	96	Gravel surface, HSG C
	7.254	76	Weighted Average
	5.952		82.05% Pervious Area
	1.302		17.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
2.6	333	0.0110	2.13		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	25	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.8	576	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,034	Total			

Subcatchment 2.0S: 2.0S



Summary for Subcatchment 3.0S: 3.0S

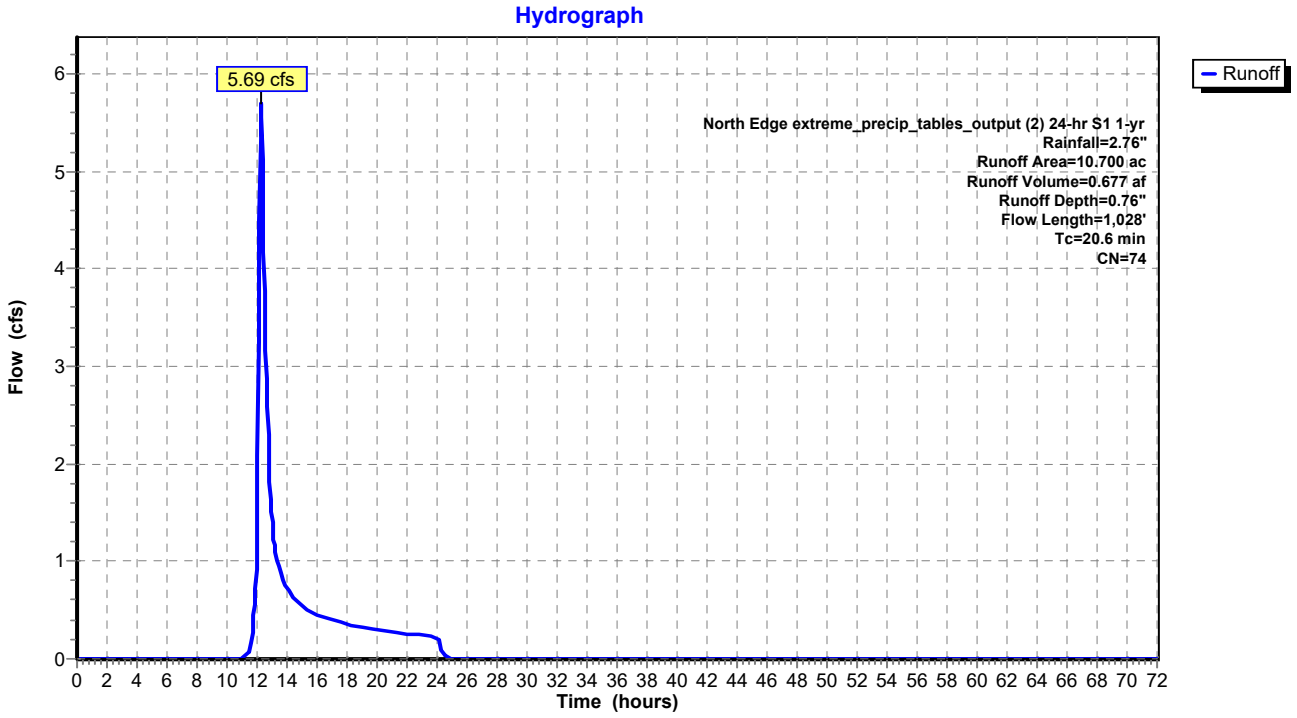
Runoff = 5.69 cfs @ 12.26 hrs, Volume= 0.677 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	8.091	70	Woods, Good, HSG C
	1.230	74	>75% Grass cover, Good, HSG C
*	1.225	98	Ex. Imp.
	0.154	96	Gravel surface, HSG C
	10.700	74	Weighted Average
	9.475		88.55% Pervious Area
	1.225		11.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.1	831	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	1,028	Total			

Subcatchment 3.0S: 3.0S

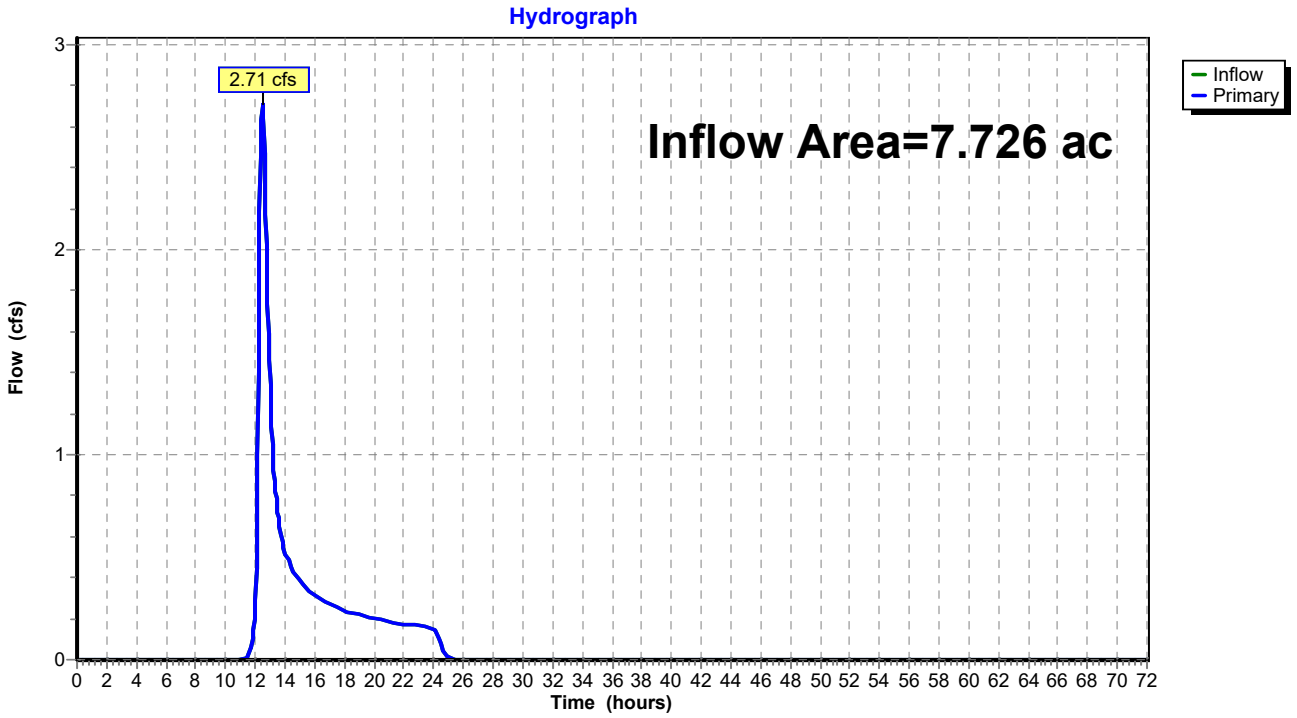


Summary for Link DL-1: Design Line 1

Inflow Area = 7.726 ac, 3.20% Impervious, Inflow Depth = 0.67" for 1-yr event
Inflow = 2.71 cfs @ 12.47 hrs, Volume= 0.431 af
Primary = 2.71 cfs @ 12.47 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-1: Design Line 1

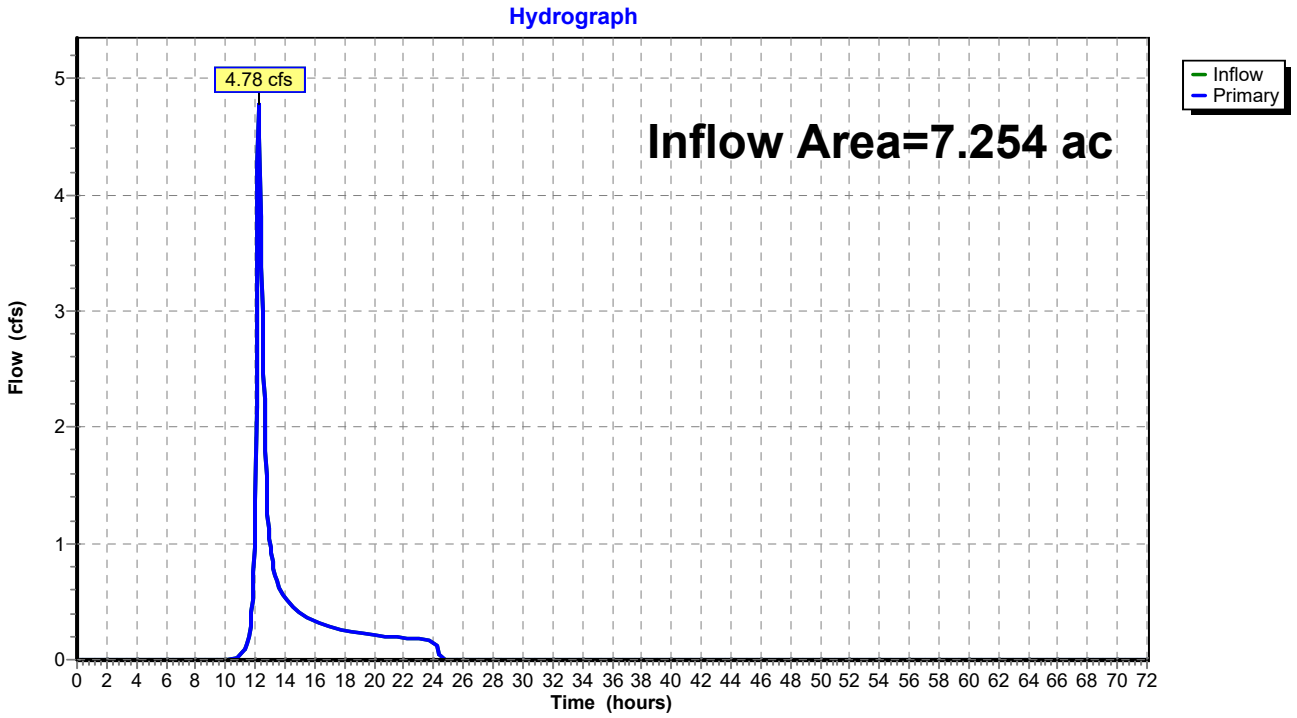


Summary for Link DL-2: Design Line 2

Inflow Area = 7.254 ac, 17.95% Impervious, Inflow Depth = 0.86" for 1-yr event
Inflow = 4.78 cfs @ 12.22 hrs, Volume= 0.518 af
Primary = 4.78 cfs @ 12.22 hrs, Volume= 0.518 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-2: Design Line 2

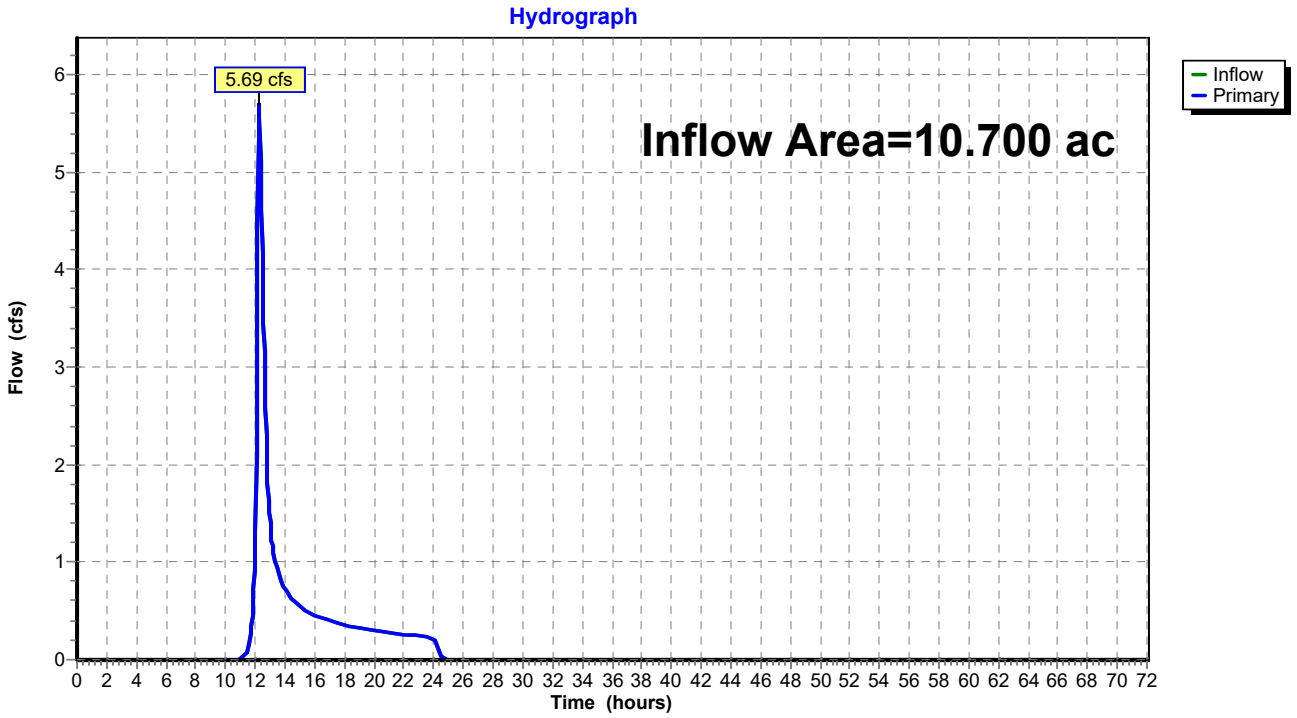


Summary for Link DL-3: Design Line 3

Inflow Area = 10.700 ac, 11.45% Impervious, Inflow Depth = 0.76" for 1-yr event
Inflow = 5.69 cfs @ 12.26 hrs, Volume= 0.677 af
Primary = 5.69 cfs @ 12.26 hrs, Volume= 0.677 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-3: Design Line 3



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.0S: 1.0S Runoff Area=7.726 ac 3.20% Impervious Runoff Depth=2.23"
Flow Length=781' Tc=33.2 min CN=72 Runoff=9.37 cfs 1.435 af

Subcatchment2.0S: 2.0S Runoff Area=7.254 ac 17.95% Impervious Runoff Depth=2.57"
Flow Length=1,034' Tc=18.3 min CN=76 Runoff=13.71 cfs 1.553 af

Subcatchment3.0S: 3.0S Runoff Area=10.700 ac 11.45% Impervious Runoff Depth=2.40"
Flow Length=1,028' Tc=20.6 min CN=74 Runoff=17.78 cfs 2.137 af

Link DL-1: Design Line 1 Inflow=9.37 cfs 1.435 af
Primary=9.37 cfs 1.435 af

Link DL-2: Design Line 2 Inflow=13.71 cfs 1.553 af
Primary=13.71 cfs 1.553 af

Link DL-3: Design Line 3 Inflow=17.78 cfs 2.137 af
Primary=17.78 cfs 2.137 af

Total Runoff Area = 25.680 ac Runoff Volume = 5.124 af Average Runoff Depth = 2.39"
89.20% Pervious = 22.906 ac 10.80% Impervious = 2.774 ac

Summary for Subcatchment 1.0S: 1.0S

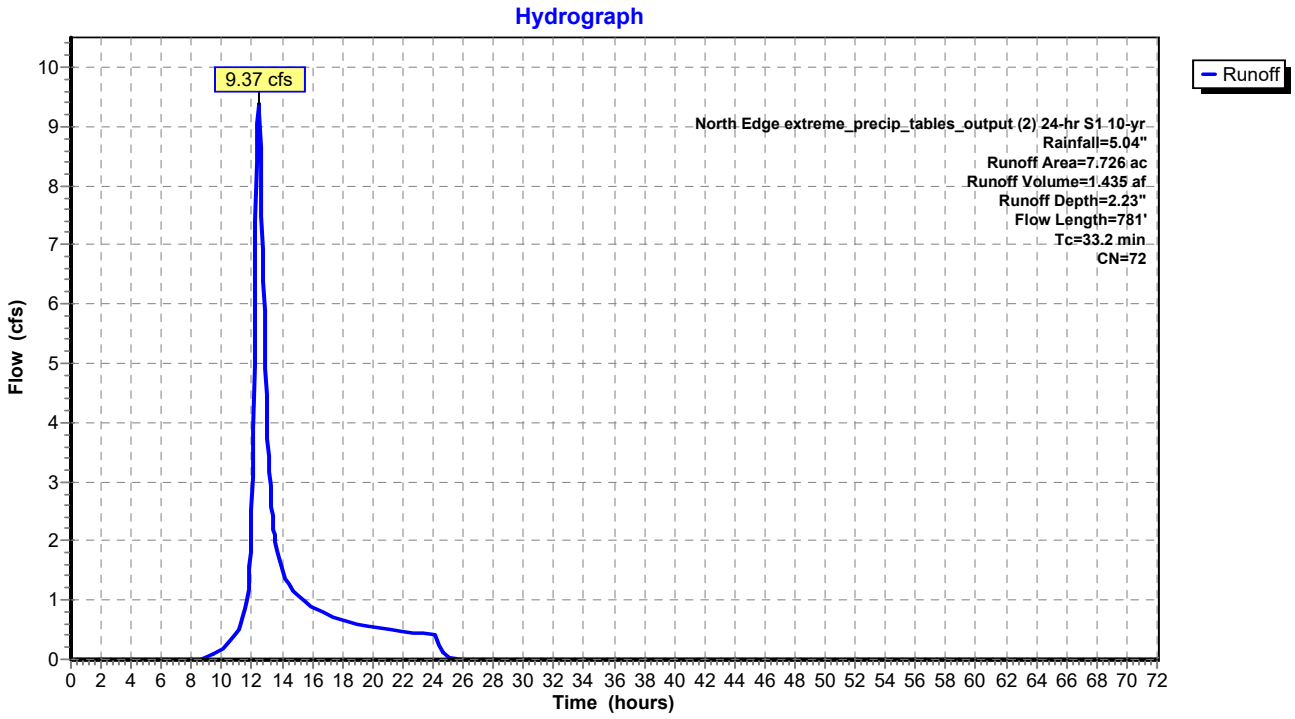
Runoff = 9.37 cfs @ 12.43 hrs, Volume= 1.435 af, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	5.507	70	Woods, Good, HSG C
	1.972	74	>75% Grass cover, Good, HSG C
*	0.247	98	Ex. Imp.
	7.726	72	Weighted Average
	7.479		96.80% Pervious Area
	0.247		3.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0020	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
3.6	136	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	545	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
33.2	781	Total			

Subcatchment 1.0S: 1.0S



Summary for Subcatchment 2.0S: 2.0S

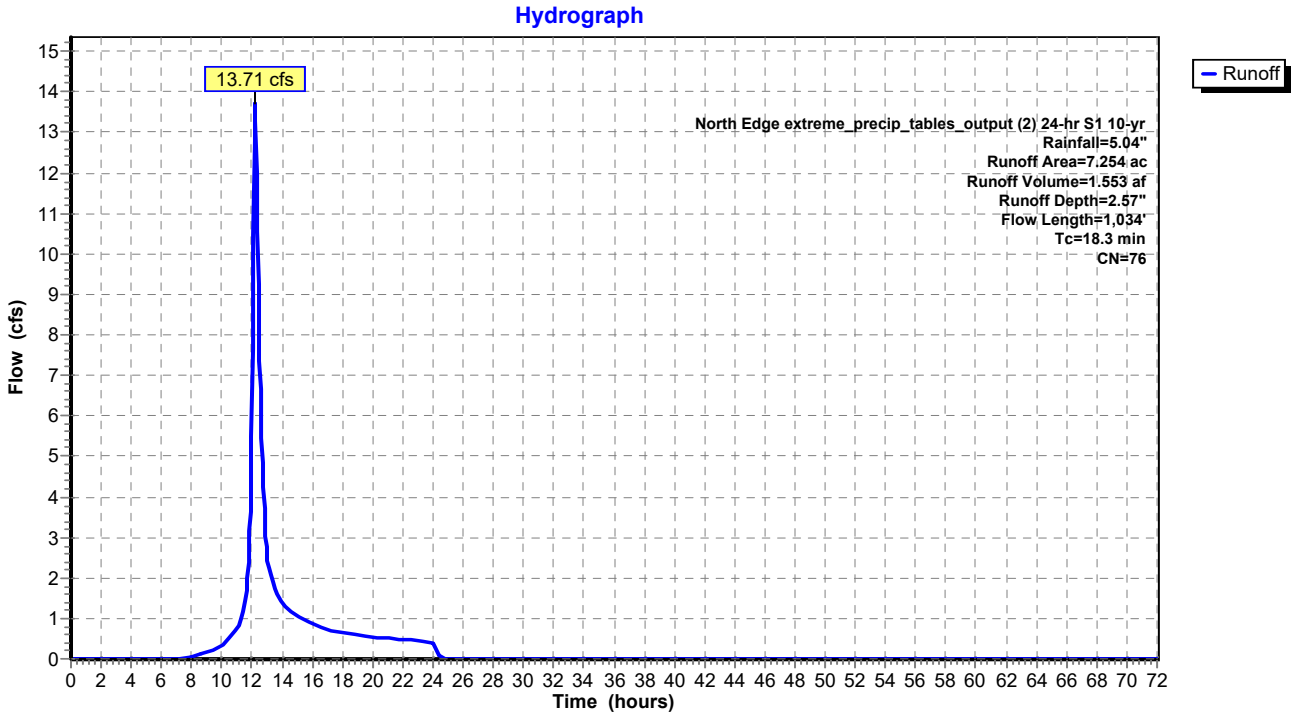
Runoff = 13.71 cfs @ 12.21 hrs, Volume= 1.553 af, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	4.550	70	Woods, Good, HSG C
	1.314	74	>75% Grass cover, Good, HSG C
*	1.302	98	Ex. Imp.
	0.088	96	Gravel surface, HSG C
	7.254	76	Weighted Average
	5.952		82.05% Pervious Area
	1.302		17.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
2.6	333	0.0110	2.13		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	25	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.8	576	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,034	Total			

Subcatchment 2.0S: 2.0S



Summary for Subcatchment 3.0S: 3.0S

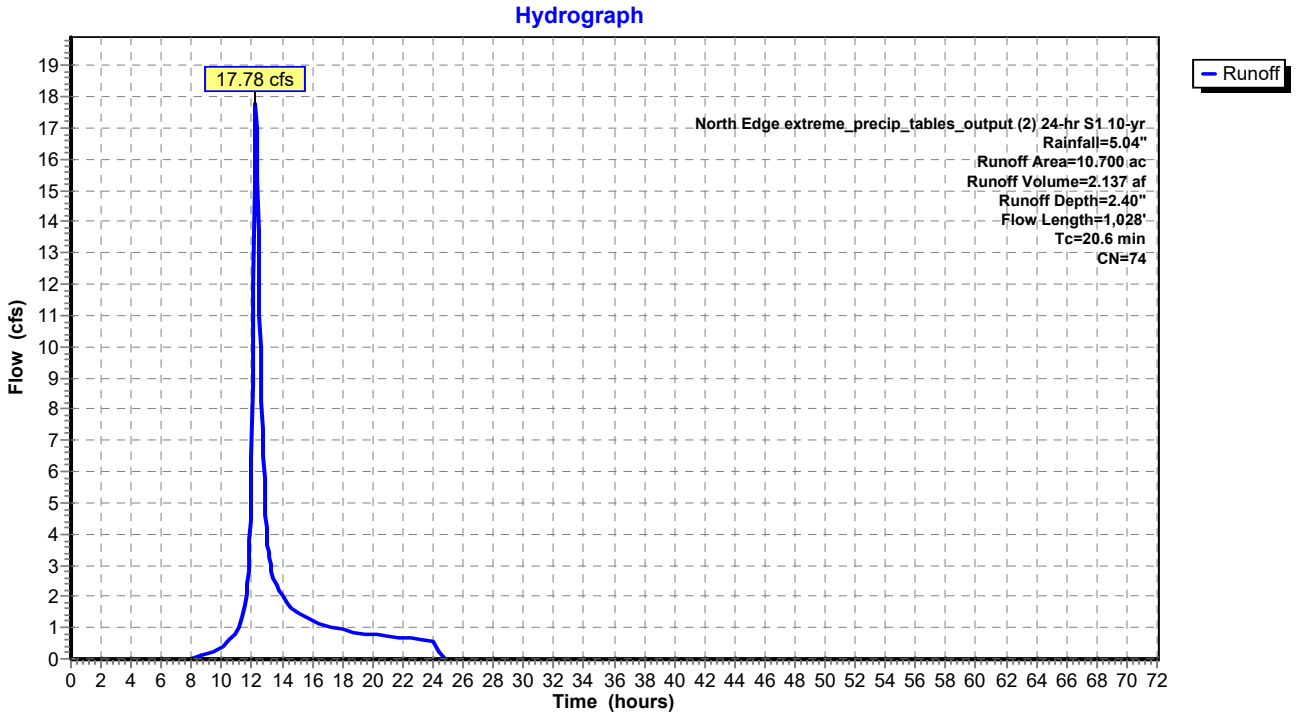
Runoff = 17.78 cfs @ 12.24 hrs, Volume= 2.137 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	8.091	70	Woods, Good, HSG C
	1.230	74	>75% Grass cover, Good, HSG C
*	1.225	98	Ex. Imp.
	0.154	96	Gravel surface, HSG C
	10.700	74	Weighted Average
	9.475		88.55% Pervious Area
	1.225		11.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.1	831	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	1,028	Total			

Subcatchment 3.0S: 3.0S

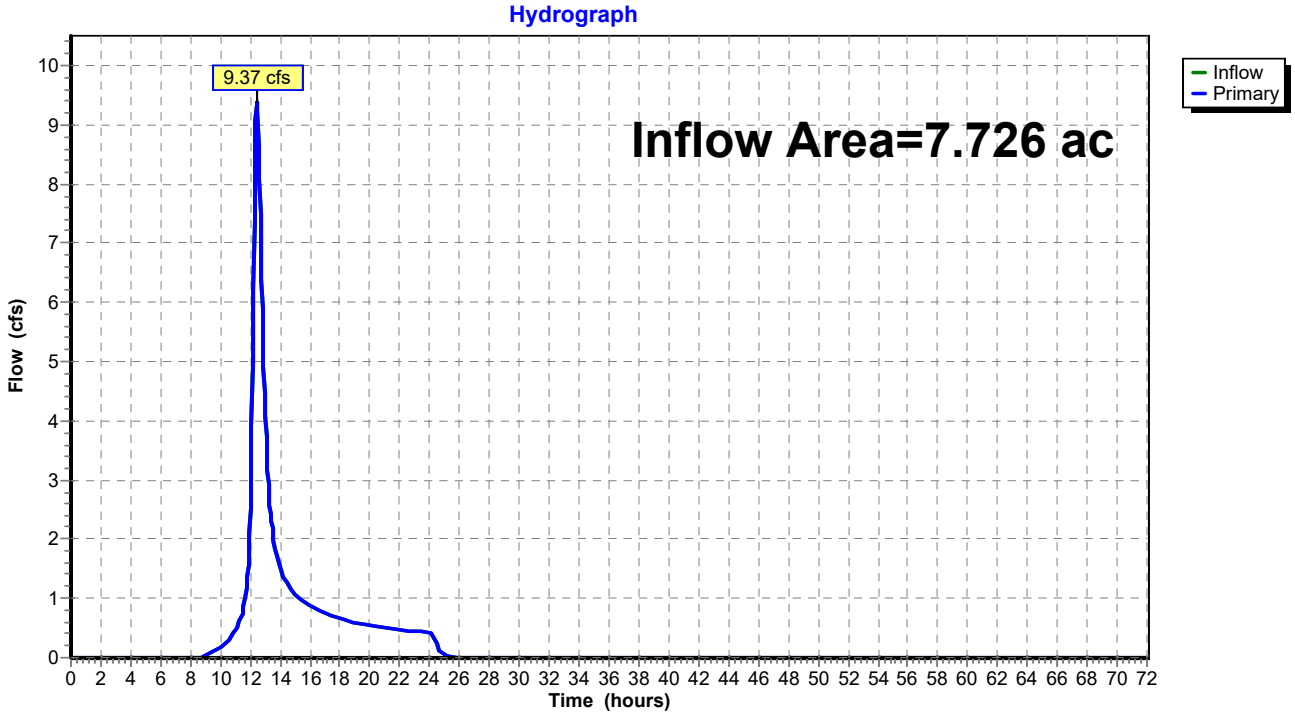


Summary for Link DL-1: Design Line 1

Inflow Area = 7.726 ac, 3.20% Impervious, Inflow Depth = 2.23" for 10-yr event
Inflow = 9.37 cfs @ 12.43 hrs, Volume= 1.435 af
Primary = 9.37 cfs @ 12.43 hrs, Volume= 1.435 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-1: Design Line 1

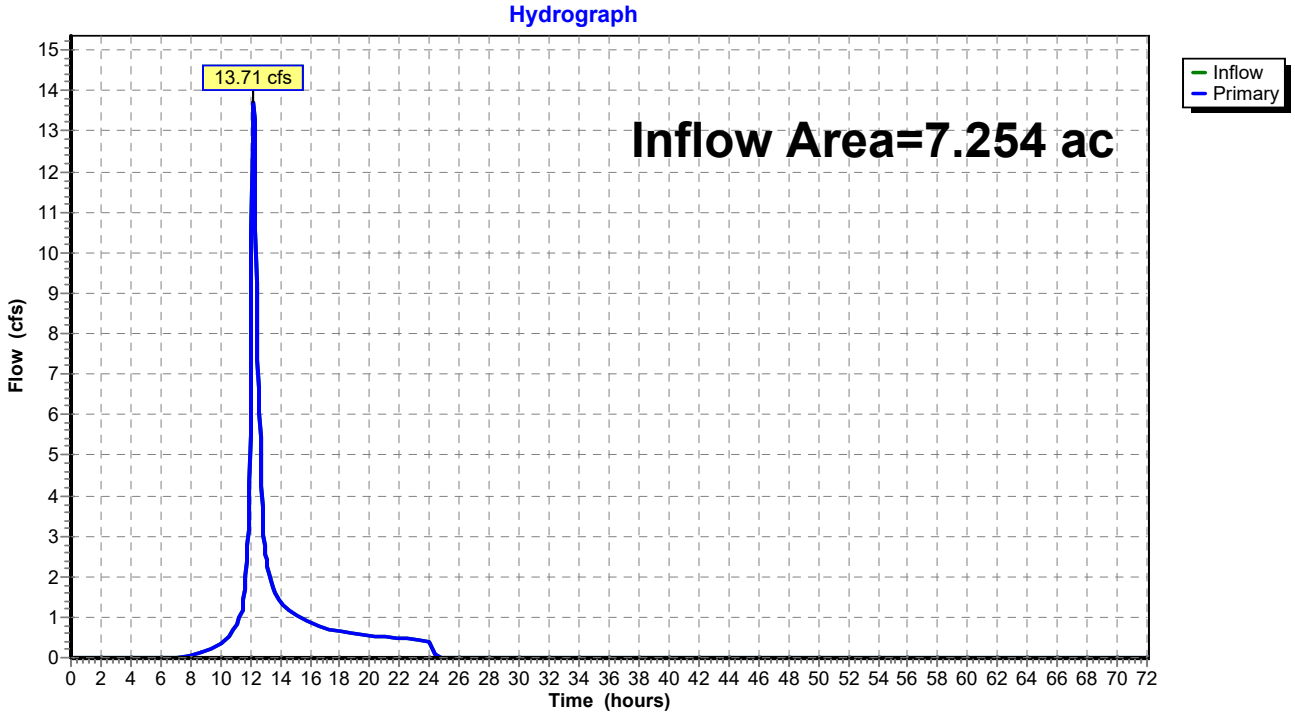


Summary for Link DL-2: Design Line 2

Inflow Area = 7.254 ac, 17.95% Impervious, Inflow Depth = 2.57" for 10-yr event
Inflow = 13.71 cfs @ 12.21 hrs, Volume= 1.553 af
Primary = 13.71 cfs @ 12.21 hrs, Volume= 1.553 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-2: Design Line 2

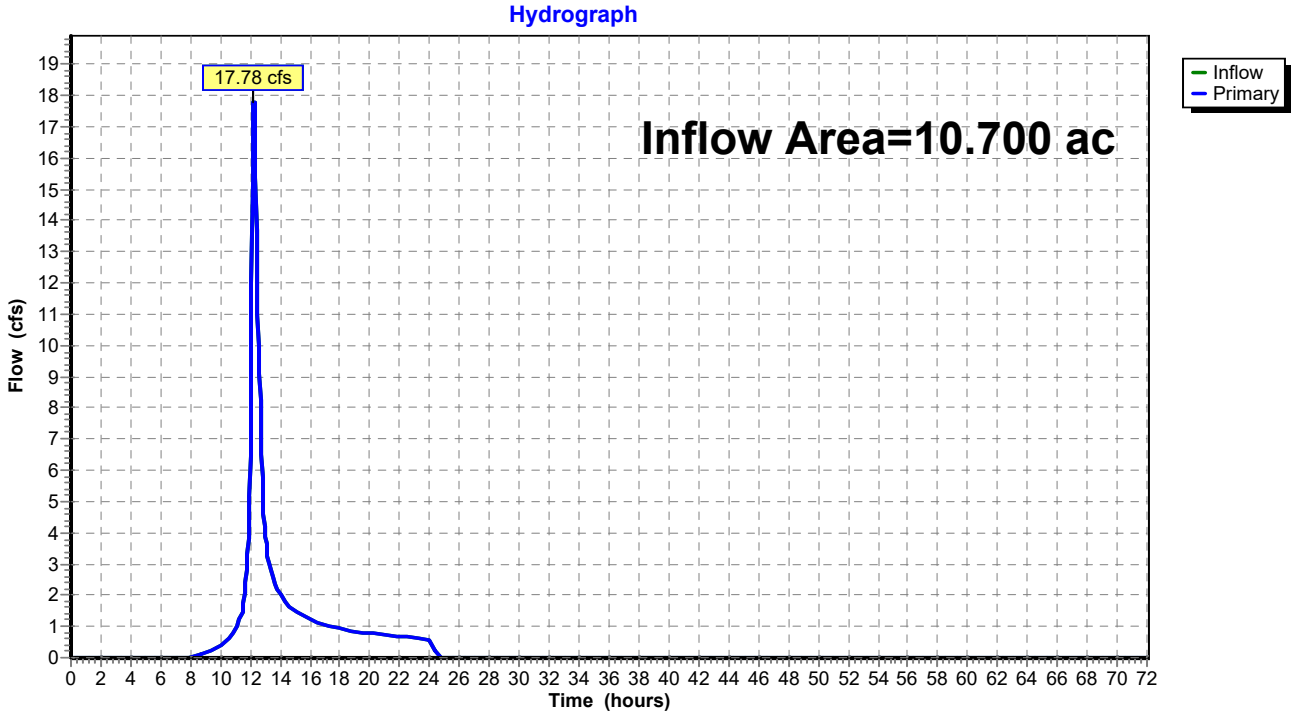


Summary for Link DL-3: Design Line 3

Inflow Area = 10.700 ac, 11.45% Impervious, Inflow Depth = 2.40" for 10-yr event
Inflow = 17.78 cfs @ 12.24 hrs, Volume= 2.137 af
Primary = 17.78 cfs @ 12.24 hrs, Volume= 2.137 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-3: Design Line 3



Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.0S: 1.0S Runoff Area=7.726 ac 3.20% Impervious Runoff Depth=5.67"
Flow Length=781' Tc=33.2 min CN=72 Runoff=22.09 cfs 3.652 af

Subcatchment2.0S: 2.0S Runoff Area=7.254 ac 17.95% Impervious Runoff Depth=6.17"
Flow Length=1,034' Tc=18.3 min CN=76 Runoff=29.37 cfs 3.729 af

Subcatchment3.0S: 3.0S Runoff Area=10.700 ac 11.45% Impervious Runoff Depth=5.92"
Flow Length=1,028' Tc=20.6 min CN=74 Runoff=39.67 cfs 5.279 af

Link DL-1: Design Line 1 Inflow=22.09 cfs 3.652 af
Primary=22.09 cfs 3.652 af

Link DL-2: Design Line 2 Inflow=29.37 cfs 3.729 af
Primary=29.37 cfs 3.729 af

Link DL-3: Design Line 3 Inflow=39.67 cfs 5.279 af
Primary=39.67 cfs 5.279 af

Total Runoff Area = 25.680 ac Runoff Volume = 12.659 af Average Runoff Depth = 5.92"
89.20% Pervious = 22.906 ac 10.80% Impervious = 2.774 ac

Summary for Subcatchment 1.0S: 1.0S

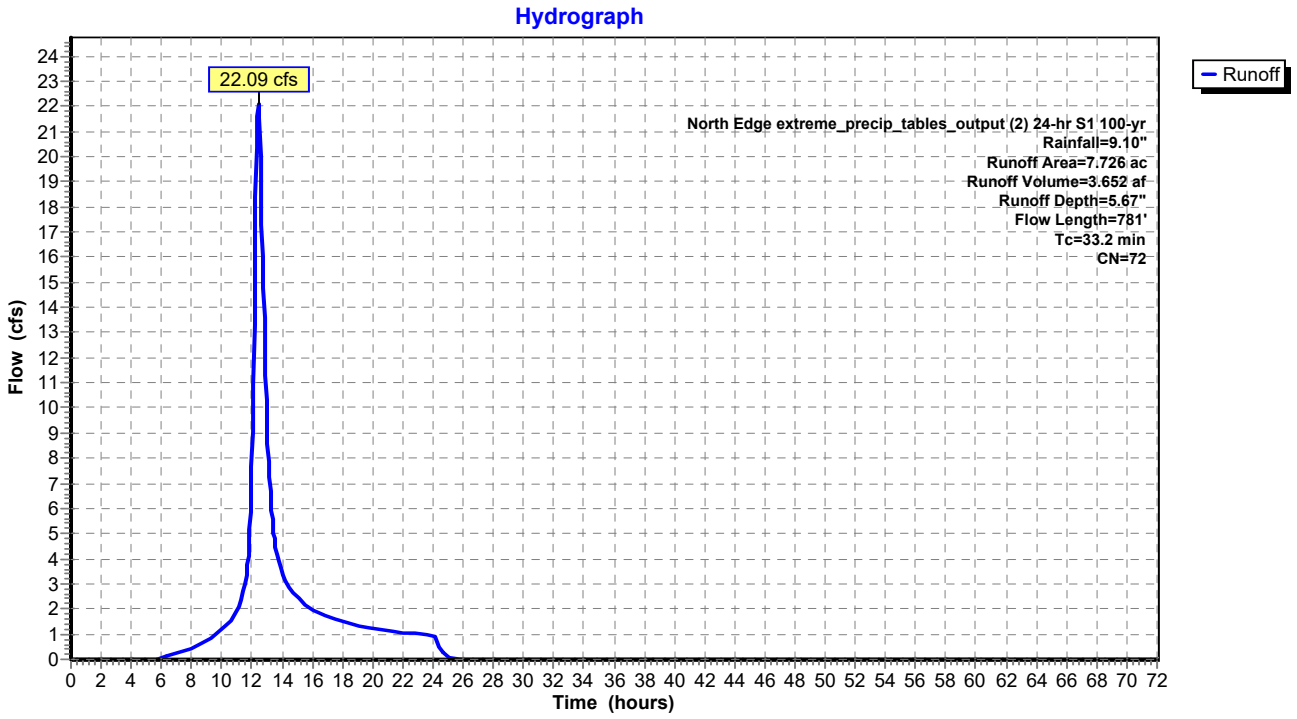
Runoff = 22.09 cfs @ 12.41 hrs, Volume= 3.652 af, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	5.507	70	Woods, Good, HSG C
	1.972	74	>75% Grass cover, Good, HSG C
*	0.247	98	Ex. Imp.
	7.726	72	Weighted Average
	7.479		96.80% Pervious Area
	0.247		3.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.1	100	0.0020	0.07		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
3.6	136	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.5	545	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
33.2	781	Total			

Subcatchment 1.0S: 1.0S



Summary for Subcatchment 2.0S: 2.0S

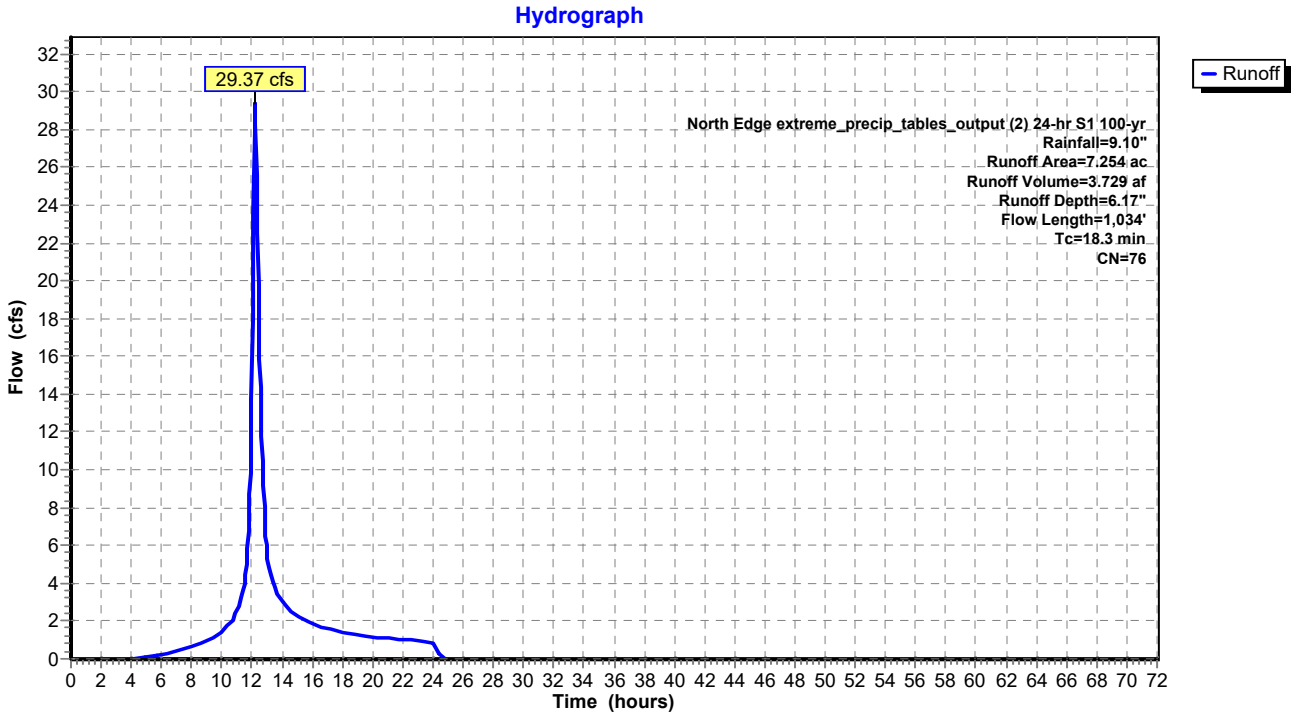
Runoff = 29.37 cfs @ 12.20 hrs, Volume= 3.729 af, Depth= 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	4.550	70	Woods, Good, HSG C
	1.314	74	>75% Grass cover, Good, HSG C
*	1.302	98	Ex. Imp.
	0.088	96	Gravel surface, HSG C
	7.254	76	Weighted Average
	5.952		82.05% Pervious Area
	1.302		17.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
2.6	333	0.0110	2.13		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	25	0.0350	1.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.8	576	0.1090	1.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,034	Total			

Subcatchment 2.0S: 2.0S



Summary for Subcatchment 3.0S: 3.0S

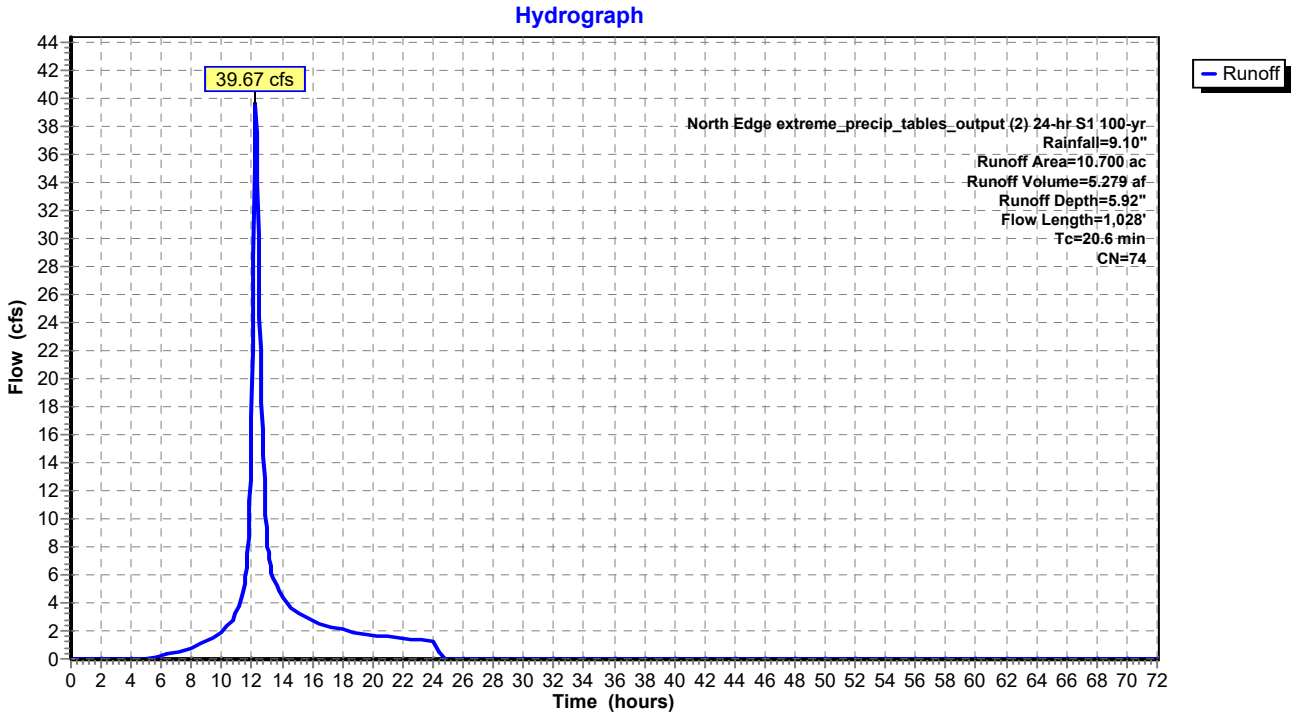
Runoff = 39.67 cfs @ 12.24 hrs, Volume= 5.279 af, Depth= 5.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	8.091	70	Woods, Good, HSG C
	1.230	74	>75% Grass cover, Good, HSG C
*	1.225	98	Ex. Imp.
	0.154	96	Gravel surface, HSG C
	10.700	74	Weighted Average
	9.475		88.55% Pervious Area
	1.225		11.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.1	831	0.0750	1.37		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.6	1,028	Total			

Subcatchment 3.0S: 3.0S

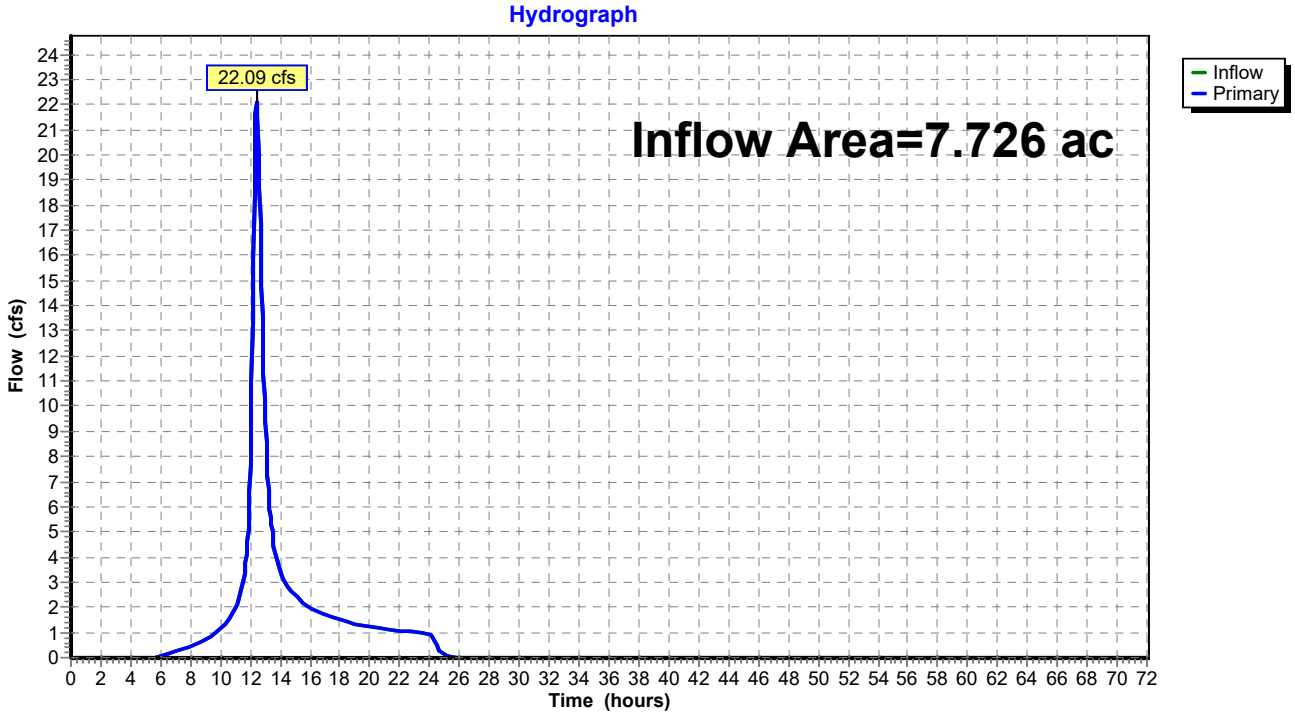


Summary for Link DL-1: Design Line 1

Inflow Area = 7.726 ac, 3.20% Impervious, Inflow Depth = 5.67" for 100-yr event
Inflow = 22.09 cfs @ 12.41 hrs, Volume= 3.652 af
Primary = 22.09 cfs @ 12.41 hrs, Volume= 3.652 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-1: Design Line 1

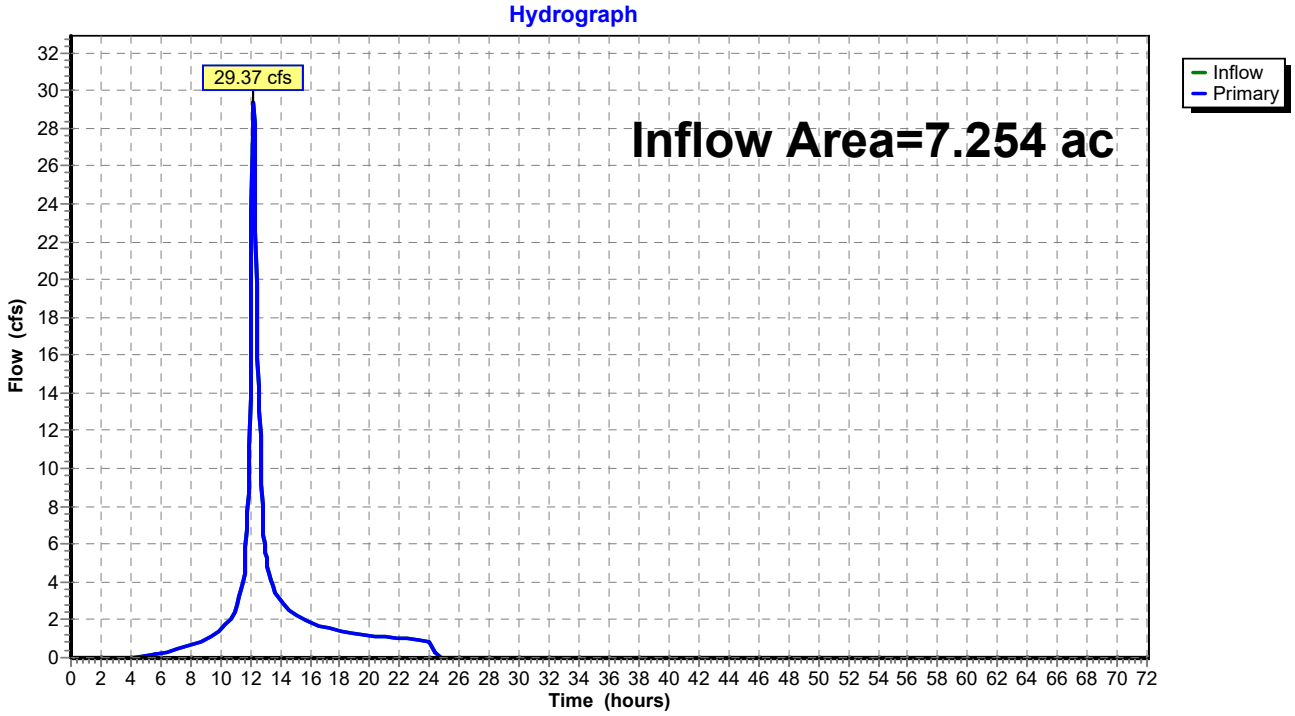


Summary for Link DL-2: Design Line 2

Inflow Area = 7.254 ac, 17.95% Impervious, Inflow Depth = 6.17" for 100-yr event
Inflow = 29.37 cfs @ 12.20 hrs, Volume= 3.729 af
Primary = 29.37 cfs @ 12.20 hrs, Volume= 3.729 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-2: Design Line 2

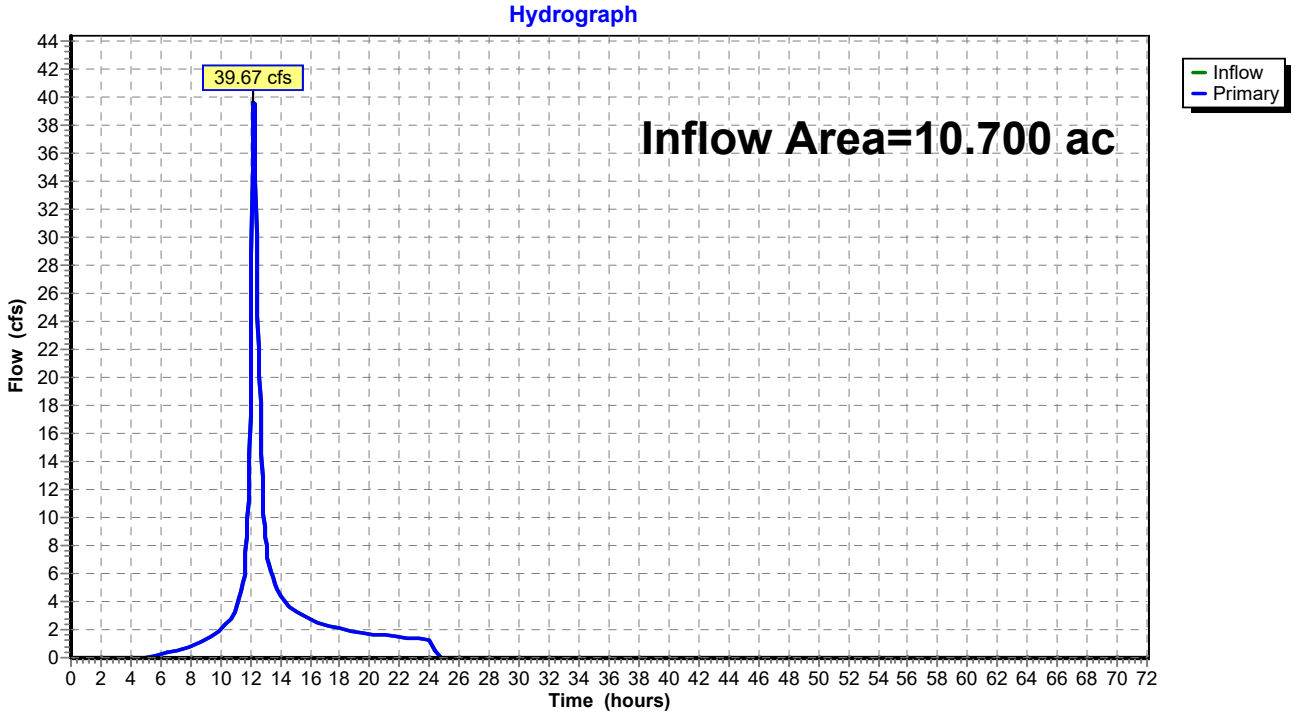


Summary for Link DL-3: Design Line 3

Inflow Area = 10.700 ac, 11.45% Impervious, Inflow Depth = 5.92" for 100-yr event
Inflow = 39.67 cfs @ 12.24 hrs, Volume= 5.279 af
Primary = 39.67 cfs @ 12.24 hrs, Volume= 5.279 af, Atten= 0%, Lag= 0.0 min

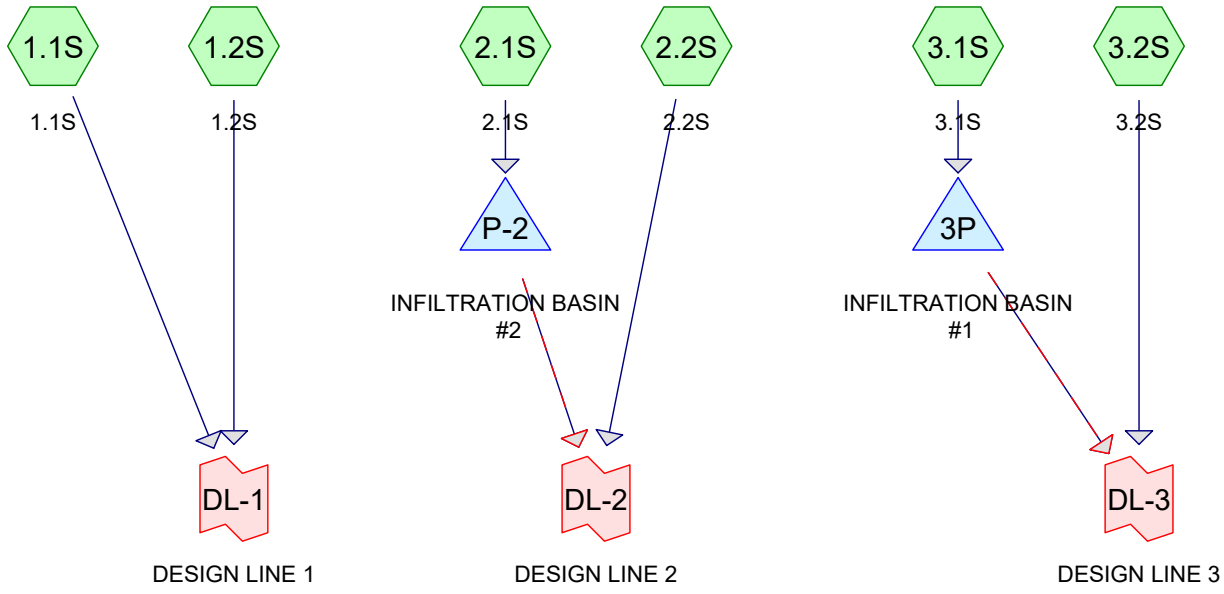
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Link DL-3: Design Line 3



Appendix C:

Post Development Peak Flow Analysis –
(HydroCAD Output for 1, 10 & 100-year Storm Events)



Subcat Reach Pond Link

Routing Diagram for North Edge Post Development-9-25-25
Prepared by Bibbo Associates, llp., Printed 9/23/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
9.812	74	>75% Grass cover, Good, HSG C (1.1S, 1.2S, 2.1S, 3.1S, 3.2S)
2.705	98	Ex. Imp. (2.1S, 3.2S)
0.243	96	Gravel surface, HSG C (2.1S, 3.2S)
0.660	71	Meadow, non-grazed, HSG C (1.2S, 2.2S, 3.2S)
2.894	98	Prop. Building (2.1S, 3.1S)
0.162	98	Prop. Patios & Decks (2.1S, 3.1S)
0.188	91	Prop. Patios Pourous (1.1S, 1.2S, 2.1S, 3.2S)
0.157	98	Prop. Porches (2.1S, 3.1S)
2.649	98	Prop. Road & Dwy (2.1S, 3.1S)
0.176	98	Prop. Walkways (2.1S, 3.1S)
6.107	70	Woods, Good, HSG C (1.1S, 1.2S, 2.1S, 2.2S, 3.2S)
25.753	**81**	**TOTAL AREA**

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: 1.1S Runoff Area=1.502 ac 0.00% Impervious Runoff Depth=0.67"
Flow Length=688' Tc=14.6 min CN=72 Runoff=0.79 cfs 0.084 af

Subcatchment1.2S: 1.2S Runoff Area=2.072 ac 0.00% Impervious Runoff Depth=0.63"
Flow Length=366' Tc=6.9 min CN=71 Runoff=1.35 cfs 0.108 af

Subcatchment2.1S: 2.1S Runoff Area=9.274 ac 40.80% Impervious Runoff Depth=1.32"
Flow Length=1,002' Tc=21.0 min CN=84 Runoff=9.52 cfs 1.021 af

Subcatchment2.2S: 2.2S Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=0.59"
Tc=6.0 min CN=70 Runoff=0.68 cfs 0.054 af

Subcatchment3.1S: 3.1S Runoff Area=6.445 ac 59.30% Impervious Runoff Depth=1.61"
Flow Length=1,008' Tc=23.9 min CN=88 Runoff=7.61 cfs 0.863 af

Subcatchment3.2S: 3.2S Runoff Area=5.360 ac 21.21% Impervious Runoff Depth=0.96"
Flow Length=1,162' Tc=17.0 min CN=78 Runoff=4.23 cfs 0.429 af

Pond 3P: INFILTRATIONBASIN#1 Peak Elev=520.62' Storage=9,238 cf Inflow=7.61 cfs 0.863 af
Discarded=2.52 cfs 0.863 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=2.52 cfs 0.863 af

Pond P-2: INFILTRATIONBASIN#2 Peak Elev=529.15' Storage=10,533 cf Inflow=9.52 cfs 1.021 af
Discarded=2.87 cfs 1.021 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=2.87 cfs 1.021 af

Link DL-1: DESIGN LINE 1 Inflow=1.85 cfs 0.192 af
Primary=1.85 cfs 0.192 af

Link DL-2: DESIGN LINE 2 Inflow=0.68 cfs 0.054 af
Primary=0.68 cfs 0.054 af

Link DL-3: DESIGN LINE 3 Inflow=4.23 cfs 0.429 af
Primary=4.23 cfs 0.429 af

Total Runoff Area = 25.753 ac Runoff Volume = 2.559 af Average Runoff Depth = 1.19"
66.05% Pervious = 17.010 ac 33.95% Impervious = 8.743 ac

Summary for Subcatchment 1.1S: 1.1S

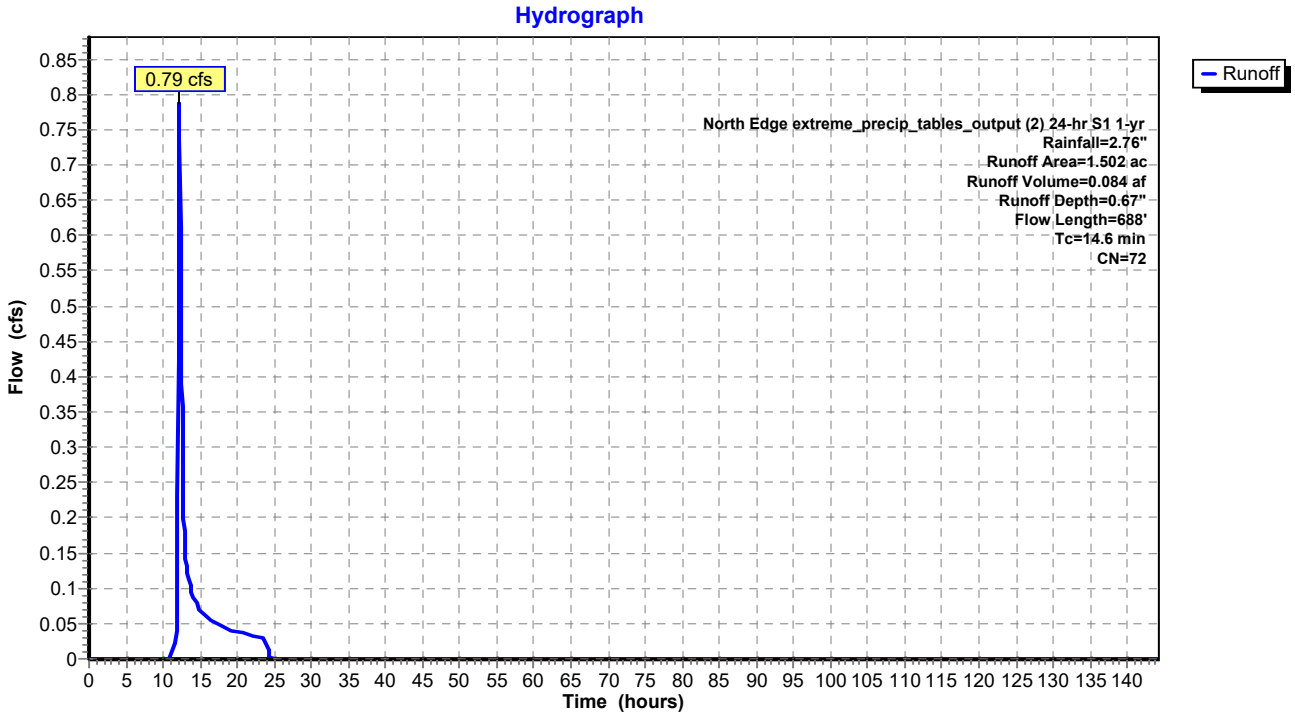
Runoff = 0.79 cfs @ 12.18 hrs, Volume= 0.084 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	0.724	70	Woods, Good, HSG C
	0.766	74	>75% Grass cover, Good, HSG C
*	0.012	91	Prop. Patios Pourous
	1.502	72	Weighted Average
	1.502		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	118	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	286	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	119	0.2560	2.53		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	688	Total			

Subcatchment 1.1S: 1.1S



Summary for Subcatchment 1.2S: 1.2S

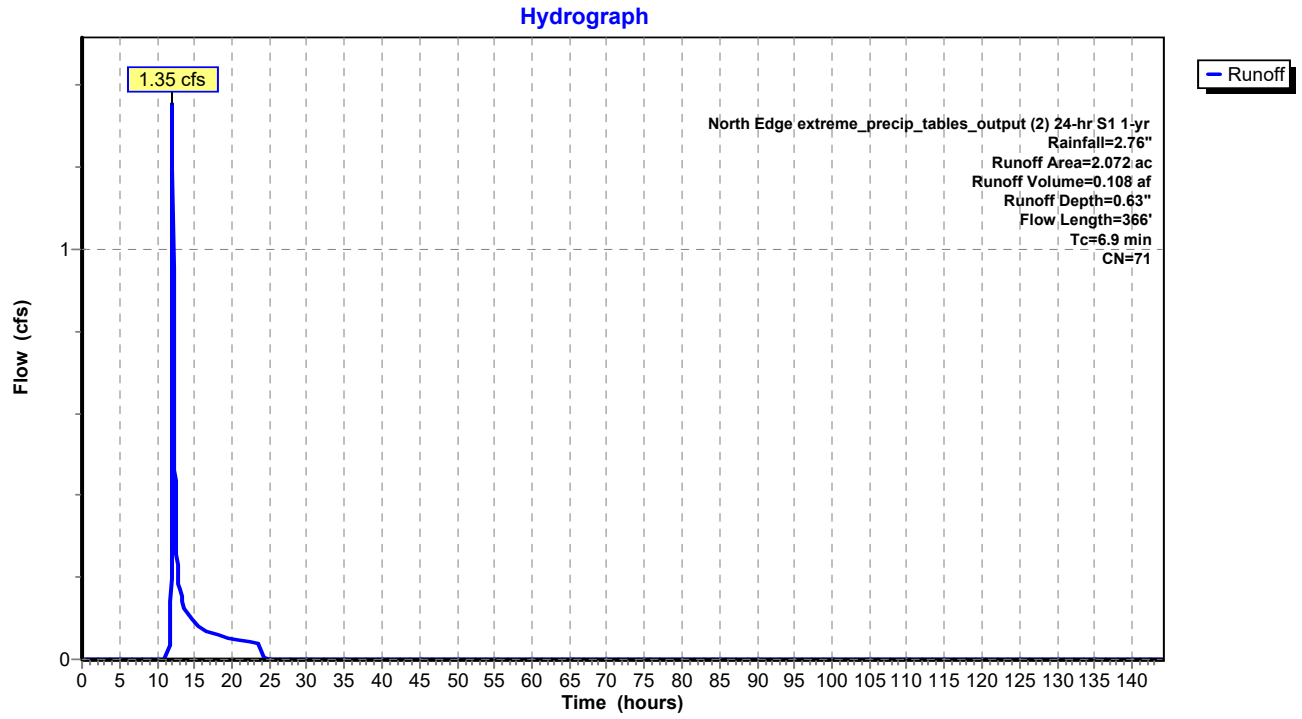
Runoff = 1.35 cfs @ 12.06 hrs, Volume= 0.108 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	1.492	70	Woods, Good, HSG C
	0.298	71	Meadow, non-grazed, HSG C
	0.209	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	2.072	71	Weighted Average
	2.072		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.1250	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.8	98	0.0960	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.5	168	0.1480	1.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.9	366	Total			

Subcatchment 1.2S: 1.2S



Summary for Subcatchment 2.1S: 2.1S

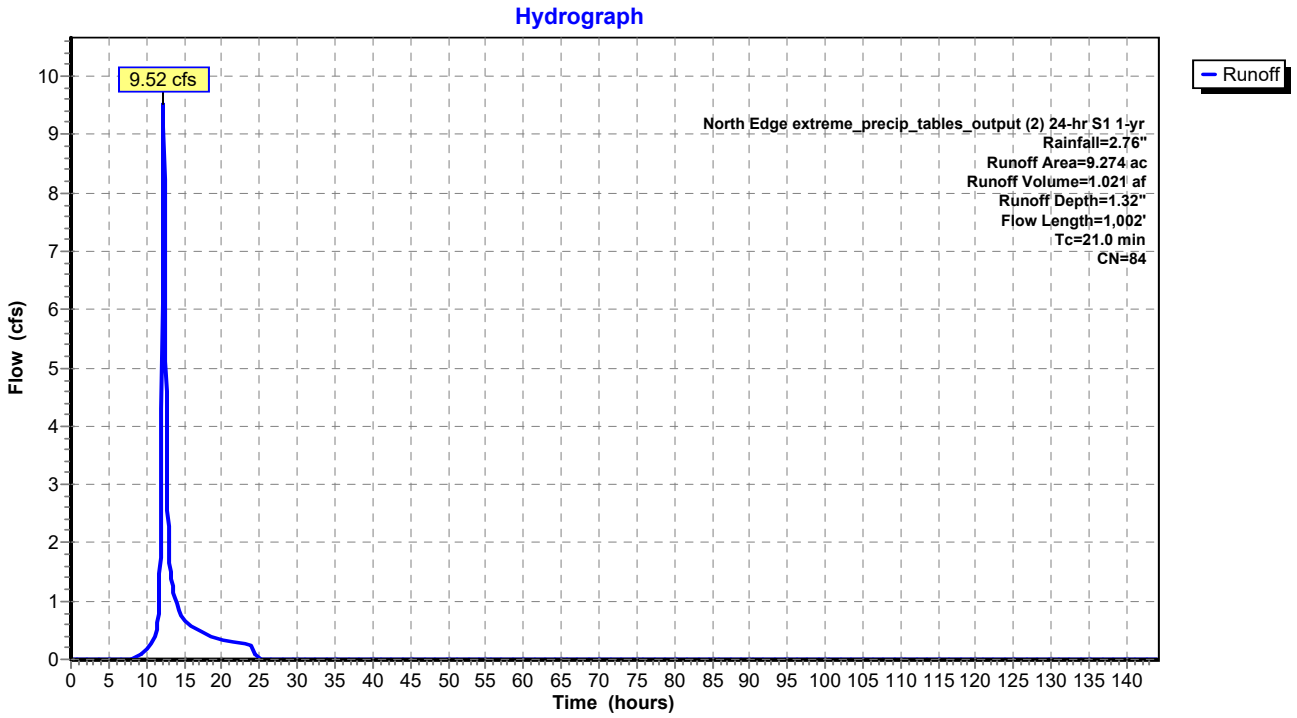
Runoff = 9.52 cfs @ 12.25 hrs, Volume= 1.021 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	0.864	70	Woods, Good, HSG C
	4.522	74	>75% Grass cover, Good, HSG C
*	0.954	98	Prop. Building
*	0.047	98	Prop. Patios & Decks
*	1.129	98	Prop. Road & Dwy
*	0.069	98	Prop. Walkways
*	0.017	98	Prop. Porches
*	1.568	98	Ex. Imp.
*	0.030	91	Prop. Patios Pourous
	0.074	96	Gravel surface, HSG C
	9.274	84	Weighted Average
	5.490		59.20% Pervious Area
	3.784		40.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.4	148	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	133	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	28	0.1700	2.89		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	136	0.3670	12.30		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	457	0.0600	12.89	15.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
21.0	1,002	Total			

Subcatchment 2.1S: 2.1S



Summary for Subcatchment 2.2S: 2.2S

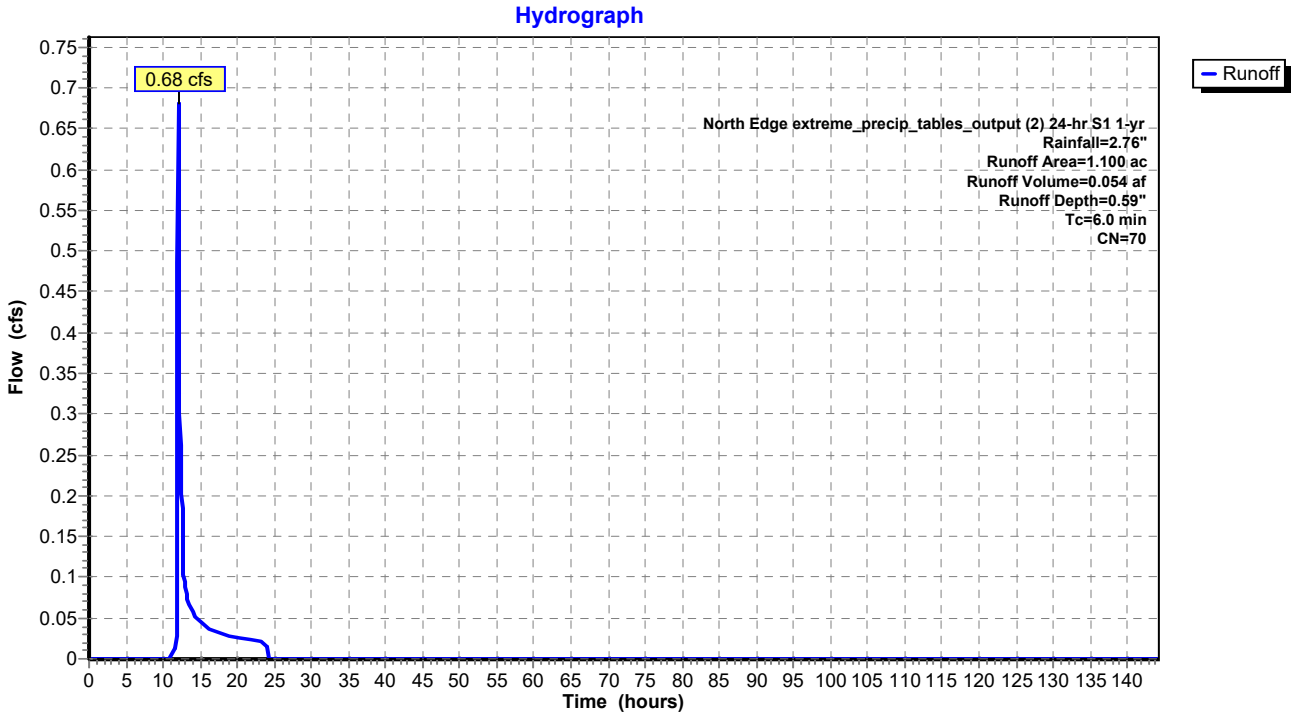
Runoff = 0.68 cfs @ 12.06 hrs, Volume= 0.054 af, Depth= 0.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

Area (ac)	CN	Description
0.904	70	Woods, Good, HSG C
0.196	71	Meadow, non-grazed, HSG C
1.100	70	Weighted Average
1.100		100.00% Pervious Area

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

Subcatchment 2.2S: 2.2S



Summary for Subcatchment 3.1S: 3.1S

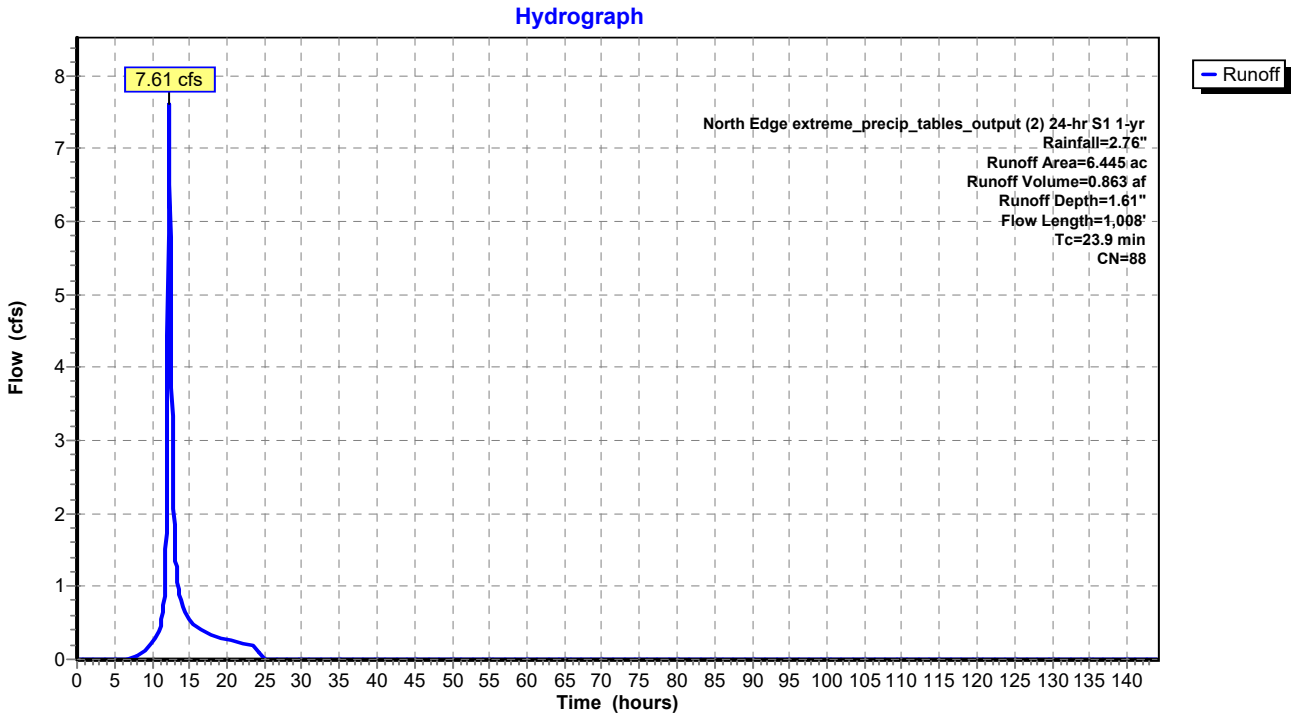
Runoff = 7.61 cfs @ 12.28 hrs, Volume= 0.863 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	2.623	74	>75% Grass cover, Good, HSG C
*	1.940	98	Prop. Building
*	0.115	98	Prop. Patios & Decks
*	1.520	98	Prop. Road & Dwy
*	0.107	98	Prop. Walkways
*	0.140	98	Prop. Porches
	6.445	88	Weighted Average
	2.623		40.70% Pervious Area
	3.822		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.3	32	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	32	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.5	397	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	85	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	362	0.0500	11.77	14.44	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
23.9	1,008	Total			

Subcatchment 3.1S: 3.1S



Summary for Subcatchment 3.2S: 3.2S

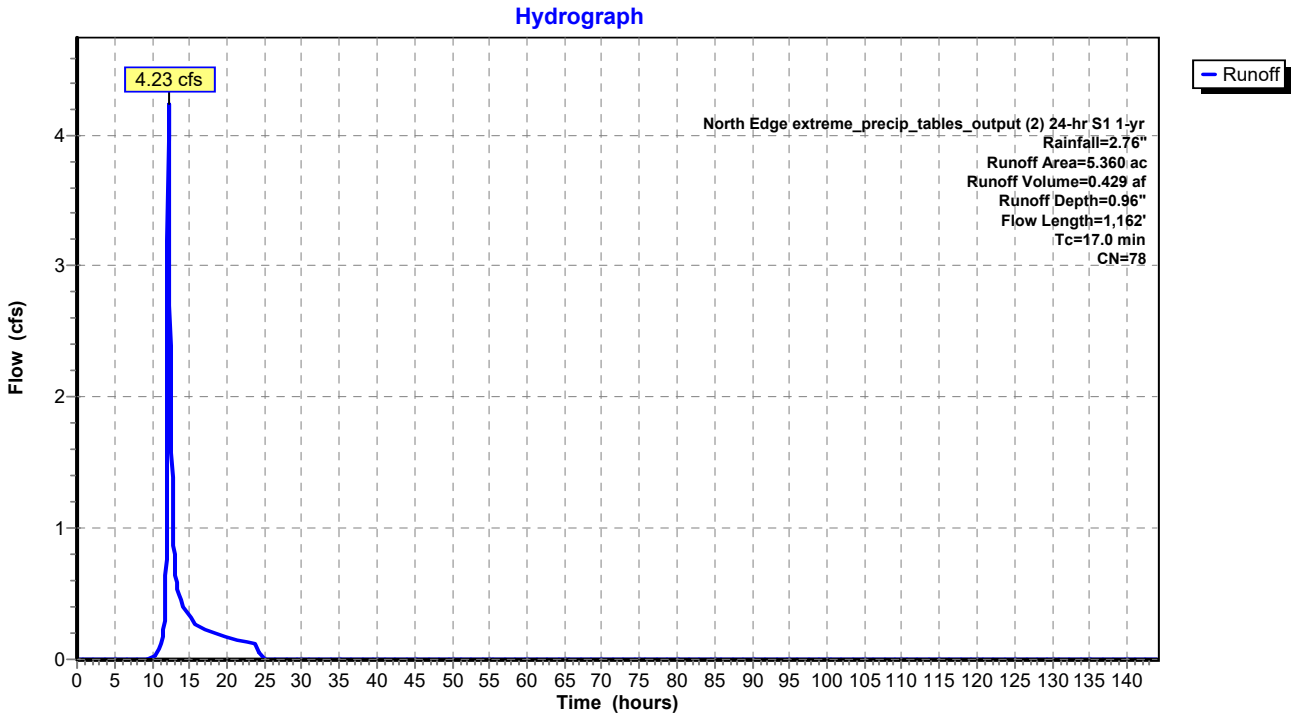
Runoff = 4.23 cfs @ 12.20 hrs, Volume= 0.429 af, Depth= 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
	2.123	70	Woods, Good, HSG C
	0.166	71	Meadow, non-grazed, HSG C
*	1.137	98	Ex. Imp.
	0.169	96	Gravel surface, HSG C
	1.692	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	5.360	78	Weighted Average
	4.223		78.79% Pervious Area
	1.137		21.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	42	0.0570	1.19		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	22	0.3400	4.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	591	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	175	0.1360	19.41	23.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.1	135	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.0	1,162	Total			

Subcatchment 3.2S: 3.2S



Summary for Pond 3P: INFILTRATION BASIN #1

Inflow Area = 6.445 ac, 59.30% Impervious, Inflow Depth = 1.61" for 1-yr event
Inflow = 7.61 cfs @ 12.28 hrs, Volume= 0.863 af
Outflow = 2.52 cfs @ 12.82 hrs, Volume= 0.863 af, Atten= 67%, Lag= 32.3 min
Discarded = 2.52 cfs @ 12.82 hrs, Volume= 0.863 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 520.62' @ 12.82 hrs Surf.Area= 9,059 sf Storage= 9,238 cf

Plug-Flow detention time= 26.0 min calculated for 0.863 af (100% of inflow)
Center-of-Mass det. time= 26.0 min (877.1 - 851.1)

Volume	Invert	Avail.Storage	Storage Description
#1	519.25'	69,484 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
519.25	3,321	431.6	0	0	3,321
520.00	7,793	557.0	4,050	4,050	13,193
522.00	12,250	637.7	19,876	23,926	20,958
524.00	16,189	675.4	28,348	52,274	25,110
524.50	17,209	684.8	8,348	60,622	26,183
525.00	18,244	694.3	8,862	69,484	27,281

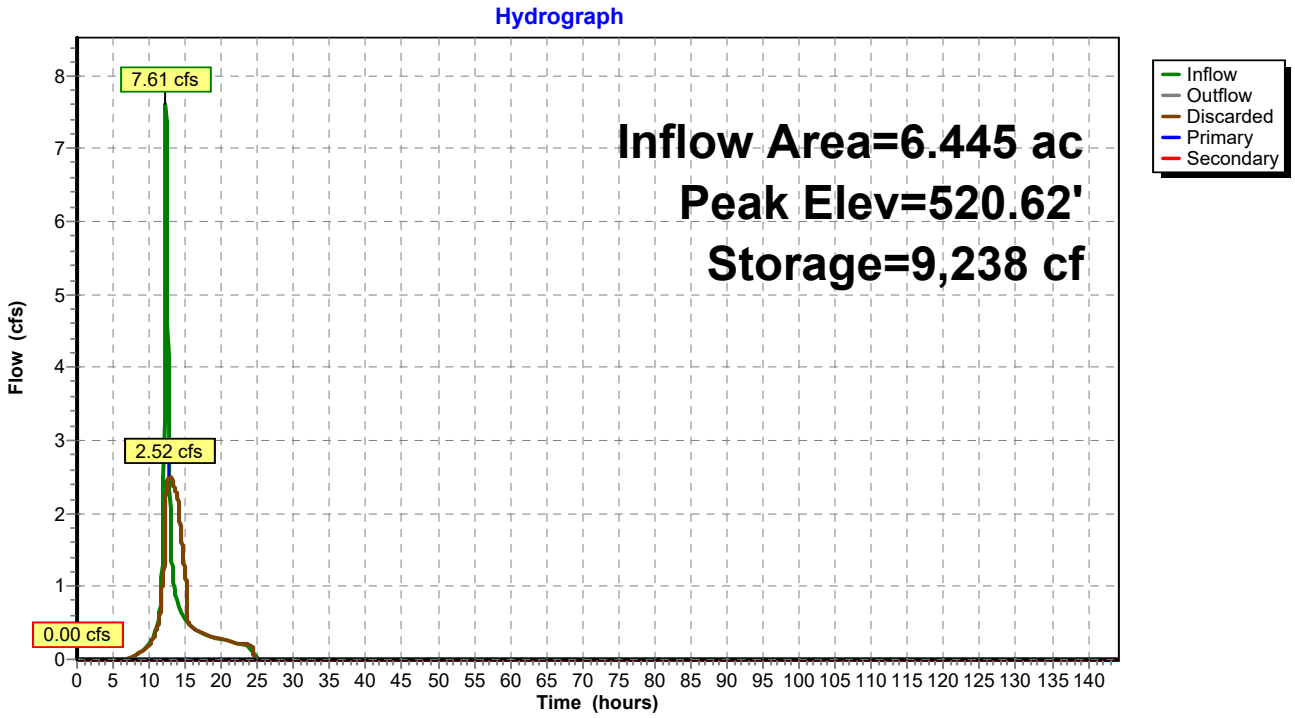
Device	Routing	Invert	Outlet Devices
#1	Primary	518.85'	**24.0" Round Culvert** L= 44.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 518.85' / 518.25' S= 0.0136 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	523.15'	**3.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	523.80'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	524.50'	**10.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	519.25'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=2.52 cfs @ 12.82 hrs HW=520.62' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 2.52 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=519.25' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 0.96 cfs potential flow)
  ├**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=519.25' (Free Discharge)
└**4=Emergency Spillway** (Controls 0.00 cfs)

Pond 3P: INFILTRATION BASIN #1



Stage-Area-Storage for Pond 3P: INFILTRATION BASIN #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
519.25	3,321	0
519.35	3,809	356
519.45	4,330	763
519.55	4,884	1,223
519.65	5,472	1,741
519.75	6,094	2,319
519.85	6,748	2,961
519.95	7,436	3,670
520.05	7,892	4,442
520.15	8,092	5,242
520.25	8,295	6,061
520.35	8,501	6,901
520.45	8,708	7,761
520.55	8,919	8,643
520.65	9,131	9,545
520.75	9,347	10,469
520.85	9,565	11,414
520.95	9,785	12,382
521.05	10,008	13,372
521.15	10,233	14,384
521.25	10,461	15,418
521.35	10,691	16,476
521.45	10,924	17,557
521.55	11,160	18,661
521.65	11,398	19,789
521.75	11,638	20,940
521.85	11,881	22,116
521.95	12,126	23,317
522.05	12,342	24,541
522.15	12,526	25,784
522.25	12,712	27,046
522.35	12,900	28,327
522.45	13,088	29,626
522.55	13,279	30,945
522.65	13,470	32,282
522.75	13,663	33,639
522.85	13,857	35,015
522.95	14,053	36,410
523.05	14,250	37,825
523.15	14,448	39,260
523.25	14,648	40,715
523.35	14,849	42,190
523.45	15,051	43,685
523.55	15,255	45,200
523.65	15,460	46,736
523.75	15,667	48,292
523.85	15,875	49,869
523.95	16,084	51,467
524.05	16,290	53,086
524.15	16,492	54,725
524.25	16,695	56,384
524.35	16,900	58,064
524.45	17,106	59,764
524.55	17,311	61,485
524.65	17,516	63,226
524.75	17,723	64,988
524.85	17,930	66,771
524.95	**18,139**	**68,574**

Summary for Pond P-2: INFILTRATION BASIN #2

Inflow Area = 9.274 ac, 40.80% Impervious, Inflow Depth = 1.32" for 1-yr event
Inflow = 9.52 cfs @ 12.25 hrs, Volume= 1.021 af
Outflow = 2.87 cfs @ 12.80 hrs, Volume= 1.021 af, Atten= 70%, Lag= 33.3 min
Discarded = 2.87 cfs @ 12.80 hrs, Volume= 1.021 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 529.15' @ 12.80 hrs Surf.Area= 10,326 sf Storage= 10,533 cf

Plug-Flow detention time= 24.7 min calculated for 1.021 af (100% of inflow)
Center-of-Mass det. time= 24.7 min (891.1 - 866.4)

Volume	Invert	Avail.Storage	Storage Description
#1	528.00'	95,899 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
528.00	8,058	504.9	0	0	8,058
530.00	12,188	662.8	20,104	20,104	22,777
532.00	16,292	702.2	28,381	48,485	27,269
534.00	20,619	740.0	36,826	85,311	31,841
534.50	21,736	749.0	10,588	95,899	32,970

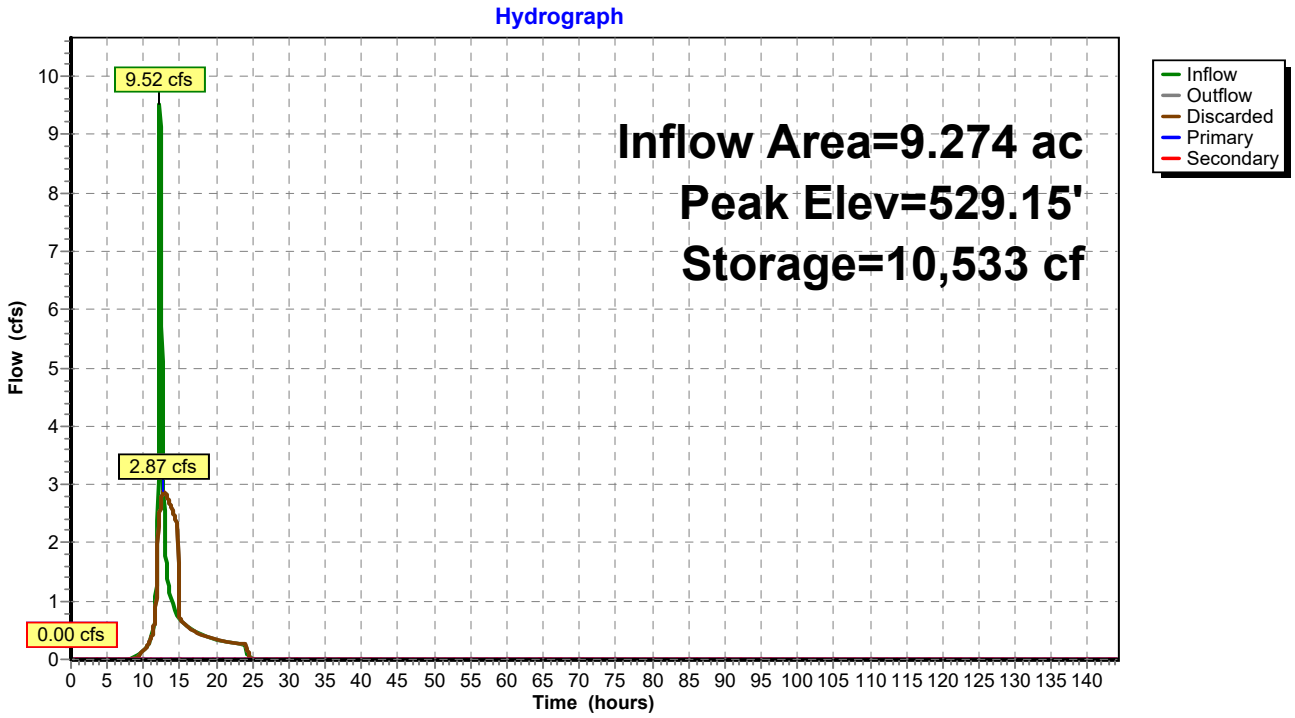
Device	Routing	Invert	Outlet Devices
#1	Primary	528.00'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 528.00' / 522.00' S= 0.1200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	531.75'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	531.75'	**2.0' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	534.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	533.50'	**10.0' long x 16.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	528.00'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=2.87 cfs @ 12.80 hrs HW=529.15' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 2.87 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=528.00' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
  ├**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=528.00' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

Pond P-2: INFILTRATION BASIN #2



Stage-Area-Storage for Pond P-2: INFILTRATION BASIN #2

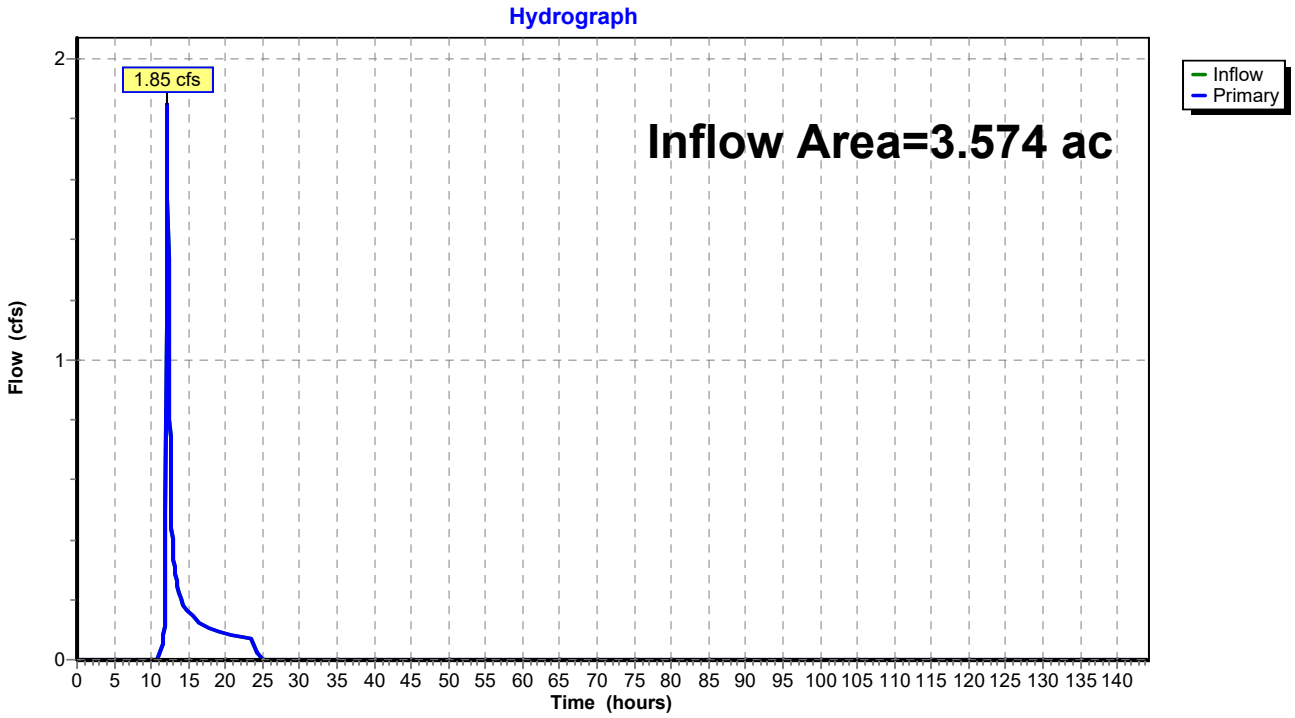
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
528.00	8,058	0
528.10	8,244	815
528.20	8,433	1,649
528.30	8,623	2,502
528.40	8,816	3,374
528.50	9,011	4,265
528.60	9,208	5,176
528.70	9,407	6,107
528.80	9,608	7,057
528.90	9,811	8,028
529.00	10,017	9,020
529.10	10,224	10,032
529.20	10,434	11,064
529.30	10,646	12,118
529.40	10,860	13,194
529.50	11,076	14,290
529.60	11,294	15,409
529.70	11,514	16,549
529.80	11,737	17,712
529.90	11,961	18,897
530.00	12,188	20,104
530.10	12,379	21,332
530.20	12,572	22,580
530.30	12,766	23,847
530.40	12,961	25,133
530.50	13,158	26,439
530.60	13,357	27,765
530.70	13,557	29,111
530.80	13,758	30,476
530.90	13,961	31,862
531.00	14,166	33,269
531.10	14,372	34,695
531.20	14,579	36,143
531.30	14,788	37,611
531.40	14,998	39,101
531.50	15,210	40,611
531.60	15,424	42,143
531.70	15,639	43,696
531.80	15,855	45,270
531.90	16,073	46,867
532.00	16,292	48,485
532.10	16,496	50,124
532.20	16,702	51,784
532.30	16,909	53,465
532.40	17,117	55,166
532.50	17,326	56,888
532.60	17,537	58,631
532.70	17,749	60,396
532.80	17,962	62,181
532.90	18,176	63,988
533.00	18,392	65,816
533.10	18,609	67,666
533.20	18,827	69,538
533.30	19,047	71,432
533.40	19,267	73,348
533.50	19,490	75,285
533.60	19,713	77,245
533.70	19,938	79,228
533.80	20,163	81,233
533.90	20,391	83,261
534.00	20,619	85,311
534.10	20,840	87,384
534.20	21,062	89,479
534.30	21,286	91,597
534.40	21,510	93,736
534.50	**21,736**	**95,899**

Summary for Link DL-1: DESIGN LINE 1

Inflow Area = 3.574 ac, 0.00% Impervious, Inflow Depth = 0.64" for 1-yr event
Inflow = 1.85 cfs @ 12.10 hrs, Volume= 0.192 af
Primary = 1.85 cfs @ 12.10 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-1: DESIGN LINE 1

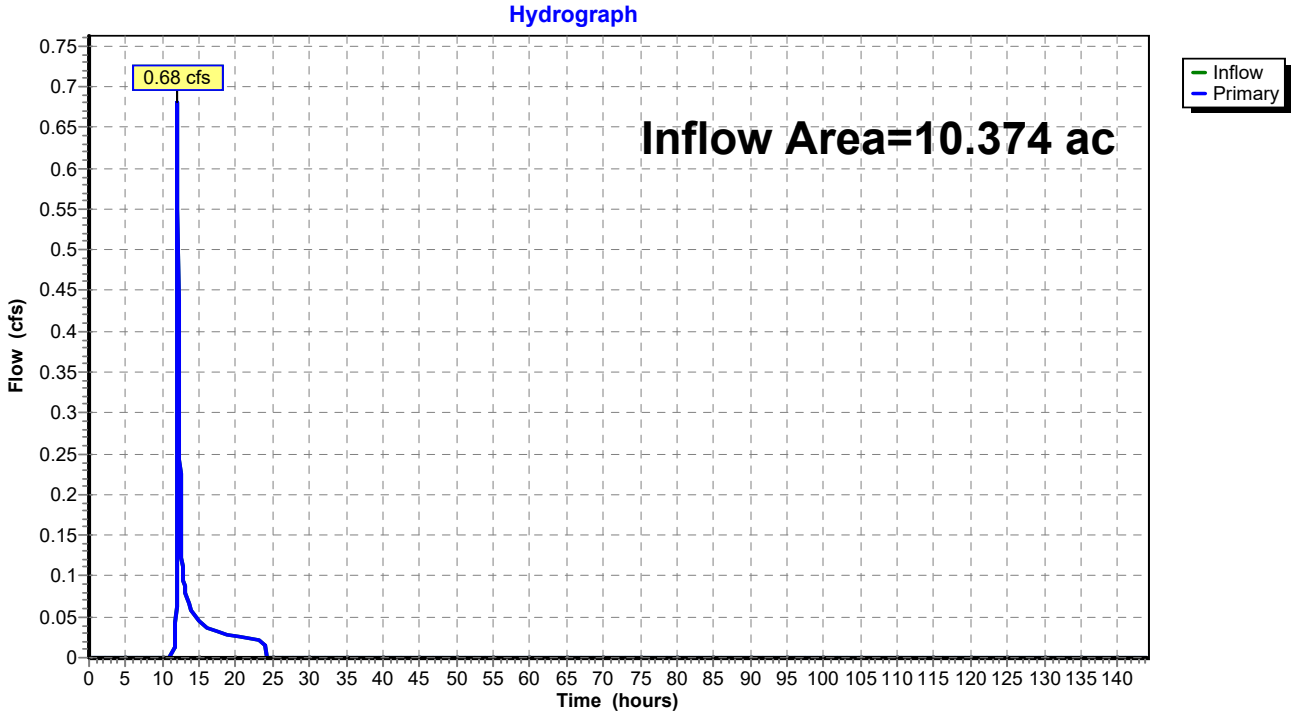


Summary for Link DL-2: DESIGN LINE 2

Inflow Area = 10.374 ac, 36.48% Impervious, Inflow Depth = 0.06" for 1-yr event
Inflow = 0.68 cfs @ 12.06 hrs, Volume= 0.054 af
Primary = 0.68 cfs @ 12.06 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-2: DESIGN LINE 2

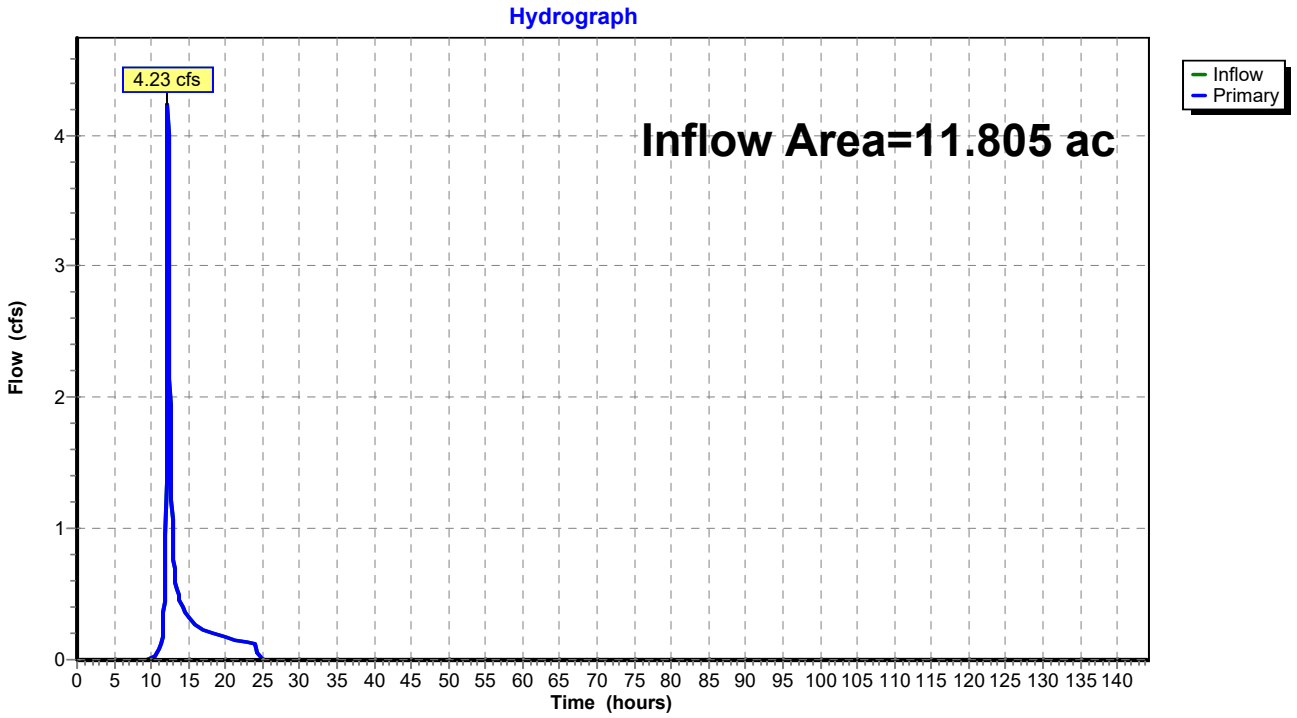


Summary for Link DL-3: DESIGN LINE 3

Inflow Area = 11.805 ac, 42.01% Impervious, Inflow Depth = 0.44" for 1-yr event
Inflow = 4.23 cfs @ 12.20 hrs, Volume= 0.429 af
Primary = 4.23 cfs @ 12.20 hrs, Volume= 0.429 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-3: DESIGN LINE 3



Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: 1.1S Runoff Area=1.502 ac 0.00% Impervious Runoff Depth=2.23"
Flow Length=688' Tc=14.6 min CN=72 Runoff=2.70 cfs 0.279 af

Subcatchment1.2S: 1.2S Runoff Area=2.072 ac 0.00% Impervious Runoff Depth=2.15"
Flow Length=366' Tc=6.9 min CN=71 Runoff=4.76 cfs 0.371 af

Subcatchment2.1S: 2.1S Runoff Area=9.274 ac 40.80% Impervious Runoff Depth=3.31"
Flow Length=1,002' Tc=21.0 min CN=84 Runoff=21.27 cfs 2.556 af

Subcatchment2.2S: 2.2S Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=70 Runoff=2.50 cfs 0.189 af

Subcatchment3.1S: 3.1S Runoff Area=6.445 ac 59.30% Impervious Runoff Depth=3.71"
Flow Length=1,008' Tc=23.9 min CN=88 Runoff=15.41 cfs 1.991 af

Subcatchment3.2S: 3.2S Runoff Area=5.360 ac 21.21% Impervious Runoff Depth=2.75"
Flow Length=1,162' Tc=17.0 min CN=78 Runoff=11.27 cfs 1.226 af

Pond 3P: INFILTRATIONBASIN#1 Peak Elev=522.22' Storage=26,644 cf Inflow=15.41 cfs 1.991 af
Discarded=3.51 cfs 1.991 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=3.51 cfs 1.991 af

Pond P-2: INFILTRATIONBASIN#2 Peak Elev=531.14' Storage=35,328 cf Inflow=21.27 cfs 2.556 af
Discarded=4.02 cfs 2.556 af Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=4.02 cfs 2.556 af

Link DL-1: DESIGN LINE 1 Inflow=6.71 cfs 0.650 af
Primary=6.71 cfs 0.650 af

Link DL-2: DESIGN LINE 2 Inflow=2.50 cfs 0.189 af
Primary=2.50 cfs 0.189 af

Link DL-3: DESIGN LINE 3 Inflow=11.27 cfs 1.226 af
Primary=11.27 cfs 1.226 af

Total Runoff Area = 25.753 ac Runoff Volume = 6.612 af Average Runoff Depth = 3.08"
66.05% Pervious = 17.010 ac 33.95% Impervious = 8.743 ac

Summary for Subcatchment 1.1S: 1.1S

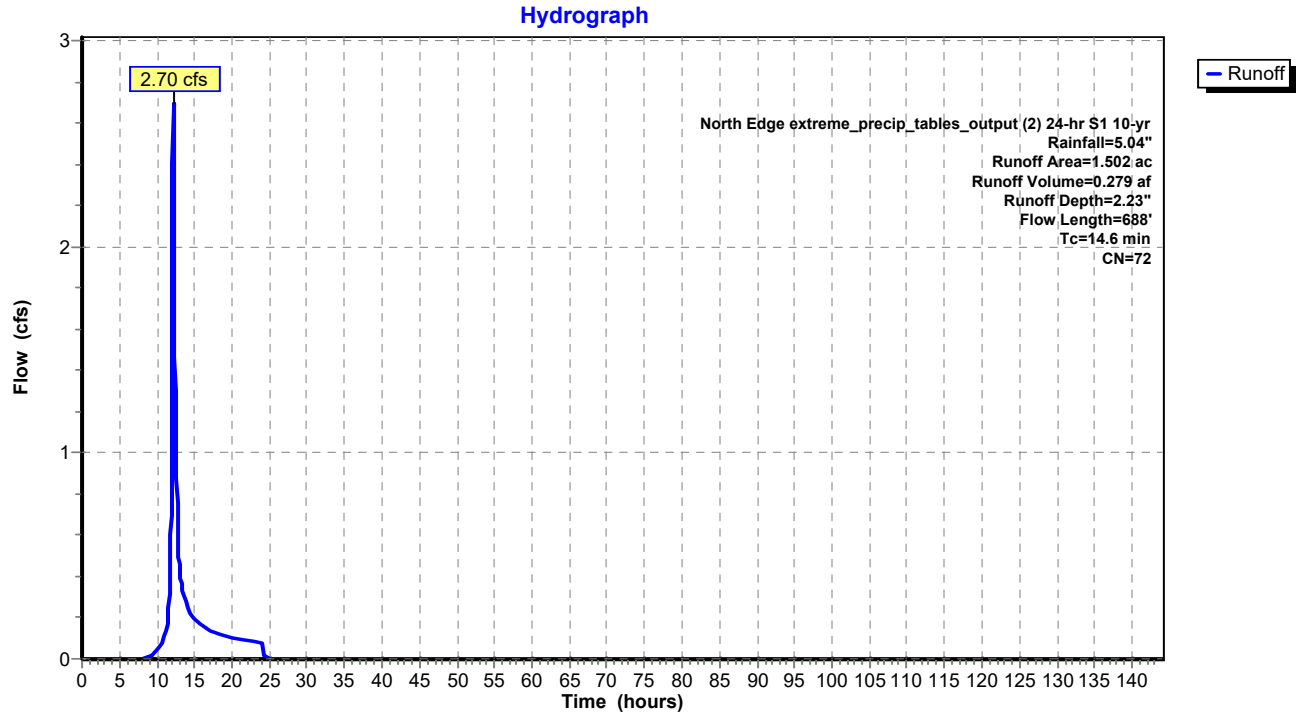
Runoff = 2.70 cfs @ 12.16 hrs, Volume= 0.279 af, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	0.724	70	Woods, Good, HSG C
	0.766	74	>75% Grass cover, Good, HSG C
*	0.012	91	Prop. Patios Pourous
	1.502	72	Weighted Average
	1.502		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	118	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	286	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	119	0.2560	2.53		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	688	Total			

Subcatchment 1.1S: 1.1S



Summary for Subcatchment 1.2S: 1.2S

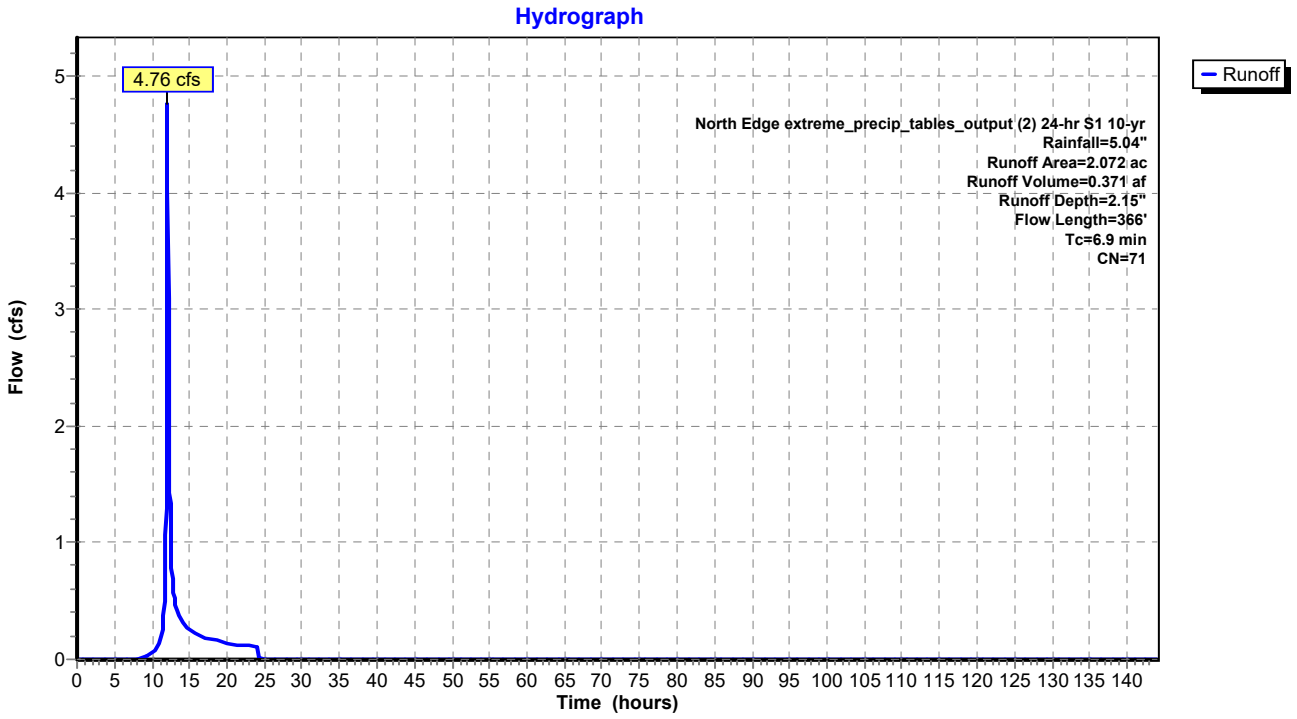
Runoff = 4.76 cfs @ 12.06 hrs, Volume= 0.371 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	1.492	70	Woods, Good, HSG C
	0.298	71	Meadow, non-grazed, HSG C
	0.209	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	2.072	71	Weighted Average
	2.072		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.1250	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.8	98	0.0960	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.5	168	0.1480	1.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.9	366	Total			

Subcatchment 1.2S: 1.2S



Summary for Subcatchment 2.1S: 2.1S

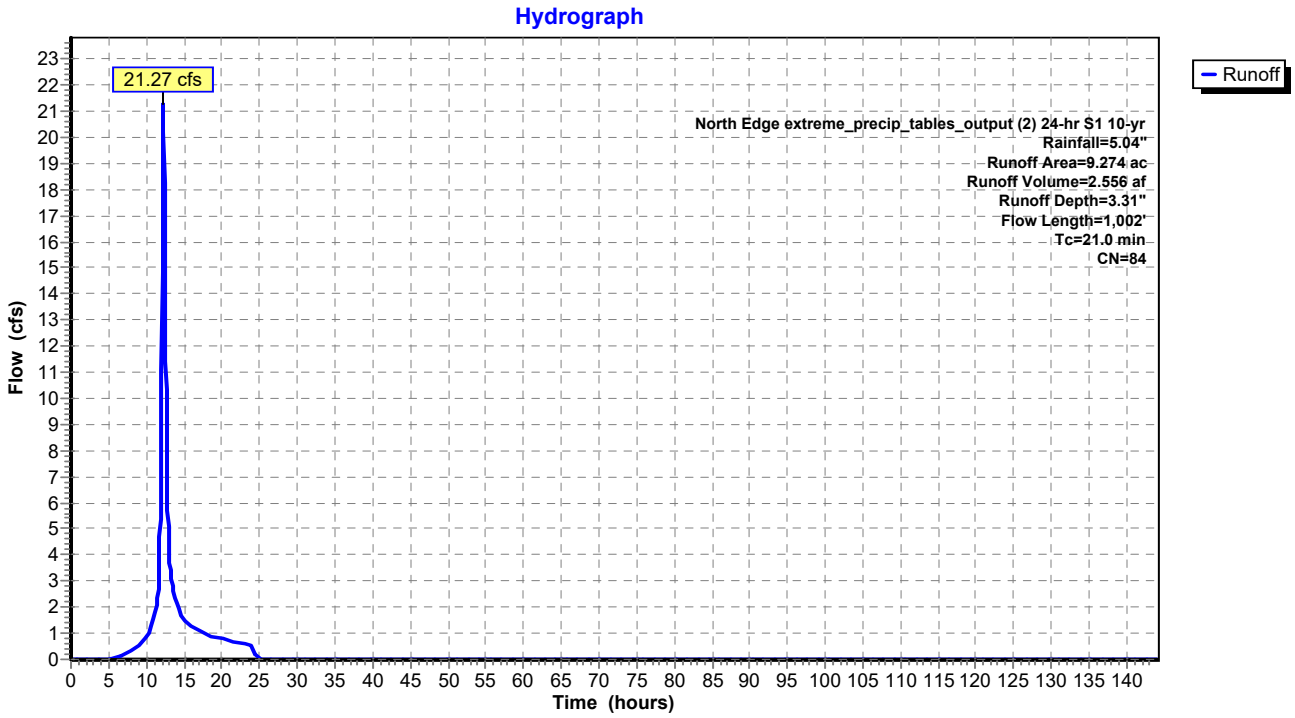
Runoff = 21.27 cfs @ 12.24 hrs, Volume= 2.556 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	0.864	70	Woods, Good, HSG C
	4.522	74	>75% Grass cover, Good, HSG C
*	0.954	98	Prop. Building
*	0.047	98	Prop. Patios & Decks
*	1.129	98	Prop. Road & Dwy
*	0.069	98	Prop. Walkways
*	0.017	98	Prop. Porches
*	1.568	98	Ex. Imp.
*	0.030	91	Prop. Patios Pourous
	0.074	96	Gravel surface, HSG C
	9.274	84	Weighted Average
	5.490		59.20% Pervious Area
	3.784		40.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.4	148	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	133	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	28	0.1700	2.89		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	136	0.3670	12.30		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	457	0.0600	12.89	15.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
21.0	1,002	Total			

Subcatchment 2.1S: 2.1S



Summary for Subcatchment 2.2S: 2.2S

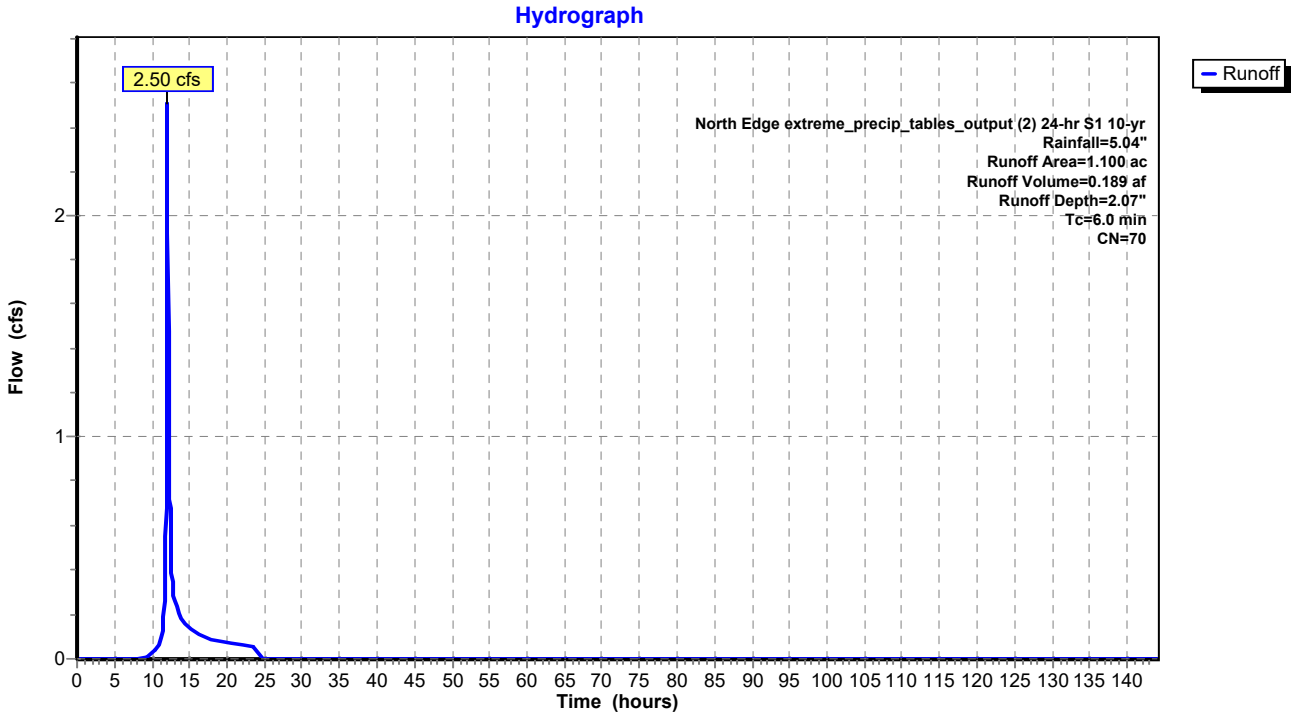
Runoff = 2.50 cfs @ 12.05 hrs, Volume= 0.189 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

Area (ac)	CN	Description
0.904	70	Woods, Good, HSG C
0.196	71	Meadow, non-grazed, HSG C
1.100	70	Weighted Average
1.100		100.00% Pervious Area

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

Subcatchment 2.2S: 2.2S



Summary for Subcatchment 3.1S: 3.1S

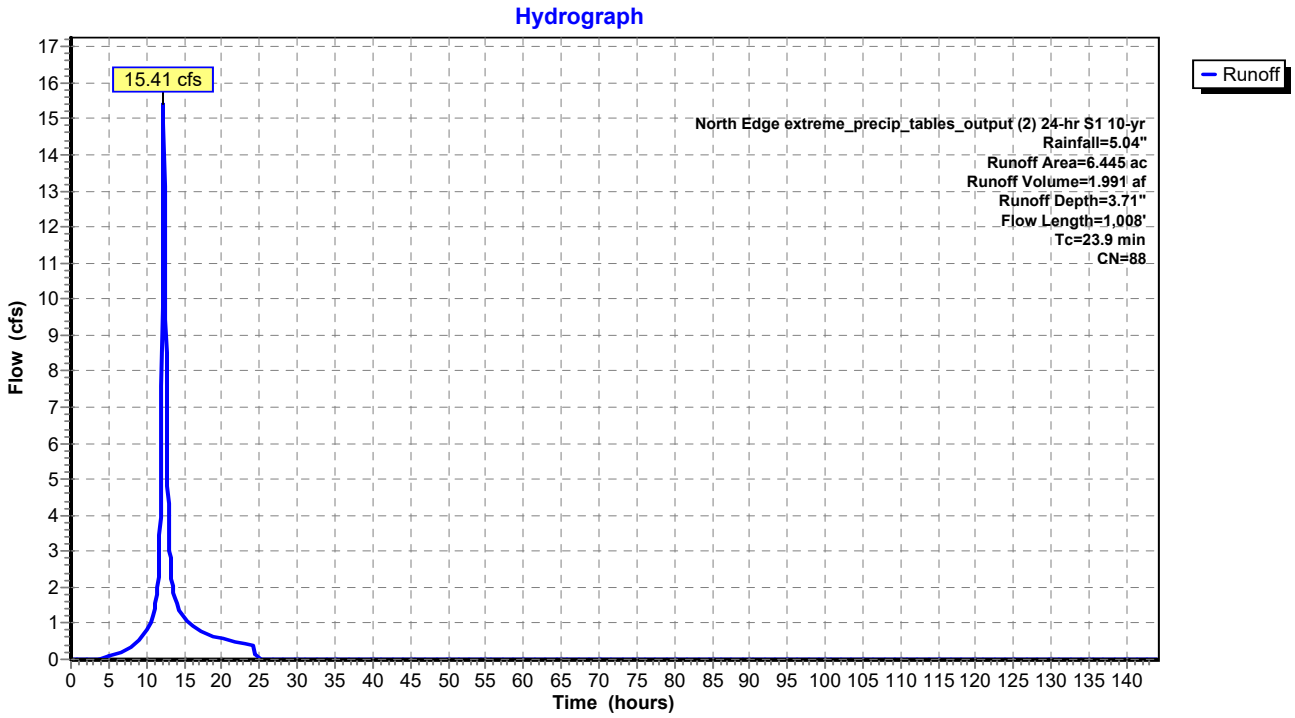
Runoff = 15.41 cfs @ 12.27 hrs, Volume= 1.991 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	2.623	74	>75% Grass cover, Good, HSG C
*	1.940	98	Prop. Building
*	0.115	98	Prop. Patios & Decks
*	1.520	98	Prop. Road & Dwy
*	0.107	98	Prop. Walkways
*	0.140	98	Prop. Porches
	6.445	88	Weighted Average
	2.623		40.70% Pervious Area
	3.822		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.3	32	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	32	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.5	397	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	85	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	362	0.0500	11.77	14.44	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
23.9	1,008	Total			

Subcatchment 3.1S: 3.1S



Summary for Subcatchment 3.2S: 3.2S

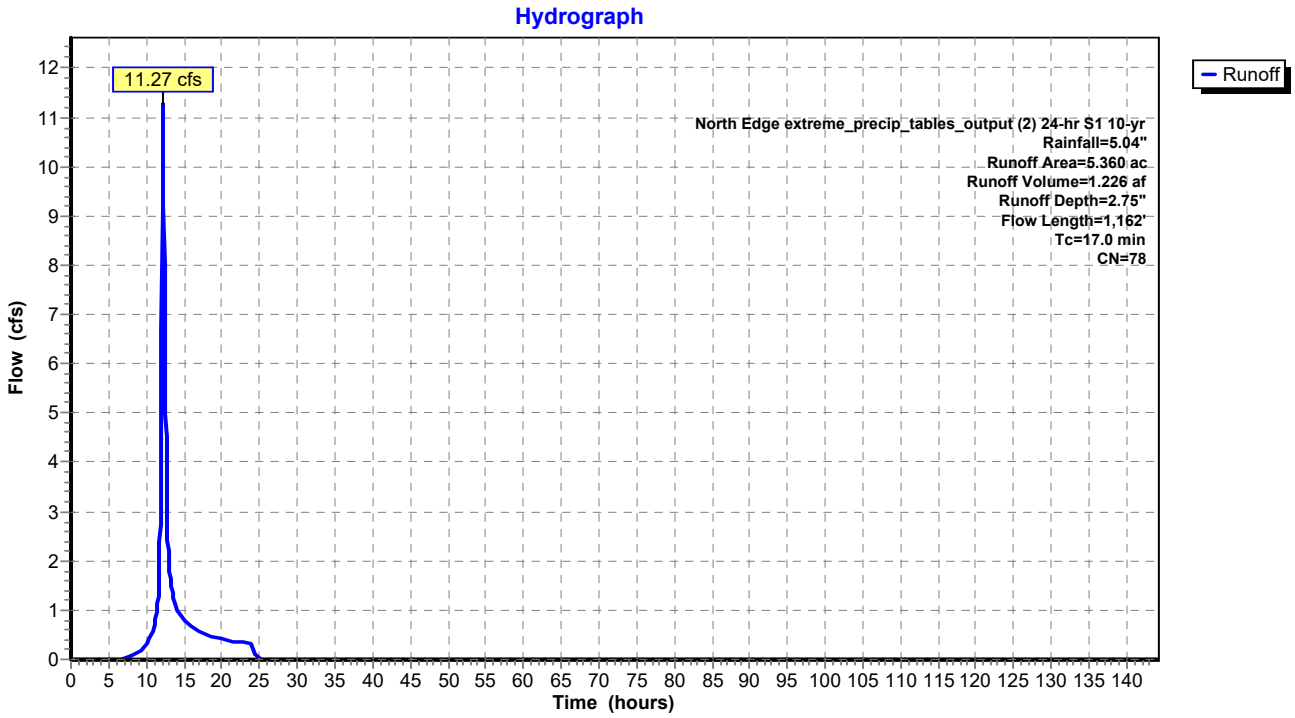
Runoff = 11.27 cfs @ 12.19 hrs, Volume= 1.226 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	2.123	70	Woods, Good, HSG C
	0.166	71	Meadow, non-grazed, HSG C
*	1.137	98	Ex. Imp.
	0.169	96	Gravel surface, HSG C
	1.692	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	5.360	78	Weighted Average
	4.223		78.79% Pervious Area
	1.137		21.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	42	0.0570	1.19		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	22	0.3400	4.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	591	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	175	0.1360	19.41	23.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.1	135	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.0	1,162	Total			

Subcatchment 3.2S: 3.2S



Summary for Pond 3P: INFILTRATION BASIN #1

Inflow Area = 6.445 ac, 59.30% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 15.41 cfs @ 12.27 hrs, Volume= 1.991 af
Outflow = 3.51 cfs @ 13.00 hrs, Volume= 1.991 af, Atten= 77%, Lag= 43.7 min
Discarded = 3.51 cfs @ 13.00 hrs, Volume= 1.991 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 522.22' @ 13.00 hrs Surf.Area= 12,653 sf Storage= 26,644 cf

Plug-Flow detention time= 60.1 min calculated for 1.991 af (100% of inflow)
Center-of-Mass det. time= 60.1 min (886.5 - 826.4)

Volume	Invert	Avail.Storage	Storage Description
#1	519.25'	69,484 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
519.25	3,321	431.6	0	0	3,321
520.00	7,793	557.0	4,050	4,050	13,193
522.00	12,250	637.7	19,876	23,926	20,958
524.00	16,189	675.4	28,348	52,274	25,110
524.50	17,209	684.8	8,348	60,622	26,183
525.00	18,244	694.3	8,862	69,484	27,281

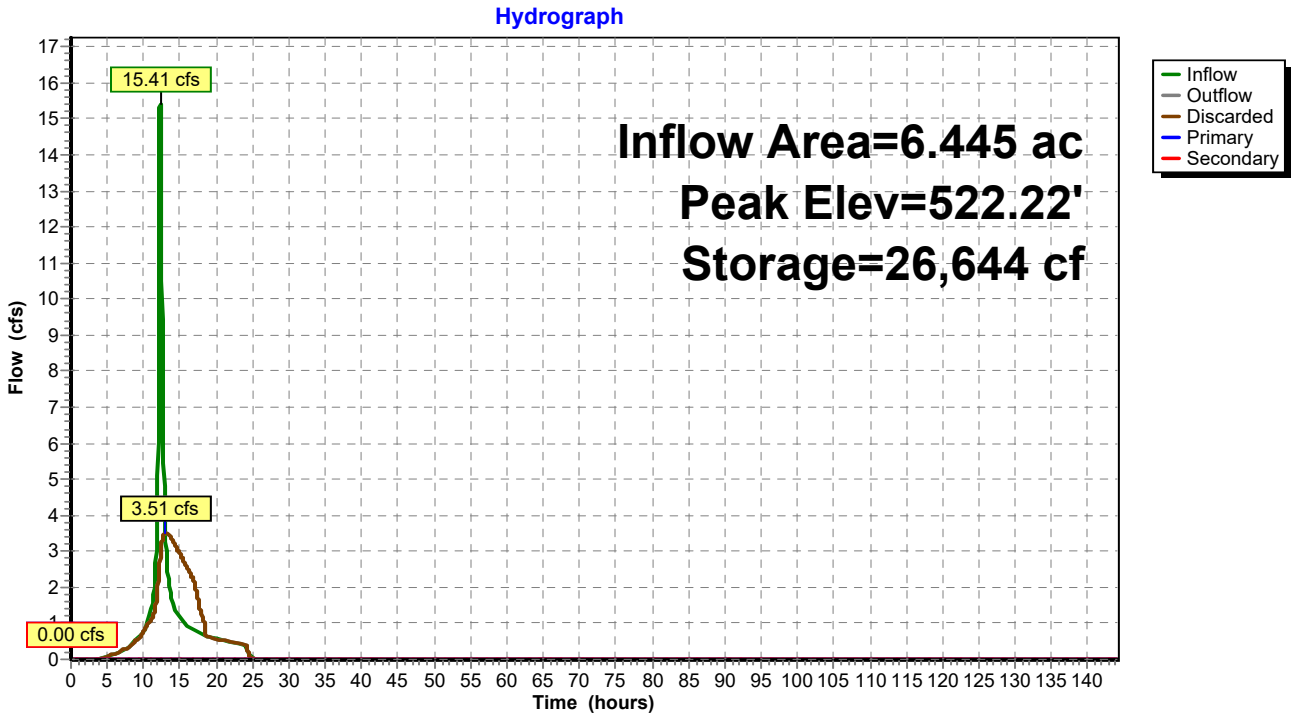
Device	Routing	Invert	Outlet Devices
#1	Primary	518.85'	**24.0" Round Culvert** L= 44.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 518.85' / 518.25' S= 0.0136 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	523.15'	**3.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	523.80'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	524.50'	**10.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	519.25'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=3.51 cfs @ 13.00 hrs HW=522.22' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 3.51 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=519.25' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 0.96 cfs potential flow)
  ├**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └**3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=519.25' (Free Discharge)
└**4=Emergency Spillway** (Controls 0.00 cfs)

Pond 3P: INFILTRATION BASIN #1



Stage-Area-Storage for Pond 3P: INFILTRATION BASIN #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
519.25	3,321	0
519.35	3,809	356
519.45	4,330	763
519.55	4,884	1,223
519.65	5,472	1,741
519.75	6,094	2,319
519.85	6,748	2,961
519.95	7,436	3,670
520.05	7,892	4,442
520.15	8,092	5,242
520.25	8,295	6,061
520.35	8,501	6,901
520.45	8,708	7,761
520.55	8,919	8,643
520.65	9,131	9,545
520.75	9,347	10,469
520.85	9,565	11,414
520.95	9,785	12,382
521.05	10,008	13,372
521.15	10,233	14,384
521.25	10,461	15,418
521.35	10,691	16,476
521.45	10,924	17,557
521.55	11,160	18,661
521.65	11,398	19,789
521.75	11,638	20,940
521.85	11,881	22,116
521.95	12,126	23,317
522.05	12,342	24,541
522.15	12,526	25,784
522.25	12,712	27,046
522.35	12,900	28,327
522.45	13,088	29,626
522.55	13,279	30,945
522.65	13,470	32,282
522.75	13,663	33,639
522.85	13,857	35,015
522.95	14,053	36,410
523.05	14,250	37,825
523.15	14,448	39,260
523.25	14,648	40,715
523.35	14,849	42,190
523.45	15,051	43,685
523.55	15,255	45,200
523.65	15,460	46,736
523.75	15,667	48,292
523.85	15,875	49,869
523.95	16,084	51,467
524.05	16,290	53,086
524.15	16,492	54,725
524.25	16,695	56,384
524.35	16,900	58,064
524.45	17,106	59,764
524.55	17,311	61,485
524.65	17,516	63,226
524.75	17,723	64,988
524.85	17,930	66,771
524.95	**18,139**	**68,574**

Summary for Pond P-2: INFILTRATION BASIN #2

Inflow Area = 9.274 ac, 40.80% Impervious, Inflow Depth = 3.31" for 10-yr event
Inflow = 21.27 cfs @ 12.24 hrs, Volume= 2.556 af
Outflow = 4.02 cfs @ 13.04 hrs, Volume= 2.556 af, Atten= 81%, Lag= 48.0 min
Discarded = 4.02 cfs @ 13.04 hrs, Volume= 2.556 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 531.14' @ 13.04 hrs Surf.Area= 14,463 sf Storage= 35,328 cf

Plug-Flow detention time= 71.2 min calculated for 2.555 af (100% of inflow)
Center-of-Mass det. time= 71.1 min (910.9 - 839.7)

Volume	Invert	Avail.Storage	Storage Description
#1	528.00'	95,899 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
528.00	8,058	504.9	0	0	8,058
530.00	12,188	662.8	20,104	20,104	22,777
532.00	16,292	702.2	28,381	48,485	27,269
534.00	20,619	740.0	36,826	85,311	31,841
534.50	21,736	749.0	10,588	95,899	32,970

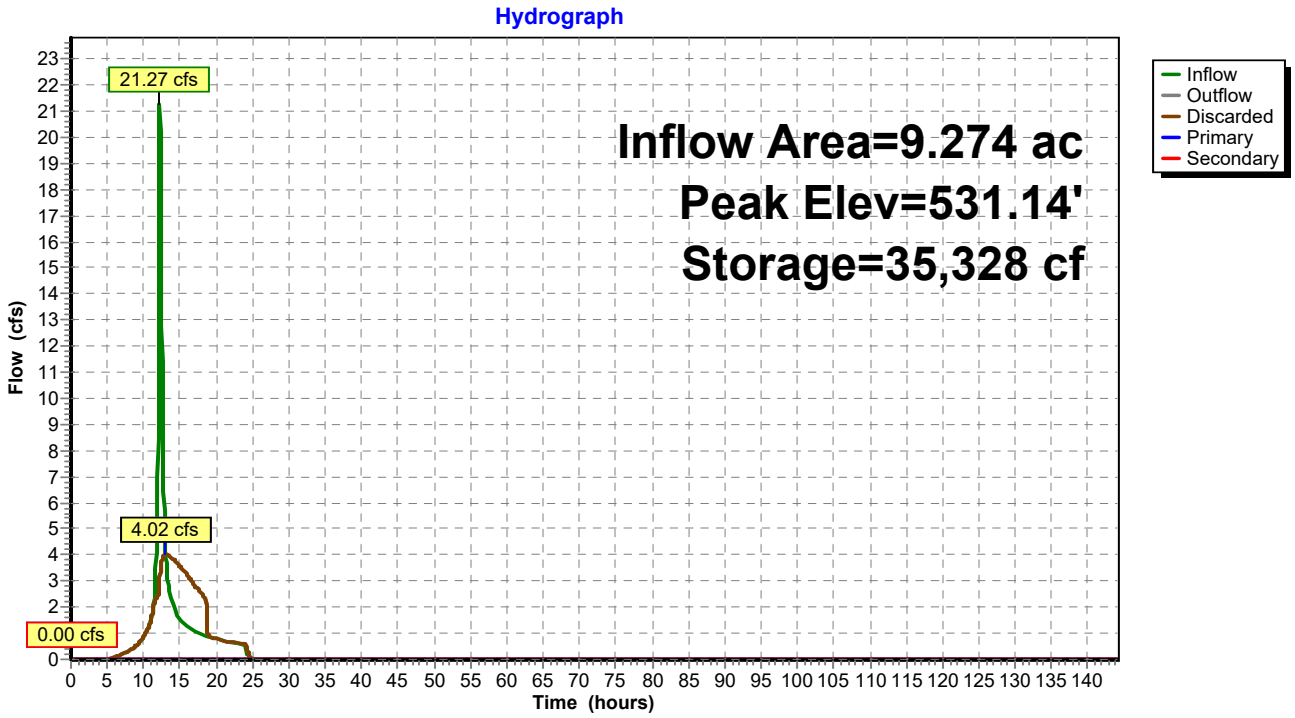
Device	Routing	Invert	Outlet Devices
#1	Primary	528.00'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 528.00' / 522.00' S= 0.1200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	531.75'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	531.75'	**2.0' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	534.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	533.50'	**10.0' long x 16.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	528.00'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=4.02 cfs @ 13.04 hrs HW=531.14' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 4.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=528.00' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)
  ├**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=528.00' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

Pond P-2: INFILTRATION BASIN #2



Stage-Area-Storage for Pond P-2: INFILTRATION BASIN #2

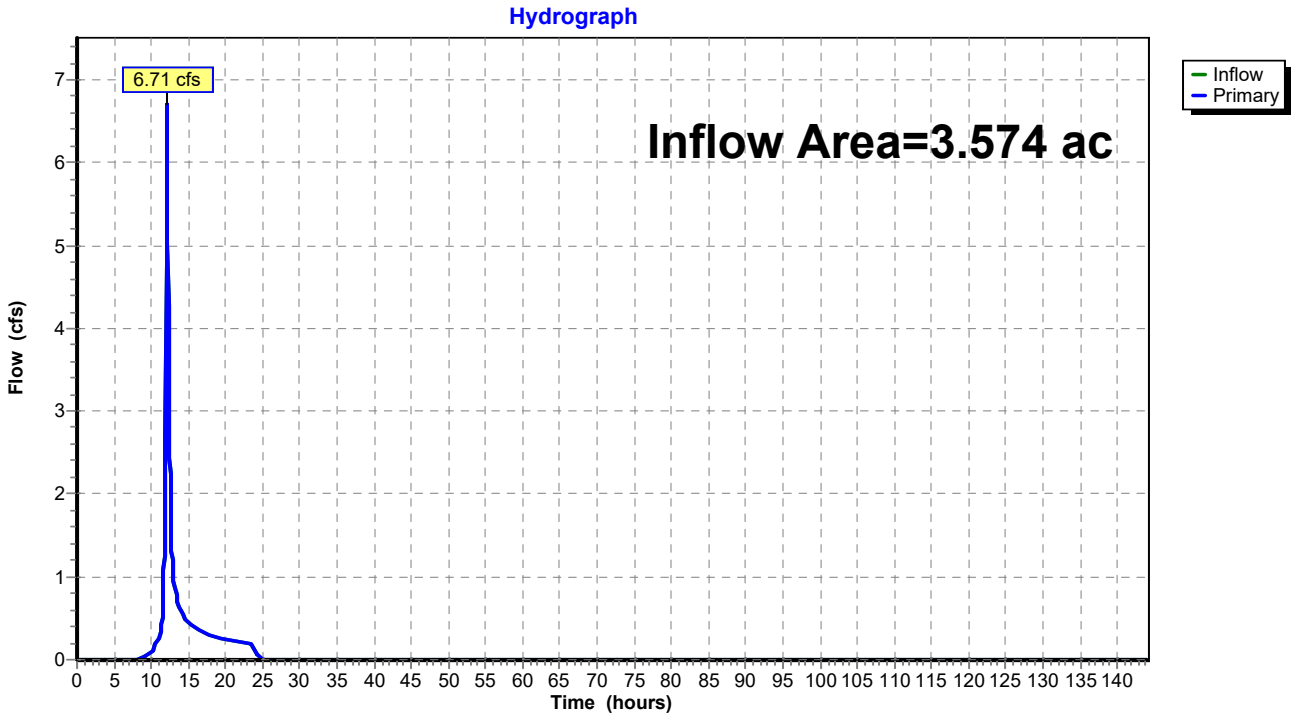
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
528.00	8,058	0
528.10	8,244	815
528.20	8,433	1,649
528.30	8,623	2,502
528.40	8,816	3,374
528.50	9,011	4,265
528.60	9,208	5,176
528.70	9,407	6,107
528.80	9,608	7,057
528.90	9,811	8,028
529.00	10,017	9,020
529.10	10,224	10,032
529.20	10,434	11,064
529.30	10,646	12,118
529.40	10,860	13,194
529.50	11,076	14,290
529.60	11,294	15,409
529.70	11,514	16,549
529.80	11,737	17,712
529.90	11,961	18,897
530.00	12,188	20,104
530.10	12,379	21,332
530.20	12,572	22,580
530.30	12,766	23,847
530.40	12,961	25,133
530.50	13,158	26,439
530.60	13,357	27,765
530.70	13,557	29,111
530.80	13,758	30,476
530.90	13,961	31,862
531.00	14,166	33,269
531.10	14,372	34,695
531.20	14,579	36,143
531.30	14,788	37,611
531.40	14,998	39,101
531.50	15,210	40,611
531.60	15,424	42,143
531.70	15,639	43,696
531.80	15,855	45,270
531.90	16,073	46,867
532.00	16,292	48,485
532.10	16,496	50,124
532.20	16,702	51,784
532.30	16,909	53,465
532.40	17,117	55,166
532.50	17,326	56,888
532.60	17,537	58,631
532.70	17,749	60,396
532.80	17,962	62,181
532.90	18,176	63,988
533.00	18,392	65,816
533.10	18,609	67,666
533.20	18,827	69,538
533.30	19,047	71,432
533.40	19,267	73,348
533.50	19,490	75,285
533.60	19,713	77,245
533.70	19,938	79,228
533.80	20,163	81,233
533.90	20,391	83,261
534.00	20,619	85,311
534.10	20,840	87,384
534.20	21,062	89,479
534.30	21,286	91,597
534.40	21,510	93,736
534.50	**21,736**	**95,899**

Summary for Link DL-1: DESIGN LINE 1

Inflow Area = 3.574 ac, 0.00% Impervious, Inflow Depth = 2.18" for 10-yr event
Inflow = 6.71 cfs @ 12.07 hrs, Volume= 0.650 af
Primary = 6.71 cfs @ 12.07 hrs, Volume= 0.650 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-1: DESIGN LINE 1

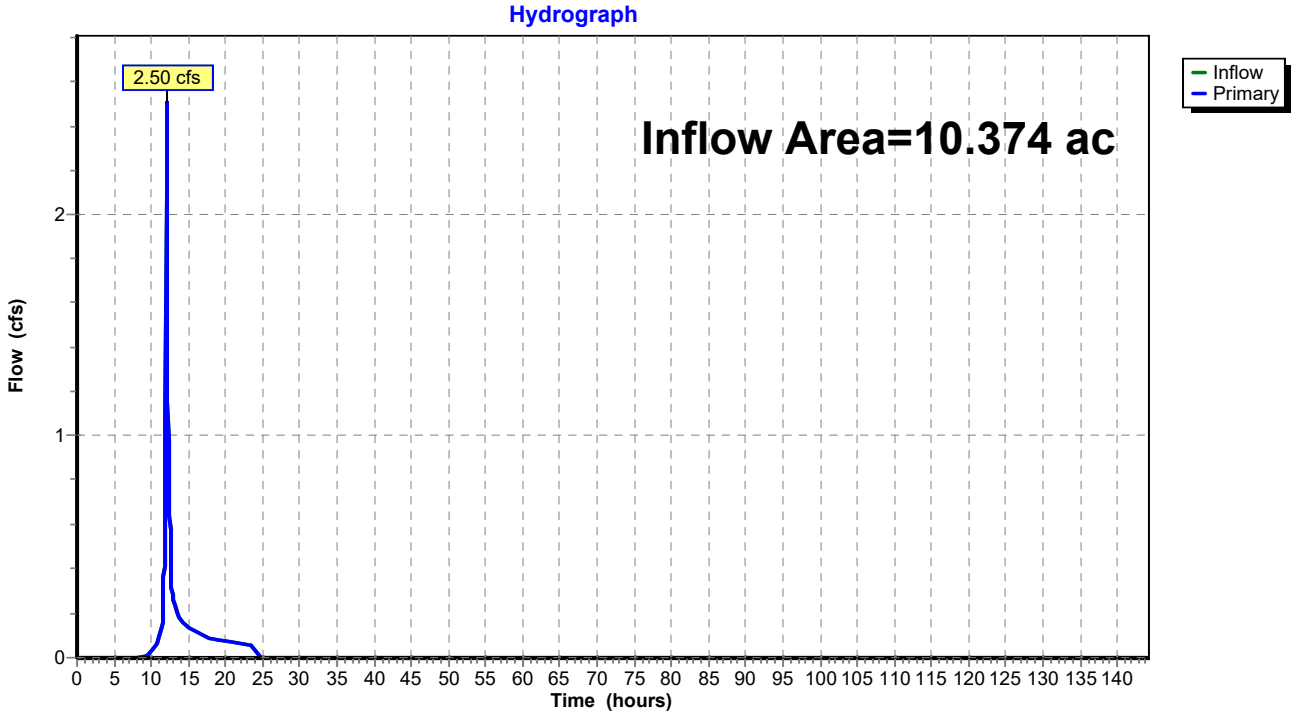


Summary for Link DL-2: DESIGN LINE 2

Inflow Area = 10.374 ac, 36.48% Impervious, Inflow Depth = 0.22" for 10-yr event
Inflow = 2.50 cfs @ 12.05 hrs, Volume= 0.189 af
Primary = 2.50 cfs @ 12.05 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-2: DESIGN LINE 2

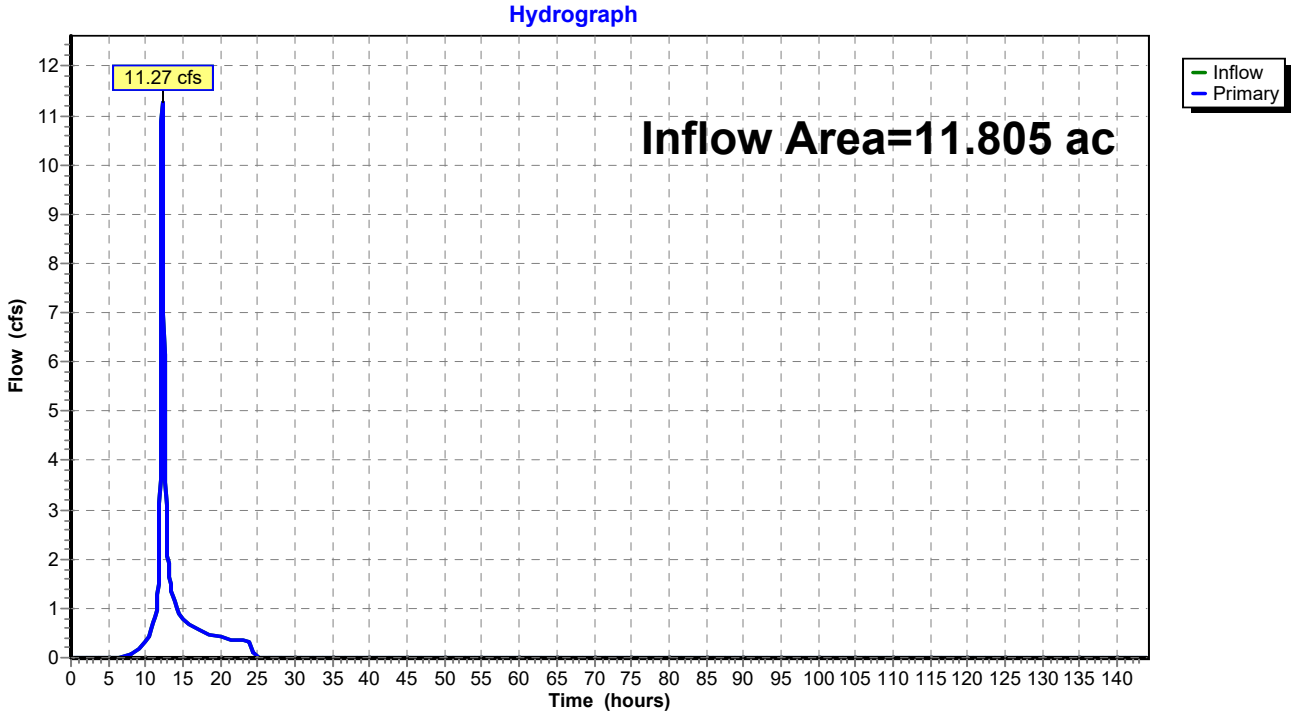


Summary for Link DL-3: DESIGN LINE 3

Inflow Area = 11.805 ac, 42.01% Impervious, Inflow Depth = 1.25" for 10-yr event
Inflow = 11.27 cfs @ 12.19 hrs, Volume= 1.226 af
Primary = 11.27 cfs @ 12.19 hrs, Volume= 1.226 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-3: DESIGN LINE 3



Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1.1S: 1.1S Runoff Area=1.502 ac 0.00% Impervious Runoff Depth=5.67"
Flow Length=688' Tc=14.6 min CN=72 Runoff=6.19 cfs 0.710 af

Subcatchment1.2S: 1.2S Runoff Area=2.072 ac 0.00% Impervious Runoff Depth=5.55"
Flow Length=366' Tc=6.9 min CN=71 Runoff=10.93 cfs 0.958 af

Subcatchment2.1S: 2.1S Runoff Area=9.274 ac 40.80% Impervious Runoff Depth=7.16"
Flow Length=1,002' Tc=21.0 min CN=84 Runoff=40.15 cfs 5.530 af

Subcatchment2.2S: 2.2S Runoff Area=1.100 ac 0.00% Impervious Runoff Depth=5.42"
Tc=6.0 min CN=70 Runoff=5.84 cfs 0.497 af

Subcatchment3.1S: 3.1S Runoff Area=6.445 ac 59.30% Impervious Runoff Depth=7.65"
Flow Length=1,008' Tc=23.9 min CN=88 Runoff=27.63 cfs 4.107 af

Subcatchment3.2S: 3.2S Runoff Area=5.360 ac 21.21% Impervious Runoff Depth=6.42"
Flow Length=1,162' Tc=17.0 min CN=78 Runoff=23.23 cfs 2.866 af

Pond 3P: INFILTRATIONBASIN#1 Peak Elev=523.93' Storage=51,120 cf Inflow=27.63 cfs 4.107 af
Discarded=4.46 cfs 3.629 af Primary=8.27 cfs 0.478 af Secondary=0.00 cfs 0.000 af Outflow=12.73 cfs 4.107 af

Pond P-2: INFILTRATIONBASIN#2 Peak Elev=532.55' Storage=57,716 cf Inflow=40.15 cfs 5.530 af
Discarded=4.84 cfs 4.432 af Primary=21.14 cfs 1.098 af Secondary=0.00 cfs 0.000 af Outflow=25.99 cfs 5.530 af

Link DL-1: DESIGN LINE 1 Inflow=15.59 cfs 1.668 af
Primary=15.59 cfs 1.668 af

Link DL-2: DESIGN LINE 2 Inflow=22.82 cfs 1.595 af
Primary=22.82 cfs 1.595 af

Link DL-3: DESIGN LINE 3 Inflow=23.23 cfs 3.344 af
Primary=23.23 cfs 3.344 af

Total Runoff Area = 25.753 ac Runoff Volume = 14.668 af Average Runoff Depth = 6.83"
66.05% Pervious = 17.010 ac 33.95% Impervious = 8.743 ac

Summary for Subcatchment 1.1S: 1.1S

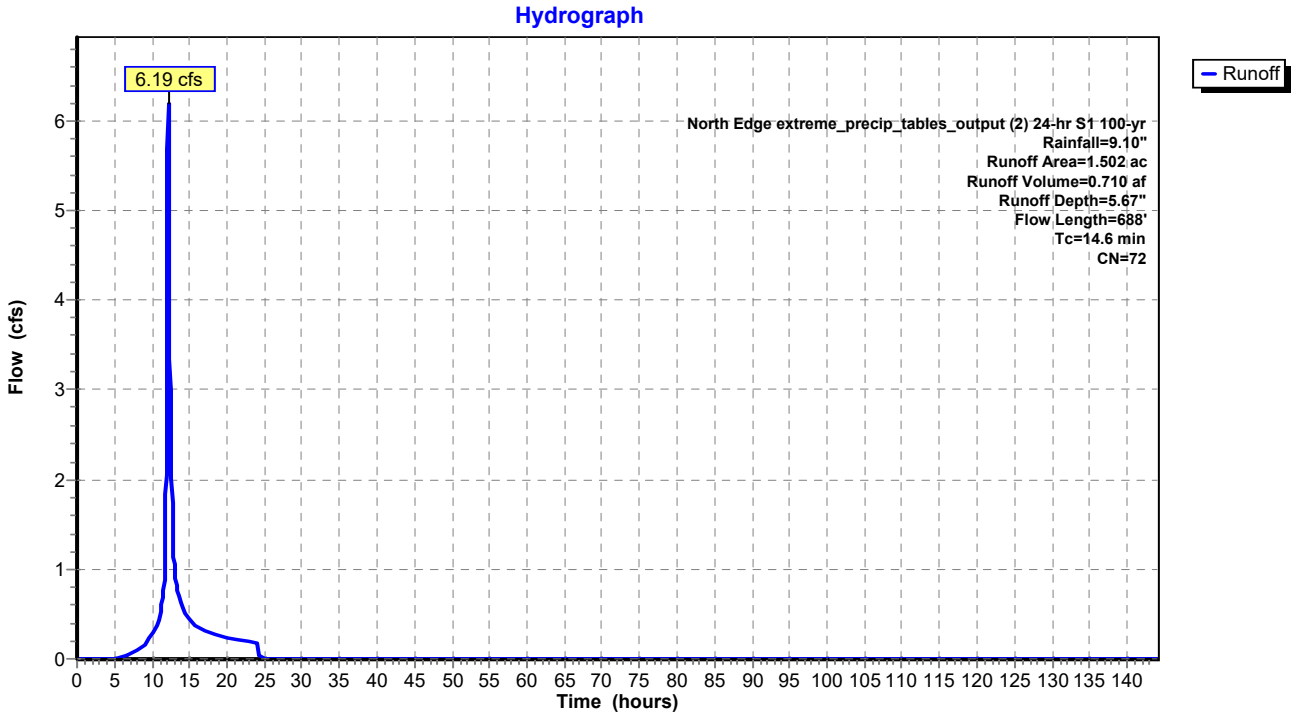
Runoff = 6.19 cfs @ 12.16 hrs, Volume= 0.710 af, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	0.724	70	Woods, Good, HSG C
	0.766	74	>75% Grass cover, Good, HSG C
*	0.012	91	Prop. Patios Pourous
	1.502	72	Weighted Average
	1.502		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	118	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	65	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	286	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	119	0.2560	2.53		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.6	688	Total			

Subcatchment 1.1S: 1.1S



Summary for Subcatchment 1.2S: 1.2S

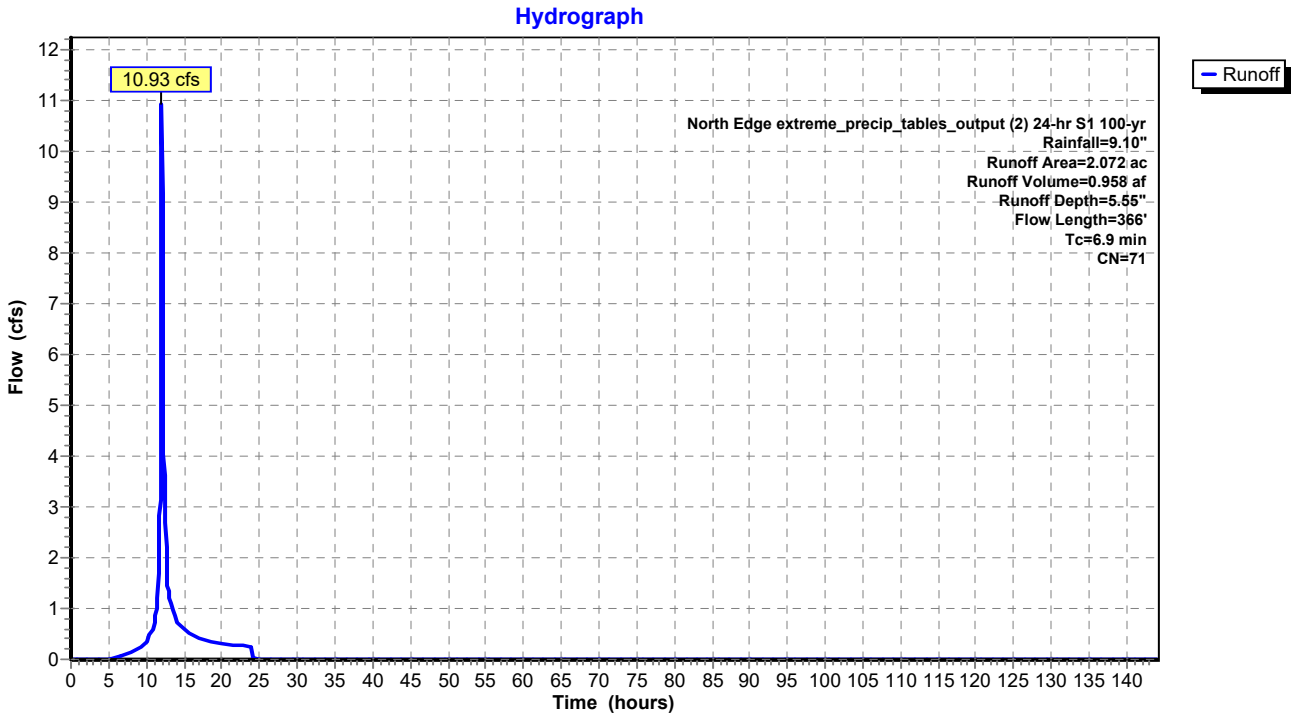
Runoff = 10.93 cfs @ 12.05 hrs, Volume= 0.958 af, Depth= 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	1.492	70	Woods, Good, HSG C
	0.298	71	Meadow, non-grazed, HSG C
	0.209	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	2.072	71	Weighted Average
	2.072		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.6	100	0.1250	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.8	98	0.0960	2.17		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.5	168	0.1480	1.92		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.9	366	Total			

Subcatchment 1.2S: 1.2S



Summary for Subcatchment 2.1S: 2.1S

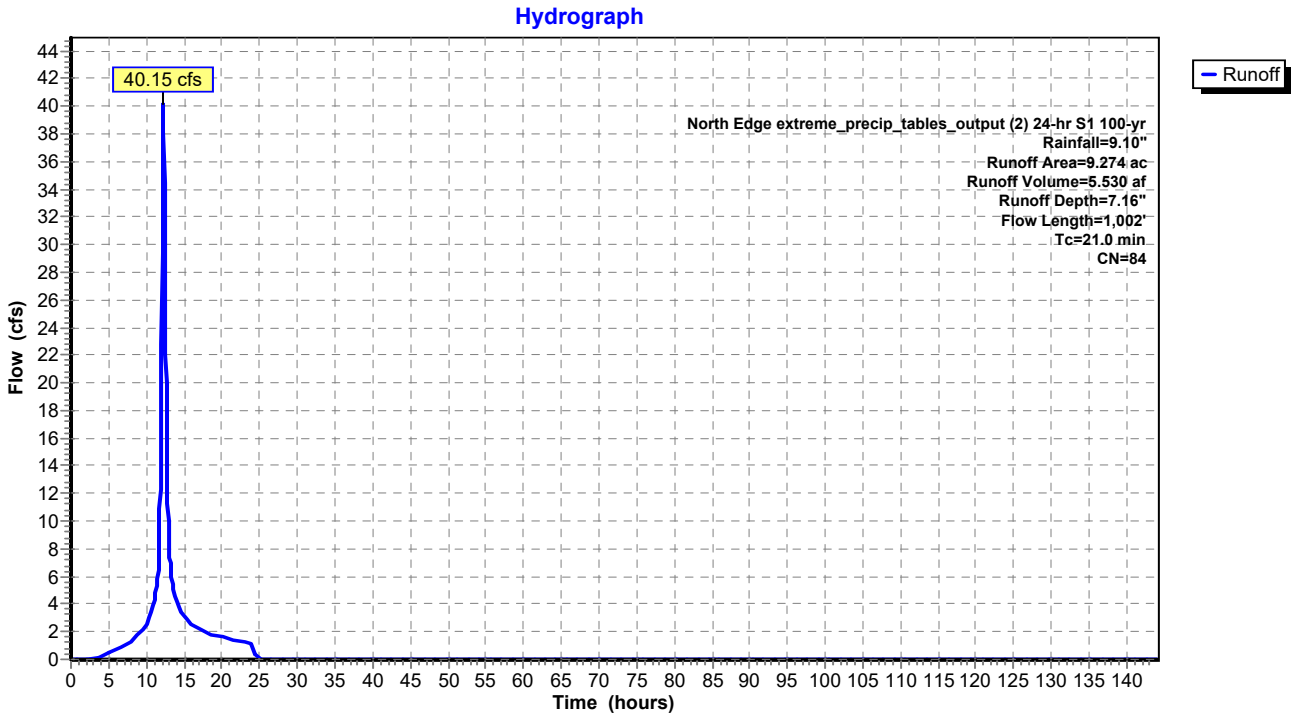
Runoff = 40.15 cfs @ 12.24 hrs, Volume= 5.530 af, Depth= 7.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	0.864	70	Woods, Good, HSG C
	4.522	74	>75% Grass cover, Good, HSG C
*	0.954	98	Prop. Building
*	0.047	98	Prop. Patios & Decks
*	1.129	98	Prop. Road & Dwy
*	0.069	98	Prop. Walkways
*	0.017	98	Prop. Porches
*	1.568	98	Ex. Imp.
*	0.030	91	Prop. Patios Pourous
	0.074	96	Gravel surface, HSG C
	9.274	84	Weighted Average
	5.490		59.20% Pervious Area
	3.784		40.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.4	148	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	133	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	28	0.1700	2.89		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	136	0.3670	12.30		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	457	0.0600	12.89	15.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
21.0	1,002	Total			

Subcatchment 2.1S: 2.1S



Summary for Subcatchment 2.2S: 2.2S

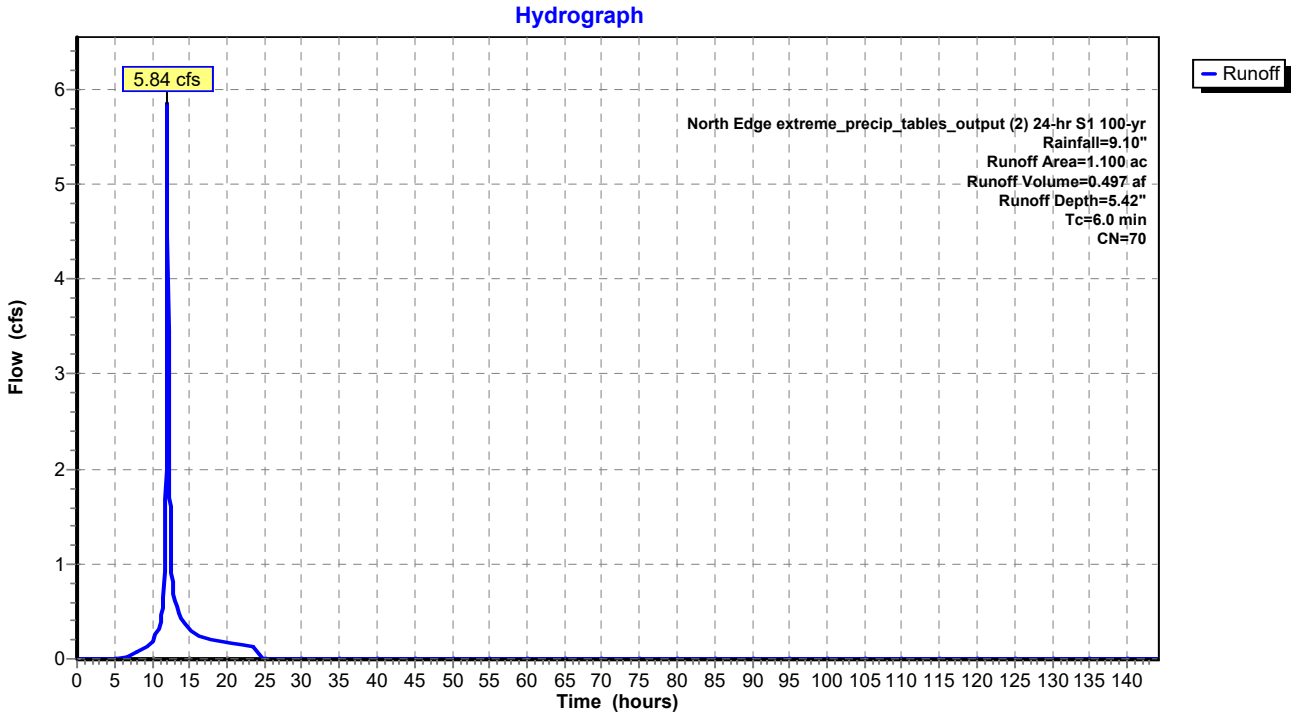
Runoff = 5.84 cfs @ 12.04 hrs, Volume= 0.497 af, Depth= 5.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

Area (ac)	CN	Description
0.904	70	Woods, Good, HSG C
0.196	71	Meadow, non-grazed, HSG C
1.100	70	Weighted Average
1.100		100.00% Pervious Area

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

Subcatchment 2.2S: 2.2S



Summary for Subcatchment 3.1S: 3.1S

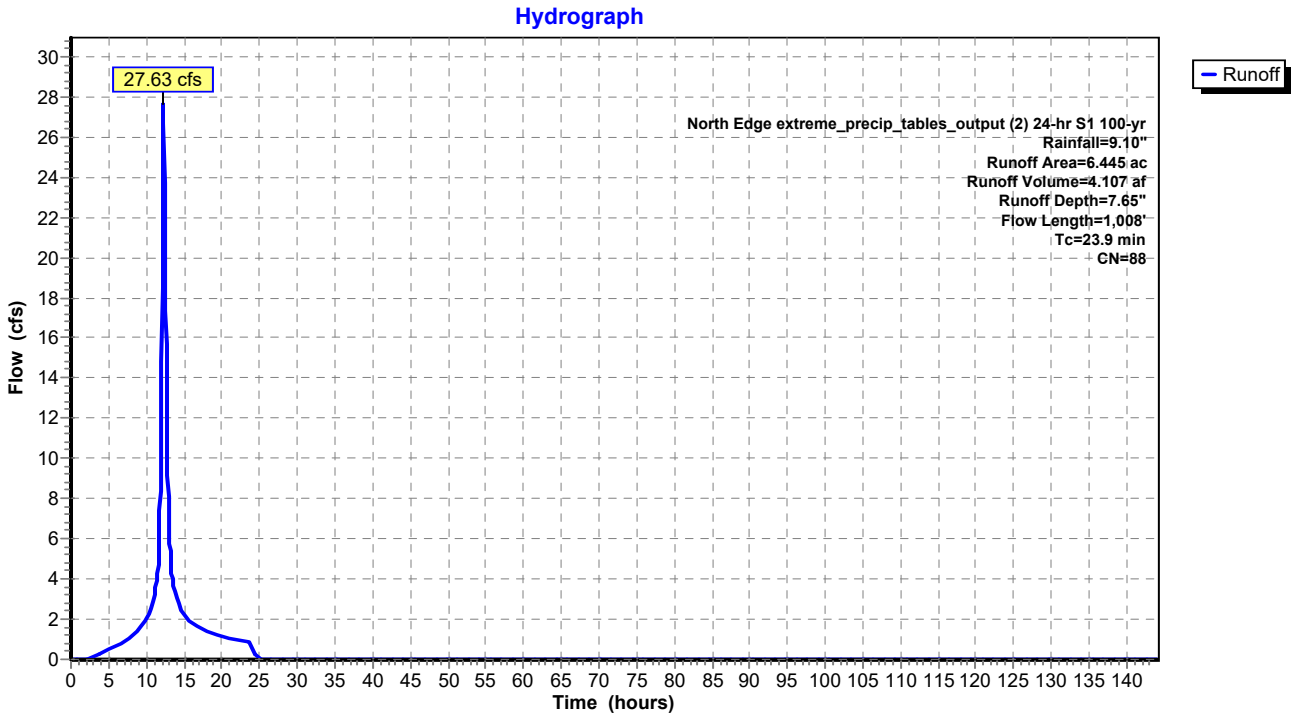
Runoff = 27.63 cfs @ 12.27 hrs, Volume= 4.107 af, Depth= 7.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	2.623	74	>75% Grass cover, Good, HSG C
*	1.940	98	Prop. Building
*	0.115	98	Prop. Patios & Decks
*	1.520	98	Prop. Road & Dwy
*	0.107	98	Prop. Walkways
*	0.140	98	Prop. Porches
	6.445	88	Weighted Average
	2.623		40.70% Pervious Area
	3.822		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.3	32	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	32	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.5	397	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	85	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	362	0.0500	11.77	14.44	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
23.9	1,008	Total			

Subcatchment 3.1S: 3.1S



Summary for Subcatchment 3.2S: 3.2S

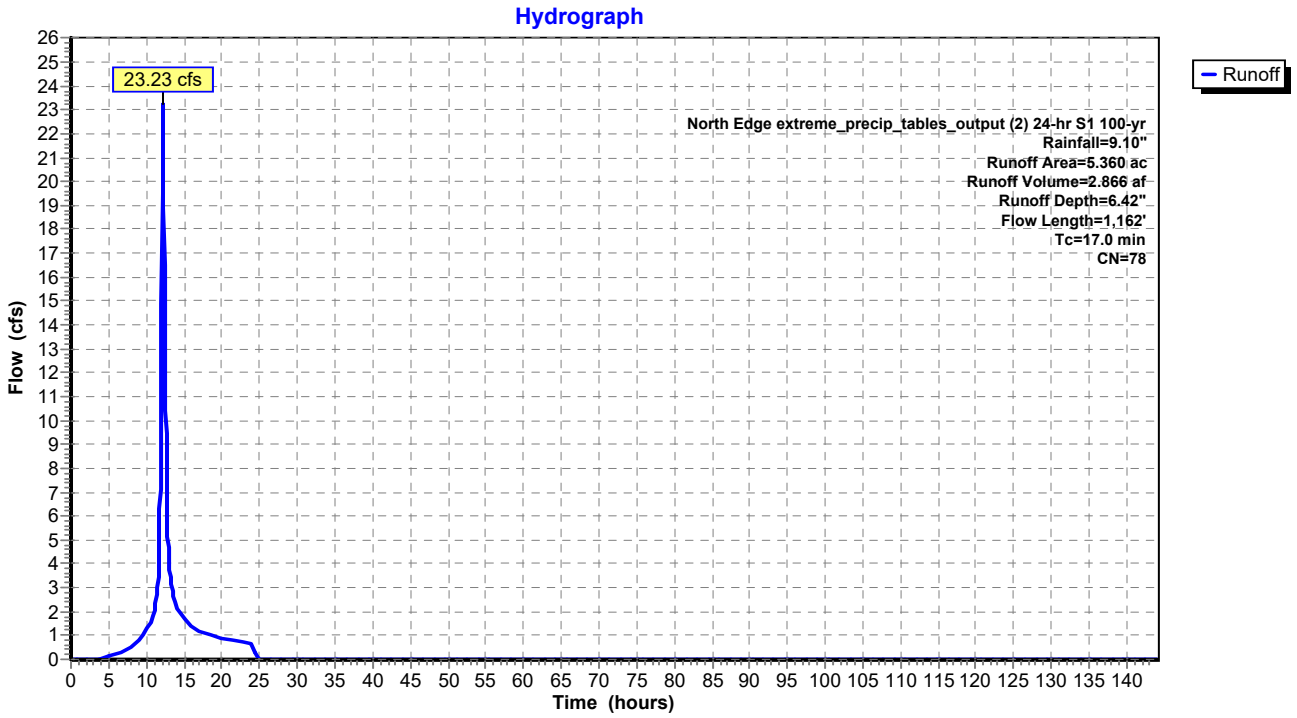
Runoff = 23.23 cfs @ 12.19 hrs, Volume= 2.866 af, Depth= 6.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 100-yr Rainfall=9.10"

	Area (ac)	CN	Description
	2.123	70	Woods, Good, HSG C
	0.166	71	Meadow, non-grazed, HSG C
*	1.137	98	Ex. Imp.
	0.169	96	Gravel surface, HSG C
	1.692	74	>75% Grass cover, Good, HSG C
*	0.073	91	Prop. Patios Pourous
	5.360	78	Weighted Average
	4.223		78.79% Pervious Area
	1.137		21.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0250	0.19		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.2	37	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	60	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	42	0.0570	1.19		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	22	0.3400	4.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.5	591	0.0350	2.81		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	175	0.1360	19.41	23.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
2.1	135	0.0450	1.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.0	1,162	Total			

Subcatchment 3.2S: 3.2S



Summary for Pond 3P: INFILTRATION BASIN #1

Inflow Area = 6.445 ac, 59.30% Impervious, Inflow Depth = 7.65" for 100-yr event
Inflow = 27.63 cfs @ 12.27 hrs, Volume= 4.107 af
Outflow = 12.73 cfs @ 12.71 hrs, Volume= 4.107 af, Atten= 54%, Lag= 26.3 min
Discarded = 4.46 cfs @ 12.71 hrs, Volume= 3.629 af
Primary = 8.27 cfs @ 12.71 hrs, Volume= 0.478 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 523.93' @ 12.71 hrs Surf.Area= 16,039 sf Storage= 51,120 cf

Plug-Flow detention time= 82.7 min calculated for 4.105 af (100% of inflow)
Center-of-Mass det. time= 82.6 min (886.3 - 803.6)

Volume	Invert	Avail.Storage	Storage Description
#1	519.25'	69,484 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
519.25	3,321	431.6	0	0	3,321
520.00	7,793	557.0	4,050	4,050	13,193
522.00	12,250	637.7	19,876	23,926	20,958
524.00	16,189	675.4	28,348	52,274	25,110
524.50	17,209	684.8	8,348	60,622	26,183
525.00	18,244	694.3	8,862	69,484	27,281

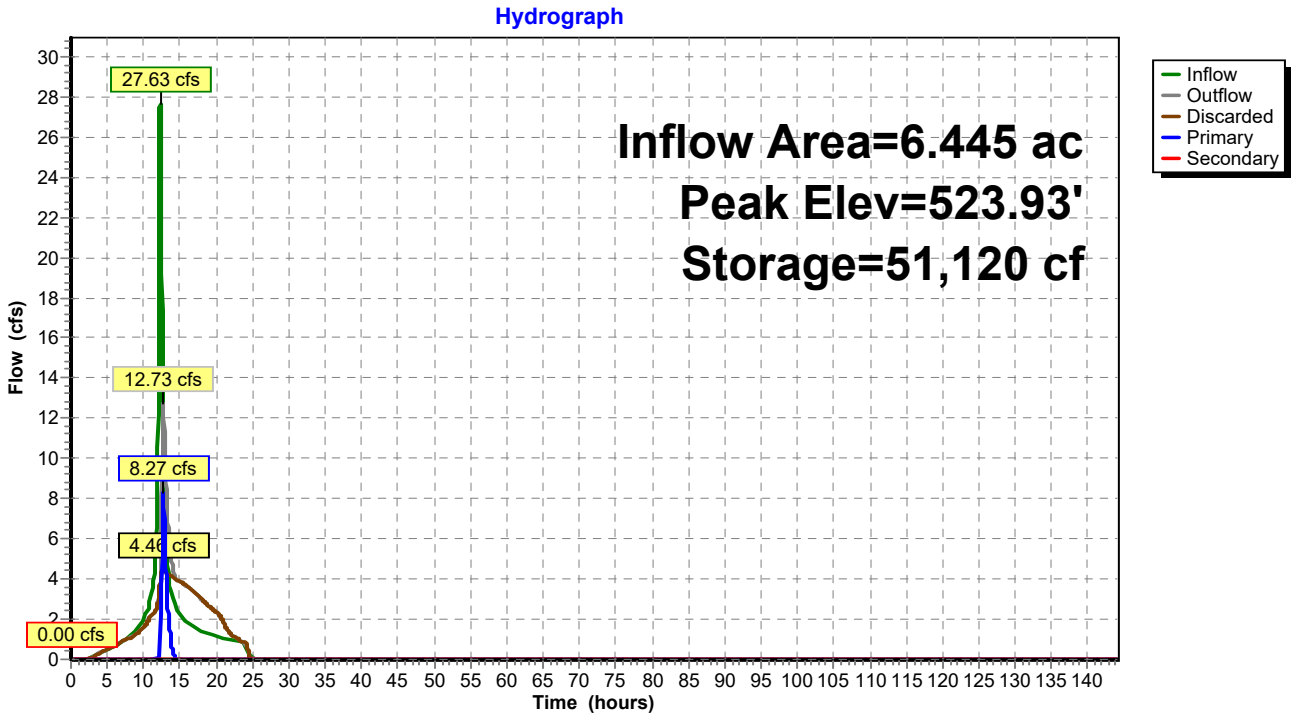
Device	Routing	Invert	Outlet Devices
#1	Primary	518.85'	**24.0" Round Culvert** L= 44.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 518.85' / 518.25' S= 0.0136 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	523.15'	**3.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	523.80'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Secondary	524.50'	**10.0' long x 10.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	519.25'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=4.45 cfs @ 12.71 hrs HW=523.93' (Free Discharge)
└**5=Exfiltration** (Exfiltration Controls 4.45 cfs)

Primary OutFlow Max=8.21 cfs @ 12.71 hrs HW=523.93' (Free Discharge)
└**1=Culvert** (Passes 8.21 cfs of 30.54 cfs potential flow)
  ├**2=Broad-Crested Rectangular Weir** (Weir Controls 6.73 cfs @ 2.89 fps)
  └**3=Orifice/Grate** (Weir Controls 1.48 cfs @ 1.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=519.25' (Free Discharge)
└**4=Emergency Spillway** (Controls 0.00 cfs)

Pond 3P: INFILTRATION BASIN #1



Stage-Area-Storage for Pond 3P: INFILTRATION BASIN #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
519.25	3,321	0
519.35	3,809	356
519.45	4,330	763
519.55	4,884	1,223
519.65	5,472	1,741
519.75	6,094	2,319
519.85	6,748	2,961
519.95	7,436	3,670
520.05	7,892	4,442
520.15	8,092	5,242
520.25	8,295	6,061
520.35	8,501	6,901
520.45	8,708	7,761
520.55	8,919	8,643
520.65	9,131	9,545
520.75	9,347	10,469
520.85	9,565	11,414
520.95	9,785	12,382
521.05	10,008	13,372
521.15	10,233	14,384
521.25	10,461	15,418
521.35	10,691	16,476
521.45	10,924	17,557
521.55	11,160	18,661
521.65	11,398	19,789
521.75	11,638	20,940
521.85	11,881	22,116
521.95	12,126	23,317
522.05	12,342	24,541
522.15	12,526	25,784
522.25	12,712	27,046
522.35	12,900	28,327
522.45	13,088	29,626
522.55	13,279	30,945
522.65	13,470	32,282
522.75	13,663	33,639
522.85	13,857	35,015
522.95	14,053	36,410
523.05	14,250	37,825
523.15	14,448	39,260
523.25	14,648	40,715
523.35	14,849	42,190
523.45	15,051	43,685
523.55	15,255	45,200
523.65	15,460	46,736
523.75	15,667	48,292
523.85	15,875	49,869
523.95	16,084	51,467
524.05	16,290	53,086
524.15	16,492	54,725
524.25	16,695	56,384
524.35	16,900	58,064
524.45	17,106	59,764
524.55	17,311	61,485
524.65	17,516	63,226
524.75	17,723	64,988
524.85	17,930	66,771
524.95	**18,139**	**68,574**

Summary for Pond P-2: INFILTRATION BASIN #2

Inflow Area = 9.274 ac, 40.80% Impervious, Inflow Depth = 7.16" for 100-yr event
Inflow = 40.15 cfs @ 12.24 hrs, Volume= 5.530 af
Outflow = 25.99 cfs @ 12.48 hrs, Volume= 5.530 af, Atten= 35%, Lag= 14.3 min
Discarded = 4.84 cfs @ 12.48 hrs, Volume= 4.432 af
Primary = 21.14 cfs @ 12.48 hrs, Volume= 1.098 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 532.55' @ 12.48 hrs Surf.Area= 17,426 sf Storage= 57,716 cf

Plug-Flow detention time= 79.0 min calculated for 5.528 af (100% of inflow)
Center-of-Mass det. time= 79.0 min (893.7 - 814.8)

Volume	Invert	Avail.Storage	Storage Description
#1	528.00'	95,899 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
528.00	8,058	504.9	0	0	8,058
530.00	12,188	662.8	20,104	20,104	22,777
532.00	16,292	702.2	28,381	48,485	27,269
534.00	20,619	740.0	36,826	85,311	31,841
534.50	21,736	749.0	10,588	95,899	32,970

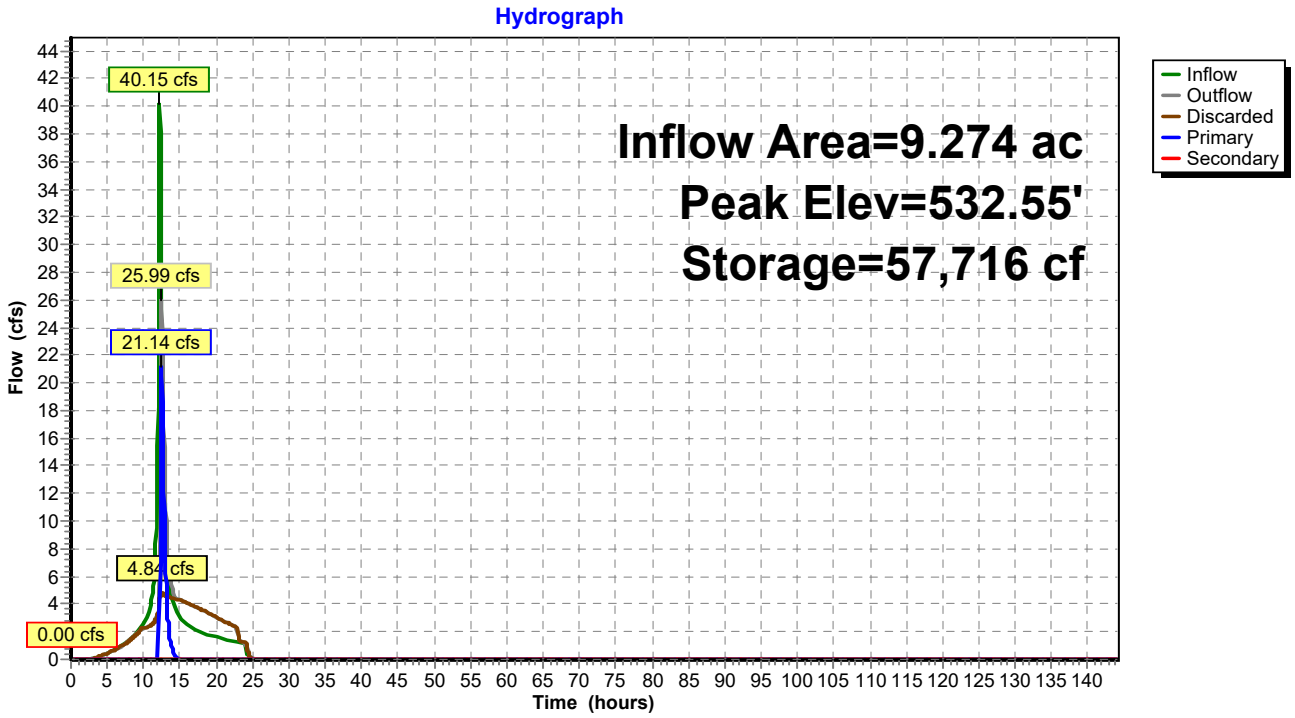
Device	Routing	Invert	Outlet Devices
#1	Primary	528.00'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 528.00' / 522.00' S= 0.1200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	531.75'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	531.75'	**2.0' long x 0.5' breadth Broad-Crested Rectangular Weir X 2.00** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	534.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	533.50'	**10.0' long x 16.0' breadth Emergency Spillway** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63
#6	Discarded	528.00'	**12.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=4.84 cfs @ 12.48 hrs HW=532.54' (Free Discharge)
└**6=Exfiltration** (Exfiltration Controls 4.84 cfs)

Primary OutFlow Max=21.01 cfs @ 12.48 hrs HW=532.54' (Free Discharge)
└**1=Culvert** (Passes 21.01 cfs of 28.48 cfs potential flow)
  ├**2=Broad-Crested Rectangular Weir** (Weir Controls 11.67 cfs @ 2.94 fps)
  ├**3=Broad-Crested Rectangular Weir** (Weir Controls 9.34 cfs @ 2.94 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=528.00' (Free Discharge)
└**5=Emergency Spillway** (Controls 0.00 cfs)

Pond P-2: INFILTRATION BASIN #2



Stage-Area-Storage for Pond P-2: INFILTRATION BASIN #2

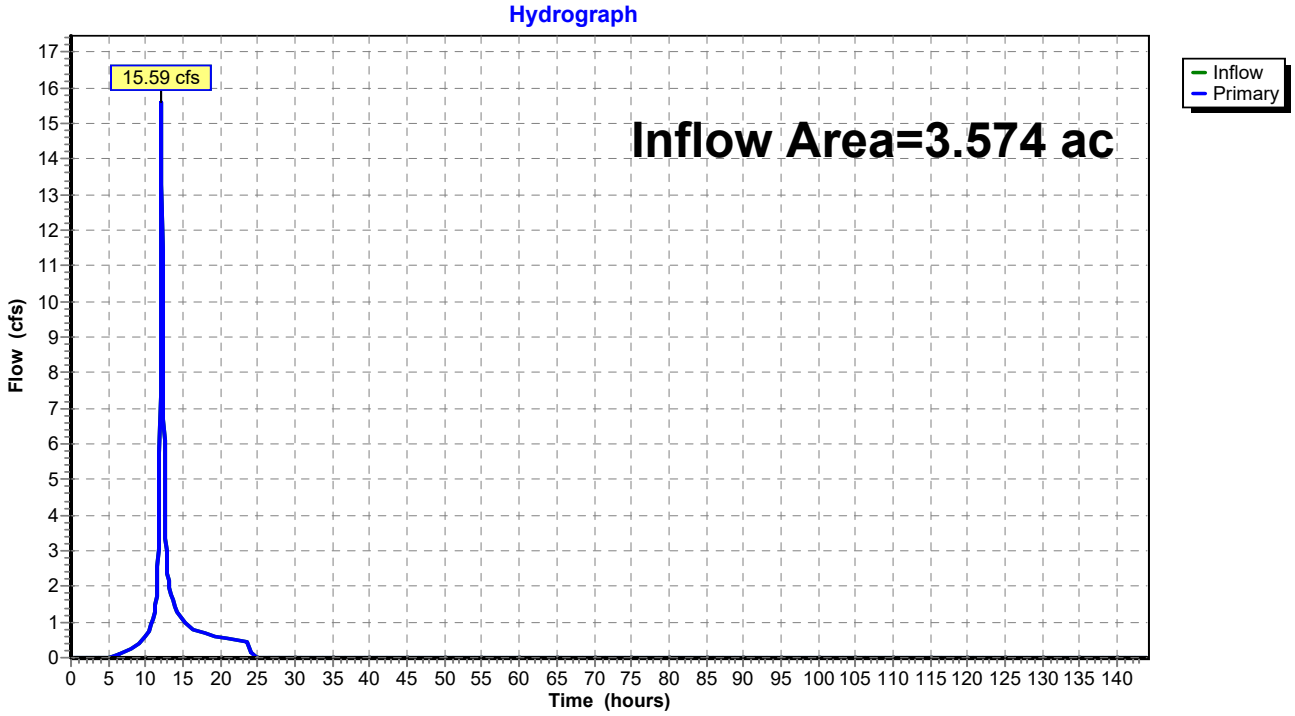
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
528.00	8,058	0
528.10	8,244	815
528.20	8,433	1,649
528.30	8,623	2,502
528.40	8,816	3,374
528.50	9,011	4,265
528.60	9,208	5,176
528.70	9,407	6,107
528.80	9,608	7,057
528.90	9,811	8,028
529.00	10,017	9,020
529.10	10,224	10,032
529.20	10,434	11,064
529.30	10,646	12,118
529.40	10,860	13,194
529.50	11,076	14,290
529.60	11,294	15,409
529.70	11,514	16,549
529.80	11,737	17,712
529.90	11,961	18,897
530.00	12,188	20,104
530.10	12,379	21,332
530.20	12,572	22,580
530.30	12,766	23,847
530.40	12,961	25,133
530.50	13,158	26,439
530.60	13,357	27,765
530.70	13,557	29,111
530.80	13,758	30,476
530.90	13,961	31,862
531.00	14,166	33,269
531.10	14,372	34,695
531.20	14,579	36,143
531.30	14,788	37,611
531.40	14,998	39,101
531.50	15,210	40,611
531.60	15,424	42,143
531.70	15,639	43,696
531.80	15,855	45,270
531.90	16,073	46,867
532.00	16,292	48,485
532.10	16,496	50,124
532.20	16,702	51,784
532.30	16,909	53,465
532.40	17,117	55,166
532.50	17,326	56,888
532.60	17,537	58,631
532.70	17,749	60,396
532.80	17,962	62,181
532.90	18,176	63,988
533.00	18,392	65,816
533.10	18,609	67,666
533.20	18,827	69,538
533.30	19,047	71,432
533.40	19,267	73,348
533.50	19,490	75,285
533.60	19,713	77,245
533.70	19,938	79,228
533.80	20,163	81,233
533.90	20,391	83,261
534.00	20,619	85,311
534.10	20,840	87,384
534.20	21,062	89,479
534.30	21,286	91,597
534.40	21,510	93,736
534.50	**21,736**	**95,899**

Summary for Link DL-1: DESIGN LINE 1

Inflow Area = 3.574 ac, 0.00% Impervious, Inflow Depth = 5.60" for 100-yr event
Inflow = 15.59 cfs @ 12.07 hrs, Volume= 1.668 af
Primary = 15.59 cfs @ 12.07 hrs, Volume= 1.668 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-1: DESIGN LINE 1

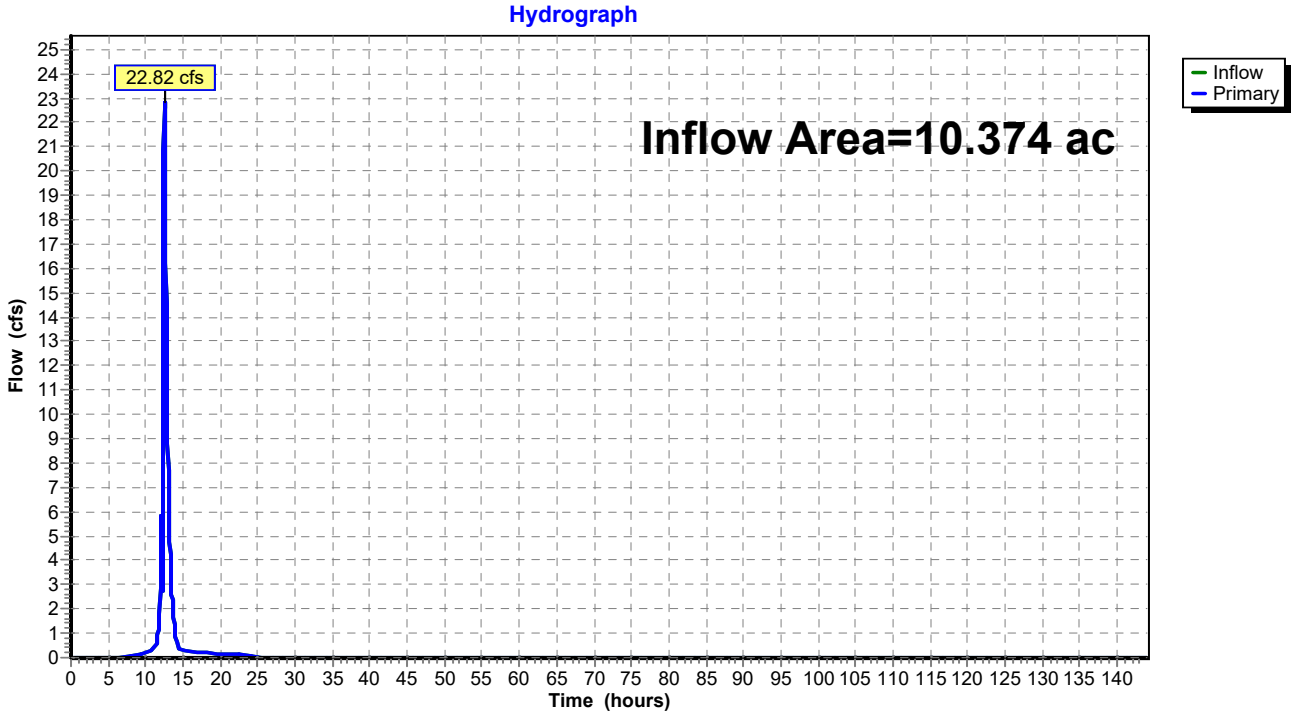


Summary for Link DL-2: DESIGN LINE 2

Inflow Area = 10.374 ac, 36.48% Impervious, Inflow Depth = 1.85" for 100-yr event
Inflow = 22.82 cfs @ 12.47 hrs, Volume= 1.595 af
Primary = 22.82 cfs @ 12.47 hrs, Volume= 1.595 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-2: DESIGN LINE 2

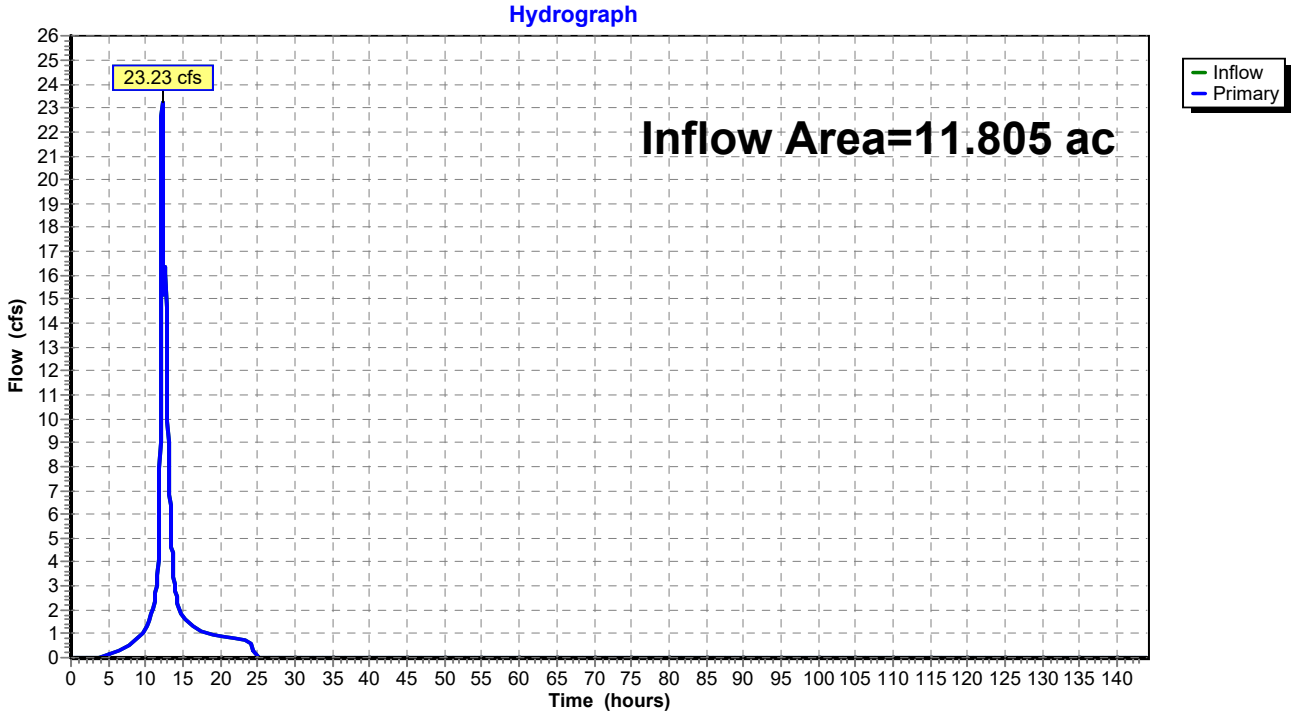


Summary for Link DL-3: DESIGN LINE 3

Inflow Area = 11.805 ac, 42.01% Impervious, Inflow Depth = 3.40" for 100-yr event
Inflow = 23.23 cfs @ 12.19 hrs, Volume= 3.344 af
Primary = 23.23 cfs @ 12.19 hrs, Volume= 3.344 af, Atten= 0%, Lag= 0.0 min

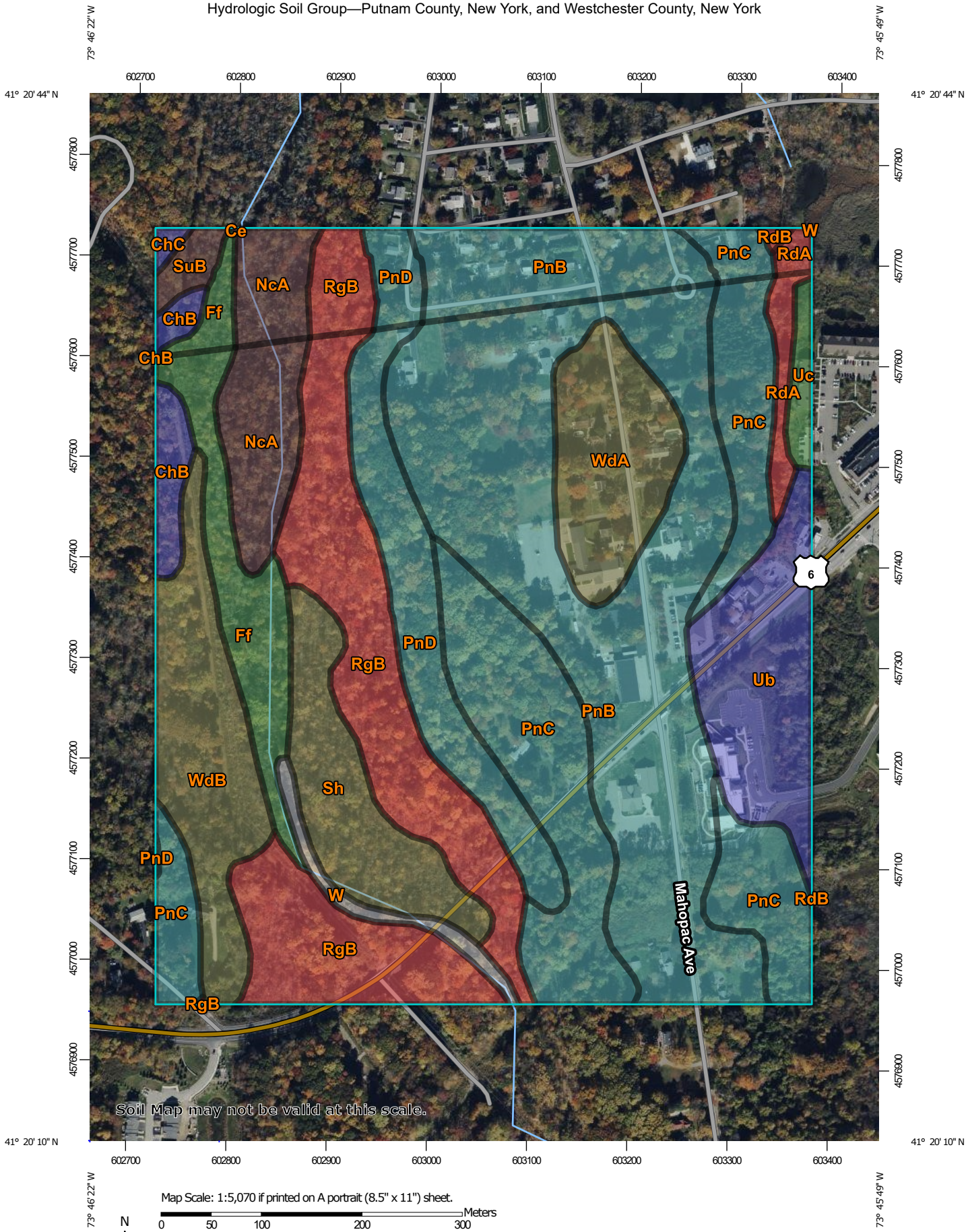
Primary outflow = Inflow, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs

Link DL-3: DESIGN LINE 3



Appendix D:

NRCS Soil Mapping


73° 46' 22" W
73° 45' 49" W
602700
602800
602900
603000
603100
603200
603300
603400
41° 20' 44" N
41° 20' 10" N
4577800
4577700
4577600
4577500
4577400
4577300
4577200
4577100
4577000
4576900
Ce
ChC
SuB
NcA
RgB
PnD
PnB
RdB
W
PnC
RdA
ChB
Ff
Uc
WdA
6
Ub
WdB
Sh
W
Mahopac Ave
Soil Map may not be valid at this scale.
Map Scale: 1:5,070 if printed on A portrait (8.5" x 11") sheet.
Meters
0 50 100 200 300
Feet
0 200 400 800 1200
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
Survey Area Data: Version 19, Sep 10, 2022

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 18, Sep 10, 2022

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

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

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

MAP LEGEND

MAP INFORMATION

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ce	Catden muck, 0 to 2 percent slopes	B/D	0.0	0.0%
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	0.5	0.4%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	B	0.2	0.2%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	0.9	0.7%
NcA	Natchaug muck, 0 to 2 percent slopes	B/D	2.2	1.7%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	C	5.3	4.2%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	C	0.9	0.7%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	C	1.2	0.9%
RdA	Ridgebury complex, 0 to 3 percent slopes	D	0.4	0.3%
RdB	Ridgebury complex, 3 to 8 percent slopes	D	0.1	0.1%
RgB	Ridgebury complex, 0 to 8 percent slopes, very stony	D	1.6	1.3%
SuB	Sutton loam, 3 to 8 percent slopes	B/D	0.8	0.7%
W	Water		0.0	0.0%
Subtotals for Soil Survey Area			**14.0**	**11.1%**
Totals for Area of Interest			**125.4**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	B	1.4	1.1%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	5.0	4.0%
NcA	Natchaug muck, 0 to 2 percent slopes	B/D	3.7	2.9%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	C	28.0	22.3%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	C	18.4	14.6%
PnD	Paxton fine sandy loam, 15 to 25 percent slopes	C	6.8	5.4%
RdA	Ridgebury complex, 0 to 3 percent slopes	D	1.2	0.9%
RdB	Ridgebury complex, 3 to 8 percent slopes	D	0.0	0.0%
RgB	Ridgebury complex, 0 to 8 percent slopes, very stony	D	16.5	13.2%
Sh	Sun loam	C/D	6.2	5.0%
Ub	Udorthents, smoothed	B	7.6	6.1%
Uc	Udorthents, wet substratum	A/D	1.0	0.8%
W	Water		1.2	0.9%
WdA	Woodbridge loam, 0 to 3 percent slopes	C/D	6.4	5.1%
WdB	Woodbridge loam, 3 to 8 percent slopes	C/D	8.1	6.4%
Subtotals for Soil Survey Area			**111.4**	**88.8%**
Totals for Area of Interest			**125.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix E:

New York State Stormwater Management Design Manual Maintenance and Inspection Checklist.

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

Appendix F:

New York Standards and Specifications for Erosion and Sediment Control Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

Appendix G:

Northeast Regional Climate Center Precipitation Estimates

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	No
State	
Location	
Latitude	41.345 degrees North
Longitude	73.757 degrees West
Elevation	180 feet
Date/Time	Wed Oct 16 2024 14:09:12 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.52	0.64	0.86	1.06	1.26	1yr	0.91	1.24	1.43	1.83	2.31	2.76	3.12	1yr	2.44	3.00	3.48	4.15	4.79	1yr
2yr	0.40	0.61	0.75	1.02	1.26	1.49	2yr	1.08	1.46	1.71	2.18	2.74	3.34	3.75	2yr	2.96	3.61	4.15	4.89	5.55	2yr
5yr	0.46	0.71	0.88	1.21	1.54	1.83	5yr	1.33	1.79	2.09	2.69	3.39	4.21	4.76	5yr	3.73	4.58	5.29	6.11	6.88	5yr
10yr	0.52	0.80	0.99	1.39	1.79	2.14	10yr	1.54	2.09	2.44	3.17	3.98	5.03	5.70	10yr	4.45	5.48	6.37	7.25	8.10	10yr
25yr	0.62	0.94	1.17	1.67	2.20	2.63	25yr	1.90	2.57	2.99	3.93	4.93	6.35	7.25	25yr	5.62	6.97	8.14	9.07	10.06	25yr
50yr	0.70	1.07	1.33	1.91	2.57	3.07	50yr	2.22	3.01	3.49	4.63	5.80	7.58	8.70	50yr	6.71	8.37	9.80	10.76	11.85	50yr
100yr	0.81	1.22	1.52	2.20	3.02	3.60	100yr	2.60	3.52	4.08	5.45	6.83	9.06	10.45	100yr	8.02	10.04	11.81	12.77	13.96	100yr
200yr	0.92	1.39	1.75	2.54	3.54	4.21	200yr	3.06	4.12	4.77	6.43	8.05	10.84	12.55	200yr	9.59	12.07	14.24	15.16	16.46	200yr
500yr	1.11	1.65	2.13	3.09	4.40	5.19	500yr	3.79	5.07	5.87	8.00	10.00	13.75	16.01	500yr	12.17	15.39	18.24	19.01	20.48	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.25	0.39	0.47	0.64	0.78	1.08	1yr	0.68	1.05	1.32	1.67	2.09	2.50	2.81	1yr	2.22	2.70	3.24	3.85	4.40	1yr
2yr	0.38	0.59	0.73	0.99	1.22	1.45	2yr	1.05	1.42	1.66	2.10	2.65	3.24	3.64	2yr	2.87	3.50	4.02	4.73	5.41	2yr
5yr	0.43	0.66	0.82	1.13	1.44	1.70	5yr	1.24	1.67	1.94	2.46	3.08	3.97	4.40	5yr	3.51	4.23	4.85	5.64	6.34	5yr
10yr	0.47	0.73	0.90	1.26	1.62	1.90	10yr	1.40	1.86	2.18	2.75	3.46	4.42	5.08	10yr	3.91	4.88	5.56	6.42	7.07	10yr
25yr	0.53	0.81	1.01	1.44	1.90	2.21	25yr	1.64	2.16	2.51	3.19	4.03	5.28	6.14	25yr	4.67	5.91	7.05	7.64	8.18	25yr
50yr	0.59	0.89	1.11	1.60	2.15	2.47	50yr	1.86	2.42	2.82	3.58	4.53	6.06	7.09	50yr	5.36	6.82	8.18	8.72	9.10	50yr
100yr	0.65	0.98	1.23	1.78	2.44	2.78	100yr	2.11	2.72	3.17	4.02	5.11	6.97	8.21	100yr	6.17	7.90	9.53	9.94	10.12	100yr
200yr	0.72	1.09	1.38	2.00	2.78	3.13	200yr	2.40	3.06	3.58	4.51	5.75	8.03	9.53	200yr	7.11	9.16	11.12	11.33	11.27	200yr
500yr	0.84	1.25	1.61	2.33	3.32	3.67	500yr	2.86	3.59	4.22	5.28	6.76	9.73	11.61	500yr	8.62	11.17	13.63	13.48	12.95	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.38	0.58	0.71	0.96	1.18	1.43	1yr	1.02	1.39	1.61	2.05	2.51	2.96	3.33	1yr	2.62	3.20	3.73	4.53	5.20	1yr
2yr	0.41	0.64	0.78	1.06	1.31	1.56	2yr	1.13	1.53	1.79	2.27	2.85	3.47	3.90	2yr	3.07	3.75	4.31	5.07	5.83	2yr
5yr	0.49	0.76	0.94	1.29	1.64	1.96	5yr	1.42	1.92	2.25	2.94	3.71	4.46	5.17	5yr	3.95	4.97	5.74	6.61	7.42	5yr
10yr	0.57	0.88	1.09	1.53	1.97	2.35	10yr	1.70	2.29	2.70	3.59	4.56	5.66	6.43	10yr	5.01	6.18	7.17	8.10	9.00	10yr
25yr	0.71	1.08	1.34	1.92	2.52	2.98	25yr	2.17	2.92	3.45	4.71	5.98	7.46	8.57	25yr	6.61	8.24	9.12	10.61	11.65	25yr
50yr	0.83	1.26	1.57	2.26	3.04	3.59	50yr	2.62	3.51	4.16	5.79	7.35	9.22	10.65	50yr	8.16	10.24	11.25	13.02	14.15	50yr
100yr	0.98	1.48	1.86	2.68	3.68	4.32	100yr	3.18	4.22	5.01	7.13	9.02	11.38	13.24	100yr	10.07	12.74	13.89	15.98	17.19	100yr
200yr	1.16	1.74	2.20	3.19	4.45	5.18	200yr	3.84	5.06	6.03	8.73	11.07	14.05	16.47	200yr	12.43	15.84	17.16	19.60	20.90	200yr
500yr	1.45	2.16	2.78	4.04	5.75	6.60	500yr	4.96	6.45	7.71	11.50	14.52	18.56	21.98	500yr	16.42	21.14	22.70	25.74	27.11	500yr

Appendix H:

Soil Testing Data

BIBBO ASSOCIATES
ENGINEERING, P.C.

Project: North Edge Realty
Feature: Deep Test Results

Sheet: 1 of 2
Recorded By: Ray Hamill & Matt Gironda, P.E.
Date: September 4, 2024

Hole ID:	TP S-1	
Elevation	Depth:	Description:
GS: 529.0 ±		
528.2 ±	0 - 10"	Topsoil
524 ±	10" - 60"	Light Brown Fine Medium Sandy Loam
	No Rock	
	No Water at Full Depth	

Hole ID:	TP S-2	
Elevation	Depth:	Description:
GS: 528.0 ±		
527.5 ±	0 - 6"	Topsoil
523 ±	6" - 60"	Light Brown Fine Medium Sandy Loam
	No Rock	
	Water at 60"	

Hole ID:	TP S-3	
Elevation	Depth:	Description:
GS: 527.5 ±		
526 ±	0 - 6"	Topsoil
522.5 ±	6" - 60"	Light Brown Fine Medium Sandy Loam
	No Rock	
	Water at 60"	

Hole ID:	TP S-4	
Elevation	Depth:	Description:
GS: 521.0 ±		
520.2 ±	0 - 10"	Topsoil
516 ±	10" - 60"	Light Brown Medium Sandy Loam (Stopped @ 60")
	No Rock	
	No Water at Full Depth	

Hole ID:	TP S-5	
Elevation	Depth:	Description:
GS: 521.0 ±		
520.2 ±	0 - 10"	Topsoil
516 ±	10" - 60"	Light Brown Medium Sandy Loam (Stopped @ 60")
	No Rock	
	No Water at Full Depth	

Hole ID:	TP S-6	
Elevation	Depth:	Description:
GS: 519.5 ±		
518.7 ±	0 - 10"	Topsoil
514.5 ±	10" - 60"	Light Brown Medium Sandy Loam (Stopped @ 60")
	No Rock	
	Water at 60"	

Hole ID:	TP S-7	
Elevation	Depth:	Description:
GS: 520.5 ±		
519.7 ±	0 - 10"	Topsoil
515.5 ±	10" - 60"	Light Brown Fine Sandy Loam
514 ±	60"-78"	Brown Moderately Compact Silty Loam
	No Rock	
	Water at 72"	

Machine Operator: Gus Boniello
Other: Jared Boniello, Jesse Boniello & Alex Witkowsky (Bibbo)
Whitnessed by: Melissa Ng (NYCDEP), per Tim Allen, Town Engineer waived witnessing testing since NYCDEP is onsite.

BIBBO ASSOCIATES
ENGINEERING, P.C.

Project: North Edge Realty
Feature: Percolation Test Results

Sheet: 2 of 2
Recorded By: Bibbo (see Below)
Date: September 4, 2024

Hole ID:	Run #	Time Start (Min.)	Time Stop (Min.)	Depth to Water From Ground Surface					Time (Min.)	Drop (In.)	Rate (In. / Hr.)
				From (In.)	To (In.)		From (Elev.)	To (Elev.)			
PT SW-1	1	8:45 AM	8:49 AM	24	48	GS Elev: 529.0 ±	527.0	525.0	4	24	360
	2	8:50 AM	8:54 AM	24	48		527.0	525.0	4	24	360
	3	8:54 AM	8:58 AM	24	48		527.0	525.0	4	24	360
	4	9:17 AM	9:20 AM	24	48		527.0	525.0	3	24	480
	5	9:21 AM	9:25 AM	24	48		527.0	525.0	4	24	360
PT SW-2	1	8:43 AM	8:48 AM	24	48	GS Elev: 528.0 ±	526.0	524.0	5	24	288
	2	8:49 AM	8:55 AM	24	48		526.0	524.0	6	24	240
	3	9:27 AM	9:34 AM	24	48		526.0	524.0	7	24	206
	4	9:38 AM	9:49 AM	24	48		526.0	524.0	9	24	160
PT SW-3	1	8:39 AM	9:27 AM	24	48	GS Elev: 527.5 ±	525.5	523.5	48	24	30
	2	9:29 AM	10:29 AM	24	47		525.5	523.5	60	23	23
	3	10:29 AM	11:29 AM	24	47		525.5	523.5	60	23	23
	4	11:30 AM	12:30 PM	24	47		525.5	523.5	60	23	23
PT SW-4	1	11:38 AM	11:53 AM	24	48	GS Elev: 521.5 ±	519.5	517.5	15	24	96
	2	11:54 AM	12:12 PM	24	48		519.5	517.5	18	24	80
	3	12:12 PM	12:35 PM	24	48		519.5	517.5	23	24	63
	4	12:36 PM	1:00 PM	24	48		519.5	517.5	24	24	60
PT SW-5	1	10:42 AM	11:42 AM	24	48	GS Elev: 521.0 ±	519.0	517.0	60	24	24
	2	11:42 AM	12:42 PM	24	47		519.0	517.0	60	23	23
	3	12:42 PM	1:42 PM	24	47		519.0	517.0	60	23	23
	4	1:42 PM	2:42 PM	24	47		519.0	517.0	60	23	23
PT SW-6	1	10:38 AM	10:46 AM	24	48	GS Elev: 519.5 ±	517.5	515.5	8	24	180
	2	10:47 AM	10:59 AM	24	48		517.5	515.5	12	24	120
	3	10:59 AM	11:11 AM	24	48		517.5	515.5	12	24	120
	4	11:11 AM	11:27 AM	24	48		517.5	515.5	16	24	90

Tests Run by: Ray Hamill, Matt Gironda, P.E., and Alex Witkowsky (Bibbo)
Whitnessed by: Melissa Ng (NYCDEP), per Tim Allen, Town Engineer waived witnessing testing since NYCDEP is onsite.
Other: Gus Boniello, Jared Boniello, & Jesse Boniello

BIBBO ASSOCIATES
ENGINEERING, P.C.

Project: North Edge Realty
Feature: Deep Test Results

Sheet: 1 of 2
Recorded By: Matt Gironda, P.E.
Date: August 28, 2025

Hole ID:	TP D-1	
Elevation	Depth:	Description:
GS: 589.0 ±		
588.2 ±	0 - 10"	Topsoil
585 ±	10" - 48"	Light Brown Fine Medium Sands w/ Silt
573 ±	48" - 192"	Light Brown Moderately Compact Fine Sandy Loam
	No Rock	
	No Mottling	
	No Water at Full Depth	
	Total Depth: 16' ±	

Hole ID:	TP D-2	
Elevation	Depth:	Description:
GS: 569.0 ±		
568 ±	0 - 12"	Topsoil
561 ±	12" - 96"	Light Brown Fine Sandy Loam
551 ±	96" - 216"	Grayish Brown Moderately Compact Fine / Medium Sands w/ Gravel, Trace Silt
	No Rock	
	No Mottling	
	No Water at Full Depth	
	Total Depth: 18' ±	

Hole ID:	TP D-3	
Elevation	Depth:	Description:
GS: 570.0 ±		
569 ±	0 - 12"	Topsoil
560 ±	12" -120"	Light Brown Moderately Compact Silty Loam
554.5 ±	120" - 186"	Dark Brown Moderately Compact Fine / Medium Sands w/ Gravel, Trace Silt
	No Rock	
	Mottling @ 144" ±	
	Water seep @ 144" ±	
	Total Depth: 15'-6" ±	

Machine Operator: Gus Boniello

BIBBO ASSOCIATES
ENGINEERING, P.C.

Project: North Edge Realty
Feature: Deep Test Results

Sheet: 2 of 2
Recorded By: Matt Gironda, P.E.
Date: August 28, 2025

Hole ID:	TP D-4	
Elevation	Depth:	Description:
GS: 553.0 ±		
552 ±	0 - 12"	Topsoil
543 ±	12" -120"	Light Brown Moderately Compact Silty Loam
536 ±	120" - 204"	Dark Brown Moderately Compact Fine / Medium Sands w/ Gravel, Trace Silt
	No Rock	
	Mottling @ 144" ±	
	Water seep @ 144" ±	
	Total Depth: 17' ±	

Hole ID:	TP D-5	
Elevation	Depth:	Description:
GS: 562.0 ±		
561 ±	0 - 12"	Topsoil
551 ±	12" - 120"	Light Brown Fine Sandy Loam
545 ±	96" - 204"	Grayish Brown Compact Silty Loam
	No Rock	
	Mottling @ 144" ±	
	Water seep @ 144" ±	
	Total Depth: 17' ±	

Hole ID:	TP D-6	
Elevation	Depth:	Description:
GS: 555.0 ±		
554 ±	0 - 12"	Topsoil
544 ±	12" -132"	Light Brown Fine Sandy Loam
536 ±	132" - 228"	Dark brown Fine/ Medium Sands w/ cobles, Trace Silt
	No Rock	
	No Mottling	
	No Water at Full Depth	
	Total Depth: 19' ±	

Machine Operator: Gus Boniello

Appendix I:

Construction Sequence

BIBBO ASSOCIATES
ENGINEERING, P.C.

Timothy S. Allen, P.E.
Nicholas Gaboury, P.E.
Matthew J. Gironda, P.E.

Rev. September 30, 2025

North Edge Realty Corporation

Route 6
Tax Map: Sec. 4.19, Block 2, Lots 2,3 & 4
Town of Somers, Westchester County, New York

CONSTRUCTION SITE MANAGEMENT

THROUGHOUT THE PROJECT CONSTRUCTION, THE RESPONSIBILITY FOR INSTALLATION, MAINTENANCE AND REPAIR OF EROSION CONTROLS AND STORMWATER MANAGEMENT PRACTICES (SMP'S) WILL REST WITH THE SITE CONTRACTOR / OWNERS. OVERSIGHT OF THE PREPAREDNESS OF EROSION CONTROLS AND SMP'S WILL BE CONDUCTED BY THE OWNER'S QUALIFIED PROFESSIONAL THROUGH REGULAR INSPECTIONS IN ACCORDANCE WITH N.Y.S.D.E.C SPDES GENERAL PERMIT REQUIREMENTS. ON A DAILY BASIS, THE PROJECT SUPERINTENDENT SHALL CHECK FOR DAMAGED SILT FENCE, THE NEED TO CLEAN SEDIMENT TRACKED ONTO ROUTE 6 AND MAHOPAC AVENUE OR PAVED ROADS WITHIN THE PROJECT SITE, AND FOR TURBIDITY IN THE OUTFLOW FROM TEMPORARY EROSION CONTROL PRACTICES. STREET SWEEPING SHALL BE CONDUCTED AS REQUIRED. A WATER TRUCK SHALL BE MAINTAINED ON-SITE FOR DUST CONTROL.

CONSTRUCTION DEBRIS, SUCH AS SHEET METAL, WOOD SCRAP, PAPER AND INSULATION PRODUCTS, STYROFOAM CUPS AND PAPER WRAPPERS CAN BECOME WINDBLOWN LITTER OVER AND OFF THE SITE IF NEGLECTED. SUITABLE AND AMPLE REFUSE CONTAINERS SHALL BE PROVIDED ON THE SITE AND EMPTIED WHEN FULL. ANY SCATTERED DEBRIS SHALL BE PICKED UP AND PLACED IN CONTAINERS ON A CONTINUOUS BASIS. HEAVY EQUIPMENT WILL BE REFUELED BY DAILY DELIVERIES TO THE SITE. GASOLINE AND OIL FOR SMALL ENGINE EQUIPMENT SHALL BE STORED IN CONSTRUCTION EQUIPMENT STORAGE SHEDS OR BROUGHT TO THE SITE AS NEEDED. REFUELING WILL TAKE PLACE AT LEAST 100 FEET FROM THE DRAINAGE SYSTEM COMPONENTS TO PRECLUDE ANY POSSIBLE ESCAPE OF SPILLED FUEL FROM ENTERING THE DRAINAGE SYSTEMS. IN THE EVENT OF ANY MAJOR SPILL, ITS CAPTURE AND THE REMOVAL OF CONTAMINATED SOIL WILL BE CONDUCTED UNDER N.Y.S.D.E.C REGULATIONS FOR SPILL REMEDIATION.

AS WORK PROGRESSES IN A GIVEN PHASE, THE SUPERINTENDENT MUST ENSURE THAT THE NEW WORK AREA IS FIRST PROTECTED WITH PERIMETER EROSION CONTROLS. AS IMPORTANT AS THE NEED TO IDENTIFY AREAS REQUIRING PROTECTION IS THE NEED TO DETERMINE DISTURBED AREAS THAT CAN BE STABILIZED WITH TEMPORARY VEGETATION. SITE MANAGEMENT RESPONSIBILITIES WILL INCLUDE IDENTIFICATION OF SECTIONS IN A WORK PHASE WHERE ACTIVE SITE WORK WILL NOT OCCUR OVER THE NEXT 7 DAYS. IF DISTURBED EARTH IS PRESENT, THE SUPERINTENDENT WILL

DIRECT THE SPREADING OF RYE GRASS SEED FOR A TEMPORARY PROTECTIVE COVER.

CONSTRUCTION SEQUENCING:

THE ANTICIPATED CONSTRUCTION SEQUENCE FOR THE PROPOSED PROJECT AND ITS ASSOCIATED EROSION CONTROL MEASURES ARE SHOWN ON THE PHASING PLANS AND ARE AS FOLLOWS. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING MUST BE HELD WITH THE TOWN OF SOMERS AND NYCDEP AT LEAST 48 HOURS BEFORE THE START OF CONSTRUCTION.

THE FOLLOWING CONSTRUCTION SEQUENCE IS SHOWN ON THE PROJECT PLANS. IN THE EVENT THE CONTRACTOR WISHES TO REVISE THE SEQUENCE, THE PROJECT ENGINEER SHOULD BE CONTACTED PRIOR TO CONTINUING WORK. CHANGES TO THIS SEQUENCE SHALL ALSO BE SUBJECT TO REVIEW BY NYCDEP AND THE TOWN OF SOMERS.

TABLE 1 BELOW ILLUSTRATES THE ANTICIPATED DISTURBANCE ASSOCIATED WITH EACH PHASE.

NO AREA GREATER THAN 5 ACRES SHALL BE LEFT UNSTABILIZED AT ANY TIME. PHASE AREAS AND DESCRIPTIONS SHALL BE ADHERED TO IN ACCORDANCE WITH THE PLAN.

TABLE 1 – SITE DISTURBANCE PER PHASE	
PHASE	TOTAL SITE DISTURBANCE (ACRES)
1	4.9
1A	0.3
2	4.8
3	4.1
4	4.9

PHASE 1: TOTAL DISTURBANCE 5.2 ACRES

(PHASE 1 CONSTRUCTION SEQUENCE BELOW WILL NOT PERMIT DISTURBANCE OF GREATER THAN 5 ACRES AT ANY GIVEN TIME DURING PHASE 1 CONSTRUCTION)

1. ESTABLISH A STAGING AREA, A TEMPORARY CONSTRUCTION OFFICE AND SITE ACCESS VIA THE EXISTING DRIVEWAY AND RESIDENCE ON ROUTE 6.
2. STAKE WETLAND BUFFER AREA WITHIN THE PROPERTY BOUNDARY.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE FROM MAHOPAC AVENUE.

4. SURVEY LOCATE AND STAKE THE PROPOSED LIMITS OF DISTURBANCE, STORMWATER BASINS AND THE CENTERLINE OF STREET “A” AND STREET “C”.
5. LOCATE AND PROTECT THE FUTURE INFILTRATION BASINS FROM COMPACTION, CORDON OFF PROPOSED INFILTRATION BASIN AREAS WITH ORANGE CONSTRUCTION FENCING.
6. IDENTIFY TREES TO BE REMOVED. CLEAR TREES WITHIN PROPOSED PROJECT LIMITS OF DISTURBANCE. (NOTE: MAINTAIN EXISTING VEGETATIVE GROUND COVER FOR AS LONG AS POSSIBLE ON AREAS NOT REQUIRING GRADING).
7. ESTABLISH PERIMETER EROSION CONTROL MEASURES , INSTALL ALL SILT FENCE AS SHOWN ON PHASE 1 PLAN.
8. GRUB TREES WITHIN PHASE 1 AND REMOVE FELLED TREES AND STUMPS FROM SITE EXCEPT IN AREA SHOWN IN SOUTHWESTERN PORTION OF PHASE 1, FELLED TREES AND STUMPS TO REMAIN UNTIL NOTED IN STEPS BELOW TO ENSURE DISTURBANCE REMAINS BELOW 5.0 ACRES DURING THIS PHASE. NOTE: GRUBBING AND REMOVAL OF FELLED TREES WILL OCCUR PER PHASE.
9. UTILIZE THE EXISTING DIRT PATH FROM THE EXISTING RESIDENCE FOR INTERNAL ACCESS / CONSTRUCTION CIRCULATION BETWEEN STAGING AND DEVELOPMENT AREAS. ALL CONSTRUCTION EQUIPMENT ENTERING AND EXISTING THE SITE SHALL UTILIZE MAHOPAC AVENUE ACCESS / THE PROPOSED EASEMENT AREA THROUGH THE LANDS OF YORKTOWN ASSEMBLY OF GOD CHURCH.
10. STRIP TOPSOIL FROM STORMWATER BASIN ACCESS PATHS AND STORMWATER BASIN AREAS AND STOCKPILE.
11. ROUGH GRADE STORMWATER ACCESS PATH AND INFILTRATION BASINS. NOTE: INFILTRATION BASINS TO SERVE AS TEMPORARY SEDIMENT TRAPS, EXCAVATE TO 2’ ABOVE FINISHED ELEVATION. INSTALL UV LINER. REFER TO TEMPORARY SEDIMENT BASIN PLAN AND DETAILS (SHEET D-5) INSTALL ANCHORED STABILIZATION MATTING ON BASIN ACCESS PATH AND SEDIMENT BASIN SLOPE AS SHOWN ON PHASE 1 PLAN. NOTE: SEDIMENT BASINS TO BE CONVERTED TO INFILTRATION BASINS IN PHASE 4.
12. INSTALL STORMWATER BASIN OUTLET STRUCTURES OCS 1 AND OCS 2 (UTILIZE TEMPORARY SEDIMENT BASIN CONFIGURATION), INSTALL ES 4 AND 5.
13. STRIP TOPSOIL FROM STREET “C” AND STREET “A” FROM STA. 10+50 TO 11+75 AND STOCKPILE.
14. EXCAVATE AND ROUGH GRADE STREET “C”.
15. RESTORE MAHOPAC AVENUE STABILIZED CONSTRUCTION ENTRANCE AND ROUGH GRADE THE SITE ACCESS.

16. INSTALL CATCH BASINS 1 THROUGH 6 AND STORM DRAIN SYSTEM, TEMPORARILY DISCHARGE CB 6 TO STORMWATER ACCESS ROAD SWALE WITHIN EASEMENT, INSTALL WATER BAR AT STA 12+50+/-.
17. INSTALL DRAIN INLET PROTECTION ON NEWLY INSTALLED DRAINAGE STRUCTURES AS SHOWN.
18. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND BINDER COURSE OF PAVEMENT ON STREET "C". BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH WITHIN EASEMENT. INSTALL ADDITIONAL AS NEEDED / REPAIR ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ALONG STREET "C".
19. REINSTALL DRAIN INLET PROTECTION ON NEWLY INSTALLED DRAINAGE STRUCTURES AS SHOWN.
20. SEE **PHASE 1A**.
21. STRIP TOPSOIL FROM STREET "A" FROM STA. 10+75 TO 0+00 AND STREET "B" FROM STA. 0+00 TO 2+15 AND BUILDING LIMITS OF UNITS 69-73 AND STOCKPILE.
22. EXCAVATE WITHIN STREET "B" AND BUILDING LIMITS OF UNITS 69-73. UTILIZE CUT MATERIAL TO FORM EMBANKMENTS AND TEMPORARY GRADE FOR ENTRANCE STREET "A" FROM ROUTE 6 AND TEMPORARY GRADING TO CONSTRUCT SEWAGE LIFT STATION. DURING EXCAVATION OF STREET "B" REMOVE EXISTING DRIVEWAY AND EXISTING RESIDENCE. INSTALL WATER BAR AS SHOWN ON PLAN.
23. DIRECTIONAL DRILL BENEATH U.S. ROUTE 6 TO CONNECT SEWAGE LIFT STATION TO EXISTING SEWER FORCE MAIN.
24. INSTALL STABILIZED CONSTRUCTION ENTRANCE TO ROUTE 6 AND ROUGH GRADE THE SITE ACCESS AS NEEDED.
25. CONTINUE CONSTRUCTION OF STREET "A" TO STATION 10+50, INSTALL CATCH BASINS 10, 11, 13-15 AND 17-23, INSTALL DMH 2-5 AND 7, INSTALL ES 1-3, INSTALL HDS UNITS 1 AND 2 AND ASSOCIATED PIPING. NOTE: INSTALL PIPE FROM DMH 5 NORTH TO PHASE 1 LIMITS AND CAP END FOR FUTURE CONNECTION TO DMH 6. INSTALL PIPE FROM CB'S 17 AND 20 EAST TO PHASE 1 LIMITS AND CAP END FOR FUTURE CONNECTION TO CB 16 AND 28.
26. INSTALL DRAIN INLET PROTECTION ON NEWLY INSTALLED DRAINAGE STRUCTURES AS SHOWN.
27. INSTALL WATER UTILITIES WITHIN STREET "A" AND "B" LIMITS WITHIN PHASE 1.
28. INSTALL SEWER MAINS AND SEWER MANHOLES SMH 1 - SMH 5 AND SMH 7.
29. CONSTRUCT UNITS 70-73. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.

30. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND BINDER COURSE OF PAVEMENT ON STREET "A". BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH. INSTALL ADDITIONAL AS NEEDED / REPAIR ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.
31. REINSTALL DRAIN INLET PROTECTION IN NEW DRAINAGE STRUCTURES.
32. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND PAVEMENT COURSE ON DRIVEWAYS. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.

- **ANCHORED STABILIZATION MATTING IS TO BE INSTALLED ON ALL DISTURBED PROPOSED TEMPORARY AND PERMANENT SLOPES 3:1 OR GREATER AS SHOWN IN SEQUENCE STEPS WHEREVER INDICATED ABOVE OR AS SOON AS ROUGH GRADING AND TOPSOILING TEMPORARY SLOPES PERMITS.**

- **NO AREA GREATER THAN 5 ACRES SHALL BE LEFT UNSTABILIZED AT ANY TIME. PHASE AREAS AND DESCRIPTIONS SHALL BE ADHERED TO IN ACCORDANCE WITH THE PLAN.**

- **SITE STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) MUST BE ACHIEVED PRIOR TO REMOVING TEMPORARY EROSION CONTROL MEASURES.**

PHASE 1A: TOTAL DISTURBANCE 0.3 ACRES

1. REMOVED FELLED TREES AND GRUB AREA PREVIOUSLY LEFT UNDISTURBED IN SOUTHWEST PORTION OF PHASE 1 WORK AREA.

PHASE 2: TOTAL DISTURBANCE 4.8 ACRES

1. SURVEY LOCATE AND STAKE THE PROPOSED LIMITS OF PHASE 2.
2. ESTABLISH PERIMETER EROSION CONTROL MEASURES , INSTALL ALL SILT FENCE AS SHOWN ON PHASE 2 PLAN.
3. GRUB TREES WITHIN PHASE 2 AND REMOVE THEM FROM SITE.
4. STRIP TOPSOIL FROM WITHIN STREET "B" FROM STATION 2+15 TO 3+20 AND BUILDING LIMITS OF UNITS 48-51 AND 67- 69 AND STOCKPILE.
5. STOCKPILE CUT MATERIAL ALONG WESTERN SIDE OF STREET "A" FROM UNITS 5 THROUGH 27 IN THE STOCKPILE / DRYING AREA TO FORM FUTURE BUILDING PADS. UTILIZE CUT MATERIAL TO GRADE EMBANKMENTS BETWEEN WESTERN UNITS AND STORMWATER BASINS. *NOTE: IN THE EVENT CUT MATERIAL HAS A HIGH MOISTURE CONTENT THE CONTRACTOR SHALL MIX DRIER MATERIAL WITH THE WETTER MATERIAL TO PROMOTE DRYING AND ADD IN STABILIZATION.*
    1: UPPER INFILTRATION BASIN EMBANKMENT CONSTRUCTION
        i. STRIP TOPSOIL FROM EMBANKMENT ABOVE INFILTRATION BASIN 1 UP TO FUTURE BUILDING FOUNDATION'S LOCATIONS (DO NOT STRIP FOUNDATION AREA).

ii. CONSTRUCT INFILTRATION BASIN 1 RETAINING WALL, UTILIZE MATERIAL FROM PHASE 2 CUT TO ESTABLISH EMBANKMENT.

iii. TOPSOIL AND SEED INFILTRATION BASIN 1 UPSLOPE. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON STOCKPILE EMBANKMENT SLOPES.

iv. CONTINUE PROGRESSING NORTH STRIPING TOPSOIL BETWEEN EDGE OF PHASE 1 WORK AND FUTURE BUILDING FOUNDATION LIMITS (DO NOT STRIP FOUNDATION AREA)

v. ESTABLISH EMBANKMENTS UTILIZING PHASE 2 CUT MATERIAL.

vi. TOPSOIL AND SEED DISTURBED AREA. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON STOCKPILE EMBANKMENT SLOPES.

6. SEE **PHASE 2A:** TEMPORARY STOCKPILE EMBANKMENT FORMATION SEQUENCE.
7. TEMPORARY SEED STOCKPILE AND TOPSOIL FINISHED EMBANKMENT SEED AND MULCH. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.
8. INSTALL CATCH BASINS 16, 28 AND 29. CONNECT PREVIOUSLY INSTALLED DRAINAGE PIPES FROM CB 17 AND CB 20 TO CB 16 AND CB 28. EXTEND WATER UTILITIES FROM PHASE 1 WITHIN STREET “B”.
9. INSTALL DRAIN INLET PROTECTION IN NEW DRAINAGE STRUCTURES AND CB 11, 13, 15 AND 17 TO PROTECT PREVIOUSLY INSTALLED DRAINAGE STRUCTURES FROM STOCKPILED MATERIAL.
10. CONSTRUCT UNITS 1-4, 48-51, 67-69 AND THE RECREATION BUILDING. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.
11. CONSTRUCT SIDEWALK AND BERM ALONG ROUTE 6 TO MAHOPAC AVENUE.
12. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND BINDER COURSE OF PAVEMENT ON STREET “B”. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.
13. REINSTALL DRAIN INLET PROTECTION IN NEW DRAINAGE STRUCTURES.
14. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND PAVEMENT COURSE ON DRIVEWAYS. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH. INSTALL ADDITIONAL AS NEEDED / REPAIR ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS.

- **ANCHORED STABILIZATION MATTING IS TO BE INSTALLED ON ALL DISTURBED PROPOSED TEMPORARY AND PERMANENT SLOPES 3:1 OR GREATER AS SHOWN IN SEQUENCE STEPS WHEREVER INDICATED**

ABOVE OR AS SOON AS ROUGH GRADING AND TOPSOILING TEMPORARY SLOPES PERMITS.

- **NO AREA GREATER THAN 5 ACRES SHALL BE LEFT UNSTABILIZED AT ANY TIME. PHASE AREAS AND DESCRIPTIONS SHALL BE ADHERED TO IN ACCORDANCE WITH THE PLAN.**
- **SITE STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) MUST BE ACHIEVED PRIOR TO REMOVING TEMPORARY EROSION CONTROL MEASURES.**

PHASE 2A: TEMPORARY STOCKPILE EMBANKMENT FORMATION SEQUENCE.

NOTE: FILL TO BE PLACED IN ACCORDANCE WITH STEPS OUTLINED BELOW IN WORKING IN 150 LINEAL FOOT SECTIONS.

1: ADDITIONAL SILT FENCE TO BE ADDED ALONG SECTION TO BE WORKED. (3 ROWS MINIMUM BETWEEN WORK AREA AND SEDIMENT BASINS)

2: STRIP TOPSOIL FROM UNITS 5 THROUGH 8 AND STOCKPILE IN UNITS 24 THROUGH 27 FUTURE LOCATIONS.

3: SCARIFY AREA TO ACCEPT PLACEMENT OF FILL.

4: BEGIN TO STOCKPILE FILL FROM PHASE 2 CUT SECTION IN SCARIFIED WORK AREA. FILL TO BE PLACED IN 2' LIFTS AND MACHINE COMPACTED. *NOTE: EXISTING SOIL CONDITIONS TO BE DRY PRIOR TO FILL PLACEMENT*

5: ONCE MATERIAL IS BROUGHT TO TEMPORARY STOCKPILE GRADE TEMPORARILY TOPSOIL (UTILIZE MATERIAL PREVIOUSLY STOCKPILE IN UNITS 24 -27 FUTURE LOCATION) AND SEED TO STABILIZE. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.

6: CONTINUE TO NEXT 150' SECTION FOLLOWING ABOVE SEQUENCE ONCE MATTING IS IN PLACE AND ADDITIONAL SILT FENCE IS INSTALLED FOR NEXT SECTION. *NOTE: FOLLOW ABOVE SEQUENCE STRIPING TOPSOIL AND STOCKPILING IN UNITS 24 -27'S FUTURE LOCATION UNTIL NEEDED TO STABILIZE SECTION, SCARIFY WORK AREA AND PROCEED WITH ABOVE SEQUENCE.*

NOTE: AS FILL PLACEMENT NEARS THE END OF EACH 150' SECTION THERE WILL BE AN UNSTABILIZED FILL EDGE PRESENT, IN THE EVENT ADDITIONAL FILL PLACEMENT IS INTENDED TO IMMEDIATELY CONTINUE ADDITIONAL SILT FENCE SHOULD BE PLACED TO PROTECT AREA BELOW. IN THE EVENT FILL PLACEMENT WILL BE PAUSED FOR A PERIOD GRATER THAN 7 DAYS, A 2:1 EMBANKMENT SLOPE SHOULD BE CREATED, TOPSOILED SEEDED AND ANCHORED STABILIZATION MATTING INSTALLED. THE 150' LINEAL SECTION IS NOT INTENDED TO BE A HARD STOP LINE; FILL PLACEMENT MAY CONTINUALLY PROGRESS AS LONG STABILIZATION STEPS AND ANCHORED STABILIZATION MATTING HAS BEEN INSTALLED AND THAT SECTION HAS

STABILIZED. (I.E. IF MATTING ROLLS ARE 20' WIDE, THE FILL PLACEMENT CAN PROGRESS AN ADDITIONAL 20 LINEAL FEET). SEEDING SHOULD BE MONITORED FROM GROWING SEASON TO GROWING SEASON IN EH EVENT THE STOCKPILED MATERIAL REMAINS IN PLACE FOR GREATER THAN ONE CONSTRUCTION SEASON.

PHASE 3: TOTAL DISTURBANCE 4.1 ACRES

1. SURVEY LOCATE AND STAKE THE PROPOSED LIMITS OF PHASE 3.
2. ESTABLISH PERIMETER EROSION CONTROL MEASURES , INSTALL ALL SILT FENCE AS SHOWN ON PHASE 3 PLAN.
3. GRUB TREES WITHIN PHASE 3 AND REMOVE THEM FROM SITE.
4. STRIP TOPSOIL FROM WITHIN STREET "B" FROM STATION 3+20 TO 5+44 AND BUILDING LIMITS OF UNITS 36-47 AND 52- 66, PHASE 3 LIMITS AND STOCKPILE IN FUTURE STREET "A" CUL-DE-SAC. TEMPORARY SEED AND MULCH STOCKPILE. TOPSOIL STOCK PILE TO BE UTILIZED TO STABILIZE PHASE 3 AND PHASE 4.
5. EXCAVATE PHASE 3 AREA TO SUBGRADE AND EXPORT MATERIAL OFFSITE.
6. INSTALL CATCH BASINS 24 - 27. CONNECT CB 27 TO PREVIOUSLY INSTALLED CB 28. EXTEND WATER UTILITIES FROM PHASE 2 LIMITS WITHIN STREET "B".
7. INSTALL DRAIN INLET PROTECTION ON NEWLY INSTALLED DRAINAGE STRUCTURES AND CB 10, 14 AND 15 AS SHOWN TO PROTECT PREVIOUSLY INSTALLED DRAINAGE STRUCTURES FROM MATERIAL EXPORT.
8. INSTALL SEWER MAINS AND SEWER MANHOLES SMH 8 AND 9 AND CONNECT SEWER MAIN TO PREVIOUSLY INSTALLED SMH 7.
9. CONSTRUCT UNITS 26-47 AND 52-66. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.
10. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND BINDER COURSE OF PAVEMENT ON STREET "B". BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.
11. REINSTALL DRAIN INLET PROTECTION IN NEW DRAINAGE STRUCTURES.
12. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND PAVEMENT COURSE ON DRIVEWAYS. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.

- **ANCHORED STABILIZATION MATTING IS TO BE INSTALLED ON ALL DISTURBED PROPOSED TEMPORARY AND PERMANENT SLOPES 3:1 OR GREATER AS SHOWN IN SEQUENCE STEPS WHEREVER INDICATED ABOVE OR AS SOON AS ROUGH GRADING AND TOPSOILING TEMPORARY SLOPES PERMITS.**

- **NO AREA GREATER THAN 5 ACRES SHALL BE LEFT UNSTABILIZED AT ANY TIME. PHASE AREAS AND DESCRIPTIONS SHALL BE ADHERED TO IN ACCORDANCE WITH THE PLAN.**
- **SITE STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) MUST BE ACHIEVED PRIOR TO REMOVING TEMPORARY EROSION CONTROL MEASURES.**

PHASE 4: TOTAL DISTURBANCE 4.9 ACRES

1. SURVEY LOCATE AND STAKE THE PROPOSED LIMITS OF PHASE 4.
2. ESTABLISH PERIMETER EROSION CONTROL MEASURES , INSTALL ALL SILT FENCE AS SHOWN ON PHASE 4 PLAN.
3. GRUB TREES WITHIN PHASE 4 AND REMOVE THEM FROM SITE.
4. STRIP TOPSOIL FROM UNITS 5 THROUGH 27 IN SECTIONS OF 150 +/- LINEAL FEET AS CONSTRUCTION PROGRESSES.
5. EXCAVATE FOUNDATIONS OF UNITS 5 THROUGH 27 EXPORT MATERIAL IN SECTIONS OF 150 +/- LINEAL FEET AS CONSTRUCTION PROGRESSES OFFSITE.
6. CONSTRUCT UNITS 5-27. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES.
7. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND PAVEMENT COURSE ON DRIVEWAYS. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.
8. RELOCATE REMAINING TOPSOIL STOCKPILE TO AREA OF GUEST PARKING AT APPROXIMATELY STA. 12+00.
9. EXCAVATE STREET “A” FROM STA. 11+75 THROUGH END OF CUL-DE-SAC AND REMAINDER OF PHASE 4 AREA TO SUBGRADE AND EXPORT MATERIAL OFFSITE.
10. INSTALL CATCH BASINS 7-9 AND DMH 6. REDIRECT TEMPORARILY DISCHARGE OF CB 6 TO CB 7. COMPLETE CONNECTION OF PREVIOUSLY INSTALL PIPE FROM DMH 6 TO DMH 5.
11. INSTALL DRAIN INLET PROTECTION ON NEWLY INSTALLED DRAINAGE STRUCTURES AND CB 11, 13 AND 17 AS SHOWN.
12. EXTEND WATER UTILITIES FROM PHASE 1 LIMITS WITHIN STREET “A”.
13. INSTALL SEWER MAINS AND SEWER MANHOLES SMH 6 AND CONNECT SEWER MAIN TO PREVIOUSLY INSTALLED SMH 5.
14. EXCAVATE FOUNDATIONS OF UNITS 28 THROUGH 35.

15. INSTALL ANCHORED STABILIZATION MATTING AS SHOWN ON PLANS ON EMBANKMENT SLOPES, CONSTRUCT UNITS 28-35.

16. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND BINDER COURSE OF PAVEMENT ON STREET "A". BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.

17. REINSTALL DRAIN INLET PROTECTION IN NEW DRAINAGE STRUCTURES.

18. INSTALL ITEM 4 FOR SUBBASE. INSTALL CURB AND PAVEMENT COURSE ON DRIVEWAYS. BACK-UP CURB WITH TOPSOIL AND APPLY SEED AND MULCH.

- **ANCHORED STABILIZATION MATTING IS TO BE INSTALLED ON ALL DISTURBED PROPOSED TEMPORARY AND PERMANENT SLOPES 3:1 OR GREATER AS SHOWN IN SEQUENCE STEPS WHEREVER INDICATED ABOVE OR AS SOON AS ROUGH GRADING AND TOPSOILING TEMPORARY SLOPES PERMITS.**

- **NO AREA GREATER THAN 5 ACRES SHALL BE LEFT UNSTABILIZED AT ANY TIME. PHASE AREAS AND DESCRIPTIONS SHALL BE ADHERED TO IN ACCORDANCE WITH THE PLAN.**
- **SITE STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) MUST BE ACHIEVED PRIOR TO REMOVING TEMPORARY EROSION CONTROL MEASURES.**

SEEDING AND OCCUPANCY

NOTE: OCCUPANCY WILL OCCUR AT OWNERS' DISCRETION AS EACH PHASE PROGRESSES.

- INSTALL PERMANENT SEEDING AND PLANTING AS CONSTRUCTION PROGRESSES IN EACH PHASE.
- INSTALL RECREATION PATH.
- FOLLOWING COMPLETION OF PHASE 4 CONSTRUCTION, WHEN UPSTREAM AREAS DISTRIBUTED IN PREVIOUS PHASES ARE VEGETATED, CONVERT TEMPORARY SEDIMENT BASINS TO INFILTRATION BASINS (SEE DETAIL SHEET D-1 FOR INFILTRATION BASIN OUTLET CONTROL STRUCTURE CONFIGURATION.)

INFILTRATION BASIN / TEMPORARY SEDIMENT BASIN 1

a. REMOVE ALL ACCUMULATED TEMPORARY SEDIMENT AND UV LINER FROM SEDIMENT BASIN 1

b. EXCAVATE INFILTRATION BASIN 1 TO FULL DEPTH

c. CONVERT OUTLET STRUCTURE TO PERMANENT CONFIGURATION

d. LOWER BERM TO PROPOSED POST CONSTRUCTION HEIGHT AND CONSTRUCT STORMWATER BASIN ACCESS PATH TO FULL WIDTH

e. SPREAD TOPSOIL AND SEED INFILTRATION BASIN AND BERM IN ACCORDANCE WITH SEEDING SPECIFICATIONS AND NOTES. NOTE: AFTER THE TEMPORARY SEDIMENT BASIN IS CONVERTED TO THE INFILTRATION BASIN, RESTORATION OF THE SOILS MAY BE REQUIRED AND CAN BE ACHIEVED WITH DEEP TILLING TO 12 INCHES BELOW THE BASIN BOTTOM.

f. REINSTALL ANCHORED STABILIZATION MATTING ON BASIN EMBANKMENT SLOPES AS NEEDED.

INFILTRATION BASIN / TEMPORARY SEDIMENT BASIN 2

a. REMOVE ALL ACCUMULATED SEDIMENT AND UV LINER FROM TEMPORARY SEDIMENT BASIN 2

b. EXCAVATE INFILTRATION BASIN 2 TO FULL DEPTH

c. CONVERT OUTLET STRUCTURE TO PERMANENT CONFIGURATION

d. TOUCH UP STORMWATER BASIN ACCESS ROAD AS NEEDED AND TIE INTO STORMWATER BASIN 1'S WIDENED ACCESS PATH

e. SPREAD TOPSOIL AND SEED INFILTRATION BASIN AND BERM IN ACCORDANCE WITH SEEDING SPECIFICATIONS AND NOTES. NOTE: AFTER THE TEMPORARY SEDIMENT BASIN IS CONVERTED TO THE INFILTRATION BASIN, RESTORATION OF THE SOILS MAY BE REQUIRED AND CAN BE ACHIEVED WITH DEEP TILLING TO 12 INCHES BELOW THE BASIN BOTTOM.

f. REINSTALL ANCHORED STABILIZATION MATTING ON BASIN EMBANKMENT SLOPES AS NEEDED.

- FLUSH OUT ALL PIPES AND CLEAN ALL CATCH BASIN SUMPS. ALLOW ONLY "CLEAR" WATER TO DISCHARGE.
- AS CONSTRUCTION PROGRESSES FROM PHASE TO PHASE THERE MAY BE CONCERN REGARDING FULL VEGETATION OF CRITICAL AREAS, PRIOR TO REMOVING ALL PERIMETER SILT FENCE THE PROJECT ENGINEER AND TOWN SHOULD BE CONSULTED.
- AT OWNERS' DISCRETION INSTALL ROAD TOP COURSE OF PAVEMENT ON ALL ROADS.
- INSTALL STOP AND PAVEMENT MARKINGS AND SIGNAGE AS NEEDED. NOTE: TEMPORARY PAVEMENT MARKINGS SHOULD BE INSTALLED IN THE EVENT BUILDINGS ARE BEGINNING TO BE OCCUPIED PRIOR TO FINAL PAVEMENT TOP PAVEMENT COURSE BEING INSTALLED.

- RE-VEGETATE ROAD SHOULDERS AND YARD AREAS AS NEEDED THROUGHOUT PHASES.

NOTE: SITE STABILIZATION (80% UNIFORM DENSITY OF PERMANENT VEGETATION OR PERMANENT MULCH/STONE) MUST BE ACHIEVED PRIOR TO REMOVING TEMPORARY EROSION CONTROL MEASURES.

GENERAL NOTES:

1. ALL EROSION CONTROL MEASURES TO CONFORM TO NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (NYS STANDARDS) OR BETTER.
2. CHANGES TO THIS SEQUENCE MAY RESULT IN EROSION AND IS SUBJECT TO REVIEW BY NYCDEP AND THE TOWN OF SOMERS. IN ADDITION TO THE EROSION CONTROL MEASURES IDENTIFIED, ADDITIONAL SITE-SPECIFIC MEASURES MAY BE REQUIRED DURING CONSTRUCTION BY THE PROJECT TEAM, NYCDEP, NYSDEC. OR THE TOWN OF SOMERS.
3. THIS SWPPP HAS BEEN PREPARED BASED ON THE FOLLOWING:
    a. NYCDEP WATERSHED RULES AND REGULATIONS.
    b. NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
    c. TOWN OF SOMERS REQUIREMENTS.
    d. NYS STORMWATER MANAGEMENT DESIGN MANUAL.

Appendix J:

Hydrodynamic Separator Operation and Maintenance Manual

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Consulting Engineers

North Edge Realty

Hydrointernational First Defense Sizing Summary

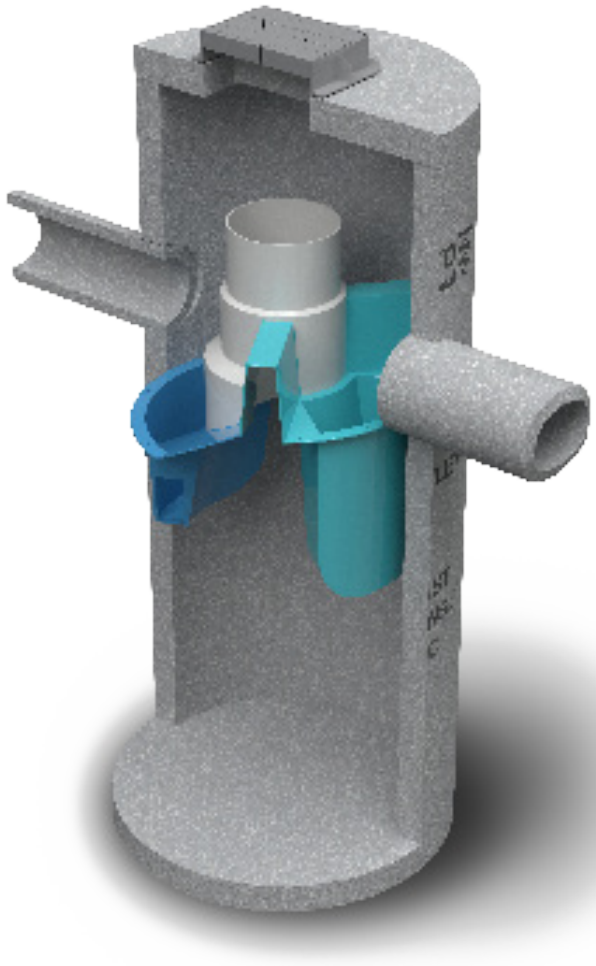
Structure Number	*First Defense HDS Unit Model No.*	*NJDEP Certified Treatment Capacity * (cfs)*	*1-Year Storm Peak Flow ** (cfs)*	*100-Year Storm Peak Flow *** (cfs)*
HDS 1	FDO-10	11.33	7.61	27.63
HDS 2	FDO-10	11.33	9.52	40.15

* NJDEP Certified Treatment Rates Provided by manufacturer. Refer to detail provided on project drawings

** 1-Year Storm Peak Flow rates obtained from HydroCAD model inculded in Appendix C

*** 100 Year Peak Flow obtained from HydroCAD model in Appendix C. Manufacturer rated Peak Hydraulic Flow for Model # FD-3HC = 15.0 cfs. Manufacturer rated Peak Hydraulic Flow for Model # FD-6HC = 32.0 cfs.

Hydro International



Operation and Maintenance Manual

First Defense® High Capacity and First Defense®Optimum

Vortex Separator for Stormwater Treatment

Table of Contents

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

I. First Defense® by Hydro International

Introduction

The First Defense® is an enhanced vortex separator that combines an effective and economical stormwater treatment chamber with an integral peak flow bypass. It efficiently removes total suspended solids (TSS), trash and hydrocarbons from stormwater runoff without washing out previously captured pollutants. The First Defense® is available in several model configurations to accommodate a wide range of pipe sizes, peak flows and depth constraints.

The two product models described in this guide are the First Defense® High Capacity and the First Defense® Optimum; they are inspected and maintained identically.

Operation

The First Defense® operates on simple fluid hydraulics. It is self-activating, has no moving parts, no external power requirement and is fabricated with durable non-corrosive components. No manual procedures are required to operate the unit and maintenance is limited to monitoring accumulations of stored pollutants and periodic clean-outs. The First Defense® has been designed to allow for easy and safe access for inspection, monitoring and clean-out procedures. Neither entry into the unit nor removal of the internal components is necessary for maintenance, thus safety concerns related to confined-space-entry are avoided.

Pollutant Capture and Retention

The internal components of the First Defense® have been designed to optimize pollutant capture. Sediment is captured and retained in the base of the unit, while oil and floatables are stored on the water surface in the inner volume (Fig.1).

The pollutant storage volumes are isolated from the built-in bypass chamber to prevent washout during high-flow storm events. The sump of the First Defense® retains a standing water level between storm events. This ensures a quiescent flow regime at the onset of a storm, preventing resuspension and washout of pollutants captured during previous events.

Accessories such as oil absorbent pads are available for enhanced oil removal and storage. Due to the separation of the oil and floatable storage volume from the outlet, the potential for washout of stored pollutants between clean-outs is minimized.

Applications

- Stormwater treatment at the point of entry into the drainage line
- Sites constrained by space, topography or drainage profiles with limited slope and depth of cover
- Retrofit installations where stormwater treatment is placed on or tied into an existing storm drain line
- Pretreatment for filters, infiltration and storage

Advantages

- Inlet options include surface grate or multiple inlet pipes
- Integral high capacity bypass conveys large peak flows without the need for “offline” arrangements using separate junction manholes
- Long flow path through the device ensures a long residence time within the treatment chamber, enhancing pollutant settling
- Delivered to site pre-assembled and ready for installation

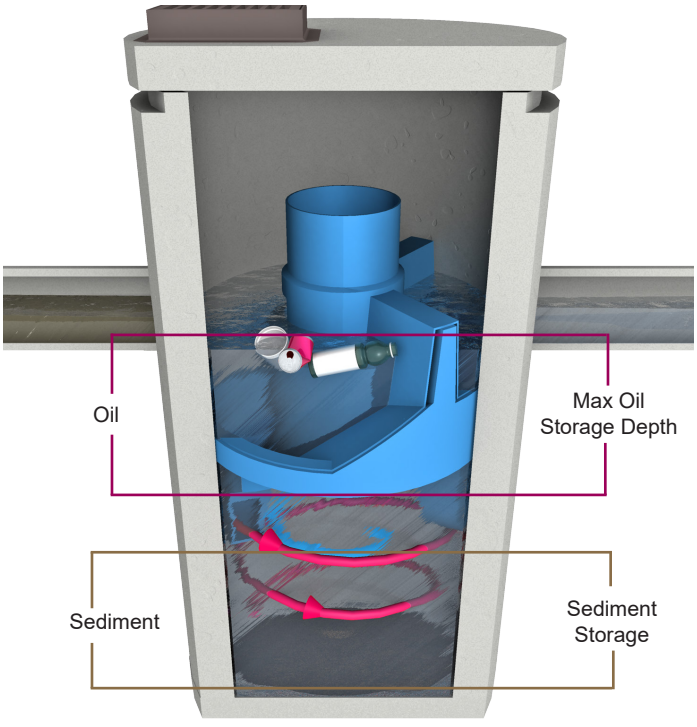


Fig.1 Pollutant storage volumes in the First Defense®.

II. Model Sizes & Configurations

The First Defense® inlet and internal bypass arrangements are available in several model sizes and configurations. The components have modified geometries allowing greater design flexibility to accommodate various site constraints.

All First Defense® models include the internal components that are designed to remove and retain total suspended solids (TSS), gross solids, floatable trash and hydrocarbons (Fig.2). First Defense® model sizes (diameter) are shown in Table 1.

III. Maintenance

First Defense® Components

1. **Built-In Bypass**
2. **Inlet Pipe**
3. **Inlet Chute**
4. **Floatables Draw-off Port**
5. **Outlet Pipe**
6. **Floatables Storage**
7. **Sediment Storage**
8. **Inlet Grate or Cover**

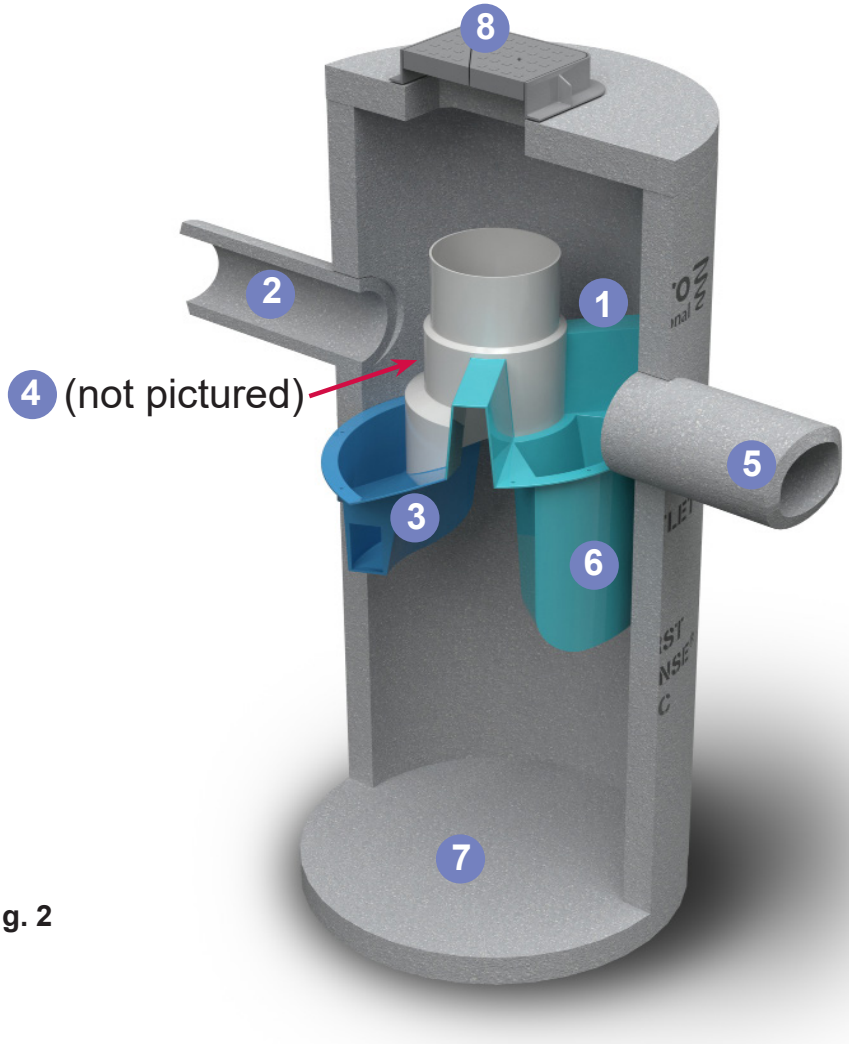


Fig. 2

Table 1

First Defense® Model Sizes
(ft / m) diameter
3 / 0.9
4 / 1.2
5 / 1.5
6 / 1.8
7 / 2.1
8 / 2.4
10 / 3.0

Overview

The First Defense® protects the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captured pollutants is essential to the continuous, long-term functioning of the First Defense®. The First Defense® will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the First Defense® will no longer be able to store removed sediment and oil.

The First Defense® allows for easy and safe inspection, monitoring and clean-out procedures. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables. Access ports are located in the top of the manhole.

Maintenance events may include Inspection, Oil & Floatables Removal, and Sediment Removal. Maintenance events do not require entry into the First Defense®, nor do they require the internal components of the First Defense® to be removed. In the case of inspection and floatables removal, a vactor truck is not required. However, a vactor truck is required if the maintenance event is to include oil removal and/or sediment removal.

Maintenance Equipment Considerations

The internal components of the First Defense® have a centrally located circular shaft through which the sediment storage sump can be accessed with a sump vac hose. The open diameter of this access shaft is 15 inches in diameter (Fig.3). Therefore, the nozzle fitting of any vactor hose used for maintenance should be less than 15 inches in diameter.

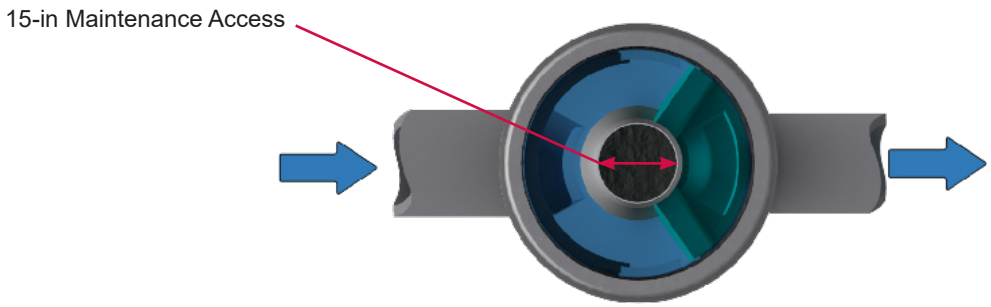


Fig.3 The central opening to the sump of the First Defense®is 15 inches in diameter.

Determining Your Maintenance Schedule

The frequency of clean out is determined in the field after installation. During the first year of operation, the unit should be inspected every six months to determine the rate of sediment and floatables accumulation. A simple probe such as a Sludge-Judge® can be used to determine the level of accumulated solids stored in the sump. This information can be recorded in the maintenance log (see page 9) to establish a routine maintenance schedule.

The vactor procedure, including both sediment and oil / flotables removal, for First Defense® typically takes less than 30 minutes and removes a combined water/oil volume of about 765 gallons.

Inspection Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities. Fig.4 shows the standing water level that should be observed.

4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the components and water surface.

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel.

6. On the Maintenance Log (see page 9), record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or blockages.

7. Securely replace the grate or lid.

8. Take down safety equipment.

9. Notify Hydro International of any irregularities noted during inspection.

Floatables and Sediment Clean Out

Floatables clean out is typically done in conjunction with sediment removal. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables (Fig.4).

Floatables and loose debris can also be netted with a skimmer and pole. The access port located at the top of the manhole provides unobstructed access for a vactor hose to be lowered to the base of the sump.

Scheduling

- Floatables and sump clean out are typically conducted once a year during any season.

- Floatables and sump clean out should occur as soon as possible following a spill in the contributing drainage area.

Fig.4 Floatables are removed with a vactor hose

Recommended Equipment

- Safety Equipment (traffic cones, etc)
- Crow bar or other tool to remove grate or lid
- Pole with skimmer or net (if only floatables are being removed)
- Sediment probe (such as a Sludge Judge®)
- Vactor truck (flexible hose recommended)
- First Defense® Maintenance Log

Floatables and Sediment Clean Out Procedures

1. Set up any necessary safety equipment around the access port or grate of the First Defense® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.

2. Remove the grate or lid to the manhole.

3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.

4. Remove oil and floatables stored on the surface of the water with the vactor hose or with the skimmer or net

5. Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel and record it in the Maintenance Log (page 9).

6. Once all floatables have been removed, drop the vactor hose to the base of the sump. Vactor out the sediment and gross debris off the sump floor

7. Retract the vactor hose from the vessel.

8. On the Maintenance Log provided by Hydro International, record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components, blockages, or irregularly high or low water levels.

9. Securely replace the grate or lid.

Maintenance at a Glance

Inspection	- Regularly during first year of installation - Every 6 months after the first year of installation
Oil and Floatables Removal	- Once per year, with sediment removal - Following a spill in the drainage area
Sediment Removal	- Once per year or as needed - Following a spill in the drainage area
NOTE: For most clean outs the entire volume of liquid does not need to be removed from the manhole. Only remove the first few inches of oils and floatables from the water surface to reduce the total volume of liquid removed during a clean out.	

First Defense® Installation Log

HYDRO INTERNATIONAL REFERENCE NUMBER:	
SITE NAME:	
SITE LOCATION:	
OWNER:	CONTRACTOR:
CONTACT NAME:	CONTACT NAME:
COMPANY NAME:	COMPANY NAME:
ADDRESS:	ADDRESS:
TELEPHONE:	TELEPHONE:
FAX:	FAX:

INSTALLATION DATE: / /

MODEL SIZE (CIRCLE ONE): [3-FT] [4-FT] [5-FT] [6-FT] [7-FT] [8-FT] [10-FT]

INLET (CIRCLE ALL THAT APPLY): GRATED INLET (CATCH BASIN) INLET PIPE (FLOW THROUGH)

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

First Defense® Inspection and Maintenance Log

Date	Initials	Depth of Floatables and Oils	Sediment Depth Measured	Volume of Sediment Removed	Site Activity and Comments

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

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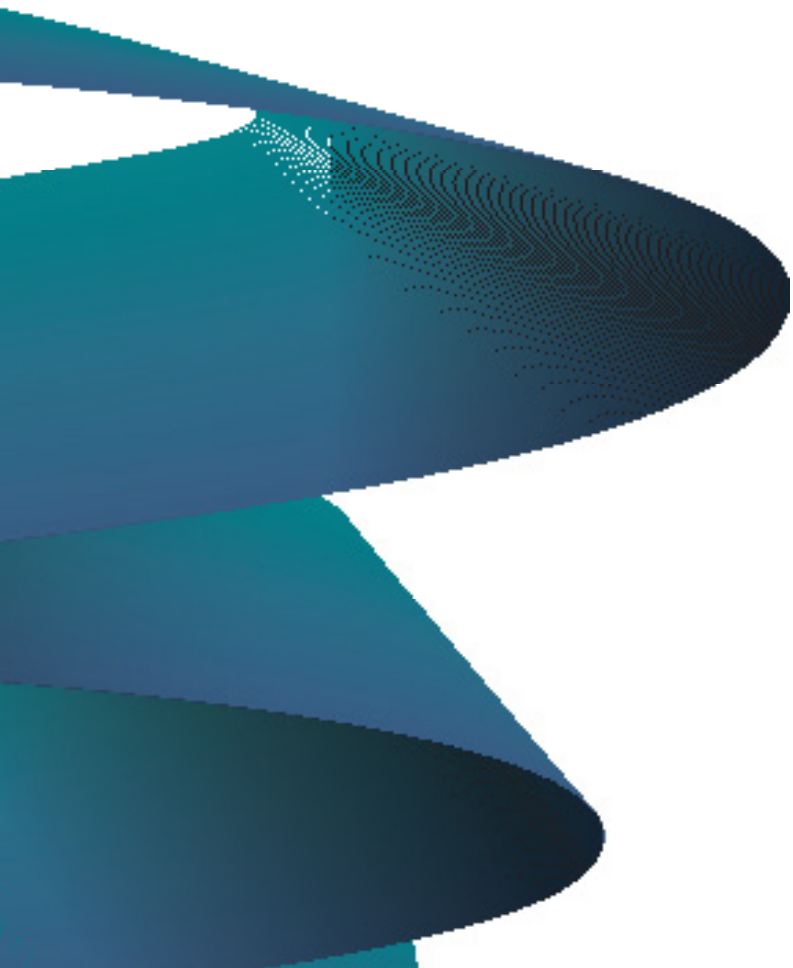
Hydro International



Stormwater Solutions

94 Hutchins Drive
Portland, ME 04102

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stormwaterinquiry@hydro-int.com

www.hydro-int.com

Turning Water Around...®

FD_O+M_K_2105

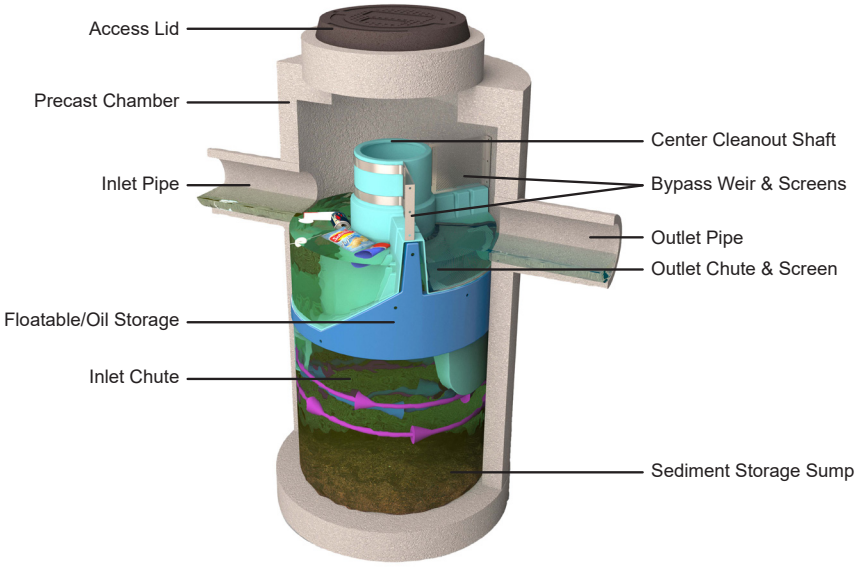
First Defense® FTC

Full Trash Capture Hydrodynamic Separator

Product Summary

First Defense Full Trash Capture (FTC) is an advanced hydrodynamic separator that combines enhanced vortex technology for total suspended solids (TSS) removal with a 5mm screen to meet full trash capture requirements set by the California Water Boards.*

Features



*One-hour, one-year design storm.

Applications

- Removal of Total Suspended Solids (TSS), floatable trash, and petroleum products from stormwater runoff
- New construction or redevelopment of commercial and residential sites
- Pre-treatment for green infrastructure and ponds
- Pollutant hotspots such as maintenance yards, parking lots, gas stations, streets, highways, airports and transportation hubs
- LEED® development projects
- Retrofitting existing systems

How It Works

1. Stormwater enters the Inlet Chute, where water is directed downwards and into a rotational motion around the Sediment Storage Sump.
2. Free floating trash is retained in the Inlet Chute area. Sediment and other settleable solids are retained in the Sediment Storage Sump as water follows a rotational path to the screened Outlet Chute.
3. Water then exits upward in the Outlet Chute where a horizontal screen prevents the loss of any suspended debris larger than 5mm. High flows can bypass directly to the outlet via the Bypass Weirs.
4. Two Bypass Screens continue to treat and retain the free floating debris. In extreme events water can crest the bypass screen and go directly to the outlet to prevent upstream flooding.

Model Number	Diameter	Maximum Pipe Diameter[1]	Trash Storage Capacity[2]	Flow Rate (cfs) for Screen Blinding Percentage[3]				Bypass Capacity	Typical TSS Treatment Rates
Model	(ft / m)	(in / mm)	(yd^3 / m^3)	0%	25%	50%	75%	(cfs)	(cfs / L/s)
FD-3 FTC	3 / 0.9	18 / 450	0.4 / 0.3	2.93	2.33	1.75	1.17	15	1.06 / 30.0
FD-4 FTC	4 / 1.2	24 / 600	0.83 / 0.63	7.94	7.10	5.27	3.43	18	1.88 / 53.2
FD-5 FTC	5 / 1.5	24 / 600	1.54 / 1.18	13.02	10.51	7.87	6.07	20	2.94 / 83.2
FD-6 FTC	6 / 1.8	30 / 750	2.22 / 1.70	25.60	21.50	16.01	10.66	32	4.23 / 119.8
FD-8 FTC	8 / 2.4	48 / 1219	5.28 / 4.00	34.16	33.75	26.29	16.88	50	7.52 / 212.9
FD-10 FTC	10 / 3	48 / 1219	5.28 / 4.00	34.16	33.75	26.29	16.88	50	7.52 / 212.9

[1]Contact Hydro International when larger pipe sizes are required.
[2]Trash storage volume estimated as half the chamber volume from the base of the Inlet Chute to top of Bypass Weirs (not bypass screens). Actual volume of material stored will vary with size, density, and type. Larger volumes of trash may be retained.
[3]Calculated using HydroCAD modelling. A lower blinding factor can be applied to sites with lower anticipated loads.

Hydro International, 94 Hutchins Drive, Portland, ME 04102
Tel: (207) 756-6200
Email: stormwaterinquiry@hydro-int.com
Web: www.hydro-int.com/firstdefense

FD-FTC_SS_E_2309

Download Drawings:
→ hydro-int.com/fddrawings

Operation & Maintenance Manual:
→ hydro-int.com/fd-om

Appendix K:

Rock Outlet Protection Sizing Calculations

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Consulting Engineers

North Edge Realty

Revised: *July 9, 2025*

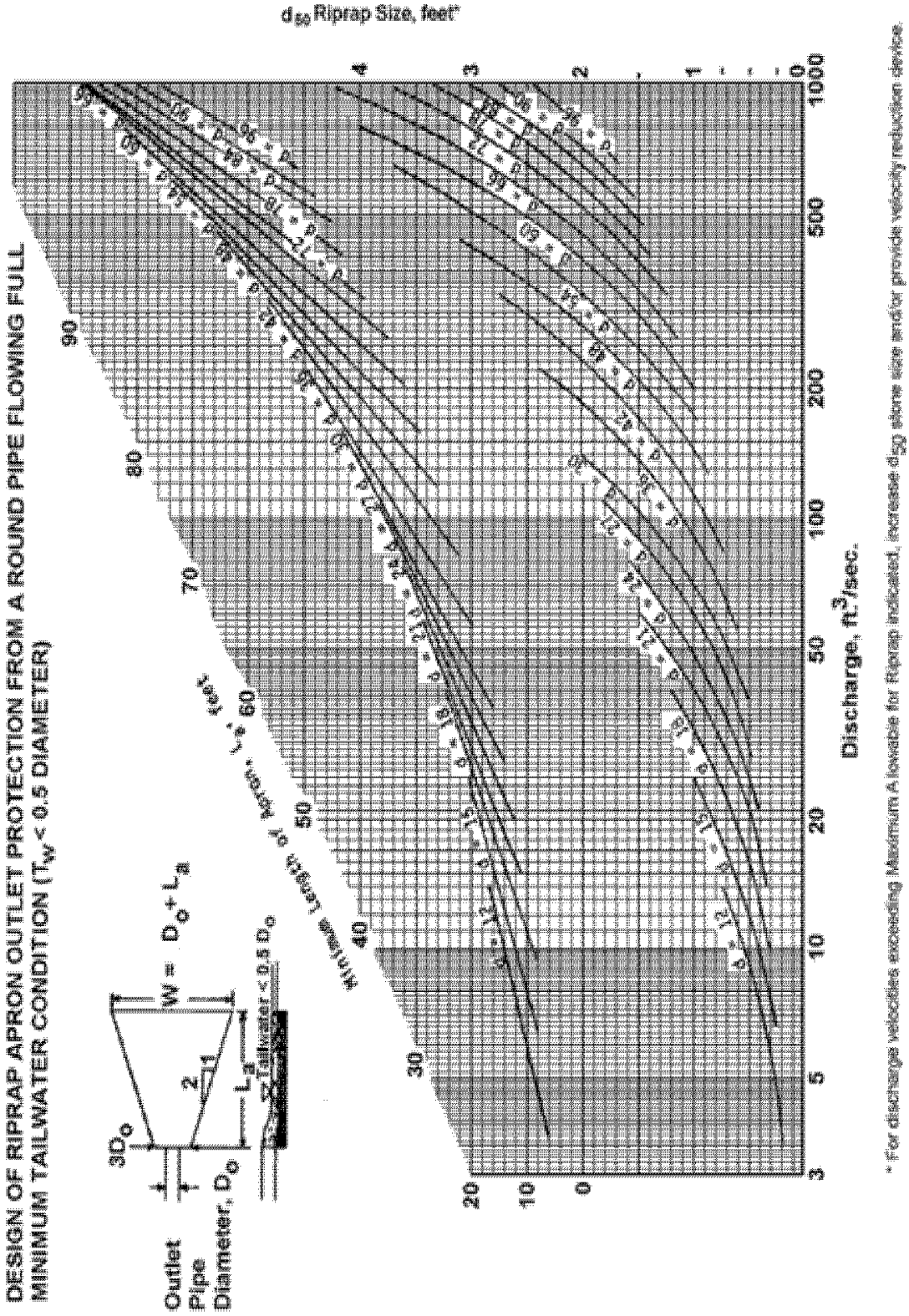
Rock Outlet Protection Sizing Calculations

D50 (inches)	dmax (inches)	**Minimum Blanket Thickness (inches)**
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Descp.	***Q 100 (cfs)***	***d50 (in) (See Chart)***	***dmax (in) (See Table)***	***La (See Chart)***	***(Do) Pipe Diameter (ft)***	***W_1 (3 x Diameter of Pipe)***	***W_2 = Do + La***	***Thickness (in)***	
								Chart	***Use***
ES 1	27.63	6	9	20	2.00	6	22	14	24
ES 2	40.15	9	14	22	2.00	6	24	20	24
ES 3	8.45	6	9	10	2.00	6	12	14	24
ES 4	23.23	6	9	20	2.00	6	22	14	24
ES 5	22.85	6	9	10	2.00	6	12	14	24

New York State Standards and Specifications For Erosion and Sediment Control, Page 3.40 July 2016

Figure 3.17
Outlet Protection Design—Minimum Tailwater Condition
(Design of Outlet Protection from a Round Pipe Flowing Full,
Minimum Tailwater Condition: Tw < 0.5Do) (USDA - NRCS)



Appendix L:

Sediment Basin Design

Project North Edge

Sediment Basin Design

Sediment Basin ID: ***Basin #1***

$Q_{10\ yr}$ (cfs) = 17.54

Basin Size Design:
Sediment Storage Volume = 1,000 cu.ft. / ac of disturbed area
Dewatering Zone Volume = 3600 cu.ft.X ac of Drainage Area (DA)

Disturbed Area =	6.44	acres
Drainage area (DA) =	6.44	acres
Top of Sediment Storage Zone =	522.25	
Sediment Storage Volume Required =	6,440	cu.ft
Sediment Storage Volume Provided =	11,774	cu.ft
Top of Dewatering Zone =	525.25	
Dewatering Zone Volume Required =	23,184	cu.ft
Dewatering Zone Volume Provided =	47,089	cu.ft

Minimum required surface area:
larger of (0.01 X Q10 yr) or (0.015 x DA)

$0.01Q_{10yr.}$ =	0.18	acres
(0.015 x DA) =	0.10	acres
Surface Area provided @ Spillway Crest =	18,968	sq.ft.
=	0.44	acres

Pipe Spillway or Outlet Structure:

Min. pipe spillway cap., $Q_{ps.}$ = 17.54 cfs *no emergency spillway

Head = 7.25 ft Barrel length = 44.00 ft

Barrel diameter = 24.00 in Cor. Factor = 1.17

Modified $Q_{ps.}$ = 17.54 X 1.17 = 20.52 cfs

Proposed Barrel capacity = 26.42 cfs

Dewatering Orifice Area (Ao) = $A_o = A_s x(2h)^{0.5}/TC_d x20{,}428$

Surface Area of Basin @ orifice (A_S) =	12,712	sq.ft
DV height (ft) above orifice H =	3.25	ft.
T =	48.0	hrs
C_d =	0.6	

Ao =	0.0779	sq.ft
=	0.1575	ft. diameter
=	3.78	in. diameter
	Use 4"	

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Consulting Engineers - Planners

Project North Edge

Sediment Basin Design

Sediment Basin ID: ***Basin #2***

$Q_{10\ yr}$ (cfs) = 23.54

Basin Size Design:
Sediment Storage Volume = 1,000 cu.ft. / ac of disturbed area
Dewatering Zone Volume = 3600 cu.ft.X ac of Drainage Area (DA)

Disturbed Area =	4.56	acres
Drainage area (DA) =	9.27	acres
Top of Sediment Storage Zone =	531.00	
Sediment Storage Volume Required =	4,560	cu.ft
Sediment Storage Volume Provided =	13,164	cu.ft
Top of Dewatering Zone =	534.00	
Dewatering Zone Volume Required =	33,372	cu.ft
Dewatering Zone Volume Provided =	52,082	cu.ft

Minimum required surface area:
larger of (0.01 X Q10 yr) or (0.015 x DA)

$0.01Q_{10yr.}$ =	0.24	acres
(0.015 x DA) =	0.07	acres
Surface Area provided @ Spillway Crest =	20,619	sq.ft.
=	0.47	acres

Pipe Spillway or Outlet Structure:

Min. pipe spillway cap., $Q_{ps.}$ = 23.54 cfs *no emergency spillway

Head = 6.50 ft Barrel length = 50.00 ft

Barrel diameter = 24.00 in Cor. Factor = 1.10

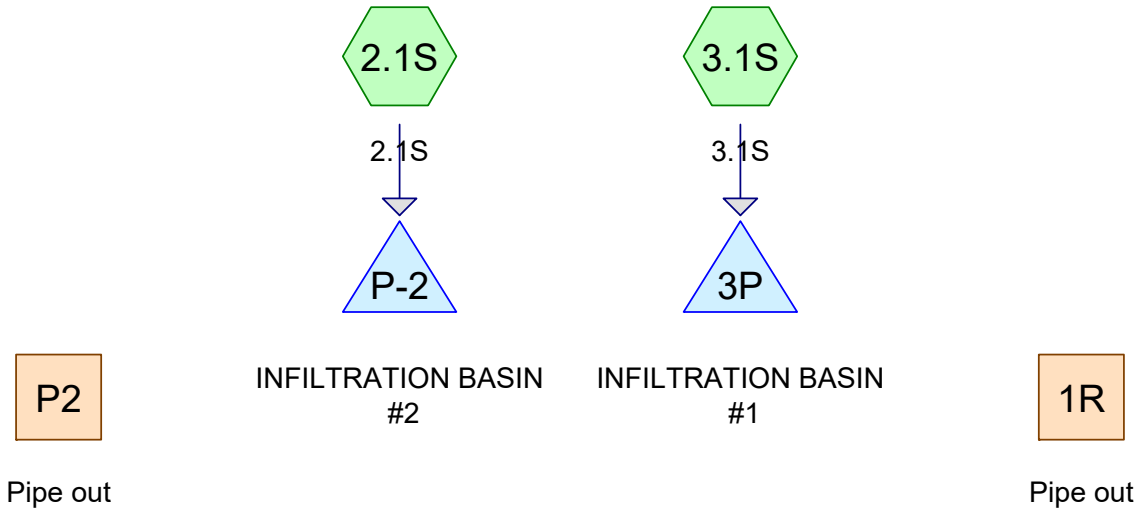
Modified $Q_{ps.}$ = 23.54 X 1.10 = 25.89 cfs

Proposed Barrel capacity = 85.00 cfs

Dewatering Orifice Area (Ao) = $A_o = A_s x(2h)^{0.5}/TC_d x20,428$

Surface Area of Basin @ orifice (A_S) =	14,166	sq.ft
DV height (ft) above orifice H =	3.50	ft.
T =	48.0	hrs
C_d =	0.6	

Ao =	0.0901	sq.ft
=	0.1693	ft. diameter
=	4.06	in. diameter
	Use 4"	



Subcat Reach Pond Link

Routing Diagram for RAL North Edge post-9-25-25 Sediment Basin
Prepared by Bibbo Associates, llp., Printed 9/23/2025

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.180	74	>75% Grass cover, Good, HSG C (2.1S)
1.568	98	Ex. Imp. (2.1S)
0.074	96	Gravel surface, HSG C (2.1S)
4.965	91	Newly graded area, HSG C (2.1S, 3.1S)
2.894	98	Prop. Building (2.1S, 3.1S)
0.162	98	Prop. Patios & Decks (2.1S, 3.1S)
0.030	91	Prop. Patios Pourous (2.1S)
0.157	98	Prop. Porches (2.1S, 3.1S)
2.649	98	Prop. Road & Dwy (2.1S, 3.1S)
0.176	98	Prop. Walkways (2.1S, 3.1S)
0.864	70	Woods, Good, HSG C (2.1S)
15.719	**91**	**TOTAL AREA**

Time span=0.00-144.00 hrs, dt=0.05 hrs, 2881 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment2.1S: 2.1S Runoff Area=9.274 ac 40.80% Impervious Runoff Depth=3.71"
Flow Length=1,002' Tc=21.0 min CN=88 Runoff=23.54 cfs 2.865 af

Subcatchment3.1S: 3.1S Runoff Area=6.445 ac 59.30% Impervious Runoff Depth=4.46"
Flow Length=1,008' Tc=23.9 min CN=95 Runoff=17.54 cfs 2.395 af

Reach 1R: Pipe out Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=44.0' S=0.0136 '/' Capacity=26.42 cfs Outflow=0.00 cfs 0.000 af

Reach P2: Pipe out Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=42.5' S=0.1412 '/' Capacity=85.00 cfs Outflow=0.00 cfs 0.000 af

Pond 3P: INFILTRATIONBASIN#1 Peak Elev=525.44' Storage=62,439 cf Inflow=17.54 cfs 2.395 af
Outflow=3.36 cfs 2.121 af

Pond P-2: INFILTRATIONBASIN#2 Peak Elev=534.24' Storage=70,197 cf Inflow=23.54 cfs 2.865 af
Outflow=4.52 cfs 2.559 af

Total Runoff Area = 15.719 ac Runoff Volume = 5.260 af Average Runoff Depth = 4.02"
51.61% Pervious = 8.113 ac 48.39% Impervious = 7.606 ac

Summary for Subcatchment 2.1S: 2.1S

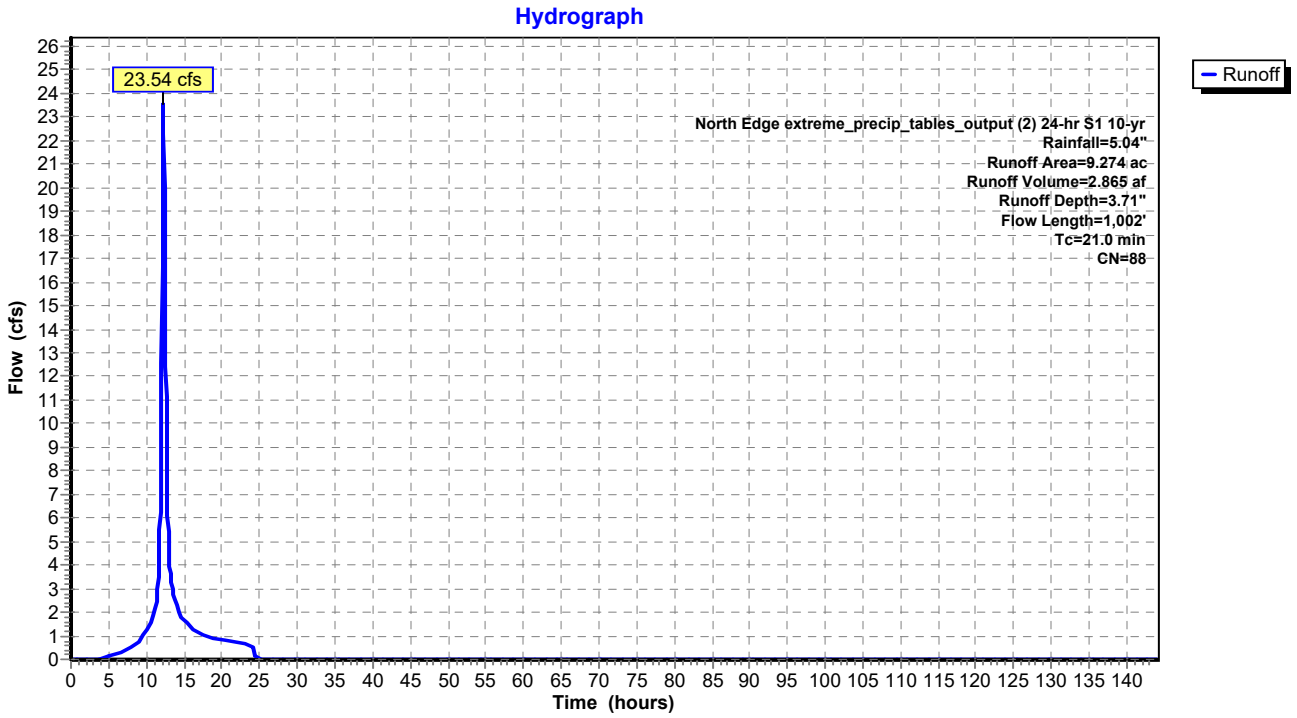
Runoff = 23.54 cfs @ 12.24 hrs, Volume= 2.865 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	0.864	70	Woods, Good, HSG C
	2.180	74	>75% Grass cover, Good, HSG C
*	0.954	98	Prop. Building
*	0.047	98	Prop. Patios & Decks
*	1.129	98	Prop. Road & Dwy
*	0.069	98	Prop. Walkways
*	0.017	98	Prop. Porches
*	1.568	98	Ex. Imp.
*	0.030	91	Prop. Patios Pourous
	0.074	96	Gravel surface, HSG C
	2.342	91	Newly graded area, HSG C
	9.274	88	Weighted Average
	5.490		59.20% Pervious Area
	3.784		40.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
1.4	148	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.9	133	0.0520	1.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	28	0.1700	2.89		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	136	0.3670	12.30		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	457	0.0600	12.89	15.82	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
21.0	1,002	Total			

Subcatchment 2.1S: 2.1S



Summary for Subcatchment 3.1S: 3.1S

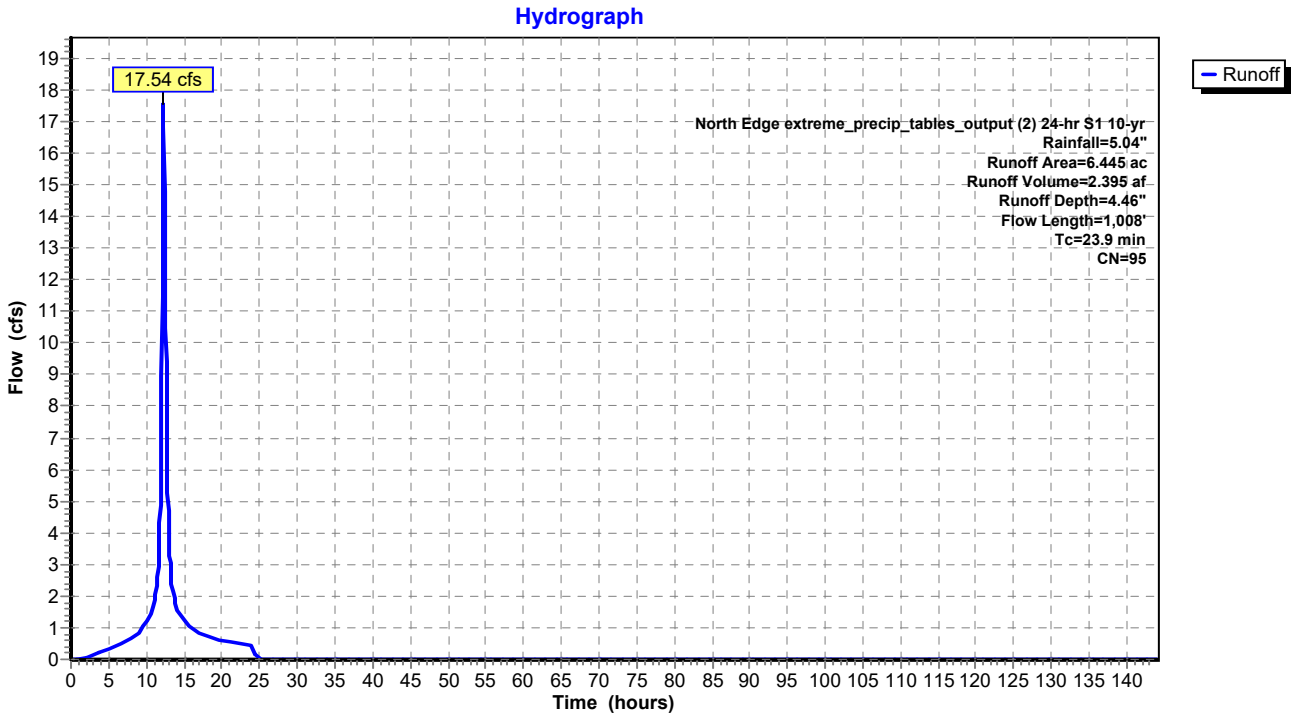
Runoff = 17.54 cfs @ 12.27 hrs, Volume= 2.395 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
North Edge extreme_precip_tables_output (2) 24-hr S1 10-yr Rainfall=5.04"

	Area (ac)	CN	Description
	2.623	91	Newly graded area, HSG C
*	1.940	98	Prop. Building
*	0.115	98	Prop. Patios & Decks
*	1.520	98	Prop. Road & Dwy
*	0.107	98	Prop. Walkways
*	0.140	98	Prop. Porches
	6.445	95	Weighted Average
	2.623		40.70% Pervious Area
	3.822		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	100	0.0050	0.10		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.35"
0.3	32	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	32	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.5	397	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	85	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	362	0.0500	11.77	14.44	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
23.9	1,008	Total			

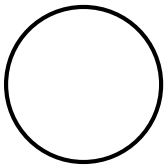
Subcatchment 3.1S: 3.1S

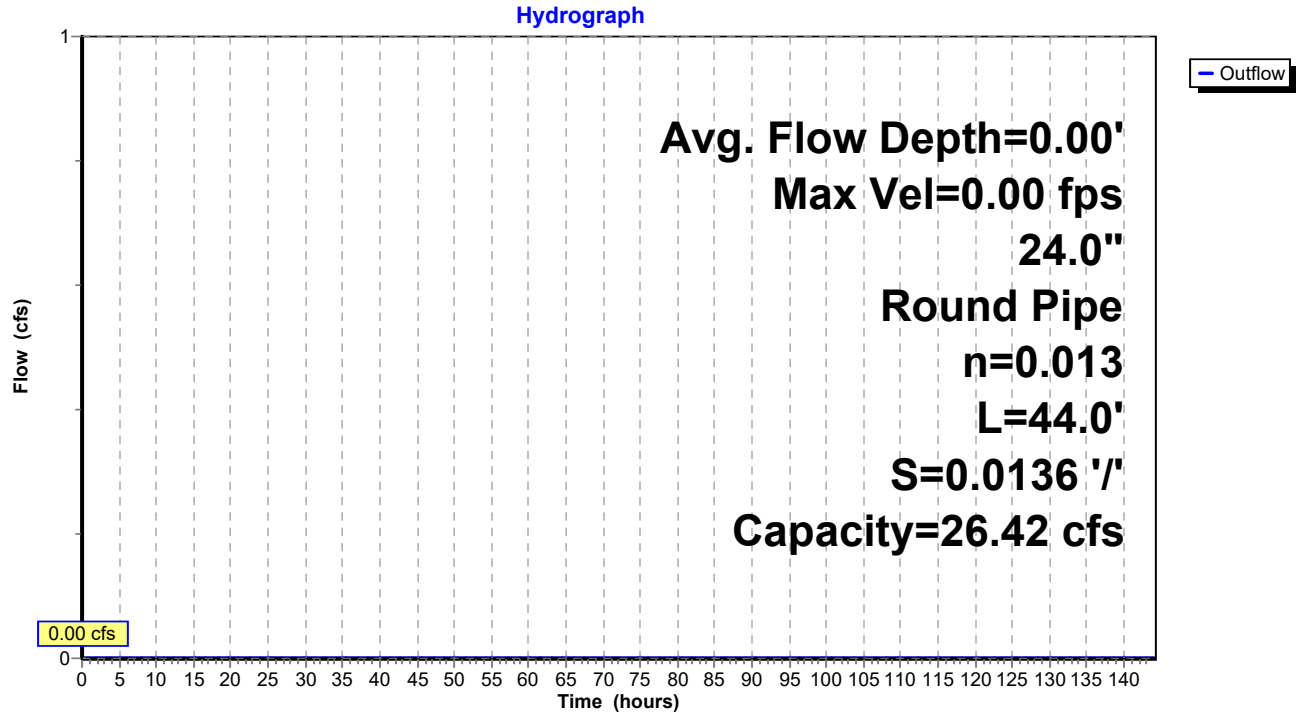


Summary for Reach 1R: Pipe out

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 26.42 cfs

24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 44.0' Slope= 0.0136 '/'
Inlet Invert= 518.85', Outlet Invert= 518.25'





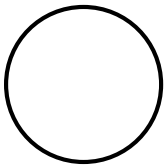
Stage-Area-Storage for Reach 1R: Pipe out

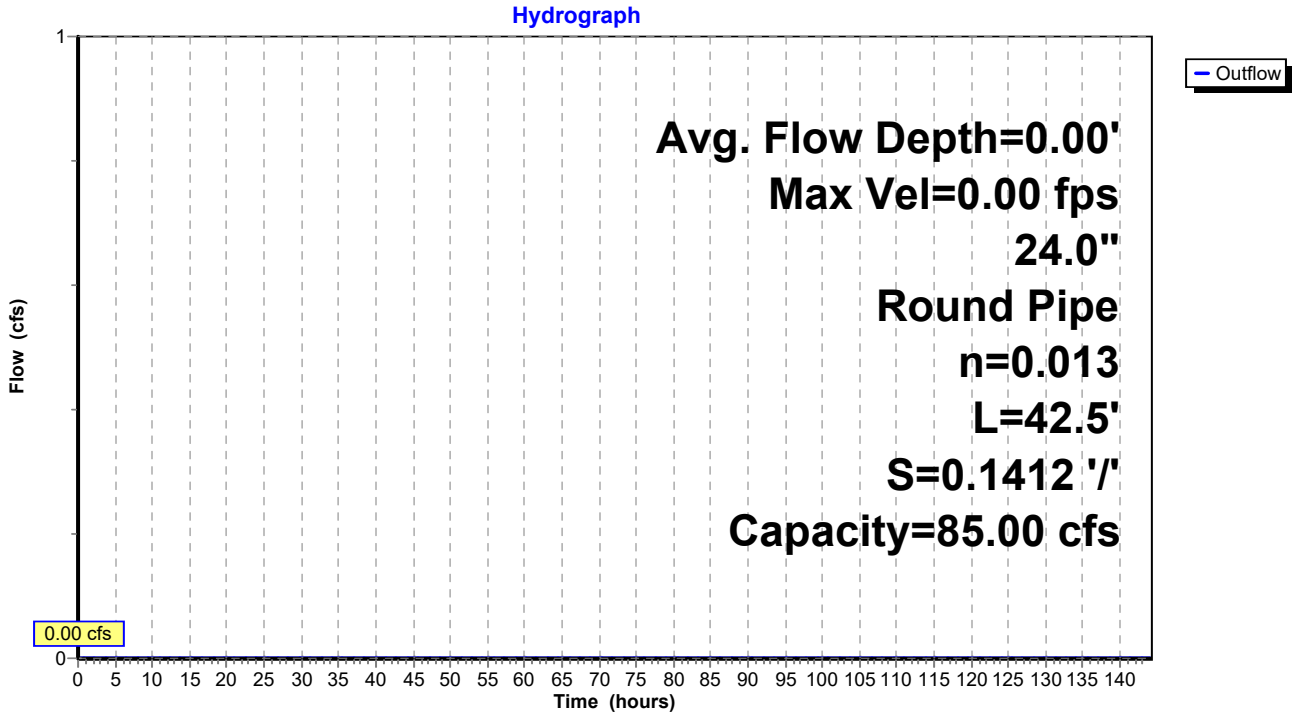
Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
518.85	0.0	0
518.87	0.0	0
518.89	0.0	1
518.91	0.0	1
518.93	0.0	2
518.95	0.1	3
518.97	0.1	3
518.99	0.1	4
519.01	0.1	5
519.03	0.1	6
519.05	0.2	7
519.07	0.2	8
519.09	0.2	9
519.11	0.2	11
519.13	0.3	12
519.15	0.3	13
519.17	0.3	14
519.19	0.4	16
519.21	0.4	17
519.23	0.4	18
519.25	0.4	20
519.27	0.5	21
519.29	0.5	23
519.31	0.5	24
519.33	0.6	26
519.35	0.6	27
519.37	0.6	29
519.39	0.7	30
519.41	0.7	32
519.43	0.8	33
519.45	0.8	35
519.47	0.8	36
519.49	0.9	38
519.51	0.9	40
519.53	0.9	41
519.55	1.0	43
519.57	1.0	45
519.59	1.1	46
519.61	1.1	48
519.63	1.1	50
519.65	1.2	52
519.67	1.2	53
519.69	1.3	55
519.71	1.3	57
519.73	1.3	59
519.75	1.4	60
519.77	1.4	62
519.79	1.5	64
519.81	1.5	66
519.83	1.5	67
519.85	1.6	69
519.87	1.6	71
519.89	1.7	73
519.91	1.7	74
519.93	1.7	76
519.95	1.8	78
519.97	1.8	80
519.99	1.8	81
520.01	1.9	83
520.03	1.9	85
520.05	2.0	87
520.07	2.0	88
520.09	2.0	90
520.11	2.1	92
520.13	2.1	93
520.15	2.2	95
520.17	2.2	97
520.19	2.2	98
520.21	2.3	100
520.23	2.3	102
520.25	2.3	103
520.27	2.4	105
520.29	2.4	107
520.31	2.5	108
520.33	2.5	110
520.35	2.5	111
520.37	2.6	113
520.39	2.6	114
520.41	2.6	116
520.43	2.7	117
520.45	2.7	119
520.47	2.7	120
520.49	2.8	121
520.51	2.8	123
520.53	2.8	124
520.55	2.8	125
520.57	2.9	126
520.59	2.9	128
520.61	2.9	129
520.63	3.0	130
520.65	3.0	131
520.67	3.0	132
520.69	3.0	133
520.71	3.0	134
520.73	3.1	135
520.75	3.1	136
520.77	3.1	136
520.79	3.1	137
520.81	3.1	138
520.83	3.1	138
520.85	**3.1**	**138**

Summary for Reach P2: Pipe out

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 85.00 cfs

24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 42.5' Slope= 0.1412 '/'
Inlet Invert= 528.00', Outlet Invert= 522.00'





Stage-Area-Storage for Reach P2: Pipe out

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
528.00	0.0	0
528.02	0.0	0
528.04	0.0	1
528.06	0.0	1
528.08	0.0	2
528.10	0.1	2
528.12	0.1	3
528.14	0.1	4
528.16	0.1	5
528.18	0.1	6
528.20	0.2	7
528.22	0.2	8
528.24	0.2	9
528.26	0.2	10
528.28	0.3	11
528.30	0.3	13
528.32	0.3	14
528.34	0.4	15
528.36	0.4	16
528.38	0.4	18
528.40	0.4	19
528.42	0.5	20
528.44	0.5	22
528.46	0.5	23
528.48	0.6	25
528.50	0.6	26
528.52	0.6	28
528.54	0.7	29
528.56	0.7	31
528.58	0.8	32
528.60	0.8	34
528.62	0.8	35
528.64	0.9	37
528.66	0.9	38
528.68	0.9	40
528.70	1.0	42
528.72	1.0	43
528.74	1.1	45
528.76	1.1	47
528.78	1.1	48
528.80	1.2	50
528.82	1.2	52
528.84	1.3	53
528.86	1.3	55
528.88	1.3	57
528.90	1.4	58
528.92	1.4	60
528.94	1.5	62
528.96	1.5	63
528.98	1.5	65
529.00	1.6	67
529.02	1.6	68
529.04	1.7	70
529.06	1.7	72
529.08	1.7	74
529.10	1.8	75
529.12	1.8	77
529.14	1.8	79
529.16	1.9	80
529.18	1.9	82
529.20	2.0	84
529.22	2.0	85
529.24	2.0	87
529.26	2.1	89
529.28	2.1	90
529.30	2.2	92
529.32	2.2	93
529.34	2.2	95
529.36	2.3	97
529.38	2.3	98
529.40	2.3	100
529.42	2.4	101
529.44	2.4	103
529.46	2.5	104
529.48	2.5	106
529.50	2.5	107
529.52	2.6	109
529.54	2.6	110
529.56	2.6	112
529.58	2.7	113
529.60	2.7	115
529.62	2.7	116
529.64	2.8	117
529.66	2.8	118
529.68	2.8	120
529.70	2.8	121
529.72	2.9	122
529.74	2.9	123
529.76	2.9	124
529.78	3.0	126
529.80	3.0	127
529.82	3.0	128
529.84	3.0	129
529.86	3.0	129
529.88	3.1	130
529.90	3.1	131
529.92	3.1	132
529.94	3.1	132
529.96	3.1	133
529.98	3.1	133
530.00	**3.1**	**134**

Summary for Pond 3P: INFILTRATION BASIN #1

Inflow Area = 6.445 ac, 59.30% Impervious, Inflow Depth = 4.46" for 10-yr event
Inflow = 17.54 cfs @ 12.27 hrs, Volume= 2.395 af
Outflow = 3.36 cfs @ 13.08 hrs, Volume= 2.121 af, Atten= 81%, Lag= 48.5 min
Primary = 3.36 cfs @ 13.08 hrs, Volume= 2.121 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 525.44' @ 13.08 hrs Surf.Area= 19,515 sf Storage= 62,439 cf

Plug-Flow detention time= 843.9 min calculated for 2.121 af (89% of inflow)
Center-of-Mass det. time= 782.4 min (1,571.9 - 789.5)

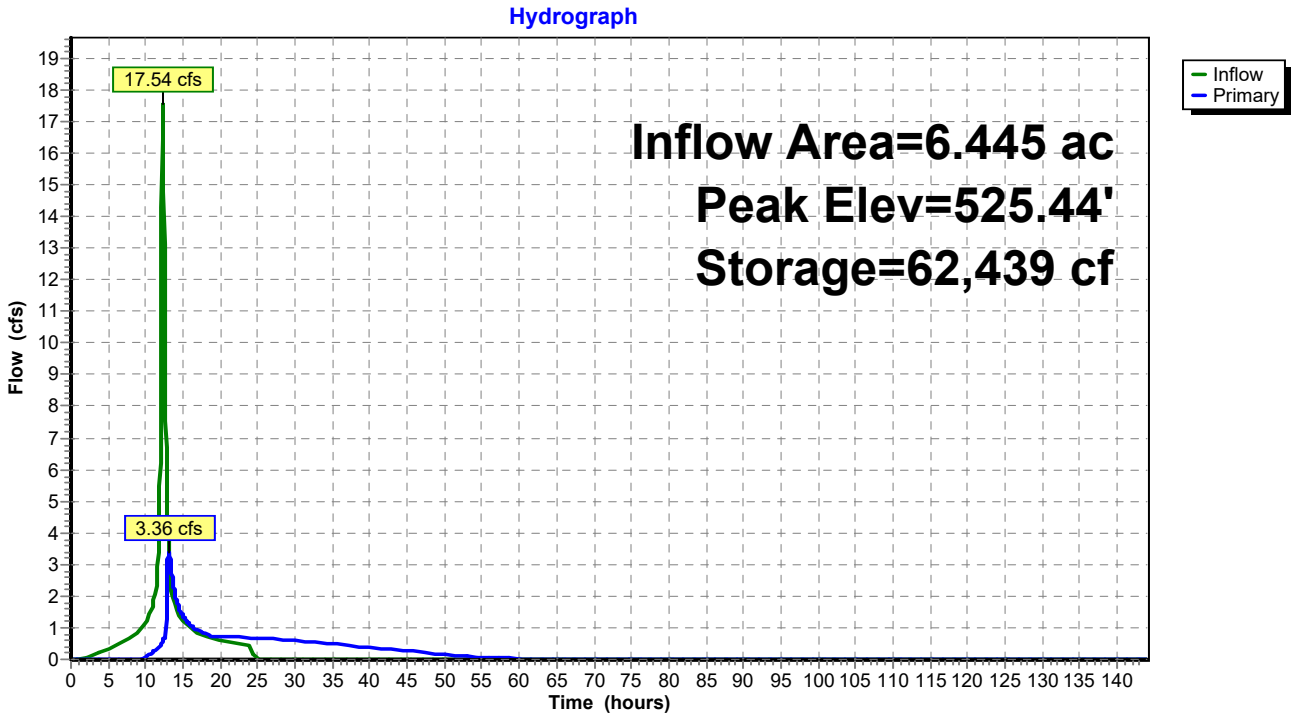
Volume	Invert	Avail.Storage	Storage Description
#1	521.25'	63,697 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
521.25	10,837	615.5	0	0	10,837
521.50	11,302	624.8	2,767	2,767	11,768
522.00	12,250	637.7	5,886	8,654	13,102
524.00	16,189	675.4	28,348	37,001	17,254
524.50	17,209	684.8	8,348	45,349	18,327
525.00	18,244	694.3	8,862	54,211	19,425
525.50	19,706	755.1	9,485	63,697	26,447

Device	Routing	Invert	Outlet Devices
#1	Primary	518.85'	**24.0" Round Culvert** L= 44.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 518.85' / 518.25' S= 0.0136 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	522.25'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	525.25'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.35 cfs @ 13.08 hrs HW=525.44' (Free Discharge)
└**1=Culvert** (Passes 3.35 cfs of 35.75 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.73 cfs @ 8.37 fps)
  └**3=Orifice/Grate** (Weir Controls 2.62 cfs @ 1.41 fps)

Pond 3P: INFILTRATION BASIN #1



Stage-Area-Storage for Pond 3P: INFILTRATION BASIN #1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
521.25	10,837	0
521.30	10,929	544
521.35	11,022	1,093
521.40	11,115	1,646
521.45	11,208	2,204
521.50	11,302	2,767
521.55	11,395	3,335
521.60	11,489	3,907
521.65	11,582	4,483
521.70	11,677	5,065
521.75	11,771	5,651
521.80	11,866	6,242
521.85	11,962	6,838
521.90	12,057	7,438
521.95	12,153	8,043
522.00	12,250	8,654
522.05	12,342	9,268
522.10	12,434	9,888
522.15	12,526	10,512
522.20	12,619	11,140
522.25	12,712	11,774
522.30	12,806	12,412
522.35	12,900	13,054
522.40	12,994	13,702
522.45	13,088	14,354
522.50	13,183	15,010
522.55	13,279	15,672
522.60	13,374	16,338
522.65	13,470	17,009
522.70	13,566	17,685
522.75	13,663	18,366
522.80	13,760	19,052
522.85	13,857	19,742
522.90	13,955	20,437
522.95	14,053	21,138
523.00	14,151	21,843
523.05	14,250	22,553
523.10	14,349	23,268
523.15	14,448	23,988
523.20	14,548	24,712
523.25	14,648	25,442
523.30	14,748	26,177
523.35	14,849	26,917
523.40	14,950	27,662
523.45	15,051	28,412
523.50	15,153	29,167
523.55	15,255	29,927
523.60	15,357	30,693
523.65	15,460	31,463
523.70	15,563	32,239
523.75	15,667	33,019
523.80	15,770	33,805
523.85	15,875	34,596
523.90	15,979	35,393
523.95	16,084	36,194
524.00	16,189	37,001
524.05	16,290	37,813
524.10	16,391	38,630
524.15	16,492	39,452
524.20	16,593	40,279
524.25	16,695	41,112
524.30	16,797	41,949
524.35	16,900	42,791
524.40	17,003	43,639
524.45	17,106	44,492
524.50	17,209	45,349
524.55	17,311	46,212
524.60	17,414	47,081
524.65	17,516	47,954
524.70	17,619	48,832
524.75	17,723	49,716
524.80	17,826	50,604
524.85	17,930	51,498
524.90	18,035	52,397
524.95	18,139	53,302
525.00	18,244	54,211
525.05	18,388	55,127
525.10	18,532	56,050
525.15	18,677	56,980
525.20	18,822	57,918
525.25	18,968	58,863
525.30	19,114	59,815
525.35	19,261	60,774
525.40	19,409	61,741
525.45	19,557	62,715
525.50	**19,706**	**63,697**

Summary for Pond P-2: INFILTRATION BASIN #2

Inflow Area = 9.274 ac, 40.80% Impervious, Inflow Depth = 3.71" for 10-yr event
Inflow = 23.54 cfs @ 12.24 hrs, Volume= 2.865 af
Outflow = 4.52 cfs @ 13.01 hrs, Volume= 2.559 af, Atten= 81%, Lag= 46.3 min
Primary = 4.52 cfs @ 13.01 hrs, Volume= 2.559 af

Routing by Stor-Ind method, Time Span= 0.00-144.00 hrs, dt= 0.05 hrs
Peak Elev= 534.24' @ 13.01 hrs Surf.Area= 21,145 sf Storage= 70,197 cf

Plug-Flow detention time= 835.4 min calculated for 2.559 af (89% of inflow)
Center-of-Mass det. time= 779.0 min (1,602.6 - 823.7)

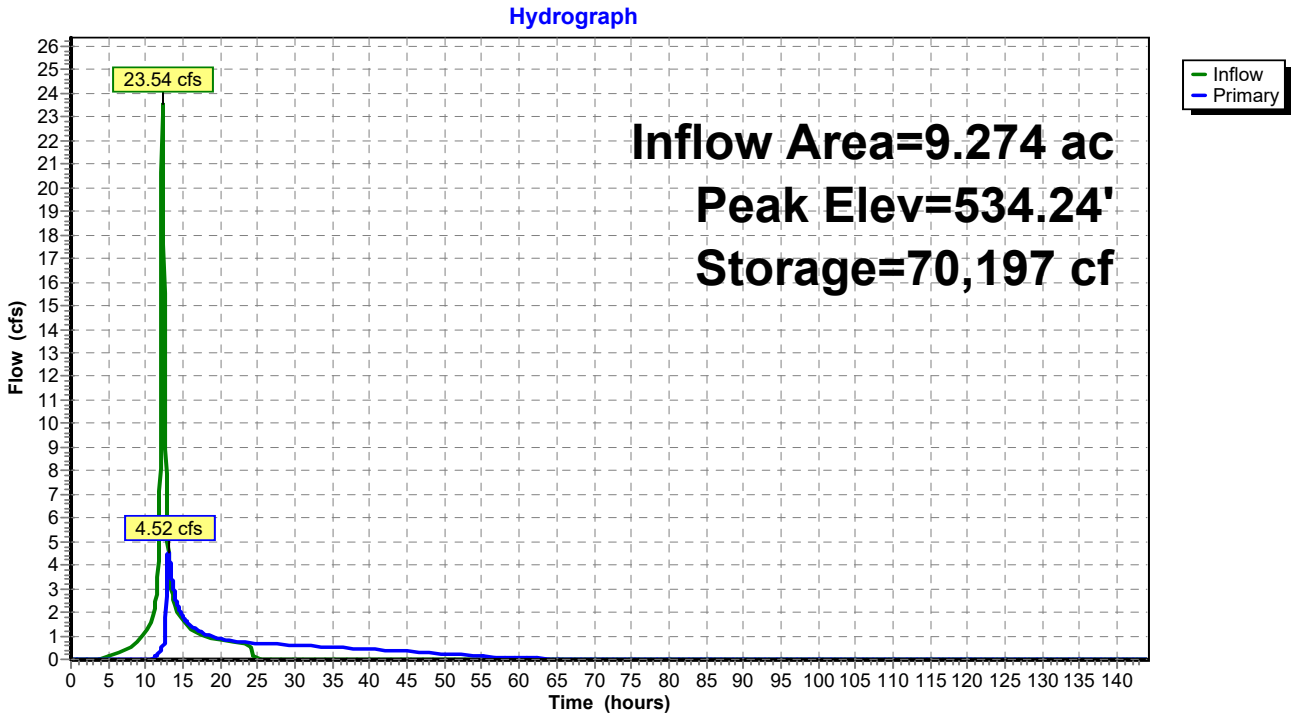
Volume	Invert	Avail.Storage	Storage Description
#1	530.00'	75,834 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
530.00	12,188	662.8	0	0	12,188
532.00	16,292	702.2	28,381	28,381	16,680
532.50	17,352	711.9	8,410	36,791	17,828
533.50	19,516	730.5	18,423	55,214	20,081
534.00	20,619	740.0	10,032	65,246	21,252
534.50	21,736	749.0	10,588	75,834	22,381

Device	Routing	Invert	Outlet Devices
#1	Primary	528.00'	**24.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 528.00' / 522.00' S= 0.1200 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	531.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	534.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.51 cfs @ 13.01 hrs HW=534.24' (Free Discharge)
└**1=Culvert** (Passes 4.51 cfs of 34.62 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.74 cfs @ 8.44 fps)
└**3=Orifice/Grate** (Weir Controls 3.77 cfs @ 1.59 fps)

Pond P-2: INFILTRATION BASIN #2



Stage-Area-Storage for Pond P-2: INFILTRATION BASIN #2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
530.00	12,188	0
530.05	12,283	612
530.10	12,379	1,228
530.15	12,475	1,850
530.20	12,572	2,476
530.25	12,668	3,107
530.30	12,766	3,743
530.35	12,863	4,383
530.40	12,961	5,029
530.45	13,060	5,680
530.50	13,158	6,335
530.55	13,257	6,995
530.60	13,357	7,661
530.65	13,457	8,331
530.70	13,557	9,006
530.75	13,657	9,687
530.80	13,758	10,372
530.85	13,860	11,063
530.90	13,961	11,758
530.95	14,063	12,459
531.00	14,166	13,164
531.05	14,268	13,875
531.10	14,372	14,591
531.15	14,475	15,312
531.20	14,579	16,039
531.25	14,683	16,770
531.30	14,788	17,507
531.35	14,893	18,249
531.40	14,998	18,996
531.45	15,104	19,749
531.50	15,210	20,507
531.55	15,317	21,270
531.60	15,424	22,039
531.65	15,531	22,812
531.70	15,639	23,592
531.75	15,746	24,376
531.80	15,855	25,166
531.85	15,964	25,962
531.90	16,073	26,763
531.95	16,182	27,569
532.00	16,292	28,381
532.05	16,396	29,198
532.10	16,501	30,021
532.15	16,606	30,848
532.20	16,712	31,681
532.25	16,818	32,519
532.30	16,924	33,363
532.35	17,030	34,212
532.40	17,137	35,066
532.45	17,244	35,926
532.50	17,352	36,791
532.55	17,457	37,661
532.60	17,563	38,536
532.65	17,668	39,417
532.70	17,775	40,303
532.75	17,881	41,194
532.80	17,988	42,091
532.85	18,095	42,993
532.90	18,202	43,901
532.95	18,310	44,814
533.00	18,418	45,732
533.05	18,526	46,655
533.10	18,635	47,584
533.15	18,744	48,519
533.20	18,853	49,459
533.25	18,963	50,404
533.30	19,073	51,355
533.35	19,183	52,312
533.40	19,294	53,273
533.45	19,405	54,241
533.50	19,516	55,214
533.55	19,625	56,192
533.60	19,734	57,176
533.65	19,844	58,166
533.70	19,954	59,161
533.75	20,064	60,161
533.80	20,174	61,167
533.85	20,285	62,179
533.90	20,396	63,196
533.95	20,507	64,218
534.00	20,619	65,246
534.05	20,729	66,280
534.10	20,840	67,319
534.15	20,951	68,364
534.20	21,062	69,414
534.25	21,174	70,470
534.30	21,286	71,532
534.35	21,398	72,599
534.40	21,510	73,672
534.45	21,623	74,750
534.50	**21,736**	**75,834**

Appendix M:

Anti-Seep Collar Design

Project North Edge Realty

Anti-Seep Collar Calculations

Sediment Basin ID: ***Infiltration Basin #1***

$$Ls = y\,(z+4)\left[\frac{1+\text{pipe slope}}{0.25-\text{pipe slope}}\right]$$

where:

Ls = Length of pipe in saturated zone (ft)
y = distance from highest expected water elevation to pipe invert.(ft)
z = Slope of Embankment (horizontal : one ft vertical)
v = Collar Projection (ft)

Peak Elevation=	525.44	
Culvert Invert =	518.85	
y=	6.59	
z =	2	:1
Pipe slope =	0.011	ft/ft
Pipe diameter =	15	in.
	1.25	ft.

$$Ls = y\,(z+4)\left[\frac{1+\text{pipe slope}}{0.25-\text{pipe slope}}\right]$$

Ls = 41.4 ft

V= 1.6 ft

Use Two (2) Collars on the pipe 4.5' x 4.5'

Refer to figure 5.17 - Anti-Seep Collar Design Charts

Project North Edge Realty

Anti-Seep Collar Calculations

Sediment Basin ID: ***Infiltration Basin #2***

$$Ls = y\,(z+4)\left[\frac{1+\text{pipe slope}}{0.25-\text{pipe slope}}\right]$$

where:

Ls = Length of pipe in saturated zone (ft)
y = distance from highest expected water elevation to pipe invert.(ft)
z = Slope of Embankment (horizontal : one ft vertical)
v = Collar Projection (ft)

Peak Elevation=	534.24	
Culvert Invert =	528	
y=	6.24	
z =	2	:1
Pipe slope =	0.141	ft/ft
Pipe diameter =	24	in.
	2	ft.

$$Ls = y\,(z+4)\left[\frac{1+\text{pipe slope}}{0.25-\text{pipe slope}}\right]$$

Ls = 86.0 ft

V= 2.2 ft

Use Three (3) Collars on the pipe 6.5' x6.5'

Refer to figure 5.17 - Anti-Seep Collar Design Charts

Project | North Edge Realty

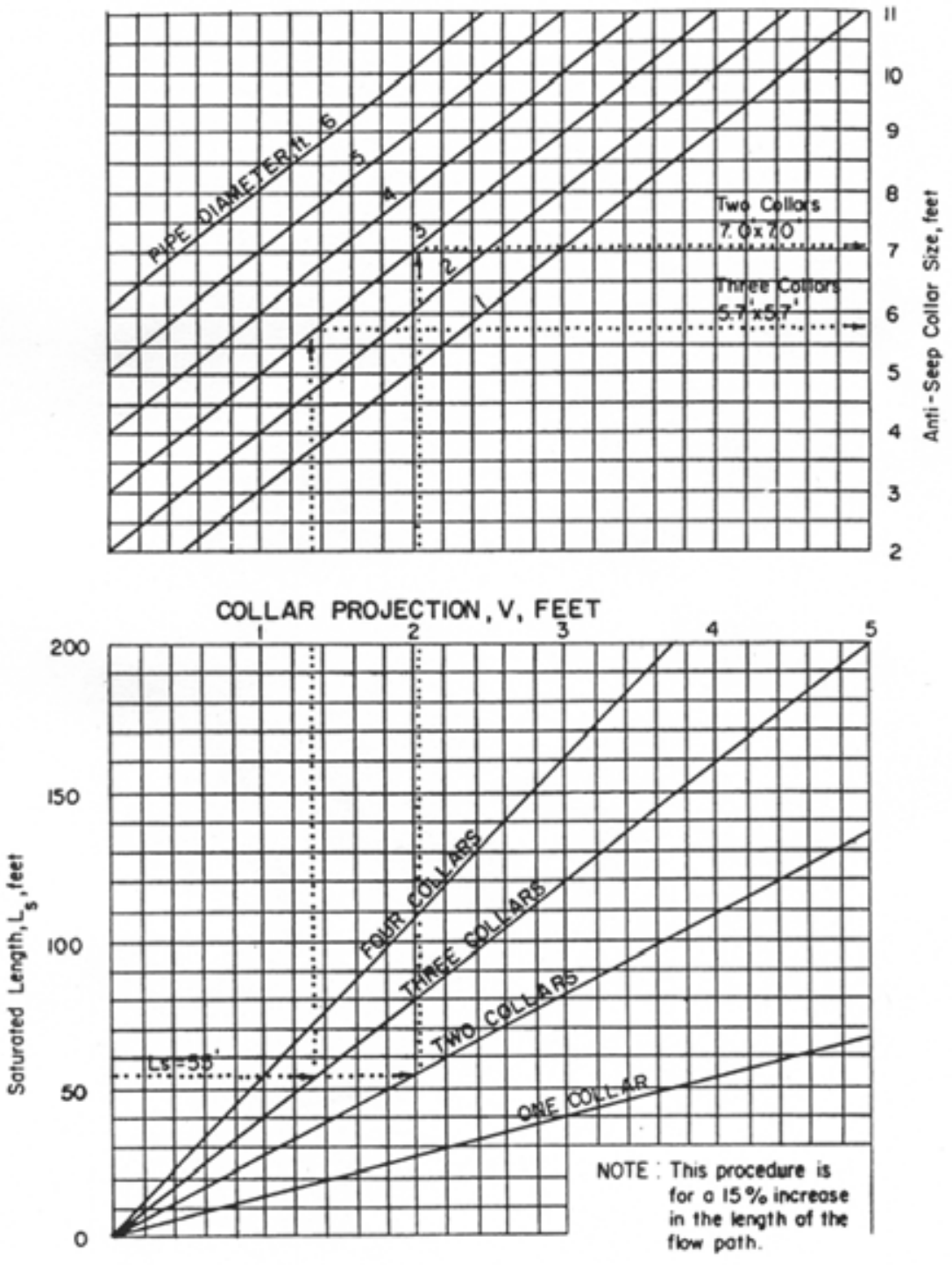
Anti-Seep Collar Calculations

Figure 5.17

Anti-Seep Collar Design Charts (USDA - NRCS)

New York State Standards and Specifications November 2016 For Erosion and Sediment Control

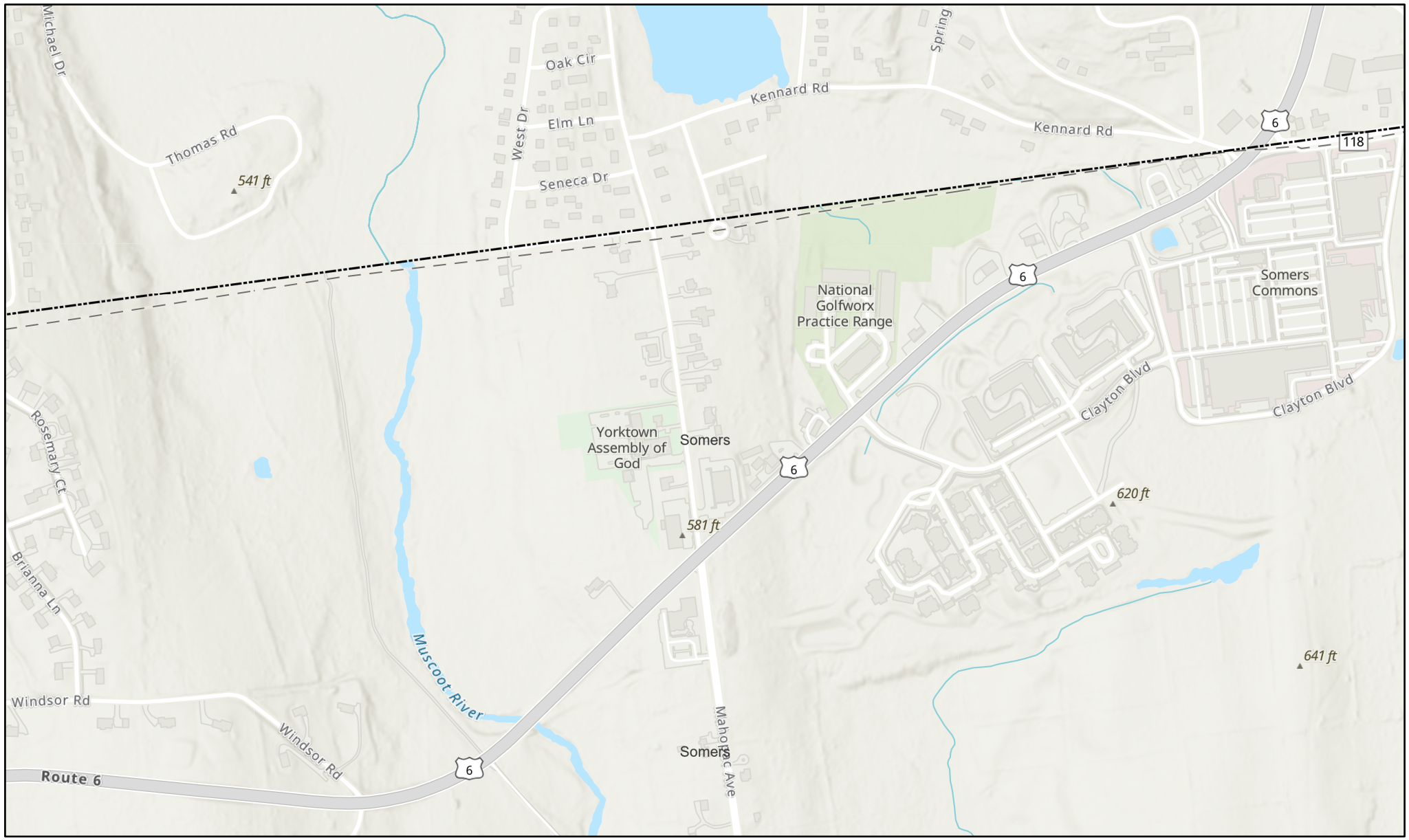
Page 5.35



Appendix N:

Map of Historic Places in Vicinity of Project

Mapping Westchester County



Mapping Westchester County

Municipal Boundaries

0 425 850 1,700 ft

1:9,028 July 8, 2025

N

GIS GEOGRAPHIC INFORMATION SYSTEMS

http://giswww.westchestergov.com

Michaelian Office Building
148 Martine Avenue Rm 214
White Plains, New York 10601

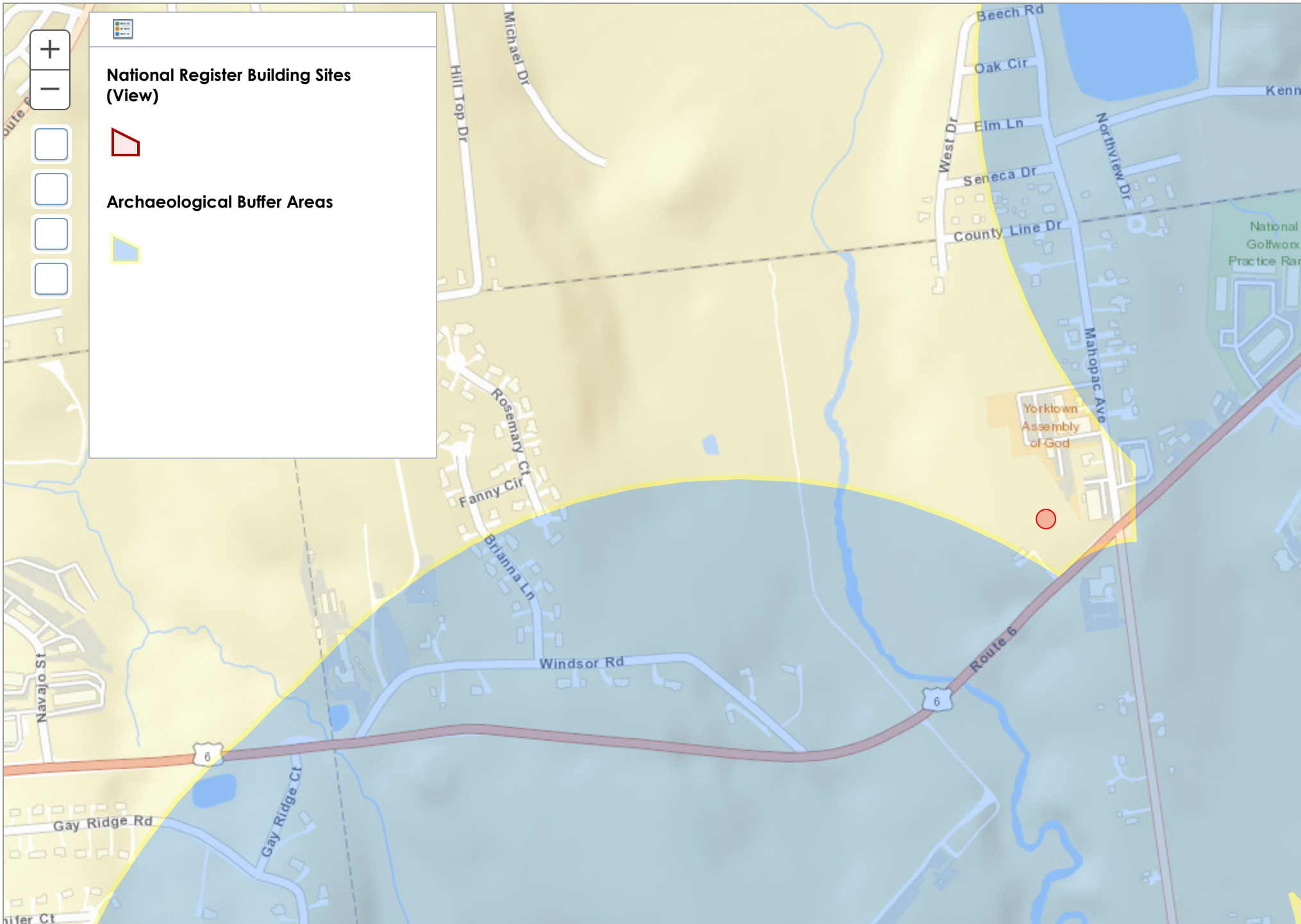

National Register Building Sites (View)
Archaeological Buffer Areas
Beech Rd
Oak Cir
Elm Ln
Seneca Dr
County Line Dr
West Dr
Northview Dr
Mahopac Ave
Michael Dr
Hill Top Dr
Rosemary Ct
Fanny Cir
Brianna Ln
Windsor Rd
Route 6
Navajo St
Gay Ridge Rd
Gay Ridge Ct
Yorktown Assembly of God
6

Figure 1

DRAINAGE BASIN LEGEND:

- PnB / C — SOIL TYPE / SOIL CLASSIFICATION
- SOIL BOUNDARY
- BASIN BOUNDARY
- Tc Tc — TIME OF CONCENTRATION PATH (TC)
- DESIGN LINE
- EXISTING WOODS LINE

MAHOPAC AVENUE

TO MAHOPAC

TO PEEKSKILL

3.0S

2.0S

1.0S

APPROX. LOC EXIST. TWO STORY RESIDENCE

APPROX. LOC EXIST. TWO STORY RESIDENCE

WETLAND BUFFER 100ft

DESIGN LINE 1

DESIGN LINE 2

DESIGN LINE 3

DESIGN LINE

LANDS NOW OR FORMERLY THE CITY OF NEW YORK

MUSCOOT RIVER

PLAN

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

REVISIONS						
				7-17-25	TOWN BOARD COMMENT REVISIONS	RH/TSA
				1-29-25	TOWN BOARD COMMENT REVISIONS	RH/TSA
DATE:	DESCRIPTION	BY/CK	DATE:	DESCRIPTION		BY/CK

PREDEVELOPMENT DRAINAGE BASIN MAP

NORTH EDGE REALTY CORP.
ROUTE 6
TOWN OF SOMERS, WESTCHESTER COUNTY

DATE:	10-30-2024
SCALE:	1" = 50'
FILE:	
DSGN / CHK:	RH / TSA
DRN. BY:	RH
SHT NO.	FIGURE 1
DWG NO.	PRE

STATE OF NEW YORK — TIMOTHY S. ALLEN — LICENSED PROFESSIONAL ENGINEER — 073434

TIMOTHY S. ALLEN, P.E.

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SOMERS, NEW YORK 10589
TEL. 914 277 5805

Figure 2

DRAINAGE BASIN LEGEND:

PnB / C — SOIL TYPE

SOIL CLASSIFICATION

SOIL BOUNDARY

BASIN BOUNDARY

TIME OF CONCENTRATION PATH (TC)

DESIGN LINE

MAHOPAC AVENUE

TO WAHLBRAG STATION WATERSHED ROUTE 6

TO PEEKSKILL

1.1S

2.1S

3.1S

3.2S

1.2S

2.2S

3.2S

WdA / C

PnB / C

PnC / C

PnD / C

RgB / D

APPROX. LOC EXIST. TWO - STORY RESIDENCE

PROPOSED STORMWATER INFILTRATION BASIN 2

PROPOSED STORMWATER INFILTRATION BASIN 1

PROPOSED OUTLET STRUCTURE 2
RIM = 534.00 - 24" x 30" HORIZ. ORIFICE / GRATE
INV. = 531.75- (2) 2.5'LONG x 0.5' BREADTH BROAD - CRESTED RECTANGULAR WEIR
INV. = 531.75 - (2) 2.0'LONG x 0.5' BREADTH BROAD - CRESTED RECTANGULAR WEIR
INV. = 528.00 - 24" H.D.P.E. OUTLET PIPE

PROPOSED EMERGENCY SPILLWAY = 533.5

PROPOSED OUTLET STRUCTURE 1
RIM = 523.80 - 24" x 36" HORIZ. ORIFICE / GRATE
INV. = 523.15 - 3'LONG x 0.5' BREADTH BROAD - CRESTED RECTANGULAR WEIR
INV. = 518.65 - 15" H.D.P.E. OUTLET PIPE

PROPOSED EMERGENCY SPILLWAY = 524.5

PROPOSED RIP-RAP SLOPE STABILIZATION

6'-0" WIDE CONCRETE SIDEWALK & CURB

APPROXIMATE LOCATION OF EXISTING 12" CLASS 52 DIP WATER MAIN

12" x 10" REDUCER

WETLAND BUFFER 100ft

DESIGN LINE 1

DESIGN LINE 2

DESIGN LINE 3

LANDS NOW OR FORMERLY THE CITY OF NEW YORK

DESIGN LINE

MUSCOOT RIVER

PLAN

GRAPHIC SCALE

0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

REVISIONS						
				7-17-25	TOWN BOARD COMMENT REVISIONS	RH/TSA
				1-29-25	TOWN BOARD COMMENT REVISIONS	RH/TSA
DATE:	DESCRIPTION	BY/CK	DATE:		DESCRIPTION	BY/CK

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TIMOTHY S. ALLEN, P.E.

POST DEVELOPMENT DRAINAGE BASIN MAP

NORTH EDGE REALTY CORP.
ROUTE 6
TOWN OF SOMERS, WESTCHESTER COUNTY

DATE:	10-30-24
SCALE:	1" = 50'
FILE:	
DSGN / CHK:	RH / TSA
DRN. BY:	RH
SHT NO.	FIGURE 2
DWG NO.	POST

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