February 4, 2025

Erosion and Sediment Control Stormwater Pollution Prevention Plan (ESC SWPPP) for Moreau Community Solar Project 65 Reynolds Road

Town of Moreau
Saratoga County, New York

Prepared for:
NY USLE Moreau Reynolds A LLC. & NY USLE Moreau Reynolds B LLC.
8 British American Blvd., Floor 2
Latham, NY 12110

Prepared by:
C.T. MALE ASSOCIATES
50 Century Hill Drive
Latham, New York 12110
(518) 786-7400
FAX (518) 786-7299

C.T. Male Project No: 24.5097

Unauthorized alteration or addition to this document is a violation of the New York State Education Law.

© Copyright 2025
C.T. Male Associates Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

STORMWATER POLLUTION PREVENTION PLAN
MOREAU COMMUNITY SOLAR
65 REYNOLDS RD

TABLE OF CONTENTS

1.0 CERTIFICATIONS 3

1.1 Contractor 3

1.2 Contractor Responsibilities 4

1.3 Certification of SWPPP Preparer 6

2.0 INTRODUCTION 7

2.1 Site Description 7

2.2 Proposed Construction Activities 9

2.3 Potential Sources of Pollution 11

3.0 STORMWATER MANAGEMENT PLANNING 12

3.1 Stormwater Treatment 12

4.0 EROSION AND SEDIMENT CONTROL PLAN 16

4.1 Description of Erosion and Sediment Control Practices 16

4.2 General Stabilization Requirements 16

4.3 Winter Stabilization Requirements 16

4.4 Site Disturbance 17

4.5 Soil Stabilization Plan 18

4.6 Maintenance of BMP's 19

4.7 Control of Litter, Construction Chemicals, and Construction Debris.... 20

4.8 Stormwater Discharges Associated with Industrial Activity 22

4.9 Non-Conforming Elements 22

5.0 INSPECTION AND MAINTENANCE REQUIREMENTS..... 22

5.1 Contractor Requirements..... 22

5.2 Qualified Inspector Requirements..... 23

5.3 SWPPP Inspection Requirements 23

APPENDICES

A. Site Location Mapping
B. Draft eNOI General Permit (GP-0-25-001) and NYSDEC Correspondence
C. Soils Information (Web Soil Survey)
D. OPRHP Correspondence
E. Threatened and Endangered Species Correspondence
F. Drainage Calculations
G. Construction Sequencing Plan
H. Erosion and Sediment Control Plan and Details
I. Erosion and Sediment Control Inspection Checklist

1.0 CERTIFICATIONS

1.1 Contractor

All Contractors and Subcontractors who perform earth disturbance on the project site shall sign and date a copy of the following certification statement before undertaking any construction activity at the project site:

"I hereby certify under penalty of law 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 most current version 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 am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations."

CONTRACTOR:
Company _____

Name/Title/Date _____

SUBCONTRACTOR:

Company _____
Name/Title/Date _____

SUBCONTRACTOR:

Company _____
Name/Title/Date _____

If additional Contractors/Subcontractors must sign the *Stormwater Pollution Prevention Plan* (SWPPP), please continue on the back of this page.

1.2 Contractor Responsibilities

Prior to the commencement of construction activity, the Contractor(s) and Subcontractor(s) that shall be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control measures included in the be identified.

The following chart shall be filled out prior to commencement of construction by Owner/Operator.

Task:	**Responsible Contractor:**
Installing erosion and sediment controls (ESC)	_____
Daily inspection of ESC	_____
Maintenance/Repair of ESC	_____
Seeding/stabilization of disturbed areas	_____

Each of the Contractors and Subcontractors shall identify at least one trained individual from their company who will be responsible for implementation of the SWPPP. One trained individual shall be on-site on a daily basis when soil disturbance activities are being performed.

A trained contractor is defined by the General Permit as:

An employee from a contracting (construction) firm that has received four (4) hours of training, which has been endorsed by the NYSDEC, from a Soil and Water Conservation District, CPESC, Inc., or other NYSDEC endorsed entity, in proper erosion and sediment control principles. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years. This individual shall be responsible for implementation of the SWPPP.

The following individuals have been identified on this project as **trained contractors**:

CONTRACTOR:
Company _____
Trained Individual_____

SUBCONTRACTOR:
Company _____
Trained Individual_____

SUBCONTRACTOR:
Company _____
Trained Individual_____

1.3 Certification of SWPPP Preparer

"I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the General Permit (GP-0-25-001). Furthermore, I understand that certifying false, incorrect, or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Name: Owen Speulstra, P.E.

Title: Professional Engineer

Signature:

Date: February 4, 2025

2.0 INTRODUCTION

The Moreau Community Solar Project (Project) is anticipated to have ±51.9 acres of disturbance. Under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, permit number GP-0-25-001, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared for commercial projects that exceed 1.0 acre of disturbance. The project does not include the construction of any traditional impervious areas, as such, a SWPPP (i.e. "Basic"/ESC SWPPP) has been prepared. This report will identify areas of disturbance and recommended Erosion and Sediment Control (ESC) measures that will mitigate the potential for sediment migration off-site, thereby ensuring that stormwater discharges do not negatively affect adjacent waterbodies due to construction-related disturbances.

2.1 Site Description

The Project is located at 65 Reynolds Road (NY-197) in the Town of Moreau, Saratoga County, New York and encompasses three (3) tax parcels, Tax ID: 64.00-2-80.11, Tax ID: 64.00-2-80.12, and Tax ID: 64.00-2-86.12 amassing a total land area of 203.05± Acres. A National Grid Transmission Line (Tax ID: 64.00-2-17) bisects the existing parcels. The site also contains a series of National Grid Access easements which contain a gravel access road. This existing access runs roughly through the center of the site, connecting Reservoir Road from the north to Reynolds Road (NY-197) at the southern property boundary with the exception of roughly 500 LF remaining unconnected due to a large ravine roughly 1,150 LF to the north of Reynolds Road. This property was previously used as a golf course and has since been vacated and become overgrown. The existing site is primarily an open field, with wood cover along the boundaries and in the middle of the parcels. There are no existing structures in the proposed development area.

The Project proposes a lot line adjustment in order to redistribute the land area of these existing parcels for the creation of two (2) lots which shall serve one (1) 5 MW Community Solar Array each and one (1) lot comprised of the remaining land area. The two (2) lots to serve said 5 MW Community Solar Arrays shall be referred to as "NY USLE Moreau Reynolds 'A' LLC" and "NY USLE Moreau Reynolds 'B'" for the purposes of this report. NY USLE Moreau Reynolds 'A' LLC will occupy approximately 21.3± Acres of its proposed 62± Acre lot, TAX ID: 64.00-2-80.12 and NY USLE Moreau Reynolds 'B' LLC will occupy approximately 23.5± Acres of its

proposed 58.4± Acres lot, TAX ID: 64.00-2-80-11, totaling ±44.8 acres of the overall ±120.4-acre project site. As these two (2) proposed parcels and projects ultimately encompass the contributing land area of four (4) existing Subcatchments and their Design Points, this report shall serve as a Master Stormwater Pollution Prevention Plan for the overall land area and associated land disturbance for both projects.

The site is located north of Reynolds Road approximately 2,850 feet west of the intersection of said road and West River Road. The site generally slopes from northwest to southeast, with slopes ranging from ±0.4% to ±20.4%, with isolated portions of stream bank exceeding 50%. The site topography drops approximately 42 feet in elevation from the northwest to the southeast within the proposed array envelope, averaging a ±1.5% grade. The arrays are primarily located in a moderately sloped open field, with several stream channels running through the site. Modeling of the existing and proposed conditions Drainage Areas and Design Locations can be found in Appendix F. Existing cover types at the Project site consist primarily of woods, brush, and open fields. A site location map is included in Appendix A of this report.

There are thirteen (13) potentially federal regulated wetlands and one (1) NYSDEC regulated wetland within the overall project site. No temporary or permanent disturbance will occur in any delineated wetland areas as a result of construction activities.

2.1.1 Soils

The Natural Resources Conservation Service (NRCS) Web Soil Survey was consulted to obtain preliminary soil data for the site. The Web Soil Survey shows that the proposed project is comprised of ±99.7% HSG "C/D" soils, which are typically poor draining. The remaining ±0.3% are reportedly HSG "B" soils, which are typically better draining. A detailed breakdown of the areas and soils can be found in Appendix F. A printout from the Web Soil Survey website is included in Appendix C.

2.1.2 Historic Places Screening

Per requirements of the General Permit, it is required that this SWPPP provides documentation of due diligence review by New York State Office of Parks and

Recreation and Historic Preservation (OPRHP). C.T. Male originally coordinated with NYSOPRHP in March of 2021 and received a letter of no effect on March 26, 2021. As the Area of Potential effect has increased in the years following, it is anticipated that a modification to the Phase 1B study area will need to be incorporated prior to receiving an updated letter of no effect. C.T. Male is currently coordinating this modification. A copy of the March 26, 2021 letter of no effect has been included in Appendix D of this report. An updated letter of no effect shall be included once received.

2.1.3 Threatened and Endangered Species

C.T. Male requested information from the United States Department of the Interior Fish and Wildlife Service to determine whether any rare or endangered species may be present within the project site on January 30, 2025. This correspondence revealed that there are two (2) potentially threatened, endangered or candidate species within the project site. However, there are no critical habitats within the project area. These species are the Indiana Bat (endangered) and Monarch Butterfly (proposed threatened). A copy of this correspondence has been included in Appendix E of this report.

C.T. Male has requested information from the NYSDEC National Heritage Program (NHP) to determine the presence of critical habitats, rare, endangered, or state-listed animals or plants, or significant natural communities within the project area. A review of the Environmental Resource Mapper on January 30, 2025 revealed that the proposed project area contains no presence of critical habitats, rare, endangered, or state listed animal or plants, or significant communities. A copy of this correspondence has been included in Appendix E of this report. Any additional information received shall be incorporated into this report once received.

2.2 Proposed Construction Activities

The Project consists of the construction of a ground-mounted solar array on ±44.8 acres of a ±120.4-acre project site. One pervious stone access road will be installed on the project site, extending from the existing gravel driveway that connects to Reynolds Road. The gravel road is pervious, thus does not require stormwater

treatment or detention per SPDES General Permit for Stormwater Discharges GP-0-25-001.

Four (4) ±1100 square foot concrete equipment pads will be constructed to service the solar array, the runoff from which will be treated using a 2' wide stone diaphragm level spreader surrounding each pad.

The total land disturbance (temporary and permanent) associated with the project will be approximately ±51.9 acres, which includes installation of the solar array, pervious gravel access road, fencing, gravel diaphragm level spreaders, and concrete equipment pad as well as the installation of conduit that will run through the solar array to the equipment pad and point of electrical interconnect. The concrete equipment pads will be located within the solar array.

Minor spot grading will occur in order to install the panel racks at an acceptable tolerance level. As the site was used as a golf course in the past, some areas have been artificially raised and will need to be flattened to achieve the tolerable grade for the panel racks. Any soil removed in this manner will be distributed across the site, in a manner not to alter the existing grades in other areas.

The temporary staging/laydown area will not cause additional land disturbance, as geotextile fabric will be placed on top of existing stabilized (i.e., grassed/vegetated) areas with a stone overlay (refer to details on plans). At the completion of construction, the stone and fabric will be removed and taken off-site. As an additional precaution, these areas have been included in the area of disturbance calculations.

In Appendix G, a Construction Sequence Plan has been provided to detail the limits of disturbance and ensure that no more than 5-acres will be disturbed at any given time. If, during construction, it is anticipated that more than 5 acres will be disturbed at a given time, a 5-acre waiver will need to be requested and obtained from the NYSDEC Regional office by the contractor.

Since the anticipated disturbance will be above the 1-acre threshold, obtaining coverage under the General Permit GP-0-25-001 (General Permit) is required. A draft electronic Notice of Intent (eNOI) has been prepared and will be submitted to the NYSDEC Central Office. The draft eNOI and a copy of the General Permit has been included in Appendix B. The objective of this SWPPP is to identify the

areas of disturbances caused by the proposed construction activities and to implement Erosion and Sediment Control Best Management Practices (ESC BMPs) to prevent polluted runoff from discharging off-site. ESC plans and BMP details have been included in this report and can be found in Appendix G.

The Erosion and Sediment Controls being implemented in this project generally consist of compost filter sock/silt fence, stabilized construction access, concrete washout, and a temporary staging/laydown area.

Erosion and sediment control plans and details were prepared by C.T. Male Associates (C.T. Male).

2.3 Potential Sources of Pollution

Potential sources of pollution resulting from construction activities at the site include:

- Eroded soils
- Construction chemicals (fuels, solvents, etc.)
- Construction debris
- Tracking of sediment onto area roadways
- Concrete washout operations

3.0 STORMWATER MANAGEMENT PLANNING

3.1 Stormwater Treatment

As noted in Section 2.2 of this report one (1) pervious stone access road is proposed for the project site. The proposed access will be a limited use pervious access road; therefore, no permanent stormwater treatment practices associated with the roadway have been incorporated. Soil restoration shall follow the requirements in Table 5.3 of the New York State Stormwater Management Design Manual (Design Manual). This includes the requirements per Deep Ripping and De-compaction from DEC, dated 2008.

Question #4 on the Notice of Intent Form requests that the future impervious area within the disturbed area be rounded to the nearest tenth of an acre. The proposed equipment pads of 4400 square feet or 0.101 acres rounds to 0.1 tenths of an acre. While this area is insignificant, the concrete pads will have a 2' wide stone diaphragm level spreader perimeter which will capture runoff and return it to sheet flow conditions over the surrounding meadow coverage similar to a grass filter strip.

The maximum existing slope within the proposed solar array area is 14.5%. Per the NYSDEC guidance documents for solar projects, 1' deep by 2' wide gravel diaphragm level spreaders are required along the drip edge of each solar array panel in areas with greater than 8% slopes. This approach to erosion and sediment protection is impractical on this site for two reasons.

- Level spreaders must be built along existing contours to function properly, but the proposed solar panel arrays must be orientated to capture sunlight. Due to site conditions the solar panel arrays and contours do not run parallel.

- Unlike fixed array solar panels with a constant drip edge this project proposes the use of a tracker solar panel array system which rotate to capture sunlight and increase production. This movement creates a changing drip line throughout the day.

It is anticipated that no slopes greater than 8% shall exist within the proposed array envelope. As mentioned earlier, minor spot grading shall occur within the

array envelope in order to flatten existing artificially raised areas while achieving slopes less than 8% throughout. As such, no gravel diaphragm level spreaders are proposed as part of this project.

The overall drainage area includes four (4) sub catchment areas with four (4) Design Locations where runoff exits the project area. Drainage mapping has been included in Appendix F of this report.

Existing and proposed conditions were modeled using HydroCAD Version 10.0 to confirm the hydrology is not significantly impacted. A summary of the 10- and 100- year calculated peak flow rates is shown in Tables 1 and 2 below:

Table 2: Calculated Peak Flow Rate Summary

Design Location	10-Year			100-Year		
	Existing	Proposed	% Change	Existing	Proposed	% Change
DL-1	36.74 cfs	36.74 cfs	0.00%	86.97 cfs	86.97 cfs	0.00%
DL-2	64.41 cfs	67.56 cfs	4.89%	150.85 cfs	154.93 cfs	2.70%
DL-3	26.64 cfs	26.64 cfs	0.00%	63.53 cfs	63.53 cfs	0.00%
DL-4	25.10 cfs	26.20 cfs	4.38%	56.25 cfs	57.60 cfs	2.40%

Appendix A of the General Permit defines Alter Hydrology from Pre to Post-Development Conditions as the following: "means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr)". The table above demonstrates that at each Design Location, the calculated peak flow rates have not increased more than 5%. As such, it is not anticipated that the hydrology of the site will be significantly negatively impacted by the proposed project. Refer to the attached Drainage Calculations included as Appendix F to this report for detailed calculation information.

3.2 NYSDEC Solar Guidance Compliance

Per the NYSDEC Solar Design Guidance Documents, as shown in Appendix B, if a solar project meets six criteria it may be designated a Scenario 1 or "Land clearing and grading for the purpose of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)" construction activity. This designation requires a solar project with greater than one acre of land disturbance create and maintain an Erosion and Sediment Control Plan during construction but does not require Post

Construction Stormwater practices in accordance with the NYS Stormwater Management Design Manual.

The six (6) Scenario 1 criteria are as follows:

1. *Solar Panels are constructed on post or rack systems and elevated off the ground surface.*

    a. The project will utilize a single axis tracker racking system that will elevate the panels off the ground surface.

2. *The panels are spaced apart so that rainwater can flow off the down gradient side of the panel and continue as sheet flow across the ground surface.*

    a. Each panel maintains a gap from the next in each row. Each row of panels is 12.54′ wide and panel rows are spaced 14.00′ apart minimum.

3. *For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour, so rainwater sheet flows down slope.*

    a. The solar panel rows for this project will generally run perpendicular to the contours, and level spreaders will be installed every 100 feet in areas with slopes greater than 8% in order to maintain sheet flow conditions.

4. *The ground surface below the panels consists of a well-established vegetative cover.*

    a. All disturbed areas will be seeded in accordance with the project plans and stabilized with vegetative cover. Vegetative cover will be observed during SWPPP inspections to ensure that at least 80% uniform cover is established prior to closing out permit coverage.

5. *The project does not include the construction of any traditional impervious areas.*

    a. The project includes the construction of four (4) 1100 square foot concrete equipment pads, which total approximately 0.1 acres of impervious surface. The concrete pads will have a 2′ wide stone diaphragm level spreader perimeter which will capture runoff and

return it to sheet flow conditions over the surrounding meadow coverage similar to a grass filter strip.

6. *Construction of the solar panels will not alter the hydrology from pre to post development conditions.*

    a. As discussed in Section 3.1, the hydrology of the site will not be altered.

4.0 EROSION AND SEDIMENT CONTROL PLAN

4.1 Description of Erosion and Sediment Control Practices

The following erosion and sediment control practices will be constructed as part of the project:

- Stabilized construction entrance
- Silt fence / compost filter socks
- Concrete washout area
- Topsoiling, seeding and mulching

Refer to the project site plans provided in Appendix G for erosion and sediment control measures that are associated with this project.

4.2 General Stabilization Requirements

Stabilization in areas to remain vegetated shall consist of seeding and straw/mulch. The Contractor shall initiate stabilization measures as soon as practical in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) calendar days after construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

A. When the initiation of stabilization is not practicable due to excessive snow cover (which is defined as at least one foot), at the discretion of the qualified inspector.

B. When construction activity on a portion of the site has temporarily ceased and earth-disturbing activities shall resume within twenty-one (21) calendar days, then temporary stabilization measures do not need to be initiated on that portion of the site.

4.3 Winter Stabilization Requirements

Site runoff and sediment control must be adequately managed when site work/disturbance is slated to occur during winter months.

A. Snow must be managed to provide adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.

B. Snow must be managed such that silt fence and/or other erosion and sediment controls are maintained/protected. If erosion and sediment controls are damaged due to snow removal/movement activities, they must be promptly repaired.

C. A minimum 25-foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence/compost filter socks with tall stakes to keep visible above snow pack.

D. Drainage structures must be kept free/open of snow and ice dams. Any debris, ice dams or debris from blowing that restrict the flow of runoff and meltwater shall be removed.

E. Sediment barriers must be installed at all perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.

F. Soil stockpiles must be adequately protected per the NYSDEC "Blue" Book or site-approved remediation plan.

G. If straw mulch alone is used for temporary stabilization, it must be applied at 4 tons/acre (i.e., double the standard application rate).

H. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil shall be stabilized at the end of each workday 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.

I. Use stone paths and/or existing paved surfaces to provide access to areas where construction vehicle traffic is anticipated.

4.4 Site Disturbance

It is expected that the total disturbance associated with the project will be approximately 51.9 acres. The General Permit covers up to five (5) acres of

simultaneous disturbance. Since the total disturbance is anticipated to exceed five (5) acres, a phasing plan to keep simultaneous disturbance during the majority of the project under five (5) acres has been developed and can be found as Appendix G. If at any point in time the contractor anticipates that disturbance will exceed more than five (5) acres at a given time, it will be necessary to obtain a waiver from this limitation of the General Permit. The Contractor shall not disturb greater than five (5) acres at any given time without obtaining prior written approval of the waiver request from the regional NYSDEC office.

The area of disturbance at any given time will be dependent on the Contractor's schedule, work plan, availability of equipment and construction materials, and other factors.

4.5 Soil Stabilization Plan

4.5.1 Temporary

Areas that are to remain temporarily disturbed for longer than 14 days (or 7 days if the disturbed area is greater than 5.0 acres) shall be stabilized by temporary seeding, wood chips and/or mulching. Temporary seeding, wood chip placement and/or mulching shall be performed within 24 hours of the end of grading activities.

Temporary seeding mixture is specified on the project plans. Newly seeded areas shall be protected by applying straw at a rate of 2 tons per acre (apply straw at a rate of 4 tons per acre in the winter). An alternative to applying seeding and straw is to spread wood chips using a minimum depth of 3".

4.5.2 Permanent

Pervious areas that have achieved final grading shall be stabilized by permanent seeding and straw mulching. Permanent seeding shall be performed between April 1 and May 31 (Spring Planting), or between August 15 and September 30 (Fall Planting). If planting is planned to occur outside of these timeframes, it should be discussed with the design engineer. Seeding shall be performed within 24 hours of the completion of grading activities.

The permanent seed mixture is specified on the project plans.

Alternate seed mixes are acceptable, provided they meet the requirements of the latest edition of the NYS Standards and Specifications for Erosion and Sediment Control.

Straw mulching shall consist of small grain straw applied at a rate of 2 tons per acre.

4.6 Maintenance of BMP's

All erosion and sediment control measures shall be inspected and maintained in accordance as follows:

4.6.1 Stabilized Construction Entrance

The stabilized construction entrance shall be installed in the location shown on the ESC plan, and per the stabilized construction entrance detail on the ESC detail sheet. The stabilized construction entrance should be installed prior to the start of earth moving/soil disturbance activities on the project site. The construction entrance shall be maintained at all times and road sweeping at the entrance to each shall be conducted if sediment is tracked off-site and onto Reynolds Road. Stabilized construction entrances need to be removed when all areas have been stabilized and sediment tracking is no longer a concern.

4.6.2 Silt Fence/Compost Filter Sock

The Contractor shall visually inspect all silt fencing/compost filter socks at the site after every significant rainfall event, and at a minimum frequency of once a week during dry weather conditions. Sediment accumulated to a depth of three inches or more shall be immediately removed and either spoiled in an upland area, or disposed of as non-hazardous construction waste. Silt fence/compost filter sock which has been damaged or knocked over shall be repaired and/or replaced within 24 hours of the deficiency being noticed. Silt fencing/compost filter sock shall be installed per the manufacturers' recommendations. These measures shall remain in-place until tributary upland areas have achieved permanent stabilization (i.e., minimum of 80% vegetative growth over the entirety of areas

disturbed by project work). The use of compost filter socks in accordance with the publication "New York State Standards and Specifications for Erosion and Sediment Control" is deemed an acceptable substitute for silt fence. Compost filter socks are the preferred method of sediment control in areas adjacent to wetland areas, as their installation requires less ground disturbance than traditional silt fence installation.

4.6.3 Concrete Washout

Concrete washouts should be installed so that concrete waste is contained and not littered around the site. The washouts should be constructed per the detail on the associated plans. Washouts should always be lined and concrete should be removed when the maximum capacity of the washout is near (when concrete waste level is within 1-foot of the top of washout). The concrete washout(s) shall remain in-place until the equipment/transformer pad and fence posts are poured.

4.7 Control of Litter, Construction Chemicals, and Construction Debris

During construction, the following materials could be used and stored on-site: Concrete additives, paints/solvents, acids, cleaning products, petroleum-based products/fuel, pesticides, fertilizers, construction wastes, sanitary wastes, and tackifier for soil stabilization. The aforementioned materials shall be managed using the following procedures:

4.7.1 Good Housekeeping

1. Store only products required to do the job on the site, and use all of a product before disposing of the container.
2. All materials stored on-site shall be stored in a neat and orderly manner. Containers shall be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
3. Products shall be kept in their original container with manufacturer's label.
4. For all products, the manufacturer's recommendations for proper use and disposal shall be followed.

4.7.2 Hazardous Products

1. Material Safety Data Sheets (MSDS) for each substance with hazardous properties shall be maintained on-site. Each employee who must use the product shall be instructed on the use of MSDS Sheets and specific information applicable to that product.
2. If a surplus of the hazardous product must be disposed of, manufacturer's, local/state/federal recommended methods for disposal shall be followed.

4.7.3 Petroleum Products

1. All on-site vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.
2. Petroleum products shall be sealed in properly labeled containers.

4.7.4 Fertilizers

1. Fertilizers shall be applied in the minimum amounts recommended by the manufacturer and be immediately worked into the soil to limit exposure to stormwater.
2. Fertilizers shall be stored in a plastic bin with a lid. The bin shall be kept in a covered area to prevent spills.

4.7.5 Paints and Solvents

1. Excess paint and solvents shall not be discharged into the storm sewer and shall be properly disposed of according to New York State regulations.

4.7.6 Concrete Wastes

1. Wash water may be disposed of on the site in a specifically designed diked area or into forms to make other useful concrete products.
2. Hardened residue from the concrete washout area shall be disposed of as construction waste.
3. All concrete wash areas shall be located in an area where they are not likely to contribute to stormwater runoff. This determination shall be made by the Engineer or qualified professional during construction.

4.7.7 Solid/Construction Wastes

1. All waste materials shall be stored in an appropriate lidded dumpster, and disposed of by a waste management company licensed in New York State.
2. No construction materials shall be buried on-site, and all personnel shall be instructed on correct procedures for waste disposal.

4.7.8 Sanitary Wastes

1. All sanitary waste shall be collected from portable units by a New York State licensed portable facility provider.
2. All portable units shall be located in a place where they are not likely to contribute to stormwater runoff.

4.8 Stormwater Discharges Associated with Industrial Activity

This project does not include industrial activities.

4.9 Non-Conforming Elements

All elements of the erosion and sediment control plan are in conformance with the requirements of the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control.

5.0 INSPECTION AND MAINTENANCE REQUIREMENTS

5.1 Contractor Requirements

1. All erosion and sediment control measures in the SWPPP and construction plans shall be maintained in effective operating condition during construction.
2. Per the General Permit, the Contractor shall inspect the erosion and sediment control measures in the SWPPP to ensure that they are being maintained in effective operating condition during construction. If soil disturbance activities have been temporarily suspended and temporary stabilization measures have been applied to disturbed areas, the Contractor may cease these ongoing inspections.

3. The Contractor may cease ongoing inspections of erosion and sediment control measures and remove these features when the Project has been completed and areas have received final stabilization.

5.2 Qualified Inspector Requirements

The qualified inspector is defined by the General Permit as the following:

A person knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other NYSDEC endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles. After receiving the initial training, the trained individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

5.3 SWPPP Inspection Requirements

The qualified inspector shall conduct site SWPPP inspections in accordance with the General Permit the following timetable:

1. Inspect the installed erosion and sediment control measures at the site prior to the start of construction activities.
2. Inspect the site once every seven (7) calendar days during ongoing construction activities.
3. Inspect the site every thirty (30) days where soil disturbance activities have been temporarily suspended and temporary stabilization measures have been applied to disturbed areas. Owner/Operator shall contact the regional NYSDEC office in writing prior to reducing the frequency of inspections.
4. Inspect all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site.

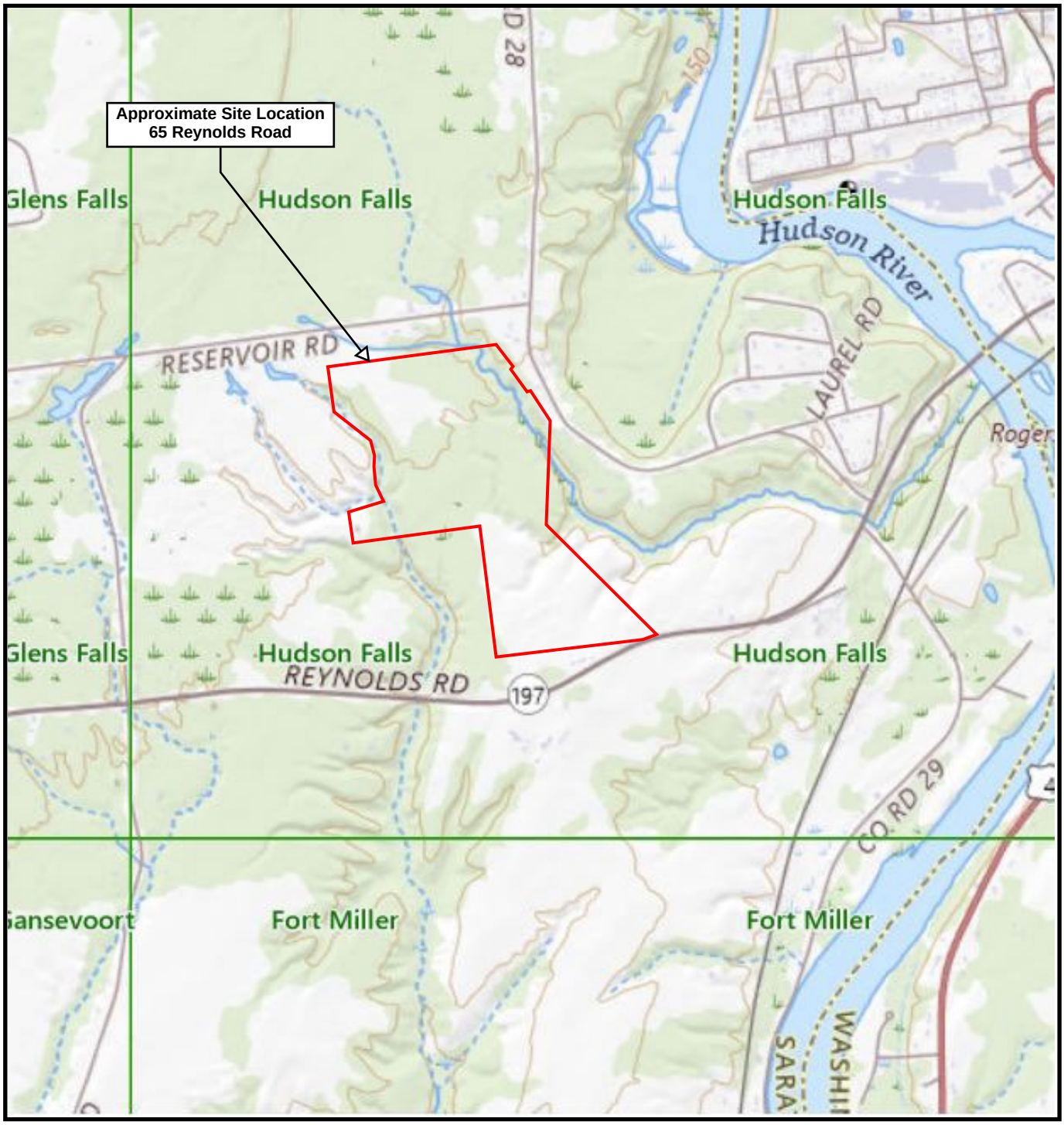
5. Upon project completion, perform a final inspection to certify that the Project has achieved 80% vegetative cover.

The inspector shall perform the SWPPP inspections in accordance with the General Permit requirements. Within one (1) business day of completing the SWPPP inspection, the qualified inspector shall notify the Owner/Operator and Contractor of any corrective actions that need to be taken.

All completed SWPPP inspection forms shall be maintained in the on-site copy of this SWPPP, which shall always remain on the construction site.

APPENDIX A

Site Location Mapping



MAP REFERENCE
United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangle: Hudson Falls, NY
Date: 2024

N

C.T.MALE ASSOCIATES
ENGINEERING, SURVEYING, ARCHITECTURE
LANDSCAPE ARCHITECTURE & GEOLOGY, D.P.C.

50 CENTURY HILL DRIVE
LATHAM, NY 12110

FIGURE 1 - SITE LOCATION MAP

TOWN OF MOREAU	SARATOGA COUNTY, NY
SCALE: 1:24,000	The locations and features depicted on this map are approximate and do not represent an actual survey.
DRAFTER: JRS	
PROJECT No: 24.5097	

APPENDIX B

Draft eNOI (Notice of Intent) and General Permit
(GP-0-25-001)

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL
CONSERVATION (NYSDEC)

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP-0-25-001

Construction General Permit (CGP)

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2025 Expiration Date: January 28, 2030

Scott E. Sheeley

Chief Permit Administrator

Scott E. Sheeley JAN. 29, 2025

Authorized Signature Date

Address: NYSDEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), and 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), *stormwater discharges* from certain *construction activities* are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York State administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, and Article 70, as well as 6 NYCRR Parts 621 and 750.

C*onstruction activities* constitute construction of a *point source* and, therefore, pursuant to ECL sections 17-0505, 17-0701, and 17-0803, the *owner or operator* must have coverage under a SPDES permit prior to *commencement of construction activities*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES CONSTRUCTION GENERAL PERMIT (CGP) GP-0-25-001
FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part I. How to Obtain Coverage and General Requirements 5
A. Eligibility Requirements 5
B. Types of *Discharges* Authorized 9
C. Prohibited *Discharges* 10
D. Electronic Notice of Intent (eNOI) Submittal 10
E. General Requirements for *Owners or Operators* with Permit Coverage 14
F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001 18
G. Change of *Owner or Operator* 19
Part II. Water Quality-Based Effluent Limitations 20
A. Maintaining Water Quality 20
B. Effluent Limitations Applicable to *Discharges* from *Construction Activities* 20
C. Post-Construction Stormwater Management Practice (SMP) Requirements 23
Part III. Stormwater Pollution Prevention Plan (SWPPP) 28
A. General *SWPPP* Requirements 28
B. Required *SWPPP* Contents 32
C. Required *SWPPP* Components by Project Type 37
Part IV. Inspection and Maintenance Requirements 37
A. General Construction Site Inspection and Maintenance Requirements 37
B. Contractor Maintenance Inspection Requirements 37
C. *Qualified Inspector* Inspection Requirements 38
Part V. How to Terminate CGP Coverage 43
A. Electronic Notice of Termination (eNOT) Submittal 43
Part VI. Record Retention and Reporting 45
A. Record Retention 46
B. Reporting 46
Part VII. Standard Permit Requirements 46
A. Duty to Comply 46
B. Need to Halt or Reduce Activity Not a Defense 46
C. Penalties 46
D. False Statements 47
E. Re-Opener Clause 47
F. Duty to Mitigate 47
G. Requiring Another General Permit or Individual SPDES Permit 47
H. Duty to Provide Information 49
I. Extension 49
J. Signatories and Certification 50
K. Inspection and Entry 52
L. Confidentiality of Information 53
M. Other Permits May Be Required 53

N. NYSDEC Orders or Civil Decrees/Judgments 53
O. Property Rights 53
P. Compliance with Interstate Standards 53
Q. Oil and Hazardous Substance Liability 54
R. Severability 54
S. NYSDEC Approved Forms 54
APPENDIX A – Abbreviations and Definitions 55
Abbreviations 55
Definitions 56
APPENDIX B – Required SWPPP Components by Project Type 64
Table 1 64
Table 2 66
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal 68
APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants) 74
APPENDIX E – List of NYSDEC Regional Offices 80
APPENDIX F – SWPPP Preparer Certification Form 81
APPENDIX G – MS4 SWPPP Acceptance Form 83
APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form 86
APPENDIX I – MS4 No Jurisdiction Form 89
APPENDIX J – Owner/Operator Certification Form 91

Part I. How to Obtain Coverage and General Requirements

To be covered under this permit, the *owner or operator* must meet all eligibility requirements in Part I.A. and follow the requirements for obtaining permit coverage in Part I.D., F., or G.

A. Eligibility Requirements

For a *common plan of development or sale*, the *phase(s)* that meet the eligibility requirements in Part I.A. may obtain coverage under this permit even if other *phase(s)* of the same *common plan of development or sale* do not meet the eligibility requirements and require an individual SPDES permit.

1. The *owner's or operator's construction activities* involve soil disturbances of:

    a. one or more acres; or

    b. less than one acre which are part of a *common plan of development or sale* that will ultimately disturb one or more acres; or

    c. less than one acre where NYSDEC has determined that a SPDES permit is required for *stormwater discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of pollutants to *surface waters of the State*.

        i. 5,000 square feet or more, but less than one acre, and are in the New York City Watershed located east of the Hudson River, Appendix C Figure 1; or

        ii. 20,000 square feet or more, but less than one acre, within the municipal boundaries of the City of New York (NYC); or

        iii. less than 20,000 square feet which are part of a *common plan of development or sale* that will ultimately disturb 20,000 square feet or more, but less than one acre, within the municipal boundaries of NYC; or

        iv. that creates 5,000 square feet or more of *impervious area* within the municipal boundaries of NYC.

2. *Discharges* from the *owner's or operator's construction activities* are/were not:

    a. already covered by a different SPDES permit; or

    b. covered under a different SPDES permit that was denied, terminated, or revoked; or

    c. identified in an expired individual SPDES permit that was not renewed; or

    d. required to obtain an individual SPDES permit or another general SPDES permit in accordance with Part VII.K.

3. If *construction activities* may adversely affect a species that is endangered or threatened, the *owner or operator* must obtain a:

    a. permit issued pursuant to 6 NYCRR Part 182 for the project; or

    b. letter issued by NYSDEC of non-jurisdiction pursuant to 6 NYCRR Part 182 for the project.

4. If *construction activities* have the potential to affect an *historic property*, the *owner or operator* must obtain one of the following:

    a. documentation that the *construction activity* is not within an archeological buffer area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant:

        i. 1-5 acres of disturbance - 20 feet; or

        ii. 5-20 acres of disturbance - 50 feet; or

iii. 20+ acres of disturbance - 100 feet.

b. NYSDEC consultation form sent to OPRHP,[1] and copied to NYSDEC's Agency Historic Preservation Officer (APO), and

i. the State Environmental Quality Review Act (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or

ii. documentation from OPRHP that the *construction activity* will result in No Impact; or

iii. documentation from OPRHP providing a determination of No Adverse Impact; or

iv. a Letter of Resolution signed by the *owner or operator*, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA).

c. documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

i. No Affect; or

ii. No Adverse Affect; or

iii. Executed Memorandum of Agreement.

d. documentation that SHPA Section 14.09 has been completed by NYSDEC or another state agency.

5. If *construction activities* are subject to SEQR, the *owner or operator* must obtain documentation that SEQR has been satisfied.

6. If *construction activities* are not subject to SEQR, but subject to the equivalent environmental review from another New York State or federal agency, the

[1] The consultation form can be submitted, along with other project information, through OPRHP's Cultural Resource Information System (CRIS) portal. If submitted through CRIS, paper copies of the consultation form need not be mailed.

owner or operator must obtain documentation that project review, pursuant to a process equivalent to SEQR from another New York State or federal agency, has been satisfied.

7. If *construction activities* require Uniform Procedures Act (UPA) Permits (see 6 NYCRR Part 621) from NYSDEC, or the equivalent from another New York State or federal agency, the *owner or operator* must:

    a. obtain all such necessary permits; or

    b. receive notification from NYSDEC pursuant to 6 NYCRR 621.3(a)(4) excepting Part I.A.7.a.

8. *Construction activities* are not eligible if they meet the following criteria in Part I.A.8.a. or b.:

    a. For linear transportation and linear utility project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb two or more acres of *steep slope*.

    b. For all other project types, the *construction activities*:

        i. are within the watershed of *surface waters of the State* classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website; and

        ii. are undertaken on land with no existing *impervious cover*; and

        iii. disturb one or more acres of *steep slope*.

B. Types of *Discharges* Authorized

1. The following *stormwater discharges* are authorized under this permit:

    a. *Stormwater discharges*, including *stormwater* runoff, snowmelt runoff, and surface runoff and drainage, associated with *construction activity*, are authorized under this permit provided that appropriate *stormwater* controls are designed, installed, and maintained in accordance with Part II. and Part III.

    b. *Stormwater discharges* from construction support activities at the *construction site* (including concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas) if the following requirements are met:

        i. The support activity is directly related to the *construction site* required to have permit coverage for *stormwater discharges*; and

        ii. The support activity is not a commercial operation, nor does it serve multiple unrelated *construction sites*; and

        iii. The support activity does not continue to operate beyond the completion of the *construction activity* at the site it supports; and

        iv. *Stormwater* controls are implemented in accordance with Part II. and Part III. for *discharges* from the support activity areas.

2. The following non-*stormwater discharges* associated with *construction activity* are authorized under this permit:

    a. Non-*stormwater discharges* listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "*Discharges* from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; and

    b. Non-*stormwater discharges* of waters to which other components have not been added that are used in accordance with the *SWPPP* to control dust or irrigate vegetation in stabilized areas; and

    c. Uncontaminated *discharges* from *dewatering* operations

3. Authorized *discharges* of *stormwater* or authorized *discharges* of non-*stormwater*, commingled with a *discharge* authorized by a different SPDES permit and/or a *discharge* that does not require SPDES permit authorization, are also authorized under this permit.

C. Prohibited *Discharges*

1. Non-*stormwater discharges* prohibited under this permit include but are not limited to:

    a. Wastewater from washout of concrete; and

    b. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; and

    c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and

    d. Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

    e. Toxic or hazardous substances from a spill or other release.

D. Electronic Notice of Intent (eNOI) Submittal

To receive authorization in accordance with Part I.D.3.b., the *owner or operator* must submit a complete eNOI in accordance with the requirements in Part I.D. The eNOI contains questions to: ensure eligibility requirements in Part I.A. have been met; obtain *owner or operator* contact information; obtain the total area to be disturbed and the existing/future *impervious areas* (rounded to the nearest tenth of an acre); confirm *Traditional Land Use Control MS4 Operator* jurisdiction over construction projects; satisfy the EPA eRule requirements; confirm that the Water Quality-Based Effluent Limitations in Part II. have been met; demonstrate consideration of the future risks due to climate change in accordance with Part III.A.2.; and confirm that the other *Stormwater Pollution Prevention Plan (SWPPP)* requirements in Part III. have been met.

1. An eNOI may be submitted for:

    a. *construction activities* that are not part of a *common plan of development or sale*; or

b. an entire *common plan of development or sale*; or

c. separate *phase(s)* of a *common plan of development or sale* if the following requirements are met:

    i. the *common plan of development or sale* meets the eligibility requirements of Part I.A.5. or 6.; and

    ii. the *phase(s)* meet(s) all other eligibility requirements of Part I.A.; and

    iii. Part III.C. Required *SWPPP* Components by Project Type is based on the *common plan of development or sale*, not the *phase(s)*; or

d. *tree clearing* that is associated with, or will support, a *renewable energy* generation, transmission, or storage project that meets Part I.A.5. and 6., if the *tree clearing*:

    i. meets all other eligibility requirements of Part I.A.; and

    ii. will occur in NYSDEC's Regions 3-9; and

    iii. is not within ¼ mile of a bat hibernaculum protected pursuant to 6 NYCRR Part 182; and

    iv. will occur between November 1st and March 31st.

2. As prerequisites for submitting an eNOI, the *owner or operator* must:

    a. prepare a *SWPPP* for Part I.D.1.a., b., c., or d. in accordance with Part III.; and

    b. based on the following criteria, upload the following signature forms signed in accordance with Part VII.J. to the eNOI prior to submission:

        i. for all eNOIs:

            1. the SWPPP Preparer Certification Form, Appendix F, signed by the *SWPPP* preparer; and

2. the Owner/Operator Certification Form, Appendix J, signed by the *owner or operator*; and

ii. if an eNOI includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that will *discharge* to the *MS4(s)*:

1. determine if the *Traditional Land Use Control MS4 Operator(s)* have review authority. A *Traditional Land Use Control MS4 Operator* does not have review authority where:

a. the *owner or operator* of the *construction activities* in Part I.D.2.b.ii. is the same entity as the *Traditional Land Use Control MS4 Operator* identified in Part I.D.2.b.ii.; or

b. there is a statute exempting the *owner or operator* from zoning review by the *Traditional Land Use Control MS4 Operator*; or

c. there is no such statute per Part I.D.2.b.ii.1.b., the *Traditional Land Use Control MS4 Operator* concludes, after public hearing, that it does not have zoning review authority in accordance with Legal Memorandum LU14 Updated January 2020 “Governmental Immunity from Zoning and Other Legislation”; and

2. if the *Traditional Land Use Control MS4 Operator(s)* have review authority, submit the *SWPPP* to the *Traditional Land Use Control MS4 Operator(s)* for review and have:

a. if outside the municipal boundaries of NYC: the MS4 SWPPP Acceptance Form, Appendix G, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.; or

b. if within the municipal boundaries of NYC: The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval Form, Appendix H, signed by the principal executive officer or ranking elected official from the Traditional Land Use Control MS4 Operator, or by a duly authorized representative of that person in accordance with Part VII.J.2.; and

3. if the *Traditional Land Use Control MS4 Operator* does not have review authority, have the MS4 No Jurisdiction Form, Appendix I, signed by the principal executive officer or ranking elected official from the *Traditional Land Use Control MS4 Operator,* or by a duly authorized representative of that person in accordance with Part VII.J.2.

3. Submitting an eNOI:

a. The *owner or operator* must submit a complete Notice of Intent electronically using a NYSDEC approved form.[2]

b. The *owner or operator* is authorized to *commence construction activity* as of the authorization date indicated in the Letter of Authorization (LOA), which is sent by NYSDEC after a complete eNOI is submitted.

i. If an eNOI is received for a *SWPPP* that deviates from one of the technical standards but demonstrates *equivalence* in accordance with Part III.B.1.a.ii. or Part III.B.2.b.ii., if the *SWPPP* includes *construction activities* that are not within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)*, and/or if the *SWPPP* includes *construction activities* within the municipal boundary(ies) of *Traditional Land Use Control MS4 Operator(s)* that do not have review authority in accordance with Part I.D.2.b.ii.1., the authorization date indicated in the LOA will be 60 business days after the eNOI submission date.

[2] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

c. If *Traditional Land Use Control MS4 Operator(s)* have review authority in accordance with Part I.D.2.b.ii.2., the *owner or operator* must, within five business days of receipt of the LOA, send an electronic copy of the LOA to the *Traditional Land Use Control MS4 Operator(s)* with review authority.

E. General Requirements for *Owners or Operators* with Permit Coverage

1. As of the date the LOA is received, the *owner or operator* must make the eNOI, *SWPPP*, and LOA available for review and copying in accordance with the requirements in Part VII.H. When applicable, as of the date an updated LOA is received, the *owner or operator* must make the updated LOA available for review and copying in accordance with the requirements in Part VII.H.

2. The *owner or operator* must ensure compliance with all requirements of this permit and that the provisions of the *SWPPP*, including any changes made to the *SWPPP* in accordance with Part III.A.5., are properly implemented and maintained from the *commencement of construction activity* until:

   a. all areas of disturbance have achieved *final stabilization;* and

   b. the owner's or operator's coverage under this permit is terminated in accordance with Part V.A.5.a.

3. As of the date of the *commencement of construction activities* until Part I.E.2.a. and b. have been met, the *owner or operator* must maintain at the *construction site*, a copy of:

   a. all documentation necessary to demonstrate eligibility with this permit; and

   b. this permit; and

   c. the *SWPPP*; and

   d. the signed SWPPP Preparer Certification Form; and

   e. the signed MS4 SWPPP Acceptance Form or signed NYCDEP SWPPP Acceptance/Approval Form or signed MS4 No Jurisdiction Form (when applicable); and

   f. the signed Owner/Operator Certification Form; and

g. the eNOI; and

h. the LOA; and

i. the LOA transmittal to the Traditional Land Use Control MS4 Operator in accordance with Part I.D.3.c. (when applicable).

4. The *owner or operator* must maintain at the *construction site*, until Part I.E.2.a. and b. have been met, as of the date the documents become final or are received, a copy of the:

   a. responsible contractor's or subcontractor's certification statement(s) in accordance with Part III.A.7.; and

   b. inspection reports in accordance with Part IV.C.4. and 6.; and

   c. Request to Disturb Greater Than Five Acres and the Authorization Letter to Disturb Greater Than Five Acres in accordance with Part I.E.6. (when applicable); and

   d. Request to Continue Coverage and the Letter of Continued Coverage (LOCC) in accordance with Part I.F.2. and 4. (when applicable); and

   e. The updated LOA(s) in accordance with Part I.E.9. (when applicable).

5. The *owner or operator* must maintain the documents in Part I.E.3. and 4. in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. The documents must be paper documents unless electronic documents are accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If electronic documents are kept on site, the *owner or operator* must maintain functional equipment on site available to an inspector during normal hours of operation such that an inspector may view the electronic documents in a format that can be read in a similar manner as a paper record and in a legally dependable format with no less evidentiary value than their paper equivalent.

6. The *owner or operator* must meet the following requirements prior to disturbing greater than five acres of soil at any one time:

   a. The *owner or operator* must submit a written Request to Disturb Greater Than Five Acres to:

i. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, if a *Traditional Land Use Control MS4 Operator* does not have review authority in accordance with Part I.D.2.b.ii.1.; or

ii. the *Traditional Land Use Control MS4 Operator*, if a *Traditional Land Use Control MS4 Operator* has review authority in accordance with Part I.D.2.b.ii.1.; or

iii. NYSDEC's Regional Office Division of Water staff based on the project location, Appendix E, and each involved *Traditional Land Use Control MS4 Operator*, if the project spans multiple municipalities with more than one *Traditional Land Use Control MS4 Operator* involved with review authority in accordance with Part I.D.2.b.ii.1.

b. The written Request to Disturb Greater Than Five Acres must include:

i. The SPDES permit identification number (Permit ID); and

ii. Full technical justification demonstrating why alternative methods of construction that would result in five acres of soil disturbance or less at any one time are not feasible; and

iii. The phasing plan for the project and sequencing plans for all *phases* from the *SWPPP* in accordance with Part III.B.1.d.; and

iv. Plans with locations and details of erosion and sediment control practices such that the heightened concern for erosion when disturbing greater than five acres at one time has been addressed; and

v. Acknowledgment that "the *owner or operator* will comply with the requirements in Part IV.C.2.b."; and

vi. Acknowledgment that "the *owner or operator* will comply with the requirements in Part II.B.1.b."

c. The *owner or operator* must be in receipt of an Authorization Letter to Disturb Greater Than Five Acres, which will include when the

authorization begins and ends and indicate a maximum area (acres) of soil disturbance allowed at any one time, from:

i. NYSDEC, if Part I.E.6.a.i. or iii. apply; or

ii. the *Traditional Land Use Control MS4 Operator*, if Part I.E.6.a.ii. applies.

7. Upon a finding of significant non-compliance with the practices described in the *SWPPP* or violation of this permit, NYSDEC may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order must be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

8. If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE).[3] *Construction activity* shall not resume until written permission to do so has been received from the RWE.

9. To be authorized to implement modifications to the information previously submitted in the eNOI, the *owner or operator* must:

   a. notify NYSDEC via email at Stormwater_info@dec.ny.gov requesting access to update the eNOI; and

   b. update the eNOI to reflect the modifications and resubmit the eNOI in accordance with Part I.D.; and

   c. receive an updated LOA.

10. The eNOI, *SWPPP*, LOA, updated LOAs (when applicable), and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

[3] The Regional Water Manager where a DEC Region does not have a RWE.

F. Permit Coverage for *Discharges* Authorized Under GP-0-20-001

When applicable:

1. Upon the effective date of this permit, an *owner or operator* of *a construction activity*, with coverage under GP-0-20-001, will have interim coverage under GP-0-25-001 for 45 calendar days starting on the effective date of GP-0-25-001 so long as the *owner or operator* maintains compliance with all applicable requirements of this permit.

2. Within 30 calendar days of the effective date of this permit, the *owner or operator*, with coverage under GP-0-20-001, must submit a complete Request to Continue Coverage electronically using a NYSDEC approved form,[4] which contains the information identified in Part I.F.3. below, if:

   a. the *owner or operator* continues to implement the SMP component in conformance with the technical standards in place at the time of initial project authorization; and

   b. the *owner or operator* will comply with all non-design requirements of GP-0-25-001.

3. The Request to Continue Coverage form contains questions to: ensure eligibility requirements in Part I.A. have been met; verify *owner or operator* contact information; verify the permit identification number; verify the original eNOI submission ID, if applicable; verify Part I.F.2.a. and b.; verify the version of the Design Manual that the technical/design components conform to; and receive an updated Owner/Operator Certification Form, Appendix I.

4. The *owner or operator* has obtained continued coverage under GP-0-25-001 as of the date indicated in the LOCC, which is sent by NYSDEC after a complete Request to Continue Coverage form is submitted.

5. If the owner or operator does not submit the Request to Continue Coverage form in accordance with Part I.F.2. and 3., coverage under this permit is automatically terminated after interim coverage expires.

[4] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

G. Change of *Owner or Operator*

When applicable:

1. When property ownership changes, or when there is a change in operational control over the construction plans and specifications, the following process applies:

    a. The new *owner or operator* must meet the applicable prerequisites for submitting an eNOI in accordance with Part I.D.2.; and

    b. The new *owner or operator* must submit an eNOI in accordance with Part I.D.3.; and

    c. Permit coverage for the new *owner or operator* will be effective upon receipt of the LOA in accordance with Part I.D.3.b.; and

    d. The new *owner or operator*, upon receipt of their LOA, must provide their Permit ID to the original *owner or operator*; and

    e. If the original *owner or operator* will no longer be the *owner or operator* of the *construction activity* identified in the original *owner's or operator's* eNOI, the original *owner or operator*, upon receipt of the new *owner's or operator's* Permit ID in accordance with Part I.G.1.d., must submit to NYSDEC a completed eNOT in accordance with Part V. that includes the name and Permit ID of the new *owner or operator*; or

    f. If the original *owner or operator* maintains ownership of a portion of the *construction activity*, the original *owner or operator* must maintain their coverage under the permit by modifying their eNOI; modifications to the eNOI must include:

        i. the revised area of disturbance and/or *impervious area(s)*; and

        ii. the revised SMP information, if applicable; and

        iii. a narrative description of what has changed; and

        iv. the new *owner's or operator's* Permit ID for the portion of the project removed from the eNOI.

    Owners or operators must follow Part I.E.9. to modify the eNOI.

Part II. Water Quality-Based Effluent Limitations

A. Maintaining Water Quality

NYSDEC expects that compliance with the requirements of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any *discharge* to either cause or contribute to a violation of the following *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York:

1. There must be no increase in turbidity that will cause a substantial visible contrast to natural conditions; and

2. There must be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There must be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the *stormwater discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standard,* the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this permit and document in accordance with Part IV.C.4. of this permit. To address the *water quality standard* violation the *owner or operator* must include and implement appropriate controls in the *SWPPP* to correct the problem or obtain an individual SPDES permit.

If, despite compliance with the requirements of this permit, it is demonstrated that the *stormwater discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if NYSDEC determines that a modification of this permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit, and the *owner or operator* must obtain an individual SPDES permit prior to further *discharges* from the *construction site*.

B. Effluent Limitations Applicable to *Discharges* from *Construction Activities*

*Discharge*s authorized by this permit must achieve, at a minimum, the effluent limitations in Part II.B.1.a., b., c., d., and e. These limitations represent the

degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement, and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part II.B.1.a., b., c., d., and e. and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (BB), dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in *SWPPP* the reason(s) for the deviation, or alternative design, and provide information in the *SWPPP* demonstrating that the deviation or alternative design is *equivalent* to the technical standard.

    a. **Erosion and Sediment Controls.** At a minimum, erosion and sediment controls must be selected, designed, installed, implemented, and maintained to:

        i. *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s; and

        ii. Control *stormwater discharge*s, including both peak flow rates and total *stormwater* volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points; and

        iii. *Minimize* the amount of soil exposed during *construction activity*; and

        iv. *Minimize* the disturbance of *steep slope*; and

        v. *Minimize* sediment *discharge*s from the site; and

        vi. Provide and maintain *natural buffers* around surface waters, direct *stormwater* to vegetated areas and maximize *stormwater* infiltration to reduce *pollutant discharge*s, unless *infeasible*; and

        vii. *Minimize* soil compaction. *Minimizing* soil compaction is not required

where the intended function of a specific area of the site dictates that it be compacted; and

viii. Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

ix. *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of *pollutants* that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has ceased, whether permanently or *temporarily ceased*, the application of soil stabilization measures must be initiated by the end of the next business day and completed within 14 calendar days from the date the current soil disturbance activity ceased. For *construction sites* that *directly discharge* to one of the 303(d) segments listed in Appendix D, or are located in one of the watersheds listed in Appendix C, or are authorized to disturb greater than five acres in accordance with Part I.E.5.a.viii., the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven calendar days from the date the soil disturbance activity ceased.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Select, design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be selected, designed, installed, implemented, and maintained to:

i. *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. Soaps, detergents and solvents cannot be used; and

ii. *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation

and to *stormwater*. *Minimization* of exposure is not required in cases where the exposure to precipitation and to *stormwater* will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of *stormwater* contamination (such as final products and materials intended for outdoor use); and

iii. Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Surface Outlets.** When discharging from basins and impoundments, the surface outlets must be designed, constructed, and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-Construction Stormwater Management Practice (SMP) Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction SMPs, in accordance with Part III.C., must select, design, install, implement, and maintain the SMPs to meet the *performance criteria* in the New York State Stormwater Management Design Manual, dated July 31, 2024 (DM), using sound engineering judgment. Where SMPs are not designed in conformance with the *performance criteria* in the DM, the *owner or operator* must include in the *SWPPP* the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity*, that requires SMPs in accordance with Part III.C., must design the practices to meet the applicable *sizing criteria* in Part II.C.2.a., b., c., or d.

a. Sizing Criteria for *New Development*

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the total WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv must be calculated in accordance with the criteria in Section 4.2 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the requirements in Part II.C.2.a.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

   In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.4 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

   1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

   2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs without detention or velocity controls; or

   3. The site *directly discharges* into a fifth order or larger water body (stream, river, or lake), or tidal waters, where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams, or

2. A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watersheds

i. Runoff Reduction Volume (RRv) and Water Quality Volume (WQv):

1. Reduce the WQv by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24-hour design storm over the post-developed watershed and must be calculated in accordance with the criteria in Section 4.3 of the DM; or

2. Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part II.C.2.b.i.1. due to *site limitations* must direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv must be documented in the *SWPPP*. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the *SWPPP* must include

documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 4.5 of the DM. The remaining portion of the total WQv that cannot be reduced must be treated by application of standard SMPs.

ii. Channel Protection Volume (CPv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event, remaining after runoff reduction. Where a CPv control orifice is provided, the minimum orifice size must be 3 inches, with acceptable external trash rack or orifice protection. The CPv requirement does not apply when:

1. Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems; or

2. The 1-year post-development peak *discharge* is less than or equal to 2.0 cfs; or

3. The site *directly discharges* to tidal waters, or a fifth order or larger water body (stream, river, or lake) where the increase in smaller flows will not impact the stream bank or channel integrity. However, the point of *discharge* must be adequately protected against scour and erosion by the increased peak *discharge*.

iii. *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

iv. Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:

1. the site *directly discharges* to tidal waters or fifth order or larger streams; or

2. A downstream analysis reveals that *overbank* control is not required.

c. *Sizing Criteria* for *Redevelopment Activity*

i. Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* must be addressed by one of the following options, as outlined in Section 9.2.1. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C) must calculate the WQv in accordance with Section 4.3 of the DM. All other *redevelopment activities* must calculate the WQv in accordance with Section 4.2 of the DM.

1. Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the DM must be applied to all newly created pervious areas; or

2. Capture and treat 100% of the required WQv, for a minimum of 25% of the disturbed redevelopment *impervious area*, by implementation of standard SMPs or reduced by application of runoff reduction techniques; or

3. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a volume-based alternative SMP, as defined in Section 9.4 of the DM; or

4. Capture and treat 100% of the required WQv, for a minimum of 75% of the disturbed redevelopment *impervious area*, by implementation of a flow-through alternative SMP sized to treat the peak rate of runoff from the WQv design storm; or

5. Application of a combination of 1 through 4 above that provide a weighted average of at least two of the above methods. Application of this method must be in accordance with the criteria in Section 9.2.1(A)(V) of the DM; or

6. If there is an existing SMP located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 through 5 above.

ii. Channel Protection Volume (CPv) is not required if there is 0% change to hydrology that increases the *discharge* rate and volume from the project site.

iii. *Overbank* Flood Control (Qp) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

iv. Extreme Flood Control (Qf) is not required if there is 0% change to hydrology that increases the *discharge* rate from the project site.

d. *Sizing Criteria* for Combination of *Redevelopment Activity* and *New Development*

Construction projects, that include both *new development* and *redevelopment activity*, must use SMPs that meet the *sizing criteria* calculated as an aggregate of the *sizing criteria* in Part II.C.2.a. or b. for the *new development* portion of the project and Part II.C.2.c. for the *redevelopment activity* portion of the project.

Part III. Stormwater Pollution Prevention Plan (SWPPP)

A. General *SWPPP* Requirements

1. A *SWPPP* must be prepared and implemented by the *owner or operator* of all *construction activity* covered by this permit. All authorized *discharges* must be identified in the *SWPPP*. The *SWPPP* must document the selection, design, installation, implementation and maintenance of the control measures and

practices that will be used to meet the effluent limitations in Part II.B. and, where applicable, the SMP requirements in Part II.C.

2. The *SWPPP* must demonstrate consideration in narrative format of the future physical risks due to climate change pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance.

    a. The owner or operator must consider:

        i. the following physical risks due to climate change:

            (i) increasing temperature; and

            (ii) increasing precipitation; and

            (iii) increasing variability in precipitation, including chance of drought; and

            (iv) increasing frequency and severity of flooding; and

            (v) rising sea level; and

            (vi) increasing storm surge; and

            (vii) shifting ecology.

        ii. for each of the following:

            (i) overall site planning; and

            (ii) location, elevation, and sizing of:

                a. control measures and practices; and

                b. conveyance system(s); and

                c. detention system(s).

3. The *SWPPP* must describe the erosion and sediment control practices and where required, SMPs that will be used and/or constructed to reduce the *pollutants* in *stormwater discharges* and to assure compliance with the

requirements of this permit. In addition, the *SWPPP* must identify potential sources of pollution which may reasonably be expected to affect the quality of *stormwater discharges*.

4. All *SWPPPs*, that require the SMP component in accordance with Part III.B.2., must be prepared by a *qualified professional*.

5. The *owner or operator* must keep the *SWPPP* current so that, at all times, it accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all SMPs that will be constructed on the site. At a minimum, the *owner or operator* must modify the *SWPPP*, including construction drawings:

   a. whenever the current provisions prove to be ineffective in *minimizing pollutants* in *stormwater discharges* from the site; and

   b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*; and

   c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* NYSDEC, or other regulatory authority; and

   d. to document the final construction conditions in an as-built drawing.

6. NYSDEC may notify the *owner or operator* at any time that the *SWPPP* does not meet one or more of the minimum requirements of this permit. The notification must be in writing and identify the provisions of the *SWPPP* that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by NYSDEC, the *owner or operator* must make the required changes to the *SWPPP* and submit written notification to NYSDEC that the changes have been made. If the *owner or operator* does not respond to NYSDEC's comments in the specified time frame, NYSDEC may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4.

7. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices included in the *SWPPP* and the

contractor(s) and subcontractor(s) that will be responsible for constructing the SMPs included in the *SWPPP*. The *owner or operator* must have each of the contractors and subcontractors identify at least one person from their company to be *trained contractor* that will be responsible for implementation of the *SWPPP*. The *owner or operator* must ensure that at least one *trained contractor* is on site daily when soil disturbance activities are being performed.

The *owner or operator* must have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before the *commencement of construction activities*:

> "I hereby certify under penalty of law that I understand and agree to comply with the requirements 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 requirements of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) Construction General Permit (CGP) 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 am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the *SWPPP* that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for *SWPPP* implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* must attach the certification statement(s) to the copy of the *SWPPP* that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the *SWPPP* after the *commencement of construction activities*, they must also sign the certification statement and provide the information listed above prior to performing *construction activities*.

B. Required *SWPPP* Contents

1. Erosion and sediment control component - The *owner or operator* must prepare a *SWPPP* that includes erosion and sediment control practices.

    a. Erosion and sediment control practices must be designed:

        i. in conformance with the BB; or

        ii. *equivalent* to the BB if deviating from Part III.B.1.a.i.

    b. If the erosion and sediment control practices are designed in conformance with Part III.B.1.a.ii., the *SWPPP* must include a demonstration of *equivalence* to the BB.

    c. At a minimum, the erosion and sediment control component of the *SWPPP* must include the following:

        i. Background information about the scope of the project, including the location, type and size of project; and

        ii. A site map/construction drawing(s) with north arrows for the project, including a general location map. At a minimum, the site map must show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the *stormwater discharge*(s) and receiving surface water(s); and

        iii. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG); and

        iv. A phasing plan for the project and sequencing plans for all *phases*, both of which must address clearing and grubbing, excavation and grading, utility and infrastructure installation, *final stabilization*,

and any other *construction activity* at the site that will result in soil disturbance.

1. The phasing plan must include:

    a. a map delineating and labeling the limits of soil disturbance for all *phases* of a project; and

    b. a table identifying the order and intended schedule of when each *phase* will begin and end its sequencing plan. The table must identify the total disturbed area for each *phase* at any one time and the total disturbed area for the overall project at any one time all on one timeline showing all overlapping quantities of disturbed area at any one time; and

2. A sequencing plan for a specific *phase* must include:

    a. a table indicating the order and intended schedule of *construction activities* within a *phase*, and corresponding construction drawings with a description of the work to be performed; and

    b. all permanent and *temporary stabilization* measures; and

v. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented; and

vi. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice; and

vii. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any

temporary sediment basins and structural practices that will be used to divert flows from exposed soils; and

viii. A maintenance inspection schedule for the contractor(s) and subcontractor(s) identified in Part III.A.7. to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection schedule must be in accordance with the requirements in the BB technical standard; and

ix. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the *stormwater discharges*; and

x. A description and location of any *stormwater discharges* associated with industrial activity other than construction at the site, including, but not limited to, *stormwater discharges* from asphalt plants and concrete plants located on the *construction site*; and

xi. Identification of any elements of the design that are not in conformance with the design criteria in the BB technical standard. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. SMP component – The *owner or operator* of *construction activity* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs.

   a. SMPs must be designed in conformance with the applicable *sizing criteria* in Part II.C.2.a., c., or d.; and

   b. SMPs must be designed in conformance with the *performance criteria*:

      i. in the DM; or

      ii. *equivalent* to the DM if deviating from Part III.B.2.b.i.; or

      iii. in the New York State Stormwater Management Design Manual, dated January 2015 (2015 Design Manual), or *equivalent* to it, if the following criteria are met:

1. The eNOI is submitted in accordance with Part I.D. before January 29, 2027 for *construction activities* that are either:

    a. subject to governmental review and approval:

        i. where the *owner or operator* made any application to that governmental entity prior to the effective date of this permit; and

        ii. such application included a *SWPPP* developed using the 2015 Design Manual or *equivalent* to it; or

    b. not subject to governmental review and approval:

        i. where a fiscal allocation for the *construction activities* has been developed and approved by a governmental entity; and

        ii. the *SWPPP* was developed using the 2015 Design Manual or *equivalent* to it; and

c. If SMPs are designed in conformance with Part III.B.2.b.ii., the *SWPPP* must include the reason(s) for the deviation or alternative design and a demonstration of *equivalence* to the DM; and

d. If SMPs are designed in conformance with Part III.B.2.b.iii., the *SWPPP* must include supporting information or documentation demonstrating that Part III.B.2.b.iii.1.a. or b. apply; and

e. The SMP component of the *SWPPP* must include the following:

    i. Identification of all SMPs to be constructed as part of the project, including which option the SMP designs conform to, either Part III.B.2.b.i., ii., or iii. Include the dimensions, material specifications and installation details for each SMP; and

    ii. A site map/construction drawing(s) showing the specific location and size of each SMP; and

iii. A Stormwater Modeling and Analysis Report that includes:

(i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points; and

(ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and SMPs; and

(iii) Results of *stormwater* modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre- and post-development runoff rates and volumes for the different storm events; and

(iv) Summary table, with supporting calculations, which demonstrates that each SMP has been designed in conformance with the *sizing criteria* included in the DM; and

(v) Identification of any *sizing criteria* that is not required based on the requirements included in Part II.C.; and

(vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the DM. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the DM.

iv. Soil testing results and locations (test pits, borings); and

v. Infiltration test results, when required in accordance with Part III.B.2.a.; and

vi. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each SMP. The plan must identify the entity

that will be responsible for the long-term operation and maintenance of each practice; and

3. Enhanced Phosphorus Removal Standards - The *owner or operator* of *construction activity* identified in Table 2 of Appendix B that is located in a watershed identified in Appendix C must prepare a *SWPPP* that includes SMPs designed in conformance with the applicable *sizing criteria* in Part II.C.2.b., c., or d. and the *performance criteria* Enhanced Phosphorus Removal Standards included in the DM. At a minimum, the SMP component of the *SWPPP* must meet the requirements of Part III.B.2.

C. Required *SWPPP* Components by Project Type

Owners or operators of *construction activities*, identified in Table 1 of Appendix B, are required to prepare a *SWPPP* that only includes erosion and sediment control practices designed in accordance with Part III.B.1. *Owners or operators* of the *construction activities*, identified in Table 2 of Appendix B, must prepare a *SWPPP* that also includes SMPs designed in accordance with Part III.B.2 or 3.

For the entire area of disturbance, including the entire *common plan of development or sale* if applicable, the owner or operator must evaluate every bullet from Appendix B Table 1 and Table 2 separately. If bullets from both Table 1 and Table 2 apply, the *SWPPP* must include erosion and sediment control practices for all *construction activities* but SMPs for only those portions of the *construction activities* that fall under Table 2 bullet(s).

Part IV. Inspection and Maintenance Requirements

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures), and all SMPs identified in the *SWPPP*, are inspected and maintained in accordance with Part IV.B. and C.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity*, identified in Tables 1 and 2 of Appendix B, must have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being

implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor must:

a. if the corrective action does not require engineering design:

    i. begin implementing corrective actions within one business day; and

    ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

    i. begin the engineering design process within five business days; and

    ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

2. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. The *trained contractor* must begin conducting the maintenance inspections in accordance with Part IV.B.1. as soon as soil disturbance activities resume.

3. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections in accordance with Part IV.B.1. if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational.

C. *Qualified Inspector* Inspection Requirements

1. With the exception of the following *construction activities* identified in Tables 1 and 2 of Appendix B, a *qualified inspector* must conduct site inspections for all other *construction activities* identified in Tables 1 and 2 of Appendix B:

    a. the construction of a single-family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than or equal to five (5) acres and is

not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

b. the construction of a single-family home that involves soil disturbances of one (1) or more acres but less than or equal to five (5) acres and is not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D; and

c. construction on *agricultural property* that involves soil disturbances of one (1) or more acres but less than five (5) acres; and

d. *construction activities* located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances of 5,000 square feet or more, but less than one acre.

2. The *qualified inspector* must conduct site inspections in accordance with the following timetable:

a. For *construction sites* where soil disturbance activities are on-going, the *qualified inspector* must conduct a site inspection at least once every seven (7) calendar days; or

b. For *construction sites* where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part I.E.6. to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days; or

c. For *construction sites* where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* must conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas under the jurisdiction of a *Traditional Land Use Control MS4 Operator,* the *Traditional Land Use Control MS4 Operator* (provided the *Traditional Land Use Control MS4 Operator* is not the *owner or operator* of the *construction activity*) by hard copy or email prior to reducing the inspections to this frequency and again by hard copy or email prior to re-commencing construction; or

d. For *construction sites* where soil disturbance activities have been shut down with partial project completion, the requirement to have the *qualified inspector* conduct inspections ceases if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational. The *owner or operator* must notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix E) or, in areas subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1., the *Traditional Land Use Control MS4 Operator(s)* (provided the *Traditional Land Use Control MS4 Operator(s)* are not the *owners or operators* of the *construction activity*) in writing prior to the shutdown and again in writing prior to resuming *construction activity*. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* must terminate coverage by meeting the requirements of Part V; or

e. For *construction sites* involving soil disturbance of one (1) or more acres that *directly discharge* to one of the 303(d) segments listed in Appendix D or is located in one of the watersheds listed in Appendix C, the *qualified inspector* must conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections must be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* must inspect:

   a. all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness; and

   b. all SMPs under construction to ensure that they are constructed in conformance with the *SWPPP*; and

   c. all areas of disturbance that have not achieved *final stabilization*; and

   d. all points of *discharge* to *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site*; and

   e. all points of *discharge* from the *construction site*.

4. The *qualified inspector* must prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report must include and/or address all of the following, for all *construction activities* except those listed in Part IV.C.1.:

    a. Permit identification number; and

    b. Date and time of inspection; and

    c. Name and title of person(s) performing inspection; and

    d. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection, including the temperature at the time of the inspection; and

    e. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This must include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow; and

    f. A description of the condition of all *surface waters of the State* located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This must include identification of any *discharges* of sediment to the *surface waters of the State*; and

    g. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance; and

    h. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced; and

    i. Description and sketch (map) of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection; and

    j. Estimates, in square feet or acres, of the following areas:

i. Total area with active soil disturbance (not requiring either *temporary stabilization* or *final stabilization*); and

ii. Total area with inactive soil disturbance (requiring either *temporary stabilization* or *final stabilization*); and

iii. Total area that has achieved *temporary stabilization*; and

iv. Total area that has achieved *final stabilization*; and

k. Current stage of construction of all SMPs and identification of all *construction activity* on site that is not in conformance with the *SWPPP* and technical standards; and

l. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the SMP(s); and

m. Identification and status of all corrective actions that were required by previous inspection; and

n. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* must attach color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* must also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* must attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* must notify the *owner or operator*, and appropriate contractor or subcontractor identified in Part III.A.7., of any corrective actions that need to be taken. The contractor or subcontractor must:

a. if the corrective action does not require engineering design:

i. begin implementing corrective actions within one business day; and

ii. complete the corrective actions within five business days; or

b. if the corrective action requires engineering design:

i. begin the engineering design process within five business days; and

ii. complete the corrective action in a reasonable time frame but no later than within 60 calendar days.

6. All inspection reports must be signed by the *qualified inspector.* In accordance with Part I.E.3., the inspection reports must be maintained on site with the *SWPPP*.

Part V. How to Terminate CGP Coverage

A. Electronic Notice of Termination (eNOT) Submittal

The eNOT contains questions to ensure requirements in Part V.A. have been met.

1. An *owner or operator* must terminate coverage when one or more of the following requirements have been met:

a. Total project completion:

i. all *construction activity* identified in the *SWPPP* has been completed; and

ii. all areas of disturbance have achieved *final stabilization*; and

iii. all temporary, structural erosion and sediment control measures have been removed; and

iv. all SMPs have been constructed in conformance with the *SWPPP* and are operational; and

v. an as-built drawing has been prepared; or

b. Planned shutdown with partial project completion:

   i. all soil disturbance activities have ceased; and

   ii. all areas disturbed as of the project shutdown date have achieved *final stabilization*; and

   iii. all temporary, structural erosion and sediment control measures have been removed; and

   iv. all SMPs required for the completed portion of the project have been constructed in conformance with the *SWPPP* and are operational; and

   v. an as-built drawing has been prepared; or

c. In accordance with Part I.G. Change of Owner or Operator; or

d. The *owner or operator* has obtained coverage under an alternative general SPDES permit or an individual SPDES permit.

2. For *construction activities* that require *qualified inspector* inspections in accordance with Part IV.C.1. and have met Part V.A.1.a. or b., the *owner or operator* must have the *qualified inspector* perform a final site inspection prior to submitting the eNOT. The *qualified inspector* must, by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice(s)” certification statements on the eNOT, certify that all the requirements in Part V.A.1.a. or b. have been achieved.

3. For *construction activities* that are subject to the review authority of *Traditional Land Use Control MS4 Operator(s)* in accordance with Part I.D.2.b.ii.1. and meet Part V.A.1.a. or b., the *owner or operator* must have the *Traditional Land Use Control MS4 Operator(s)* sign the “MS4 Acceptance” statement on the eNOT in accordance with the requirements in Part VII.J. A *Traditional Land Use Control MS4 Operator* official, by signing this statement, determined that it is acceptable for the *owner or operator* to submit the eNOT in accordance with the requirements of this Part. A *Traditional Land Use Control MS4 Operator* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*’s final site inspection certification(s) when required in Part V.A.2.

4. For *construction activities* that require SMPs and meet Part V.A.1.a. or b., the *owner or operator* must, prior to submitting the eNOT, ensure one of the following:

    a. for SMP(s) that were constructed by a private entity, but will be owned, operated, and maintained by a public entity, the SMP(s) and any right-of-way(s) needed to operate and maintain such practice(s) have been deeded to the municipality in which the practice(s) is located; or

    b. for SMP(s) that are privately owned, but will be operated and maintained by a public entity, an executed operation and maintenance agreement is in place with the municipality that will operate and maintain the SMP(s); or

    c. for SMP(s) that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record; or

    d. for SMP(s) that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility, the *owner or operator* has policies and procedures in place that ensure operation and maintenance of the practices in accordance with the operation and maintenance plan.

5. An *owner or operator* that has met the requirements of Part V.A.1., 2., 3., and 4. must request termination of coverage under this permit by submitting a complete Notice of Termination form electronically using a NYSDEC approved form.[5]

    a. The owner's or operator's coverage is terminated as of the termination date indicated in the Letter of Termination (LOT), which is sent by NYSDEC after a complete eNOT is submitted.

[5] Unless NYSDEC grants a waiver in accordance with 40 CFR 127.15(c) or (d). All waiver requests must be submitted to Stormwater_info@dec.ny.gov or NYSDEC, Bureau of Water Permits, 625 Broadway, 4th Floor, Albany, New York 12233-3505.

Part VI. Record Retention and Reporting

A. Record Retention

The *owner or operator* must retain a copy of the documents listed in Part I.E.3. and a copy of the LOT for a period of at least five years from the date that NYSDEC accepts a complete NOT submitted in accordance with Part V.

B. Reporting

Except for the eNOI, the signature forms associated with the eNOI, and the eNOT, all other written correspondence requested by NYSDEC, including individual permit applications, must be sent to the address of the appropriate DOW (SPDES) Program contact at the Regional Office listed in Appendix E.

Part VII. Standard Permit Requirements

For the purposes of this permit, examples of contractors and subcontractors include: third-party maintenance and construction contractors.

A. Duty to Comply

The *owner or operator*, and all contractors or subcontractors, must comply with all requirements of this permit. Any non-compliance with the requirements of this permit constitutes a violation of the New York State Environmental Conservation Law (ECL), and its implementing regulations, and is grounds for enforcement action. Filing of a request for termination of coverage under this permit, or a notification of planned changes or anticipated non-compliance, does not limit, diminish or stay compliance with any requirements of this permit.

B. Need to Halt or Reduce Activity Not a Defense

The necessity to halt or reduce the *construction activity* regulated by this permit, in order to maintain compliance with the requirements of this permit, must not be a defense in an enforcement action.

C. Penalties

There are substantial criminal, civil, and administrative penalties associated with violating the requirements of this permit. Fines of up to $37,500 per day for each

violation and imprisonment for up to 15 years may be assessed depending upon the nature and degree of the offense.

D. False Statements

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance must, upon conviction, be punished in accordance with ECL §71-1933 and or New York State Penal Law Articles 175 and 210.

E. Re-Opener Clause

Upon issuance of this permit, a determination has been made on the basis of a submitted Notice of Intent, plans, or other available information, that compliance with the specified permit requirements will reasonably protect classified water use and assure compliance with applicable *water quality standards*. Satisfaction of the requirements of this permit notwithstanding, if operation pursuant to this permit causes or contributes to a condition in contravention of State *water quality standards* or guidance values, or if NYSDEC determines that a modification is necessary to prevent impairment of the best use of the waters or to assure maintenance of *water quality standards* or compliance with other provisions of ECL Article 17 or the Clean Water Act (CWA), or any regulations adopted pursuant thereto, NYSDEC may require such modification and the Commissioner may require abatement action to be taken by the *owner or operator* and may also prohibit such operation until the modification has been implemented.

F. Duty to Mitigate

The *owner or operator*, and its contractors and subcontractors, must take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

G. Requiring Another General Permit or Individual SPDES Permit

NYSDEC may require any *owner or operator* authorized to *discharge* in accordance with this permit to apply for and obtain an individual SPDES permit or apply for authorization to *discharge* in accordance with another general SPDES permit.

1. Cases where an individual SPDES permit or authorization to discharge in accordance with another general SPDES permit may be required include, but is not limited to the following:

a. the *owner or operator* is not in compliance with the conditions of this permit or does not meet the requirements for coverage under this permit; and

b. a change has occurred in the availability of demonstrated technology or practices for the control or abatement of *pollutants* applicable to the *point source*; and

c. new effluent limitation guidelines or new source performance standards are promulgated that are applicable to *point sources* authorized to *discharge* in accordance with this permit; and

d. existing effluent limitation guidelines or new source performance standards that are applicable to *point sources* authorized to *discharge* in accordance with this permit are modified; and

e. a water quality management plan containing requirements applicable to such *point sources* is approved by NYSDEC; and

f. circumstances have changed since the time of the request to be covered so that the *owner or operator* is no longer appropriately controlled under this permit, or either a temporary or permanent reduction or elimination of the authorized *discharge* is necessary; and

g. the *discharge* is in violation of section 17-0501 of the ECL; and

h. the *discharge(s)* is a significant contributor of *pollutants*. In making this determination, NYSDEC may consider the following factors:

   i. the location of the *discharge(s)* with respect to *surface waters of the State*; and

   ii. the size of the *discharge(s)*; and

   iii. the quantity and nature of the *pollutants discharged* to *surface waters of the State*; and

   iv. other relevant factors including compliance with other provisions of ECL Article 17, or the CWA.

2. When NYSDEC requires any *owner or operator* authorized by this permit to apply for an individual SPDES permit as provided for in this subdivision, it must notify the *owner or operator* in writing that a permit application is required. This notice must include a brief statement of the reasons for this decision, an application

form, a statement setting a time for the *owner or operator* to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under this permit must be terminated. NYSDEC may grant additional time upon demonstration, to the satisfaction of the RWE,[6] that additional time to apply for an alternative authorization is necessary or where NYSDEC has not provided a permit determination in accordance with 6 NYCRR Part 621.

3. When an individual SPDES permit is issued to an *owner or operator* authorized to *discharge* under this permit for the same *discharge(s)*, this permit authorization for *construction activities* authorized under the individual SPDES permit is automatically terminated on the effective date of the individual SPDES permit unless termination is earlier in accordance with 6 NYCRR Part 750.

H. Duty to Provide Information

The *owner or operator* must furnish to NYSDEC, within five business days, unless otherwise set forth by NYSDEC, any information that NYSDEC may request to determine whether cause exists to determine compliance with this permit or to determine whether cause exists for requiring an individual SPDES permit in accordance with 6 NYCRR 750-1.21(e) (see Part VII.G. Requiring Another General Permit or Individual Permit).

The *owner or operator* must make available to NYSDEC, for inspection and copying, or furnish to NYSDEC within 25 business days of receipt of a NYSDEC request for such information, any information retained in accordance with this permit.

Except for Part I.D.4. and 5. and Part I.G., the following applies: where the *owner or operator* becomes aware that it failed to submit any relevant facts on the Notice of Intent, or submitted incorrect information in a Notice of Intent or in any report to NYSDEC, the *owner or operator* must submit such facts or corrected information to NYSDEC within five business days.

I. Extension

In the event a new permit is not issued and effective prior to the expiration of this permit, and this permit is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, then the *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the requirements of this permit until a new permit is issued and effective.

[6] The Regional Water Manager where a DEC Region does not have a RWE.

J. Signatories and Certification

The Notice of Intent, Notice of Termination, and reports required by this permit must be signed as provided in 40 CFR §122.22.

1. All Notices of Intent and Notices of Termination must be signed as follows:

    a. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

        (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

        (ii) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Notice of Intent or Notice of Termination requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        Note: NYSDEC does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR §122.22(a)(1)(i). NYSDEC will presume that these responsible corporate officers have the requisite authority to sign the Notice of Intent or Notice of Termination unless the corporation has notified NYSDEC to the contrary. Corporate procedures governing authority to sign a Notice of Intent or Notice of Termination may provide for assignment or delegation to applicable corporate positions under 40 CFR §122.22(a)(1)(ii) rather than to specific individuals.

    b. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively.

c. For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

    1. the chief executive officer of the agency; or

    2. a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by this permit, and other information requested by NYSDEC, must be signed by a person described in Part VII.J.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

    a. The authorization is made in writing by a person described in Part VII.J.1. or using the Duly Authorized Form, found on the DEC website; and

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to NYSDEC.

3. Changes to authorization. If an authorization under Part VII.J.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the *construction activity*, a new authorization satisfying the requirements of Part VII.J.2. must be submitted to NYSDEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under Part VII.J.1. or 2. must make the following certification:

    I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

5. Electronic reporting. If documents described in Part VII.J.1. or 2. are submitted electronically by or on behalf of the *construction activity* with coverage under this permit, any person providing the electronic signature for such documents must meet all relevant requirements of this section, and must ensure that all of the relevant requirements of 40 CFR Part 3 (including, in all cases, subpart D to Part 3) (Cross-Media Electronic Reporting) and 40 CFR Part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

K. Inspection and Entry

The *owner or operator* must allow NYSDEC, the USEPA Regional Administrator, the applicable county health department, or any authorized representatives of those entities, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. enter upon the *owner's or operator's* premises where a regulated facility or activity is located or conducted or where records must be kept under the requirements of this permit; and

2. have access to and copy at reasonable times, any records that must be kept under the requirements of this permit, including records required to be maintained for purposes of operation and maintenance; and

3. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

4. sample or monitor at reasonable times, for the purposes of assuring general SPDES permit compliance or as otherwise authorized by the CWA or ECL, any substances or parameters at any location; and

5. enter upon the property of any contributor to the regulated facility or activity under authority of the *owner or operator*.

L. Confidentiality of Information

The following must not be held confidential: this permit, the fact sheet for this permit, the name and address of any *owner or operator*, effluent data, the Notice of Intent, and information regarding the need to obtain an individual permit or an alternative general SPDES permit. This includes information submitted on forms themselves and any attachments used to supply information required by the forms (except information submitted on usage of substances). Upon the request of the *owner or operator*, NYSDEC must make determinations of confidentiality in accordance with 6 NYCRR Part 616, except as set forth in the previous sentence. Any information accorded confidential status must be disclosed to the Regional Administrator upon his or her written request. Prior to disclosing such information to the Regional Administrator, NYSDEC will notify the Regional Administrator of the confidential status of such information.

M. Other Permits May Be Required

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

N. NYSDEC Orders or Civil Decrees/Judgments

The issuance of this permit by the NYSDEC, and the coverage under this permit by the *owner or operator*, does not supersede, revoke, or rescind any existing order on consent or civil Decree/Judgment, or modification to any such documents or to any order issued by the Commissioner, or any of the terms, conditions, or requirements contained in such order or modification therefore, unless expressly noted.

O. Property Rights

Coverage under this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations, nor does it obviate the necessity of obtaining the assent of any other jurisdiction as required by law for the *discharge* authorized.

P. Compliance with Interstate Standards

If the *construction activity* covered by this permit originates within the jurisdiction of an interstate water pollution control agency, then the *construction activity* must also comply with any applicable effluent standards or *water quality standards* promulgated by that interstate agency and as set forth in this permit for such *construction activities*.

Q. Oil and Hazardous Substance Liability

Coverage under this permit does not affect the imposition of responsibilities upon, or the institution of any legal action against, the *owner or operator* under section 311 of the CWA, which must be in conformance with regulations promulgated pursuant to section 311 governing the applicability of section 311 of the CWA to *discharges* from facilities with *NPDES* permits, nor must such issuance preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. section 9601 et seq. (CERCLA).

R. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, must not be affected thereby.

S. NYSDEC Approved Forms

The *owner or operator* must provide all relevant information that is requested by NYSDEC, and required by this permit, on all NYSDEC approved forms.

APPENDIX A – Abbreviations and Definitions

Abbreviations

APO – Agency Preservation Officer
BB – New York State Standards and Specifications for Erosion and Sediment Control (Blue Book), dated November 2016
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
CPv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DM – New York State Stormwater Management Design Manual (Design Manual), dated July 31, 2024
DOW – Division of Water
EAF – Environmental Assessment Form
ECL – chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law
EPA – U.S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NYC – The City of New York
NYCDEP – The City of New York Department of Environmental Protection
NYSDEC – The New York State Department of Environmental Conservation
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RR – Runoff Reduction
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SMP – Post-Construction Stormwater Management Practice
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit. If a word is not italicized in the permit, use its common definition.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023).

Alter Hydrology from Pre- to Post-Development Conditions – the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer System – a sewer system which conveys sewage and *stormwater* through a single pipe system to a publicly owned treatment works.

Commence (Commencement of) Construction Activities – the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the *SWPPP*. See definition for "*Construction Activity(ies)*" also.

Common Plan of Development or Sale – a contiguous area where multiple separate and distinct *construction activities* are occurring, or may occur, under one plan. The "common plan" of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQR) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating *construction activities* may occur on a specific plot. A *common plan of development or sale* is comprised of two or more *phases*.

Common plan of development or sale does not include separate and distinct *construction activities* that are occurring, or may occur, under one plan that are at least 1/4 mile apart provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Construction Activity(ies) – identified within 40 CFR 122.26(b)(14)(x), 122.26(b)(15)(i), and 122.26(b)(15)(ii), any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, mechanized logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, which is excluded from the calculation of the soil disturbance for a project. Routine maintenance includes, but is not limited to:

- Re-grading of gravel roads or parking lots; and
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of the ditch; and
- Replacement of existing culverts that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity of a ditch; and
- Replacement of existing bridges that maintains the approximate original line and grade, and maintains or improves the hydraulic capacity beneath the bridges; and
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch); and
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*; and
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material; and
- Long-term use of equipment storage areas at or near highway maintenance facilities; and
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*; and
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts; and
- Maintenance of ski trails including brush hog use and mowing; and
- Above ground snowmaking pipe replacement; and
- Replacement of existing utility poles; etc.

Construction Site – the land area where *construction activity(ies)* will occur. See also the definitions for "*Commence (Commencement of) Construction Activities"* and "*Common Plan of Development or Sale."*

Dewatering – the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Directly Discharge(s)(ing) (to a specific surface waterbody) – runoff flows from a *construction site* by overland flow and the first point of *discharge* is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system and the first point of *discharge* from the separate storm sewer system is the specific surface waterbody.

Discharge(s)(d) – any addition of any *pollutant* to waters of the State through an outlet or *point source*.

Embankment – an earthen or rock slope that supports a road/highway.

Equivalent (Equivalence) – the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization – all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other *equivalent* stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

Historic Property – any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) – all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and compacted gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – not technologically possible, or not economically practicable and achievable considering best industry practices.

Minimize(ing)(ation) – reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer System (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

1. owned or operated by a State, city, town, village, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, *stormwater*, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA, that *discharges* to *surface waters of the State*; and

2. designed or used for collecting or conveying *stormwater*; and

3. which is not a *combined sewer system*; and

4. which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Natural Buffer(s) – an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – any land disturbance that does not meet the definition of *Redevelopment Activity* included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

Nonpoint Source(s) – any source of water pollution or *pollutants* which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank – flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator – the person, persons, or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit requirements.

Performance Criteria – the six performance criteria for each group of SMPs in Chapters 5 and 6 of the technical standard, New York State Stormwater Management Design Manual (DM), dated July 31, 2024. These include feasibility, conveyance, pretreatment, treatment, landscaping, and maintenance. It does not include the *Sizing Criteria* (i.e. WQv, RRv, CPv, Qp and Qf) in Part I.C.2. of the permit.

Phase – a defined area in which *construction activities* are occurring or will occur separate from other defined area(s).

Point Source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be *discharged*.

Pollutant(s) – dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast *discharged* into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq.

Qualified Inspector – a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder or other NYSDEC endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any SMPs that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional – a person that is knowledgeable in the principles and practices of *stormwater* management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other NYSDEC endorsed individual(s). Individuals preparing *SWPPPs* that require the SMP component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the *SWPPP* that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – the disturbance and reconstruction of existing *impervious area*, including *impervious areas* that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Renewable Energy – electricity or thermal energy generated by renewable energy systems through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.

Site Limitations – site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical *site limitations* include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of *site limitations* shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – the criteria included in Part I.C.2 of the permit that are used to size SMPs. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

Steep Slope – land area designated on the current United States Department of Agriculture (USDA) Soil Survey as Soil Slope Phase D, (provided the map unit name or description is inclusive of slopes greater than 25%), or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Stormwater – that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the State.

Streambank – the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – a project specific report, including construction drawings, that among other things: describes the *construction activity(ies)*, identifies the potential sources of pollution at the *construction site*; describes and shows the *stormwater* controls that will be used to control the *pollutants* (i.e. erosion and sediment controls; for many projects, includes SMPs); and identifies procedures the *owner or operator* will implement to comply with the requirements of the permit. See Part III of the permit for a complete description of the information that must be included in the *SWPPP*.

Surface Waters of the State – shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization – exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Load (TMDL) – the sum of the allowable loads of a single *pollutant* from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet *water quality standards*, and an allocation of that amount to the *pollutant's* sources. A TMDL stipulates Waste Load Allocations (WLA) for *point source discharges*, Load Allocations (LA) for *nonpoint source*s, and a margin of safety (MOS).

Traditional Land Use Control MS4 Operator – a city, town, or village with land use control authority that is authorized to *discharge* under New York State DEC's SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Trained Contractor – an employee from the contracting (construction) company, identified in Part III.A.7., that has received four (4) hours of NYSDEC endorsed training

in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.7., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, *New York State Erosion and Sediment Control Certificate Program* holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of NYSDEC endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other NYSDEC endorsed entity).

The *trained contractor* is responsible for the day-to-day implementation of the *SWPPP*.

Tree Clearing – *construction activities* limited to felling and removal of trees.

Tree clearing does not include hand felling and leaving the trees in place with no support from mechanized equipment, which is not considered *construction activity* requiring coverage under this permit.

Water Quality Standard – such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities* that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single-family home not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions with 25% or less *impervious cover* at total site build-out and not located in one of the watersheds listed in Appendix C and not *directly discharging* to one of the 303(d) segments listed in Appendix D
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that include construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.

The following *construction activities* that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

- All construction activities located in the New York City Watershed located east of the Hudson River, see Appendix C Figure 1, that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

Within the municipal boundaries of NYC:

- Stand-alone road reconstruction, where the total soil disturbance from only that road construction, is less than one (1) acre of land.

The following *construction activities*:

- Installation of underground linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation, *stormwater* retrofits, stream restoration, and resiliency projects that reconstruct shoreline areas to address sea level rise
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an *impervious cover*
- Cross-country ski trails, walking/hiking trails, and mountain biking trails, including a de minimis parking lot (maximum 10 spaces total, sized for passenger cars) with 35 feet minimum preservation of undisturbed area downgradient from the parking lot
- Dam rehabilitation (the structure of the dam itself)
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are not part of residential, commercial, or institutional development;
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path, or walking path.

Table 1 (Continued)
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS

The following *construction activities*:

- Slope stabilization
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics
- Spoil areas that will be covered with vegetation
- Vegetated open space (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) that do not *alter hydrology from pre- to post-development* conditions
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions
- Demolition where vegetation will be established, and no *redevelopment activity* is planned[1]
- Installation or replacement of either an overhead electric transmission line or a ski lift tower that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*.
- Solar array field areas that have tables elevated off the ground, spaced one table width apart, do not *alter hydrology from pre- to post-development conditions*, and address water quality volume and runoff reduction volume by maintaining sheet flow on slopes less than 8%.
- Structural agricultural conservation practices as identified in Table II in the "Agricultural Best Management Practice Systems Catalogue" (dated June 2023) that do not include construction or reconstruction of *impervious area* and do not *alter hydrology from pre- to post-development* conditions.
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary *impervious areas* that will be restored to pre-construction conditions once the *construction activity* is complete (in this context, "temporary" means the *impervious area* will be in place for two years or less)
- Other *construction activities* that do not include the construction or reconstruction of *impervious area*, and do not *alter hydrology from pre- to post-development* conditions, and are not listed in Table 2.

1. If the site is redeveloped in the future, a new eNOI must be submitted.

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Single-family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family home that disturbs five (5) or more acres of land
- Single-family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix D
- Single-family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of between 20,000 square feet and one (1) acre of land within the municipal boundaries of NYC with greater than 25% *impervious cover* at total site build-out
- Single-family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single-family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a *common plan of development or sale* that will ultimately disturb five (5) or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Creation of 5,000 square feet or more of *impervious area* in the municipal boundaries of NYC
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) that involves soil disturbance greater than five acres.
- Structural agricultural conservation practices as identified in Table II in the “Agricultural Best Management Practice Systems Catalogue” (dated June 2023) that involves soil disturbance greater than five acres and include the construction or reconstruction of *impervious area* or *alter hydrology from pre- to post-development* conditions.
- Facility buildings, including ski lodges, restroom buildings, pumphouses, ski lift terminals, and maintenance and groomer garages
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills; including creation of landfills or capping landfills.
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTWs, water treatment plants, and water storage tanks
- Golf courses
- Office complexes

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A *SWPPP* THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES (SMPS)

The following *construction activities*:

- Permanent laydown yards and equipment storage lots
- Playgrounds that include the construction or reconstruction of *impervious area*
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surfaces
- Road construction or reconstruction, outside the municipal boundaries of NYC
- Road construction within the municipal boundaries of NYC
- Stand-alone road reconstruction, within the municipal boundaries of NYC where the total soil disturbance from that road reconstruction involves soil disturbance of one (1) acre or more of land
- Parking lot construction or reconstruction (as with all Table 2 bullets, this includes parking lots constructed as part of the *construction activities* listed in Table 1, unless a Table 1 bullet specifies otherwise)
- Athletic fields (natural grass) that include the construction or reconstruction of *impervious area* (>5% of disturbed area) or *alter the hydrology from pre- to post-development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations, and well drilling pads, surfaced with *impervious cover,* and constructed as part of an overhead electric transmission line, wind-power, cell tower, oil or gas well drilling, sewer or water main, ski lift, or other linear utility project
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of a residential, commercial or institutional development
- Sidewalks, bike paths, or walking paths, surfaced with an *impervious cover*, that are part of highway construction or reconstruction
- Solar array field areas on slopes greater than 8% that cannot maintain sheet flow using management practices identified in the BB or the DM
- Solar array field areas on slopes less than 8% that will *alter the hydrology from pre- to post-development* conditions
- Solar array field areas with tables that are not elevated high enough to achieve *final stabilization* beneath the tables
- Traditional *impervious areas* associated with solar development (e.g. roads, buildings, transformers)
- Utility pads surfaced with *impervious cover*, including electric vehicle charging stations
- All other *construction activities* that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre- to post-development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of *construction activities* identified in Table 2 of Appendix B must prepare a *SWPPP* that includes SMPs designed in conformance with the Enhanced Phosphorus Removal Standards included in the DM technical standard.

- Entire New York City Watershed located east of the Hudson River – Figure 1
- Onondaga Lake Watershed – Figure 2
- Greenwood Lake Watershed – Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Figure 1 - New York City Watershed East of the Hudson

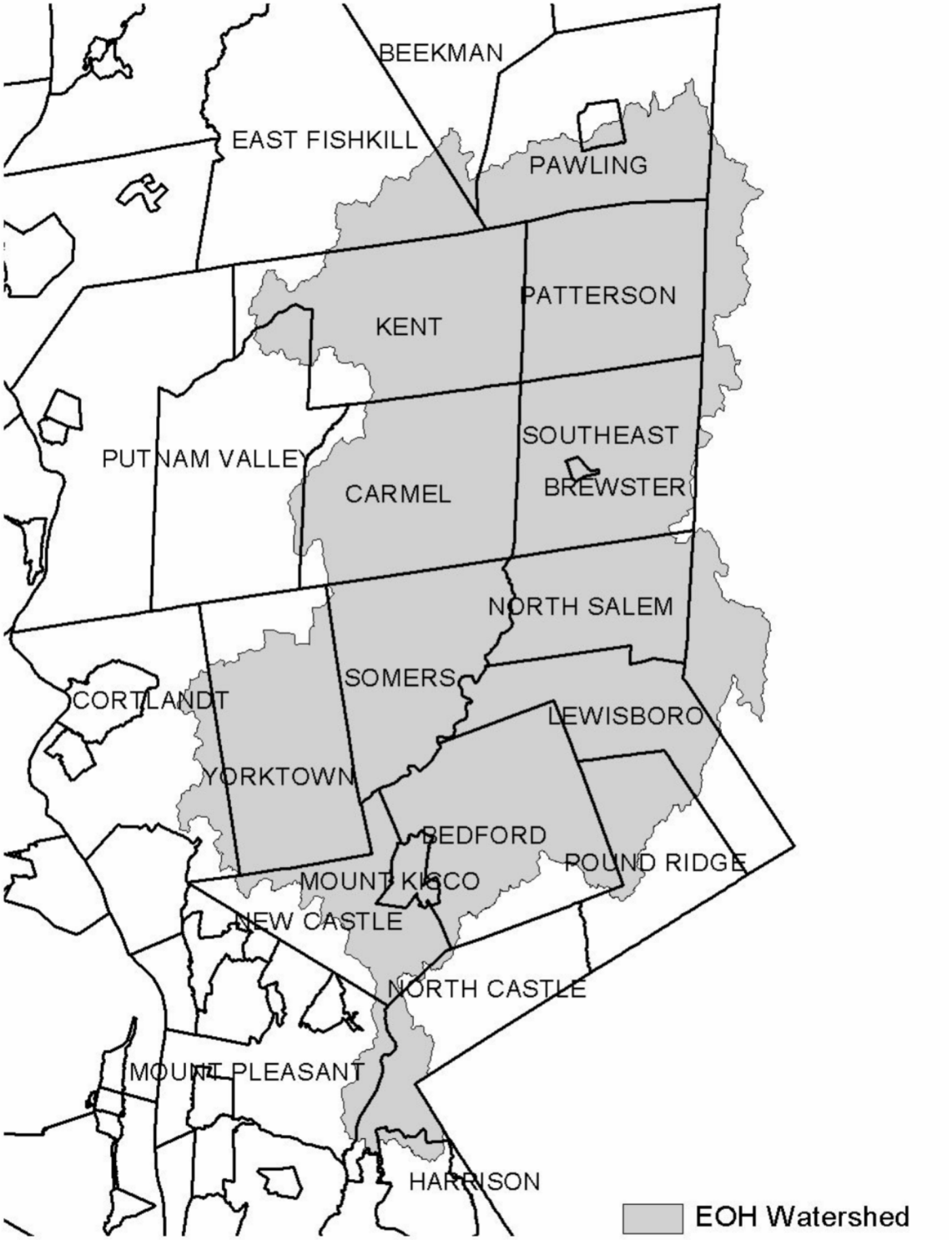


Figure 2 - Onondaga Lake Watershed



Figure 3 - Greenwood Lake Watershed

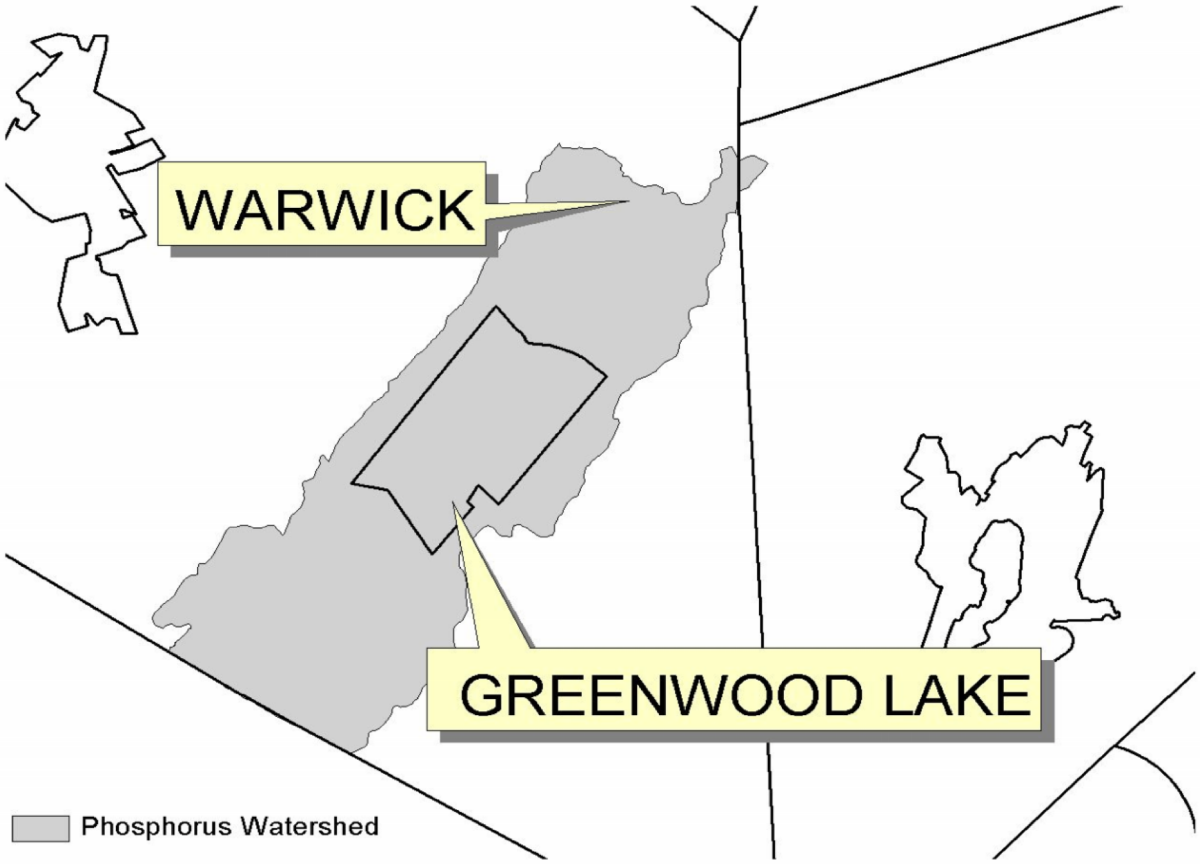


Figure 4 - Oscawana Lake Watershed

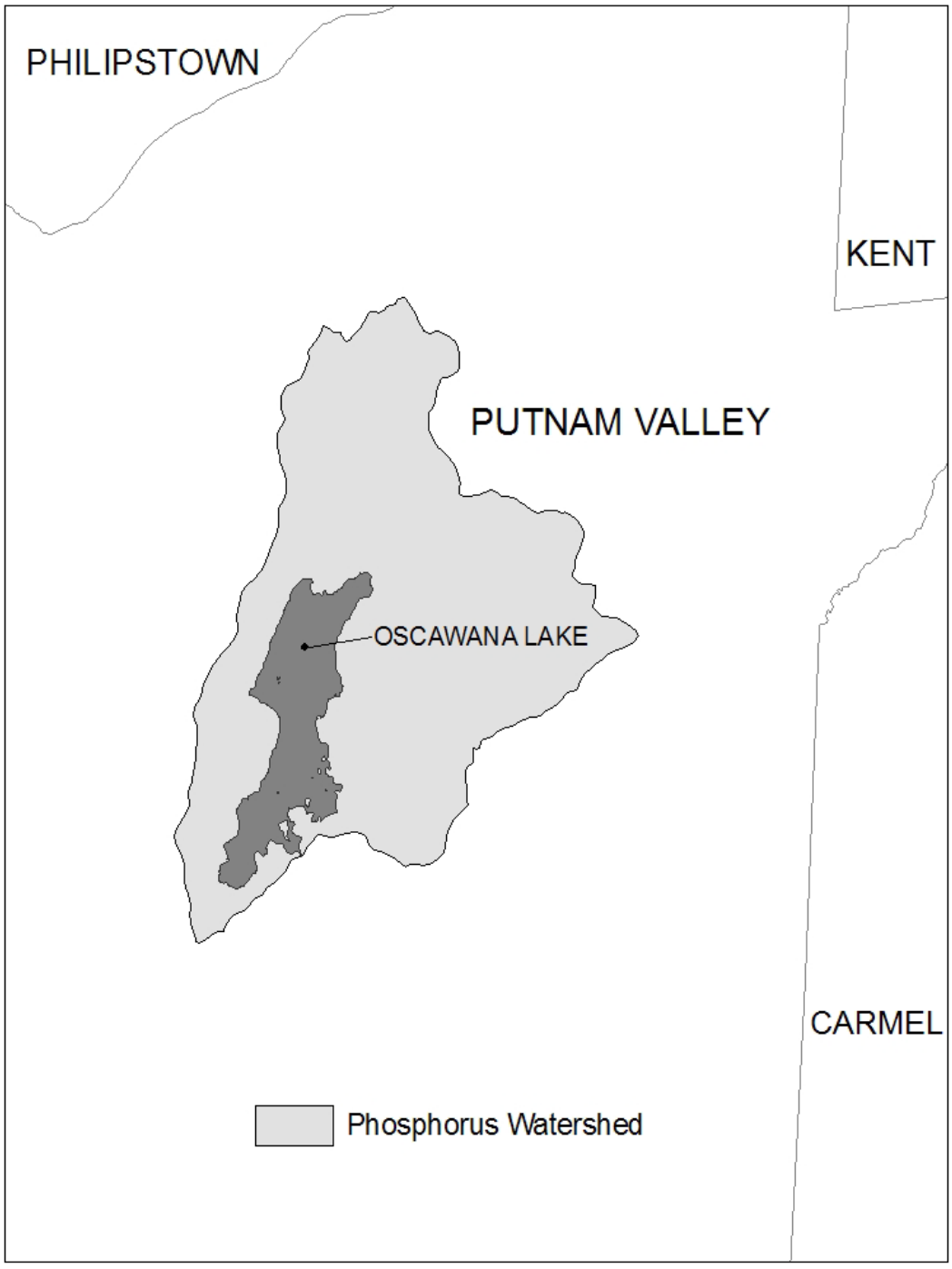
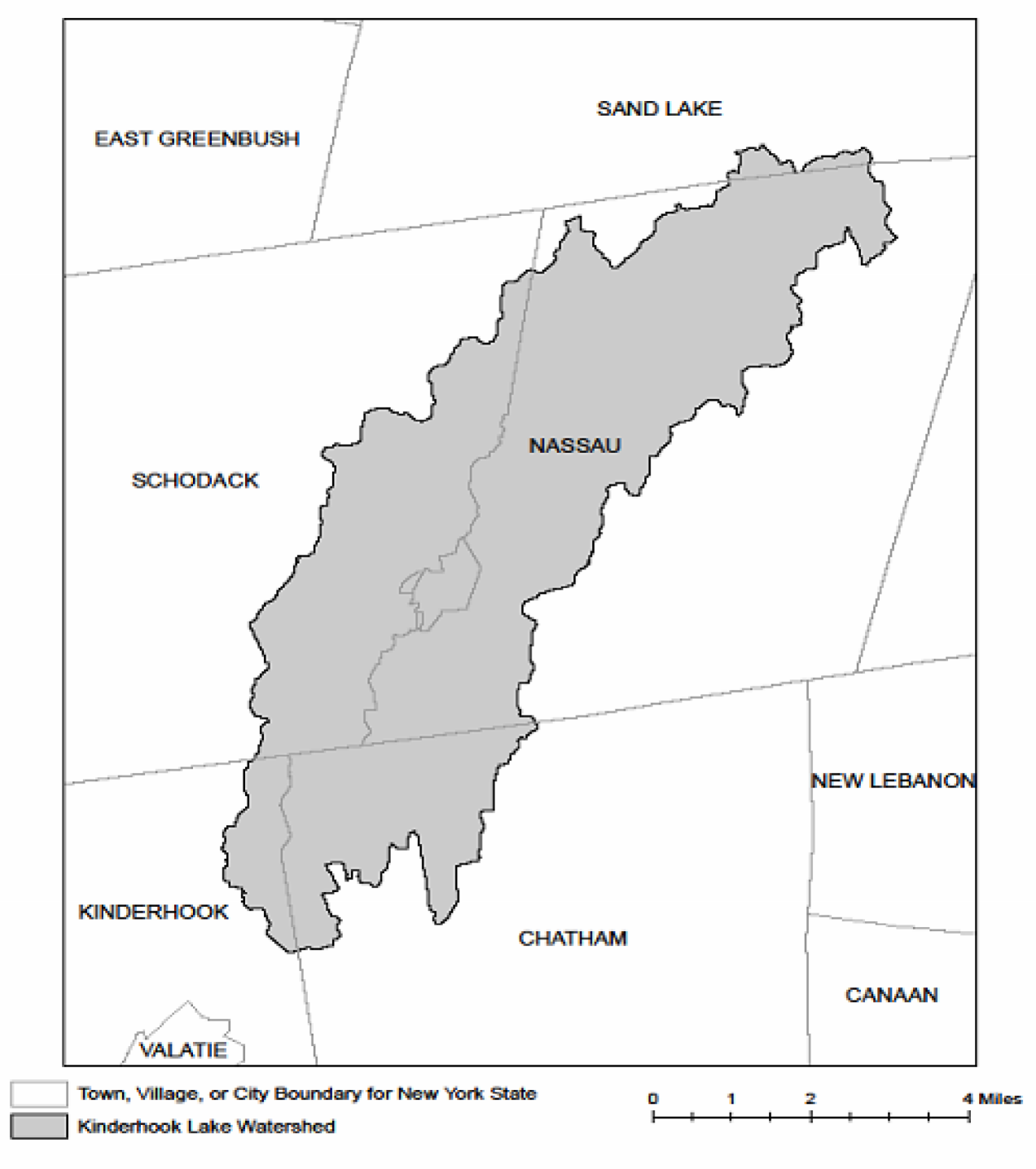


Figure 5 - Kinderhook Lake Watershed



APPENDIX D – Impaired Waterbodies (by Construction Related Pollutants)

List of waterbodies impaired by *pollutants* related to *construction activity*, including turbidity, silt/sediment, and nutrients (e.g. nitrogen, phosphorus). This list is a subset of "The Final New York State 2018 Section 303(d) List of Impaired Waters Requiring a TMDL" dated June 2020.

County	Waterbody	Pollutant
Albany	Ann Lee (Shakers) Pond, Stump Pond (1201-0096)	Phosphorus
Albany	Lawsons Lake (1301-0235)	Phosphorus
Allegany	Amity Lake, Saunders Pond (0403-0054)	Phosphorus
Allegany	Andover Pond (0403-0056)	Phosphorus
Bronx	Reservoir No.1/Lake Isle (1702-0075)	Phosphorus
Bronx	Van Cortlandt Lake (1702-0008)	Phosphorus
Broome	Blueberry, Laurel Lakes (1404-0033)	Phosphorus
Broome	Fly Pond, Deer Lake (1404-0038)	Phosphorus
Broome	Minor Tribs to Lower Susquehanna (0603-0044)	Phosphorus
Broome	Whitney Point Lake/Reservoir (0602-0004)	Phosphorus
Cattaraugus	Allegheny River/Reservoir (0201-0023)	Phosphorus
Cattaraugus	Beaver Lake/Alma Pond (0201-0073)	Phosphorus
Cattaraugus	Case Lake (0201-0020)	Phosphorus
Cattaraugus	Linlyco/Club Pond (0201-0035)	Phosphorus
Cayuga	Duck Lake (0704-0025)	Phosphorus
Cayuga	Owasco Inlet, Upper, and tribs (0706-0014)	Nutrients
Chautauqua	Chadakoin River and tribs (0202-0018)	Phosphorus
Chautauqua	Hulburt/Clymer Pond (0202-0079)	Phosphorus
Chautauqua	Middle Cassadaga Lake (0202-0002)	Phosphorus
Clinton	Great Chazy River, Lower, Main Stem (1002-0001)	Silt/Sediment
Columbia	Robinson Pond (1308-0003)	Phosphorus
Cortland	Dean Pond (0602-0077)	Phosphorus
Dutchess	Fallkill Creek (1301-0087)	Phosphorus
Dutchess	Hillside Lake (1304-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Phosphorus
Dutchess	Wappingers Lake (1305-0001)	Silt/Sediment
Erie	Beeman Creek and tribs (0102-0030)	Phosphorus
Erie	Delaware Park Pond (0101-0026)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Phosphorus
Erie	Ellicott Creek, Lower, and tribs (0102-0018)	Silt/Sediment
Erie	Green Lake (0101-0038)	Phosphorus
Erie	Little Sister Creek, Lower, and tribs (0104-0045)	Phosphorus
Erie	Murder Creek, Lower, and tribs (0102-0031)	Phosphorus

Erie	Rush Creek and tribs (0104-0018)	Phosphorus
Erie	Scajaquada Creek, Lower, and tribs (0101-0023)	Phosphorus
Erie	Scajaquada Creek, Middle, and tribs (0101-0033)	Phosphorus
Erie	Scajaquada Creek, Upper, and tribs (0101-0034)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Phosphorus
Erie	South Branch Smoke Cr, Lower, and tribs (0101-0036)	Silt/Sediment
Genesee	Bigelow Creek and tribs (0402-0016)	Phosphorus
Genesee	Black Creek, Middle, and minor tribs (0402 0028)	Phosphorus
Genesee	Black Creek, Upper, and minor tribs (0402-0048)	Phosphorus
Genesee	Bowen Brook and tribs (0102-0036)	Phosphorus
Genesee	LeRoy Reservoir (0402-0003)	Phosphorus
Genesee	Mill Pond (0402-0050)	Phosphorus
Genesee	Oak Orchard Cr, Upper, and tribs (0301-0014)	Phosphorus
Genesee	Oatka Creek, Middle, and minor tribs (0402-0031)	Phosphorus
Genessee	Tonawanda Cr, Middle, Main Stem (0102-0002)	Phosphorus
Greene	Schoharie Reservoir (1202-0012)	Silt/Sediment
Greene	Sleepy Hollow Lake (1301-0059)	Silt/Sediment
Herkimer	Steele Creek tribs (1201-0197)	Phosphorus
Herkimer	Steele Creek tribs (1201-0197)	Silt/Sediment
Kings	Hendrix Creek (1701-0006) 18	Nitrogen
Kings	Prospect Park Lake (1701-0196)	Phosphorus
Lewis	Mill Creek/South Branch, and tribs (0801-0200)	Nutrients
Livingston	Christie Creek and tribs (0402-0060)	Phosphorus
Livingston	Conesus Lake (0402-0004)	Phosphorus
Livingston	Mill Creek and minor tribs (0404-0011)	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs (0402-0033)	Phosphorus
Monroe	Buck Pond (0301-0017)	Phosphorus
Monroe	Cranberry Pond (0301-0016)	Phosphorus
Monroe	Durand, Eastman Lakes (0302-0037)	Phosphorus
Monroe	Lake Ontario Shoreline, Western (0301-0069) 9	Phosphorus
Monroe	Long Pond (0301-0015)	Phosphorus
Monroe	Mill Creek and tribs (0302-0025)	Phosphorus 2
Monroe	Mill Creek/Blue Pond Outlet and tribs (0402-0049)	Phosphorus
Monroe	Minor Tribs to Irondequoit Bay (0302-0038)	Phosphorus
Monroe	Rochester Embayment - East (0302-0002) [9]	Phosphorus
Monroe	Rochester Embayment - West (0301-0068) 9	Phosphorus
Monroe	Shipbuilders Creek and tribs (0302-0026)	Phosphorus 2
Monroe	Thomas Creek/White Brook and tribs (0302-0023)	Phosphorus

Nassau	Bannister Creek/Bay (1701-0380)	Nitrogen
Nassau	Beaver Lake (1702-0152)	Phosphorus
Nassau	Browswere Bay (1701-0383)	Nitrogen
Nassau	Camaans Pond (1701-0052)	Phosphorus
Nassau	East Meadow Brook, Upper, and tribs (1701-0211)	Silt/Sediment
Nassau	East Rockaway Channel (1701-0381)	Nitrogen
Nassau	Glen Cove Creek, Lower, and tribs (1702-0146)	Silt/Sediment
Nassau	Grant Park Pond (1701-0054)	Phosphorus
Nassau	Hempstead Bay, Broad Channel (1701-0032)	Nitrogen
Nassau	Hempstead Lake (1701-0015)	Phosphorus
Nassau	Hewlett Bay (1701-0382)	Nitrogen
Nassau	Hog Island Channel (1701-0220)	Nitrogen
Nassau	Massapequa Creek, Upper, and tribs (1701-0174)	Phosphorus
Nassau	Milburn/Parsonage Creeks, Upp, and tribs (1701-0212)	Phosphorus
Nassau	Reynolds Channel, East (1701-0215) [12]	Nitrogen
Nassau	Reynolds Channel, West (1701-0216) 12	Nitrogen
Nassau	Tidal Tribs to Hempstead Bay (1701-0218)	Nitrogen
Nassau	Tribs (fresh) to East Bay (1701-0204)	Silt/Sediment
Nassau	Tribs (fresh) to East Bay (1701-0204)	Phosphorus
Nassau	Tribs to Smith Pond/Halls Pond (1701-0221)	Phosphorus
Nassau	Woodmere Channel (1701-0219)	Nitrogen
New York	Harlem Meer (1702-0103)	Phosphorus
New York	The Lake in Central Park (1702-0105)	Phosphorus
Niagara	Bergholtz Creek and tribs (0101-0004)	Phosphorus
Niagara	Hyde Park Lake (0101-0030)	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0053) 9	Phosphorus
Niagara	Lake Ontario Shoreline, Western (0301-0072) 9	Phosphorus
Oneida	Ballou, Nail Creeks (1201-0203)	Phosphorus
Onondaga	Ley Creek and tribs (0702-0001) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nutrients (phosphorus)
Onondaga	Minor Tribs to Onondaga Lake (0702-0022) 10	Nitrogen (NH3, NO2)
Onondaga	Onondaga Creek, Lower (0702-0023) 10	Nutrients (phosphorus)
Onondaga	Onondaga Creek, Lower, and tribs (0702-0023)	Turbidity
Onondaga	Onondaga Creek, Middle, and tribs (0702-0004)	Turbidity
Onondaga	Onondaga Creek, Upper, and tribs (0702-0024)	Turbidity
Ontario	Great Brook and minor tribs (0704-0034)	Phosphorus 2
Ontario	Great Brook and minor tribs (0704-0034)	Silt/Sediment

Ontario	Hemlock Lake Outlet and minor tribs (0402-0013)	Phosphorus
Ontario	Honeoye Lake (0402-0032)	Phosphorus
Orange	Brown Pond Reservoir (1303-0013)	Phosphorus
Orange	Lake Washington (1303-0012)	Phosphorus
Orange	Minor Tribs to Middle Wallkill (1306-0061)	Phosphorus
Orange	Monhagen Brook and tribs (1306-0074)	Phosphorus
Orange	Orange Lake (1301-0008) [16]	Phosphorus
Orange	Quaker Creek and tribs (1306-0025)	Phosphorus
Orange	Wallkill River, Middle, Main Stem (1306-0038)	Phosphorus
Orange	Wallkill River, Upper, and Minor tribs (1306-0017)	Phosphorus
Orleans	Glenvwood Lake (0301-0041)	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0070) 9	Phosphorus
Orleans	Lake Ontario Shoreline, Western (0301-0071) 9	Phosphorus
Oswego	Lake Neatahwanta (0701-0018)	Nutrients (phosphorus)
Oswego	Pleasant Lake (0703-0047)	Phosphorus
Putnam	Lost Lake, Putnam Lake (1302-0053)	Phosphorus
Putnam	Minor Tribs to Croton Falls Reservoir (1302-0001)	Phosphorus
Queens	Bergen Basin (1701-0009) 18	Nitrogen
Queens	Jamaica Bay, Eastern, and tribs, Queens (1701-0005) 18	Nitrogen
Queens	Kissena Lake (1702-0258)	Phosphorus
Queens	Meadow Lake (1702-0030)	Phosphorus
Queens	Shellbank Basin (1701-0001) 18	Nitrogen
Queens	Willow Lake (1702-0031)	Phosphorus
Rensselaer	Nassau Lake (1310-0001)	Phosphorus
Rensselaer	Snyders Lake (1301-0043)	Phosphorus
Richmond	Grassmere Lake/Bradys Pond (1701-0357)	Phosphorus
Rockland	Congers Lake, Swartout Lake (1501-0019)	Phosphorus
Rockland	Rockland Lake (1501-0021)	Phosphorus
Saratoga	Ballston Lake (1101-0036)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Phosphorus
Saratoga	Dwaas Kill and tribs (1101-0007)	Silt/Sediment
Saratoga	Lake Lonely (1101-0034)	Phosphorus
Saratoga	Round Lake (1101-0060)	Phosphorus
Saratoga	Tribs to Lake Lonely (1101-0001)	Phosphorus
Schenectady	Collins Lake (1201-0077)	Phosphorus
Schenectady	Duane Lake (1311-0006)	Phosphorus
Schenectady Lake	Mariaville Lake (1201-0113)	Phosphorus
Schuyler	Cayuta Lake (0603-0005)	Phosphorus

Seneca	Reeder Creek and tribs (0705-0074)	Phosphorus
St.Lawrence	Black Lake Outlet, Black Lake (0906-0001)	Phosphorus
St.Lawrence	Fish Creek and minor tribs (0906-0026)	Phosphorus
Steuben	Smith Pond (0502-0012)	Phosphorus
Suffolk	Agawam Lake (1701-0117)	Phosphorus
Suffolk	Big/Little Fresh Ponds (1701-0125)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Phosphorus
Suffolk	Canaan Lake (1701-0018)	Silt/Sediment
Suffolk	Fresh Pond (1701-0241)	Phosphorus
Suffolk	Great South Bay, East (1701-0039)	Nitrogen
Suffolk	Great South Bay, Middle (1701-0040)	Nitrogen
Suffolk	Great South Bay, West (1701-0173)	Nitrogen
Suffolk	Lake Ronkonkoma (1701-0020)	Phosphorus
Suffolk	Mattituck/Marratooka Pond (1701-0129)	Phosphorus
Suffolk	Mill and Seven Ponds (1701-0113)	Phosphorus
Suffolk	Millers Pond (1702-0013)	Phosphorus
Suffolk	Moriches Bay, East (1701-0305)	Nitrogen
Suffolk	Moriches Bay, West (1701-0038)	Nitrogen
Suffolk	Quantuck Bay (1701-0042)	Nitrogen
Suffolk	Shinnecock Bay and Inlet (1701-0033)	Nitrogen
Suffolk	Tidal Tribs to West Moriches Bay (1701-0312)	Nitrogen
Sullivan	Bodine, Mongomery Lakes (1401-0091)	Phosphorus
Sullivan	Davies Lake (1402-0047)	Phosphorus
Sullivan	Evens Lake (1402-0004)	Phosphorus
Sullivan	Pleasure Lake (1402-0055)	Phosphorus
Sullivan	Swan Lake (1401-0063)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Phosphorus
Tompkins	Cayuga Lake, Southern End (0705-0040)	Silt/Sediment
Ulster	Ashokan Reservoir (1307-0004)	Silt/Sediment
Ulster	Esopus Creek, Lower, Main Stem (1307-0010) [17]	Turbidity
Ulster	Esopus Creek, Middle, Main Stem (1307-0003) 17	Turbidity
Ulster	Esopus Creek, Upper, and minor tribs (1307-0007)[3]	Silt/Sediment
Ulster	Wallkill River, Lower, Main Stem (1306-0027)	Phosphorus
Warren	Hague Brook and tribs (1006-0006)	Silt/Sediment
Warren	Huddle/Finkle Brooks and tribs (1006-0003)	Silt/Sediment
Warren	Indian Brook and tribs (1006-0002)	Silt/Sediment
Warren	Lake George (1006-0016) and tribs	Silt/Sediment
Warren	Tribs to Lake George, East Shore (1006-0020)	Silt/Sediment
Warren	Tribs to Lake George, Lk.George Village (1006-0008)	Silt/Sediment

Washington	Wood Cr/Champlain Canal and tribs (1005-0036)	Phosphorus
Westchester	Lake Katonah (1302-0136)	Phosphorus
Westchester	Lake Lincolndale (1302-0089)	Phosphorus
Westchester	Lake Meahagh (1301-0053)	Phosphorus
Westchester	Lake Mohegan (1301-0149)	Phosphorus
Westchester	Lake Shenorock (1302-0083)	Phosphorus
Westchester	Mamaroneck River, Lower (1702-0071)	Silt/Sediment
Westchester	Mamaroneck River, Upp, & minor tribs (1702-0123)	Silt/Sediment
Westchester	Saw Mill River (1301-0007)	Phosphorus
Westchester	Saw Mill River, Middle, and tribs (1301-0100)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Phosphorus
Westchester	Sheldrake River (1702-0069)	Silt/Sedimnt
Westchester	Silver Lake (1702-0040)	Phosphorus
Westchester	Teatown Lake (1302-0150)	Phosphorus
Westchester	Truesdale Lake (1302-0054)	Phosphorus
Westchester	Wallace Pond (1301-0140)	Phosphorus

APPENDIX E – List of NYSDEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	220 White Plains Road, Suite 110 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7438	5786 WIDEWATERS PARKWAY SYRACUSE, NY 13214-1867 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7165	700 DELAWARE AVENUE BUFFALO, NY 14209-2999 TEL. (716) 851-7070

APPENDIX F – SWPPP Preparer Certification Form

The SWPPP Preparer Certification Form required by this permit begins on the following page.

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

Project/Site Name:

eNOI Submission ID:

Owner/Operator Name:

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the requirements of GP-0-25-001. I certify under penalty of law that the SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SWPPP Preparer First Name | MI | SWPPP Preparer Last Name

Signature | Date

Revised: January 2025

APPENDIX G – MS4 SWPPP Acceptance Form

The MS4 SWPPP Acceptance Form required by this permit begins on the following page.

MS4 SWPPP Acceptance Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4 Operator:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Street Address:
14. City/State/Zip:
15. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in section II. of this form has been reviewed and meets the substantive requirements in the SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP). Note: The MS4 Operator, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 Operator does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name[1]:

Title/Position:

Signature:

Date:

VI. Additional Information

[1] Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.

APPENDIX H – NYCDEP SWPPP Acceptance/Approval Form

The City of New York Department of Environmental Protection (NYCDEP) SWPPP Acceptance/Approval form required by this permit begins on the following page.

THE CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Planning and Analysis
59-17 Junction Blvd., 9th Floor; Flushing, NY 11373

SWPPP Acceptance/Approval

Application Number:

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance/Approval
8. SWPPP Reviewed by:
9. Title/Position: /
10. Date Final SWPPP Reviewed and Accepted:
11. Acceptance/Approval Expiration Date:
IV. Regulated MS4 Information for projects that require coverage under the NY State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity
12. Name of MS4: *CITY OF NEW YORK*
13. MS4 SPDES Permit Identification Number: *NY-0287890*
14. Contact Person:
15. Street Address: *59-17 Junction Blvd. 9th Floor*
16. City/State/Zip: *Flushing, NY 11373*
17. Telephone Number:

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).

Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Conditions of Acceptance/Approval and Additional Information

Projects in the MS4 area must submit a copy of this SWPPP Acceptance with a Notice of Intent for coverage under the NY SPDES General Permit for Stormwater Discharges from Construction Activity to: NYS Department of Environmental Conservation, Division of Water; 625 Broadway, 4th Floor; Albany, New York 12233-3505.

APPENDIX I – MS4 No Jurisdiction Form

The MS4 No Jurisdiction Form required by this permit begins on the following page.

MS4 No Jurisdiction Form

for construction activities seeking authorization under the

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b., the completed form must be attached to the eNOI and submitted to NYSDEC electronically.)

I. Project Owner/Operator Information

a. Owner/Operator Name:

b. Contact Person:

c. Street Address:

d. City/State/Zip:

II. Project Site Information

a. Project/Site Name:

b. Street Address:

c. City/State/Zip:

d. eNOI Submission ID:

III. Traditional Land Use Control MS4 Operator Information

a. Name of MS4 Operator:

b. MS4 SPDES Permit ID Number: NYR20A

c. Street Address:

d. City/State/Zip:

e. Telephone Number:

IV. Certification Statement

In accordance with CGP Part I.D.2.b.ii.3., I hereby certify that the Traditional Land Use Control MS4 Operator identified in section III. of this form does not have review authority over the construction project identified in section II. of this form, which is owned/operated by the entity identified in section I. of this form. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

a. Printed name of the principal executive officer or ranking elected official for the MS4 Operator or their duly authorized representative in accordance with CGP Part VII.J.2.:

b. Title/Position:

c. Signature:

d. Date:

APPENDIX J – Owner/Operator Certification Form

The Owner/Operator Certification Form required by this permit begins on the following page.

Owner/Operator Certification Form

SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-25-001 (CGP)

(In accordance with CGP Part I.D.2.b. or Part I.F.2. and 3., the completed form must be attached to the eNOI or the Request to Continue Coverage, and submitted to NYSDEC electronically.

Project/Site Name: _____

eNOI Submission ID: _____

eNOI Submitted by: ☐ **Owner/Operator** ☐ **SWPPP Preparer** ☐ **Other**

Certification Statement - Owner/Operator

I hereby certify that I read, and will comply with, the GP-0-25-001 permit requirements. I understand that authorization to discharge under the permit for the project/site named above is dependent on receipt of a Letter of Authorization (LOA) or a Letter of Continued Coverage (LOCC) from the New York State Department of Environmental Conservation (NYSDEC) in accordance with CGP Part I.D.3.b. or Part I.F.4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner/Operator First Name MI Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

Construction General Permit (CGP) Electronic Notice of Intent (eNOI) GP-0-25-001

version 1.0

(Submission #: HQA-1C8V-71NR8, version 1)

Details

Originally Started By	DANIEL PANKO
Alternate Identifier	Moreau Community Solar Project—Region 5
Submission ID	HQA-1C8V-71NR8
Status	Draft

Form Input

Eligibility

Disturbance Threshold

1. Will the construction activity involve soil disturbances listed in Part I.A.1 of GP-0-25-001?
Yes

1.a. Will any runoff from the site enter a sewer system classified as a combined sewer?
No

1.b. Is this a remediation project being done under a Department approved work plan (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) with a SWPPP which meets the substantive requirements of GP-0-25-001?
No

1.c. Is the construction activity related to a stormwater discharge that does not require a permit as described in 40 CFR 122.3(e), e.g. non-point source agriculture or silviculture activities?
No

Other SPDES Permits

2. Will the discharge from the construction activity meet all conditions listed in Part I.A.2 of GP-0-25-001?
Yes

Threatened and Endangered Species

3. Will the construction activity potentially adversely affect a species that is endangered or threatened per Part I.A.3.?
No

State Historic Preservation Act (SHPA)

4. Is the construction activity designated by the Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP), pursuant to 9 NYCRR §§428.12 or 428.13 as exempt from the SHPA review (see Attachment 2 of the Letter of Resolution between NYSDEC and OPRHP, dated January 9, 2015)?
No

4.a. Will the construction activity:

a) occur within an archeologically sensitive area indicated on the sensitivity map, or

b) have the potential to affect a property that is listed or determined to be eligible for listing on the Na or State Registers of Historic Places, or

c) include a new permanent building on the construction site within the following distances from a building, structure, or object that is more than 50 years old and OPRHP, a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determinec historically/archeologically significant building, structure, or object:

- 1-5 acres of disturbance—20 feet
- 5-20 acres of disturbance—50 feet
- 20+ acres of disturbance—100 feet?

No

4.b. Is there documentation at the construction site demonstrating:

a) that the construction activity is not within an archeologically sensitive area indicated on the sensiti map, and that the construction activity is not immediately adjacent to a property listed or determined t eligible for listing on the National or State Registers of Historic Places, and

b) that there is no new permanent building to be built on the construction site within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the construction site within those parameters that OPRHP, a Historic Preserva Commission of a Certified Local Government, or a qualified preservation professional has determinec the building, structure, or object more than 50 years old is not historically/archeologically significant:

- 1-5 acres of disturbance – 20 feet
- 5-20 acres of disturbance – 50 feet
- 20+ acres of disturbance – 100 feet?

Yes

State Environmental Quality Review (SEQR)

5. Is the construction activity subject to SEQR (Part I.A.5.), or the equivalent environmental review from another NYS or federal agency (Part I.A.6.)?
No

Uniform Procedures Act (UPA) Permits

6. Has the owner/operator obtained all necessary UPA permits from NYSDEC, or the equivalent from another NYS or federal agency per Part I.A.7.a. of GP-0-25-001?
Yes

Steep Slope

---

7. Is the construction activity within the watershed of surface waters of the State classified as AA or AA-S identified utilizing the Stormwater Interactive Map on NYSDEC's website?
No

Owner/Operator Information

8. Owner/Operator Name
NY USLE Moreau Reynolds A LLC.

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Mike Fingar	5182887800	mfingar@uslightenergy.com

10. Owner/Operator Mailing Address

8 British American Boulevard
Floor 2
Latham, NY 12110
USA

11. Is the billing contact different from the Owner/Operator Contact?
No

12. What type of organization is the owner/operator?
LLC

12.b. Is the owner/operator registered with the Department of State to do business in New York State?
No

Site Information

13. Project/Site Name
Moreau Community Solar Project

14. Site Address

65 REYNOLDS RD
FORT EDWARD, NY 12828
Saratoga

DEC Region
5

15. Site Latitude & Longitude
43.25637379999999,-73.60114159999999

Project Details

16. This eNOI submission is for:
An entire common plan of development or sale in accordance with Part I.D.1.b.

17. Does the project type fall under Table 1 or Table 2 of Appendix B of GP-0-25-001? If any portion of the construction activity falls under Table 2, regardless of the size of the disturbance, select "Table 2".
Table 1

18. Consistent with Part III.B.1.c.i. of GP-0-25-001, provide a concise overview of the project. Describe existing and proposed conditions, and include any other relevant information.
The proposed project is the construction of two (2) ground mounted solar arrays that have tables elevated off the ground, spaced one table width apart, and do not alter hydrology from pre to post conditions.

The existing site was previously home to a golf course which has since been vacated.

Enter the total project site acreage, the acreage to be disturbed, and the future impervious area (acreage) within the disturbed area, rounded to the nearest tenth of an acre.

19. Total Site Area (acres)
120.4

20. Total Area to be Disturbed (acres)
59.1

21. Existing Impervious Area to be Disturbed (acres)
0.0

22. Future Impervious Area Within Disturbed Area (acres)
3.7

Nature of the project:
New Construction

23. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

24. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
0

B (%)
1

C (%)
0

D (%)
99

25. Enter the planned start and end dates of the disturbance activities.

Start Date
04/01/2025

End Date
10/31/2025

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Unnamed stream

27. Type of waterbody identified in question 26?
Stream/Creek On Site

28. Has the surface waterbody in question 26 been identified as a 303(d) segment in Appendix D of GP-0-25-001?
No

29. Is this project located in one of the Watersheds identified in Appendix C of GP-0-25-001?
No

30. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

31. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

32. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

33. Is this property owned by a state authority, state agency, federal government or local government?
No

Required SWPPP Components

General SWPPP Requirements

34. Has a SWPPP been developed in conformance with the requirements in Part III. of GP-0-25-001?
Yes

35. Does the SWPPP demonstrate consideration of the future physical risks due to climate change pursuant to the CRRA, 6 NYCRR Part 490, and associated guidance per Part III.A.2. of GP-0-25-001?
Yes

36. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

SWPPP Preparer

39. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

40. Name of the person who prepared the SWPPP
Owen K. Speulstra

41. SWPPP Preparer Organization Name
C.T. Male Associates

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Owen Speulstra	5187867400	o.speulstra@ctmale.com

43. SWPPP Preparer Address

50 Century Hill Drive

Latham, NY 12110

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Upload the completed form
Download SWPPP Preparer Certification Form

44. Please upload the SWPPP Preparer Certification

NONE PROVIDED

Comment

NONE PROVIDED

44.a. Has the SWPPP Preparer Certification Form been signed by the SWPPP preparer in accordance with Part VII.J of GP-0-25-001?
Yes

Erosion & Sediment Control Criteria

45. Has a construction sequence schedule for the planned management practices been prepared?
Yes

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.
None

57. Is this NOI for a change in owner/operator per Part I.G.?
No

MS4 SWPPP Acceptance

59. Is the construction activity located within the municipal boundaries of a regulated, traditional land use control MS4?
Yes

59.a. Which form is required per Part I.D.2.b.ii.?
MS4 SWPPP Acceptance Form

MS4 SWPPP Acceptance Form Download

Download the MS4 SWPPP Acceptance Form from the link below.
MS4 SWPPP Acceptance Form

60. MS4 Acceptance or No Jurisdiction Form Upload

> *NONE PROVIDED*
> **Comment**
> *NONE PROVIDED*

60.a. Has the form been signed by the principal executive officer or ranking elected official—or duly authorized representative of that person—in accordance with Part VII.J. and submitted along with this NOI?
Yes

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the Owner/Operator Certification Form by clicking the link below.
Owner/Operator Certification Form

61. Upload Owner/Operator Certification Form

> *NONE PROVIDED*
> **Comment**
> *NONE PROVIDED*

61.a. Has the Owner/Operator Certification Form from Appendix J been signed by the owner/operator, or a representative of the owner/operator in accordance with Part VII.J of GP-0-25-001 and uploaded to the eNOI?
NONE PROVIDED

Additional Project Information

62. Enter any additional pertinent project information in the text box below.
NONE PROVIDED

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233-3505
P: (518) 402-8111 | F: (518) 402-9029
www.dec.ny.gov

MEMORANDUM

TO: Regional Water Engineers

FROM: Robert Wither, Chief, South Permit Section

SUBJECT: Solar Panel Construction Stormwater Permitting/SWPPP Guidance

DATE: April 6, 2018

Issue

The Department is seeing an increase in the number of solar panel construction projects across New York State. This has resulted in an increase in the number of questions on Construction General Permit (CGP) and Stormwater Pollution Prevention Plan (SWPPP) requirements from design professionals because the current CGP (GP-0-15-002) does not include a specific reference to the SWPPP requirements for solar panel projects in Tables 1 and 2 of Appendix B. To address this issue, the Division of Water (DOW) has developed the following guidance on CGP/SWPPP requirements for the different types of solar panel projects.

Scenario 1

The DOW considers solar panel projects designed and constructed in accordance with the following criteria to be a "*Land clearing and grading for the purposes of creating vegetated open space (i.e. recreational parks, lawns, meadows, fields)*" type project as listed in Table 1, Appendix B of the CGP. Therefore, the SWPPP for this type of project will typically just need to address erosion and sediment controls.

1. Solar panels are constructed on post or rack systems and elevated off the ground surface,
2. The panels are spaced apart so that rain water can flow off the down gradient side of the panel and continue as sheet flow across the ground surface*,
3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rain water sheet flows down slope*,
4. The ground surface below the panels consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP),
5. The project does not include the construction of any traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.),
6. Construction of the solar panels will not alter the hydrology from pre-to post development conditions (see Appendix A of the CGP, for definition of "Alter the hydrology…"). Note: The design professional shall perform the necessary site assessment/hydrology analysis to make this determination.

*Refer to Maryland's "Stormwater Design Guidance- Solar Panel Installations" attached for guidance on panel installation.
**See notes below for additional criteria.

Scenario 2

If the design and construction of the solar panels meets all the criteria above, except for item 6, the project will fall under the "*All other construction activities that include the construction or reconstruction of impervious area or alter the hydrology from pre-to post development conditions, and are not listed in Table 1*" project type as listed in Table 2, Appendix B of the CGP. Therefore, the SWPPP for this type of project must address post-construction stormwater practices designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed). The Water Quality Volume (WQv)/Runoff Reduction Volume (RRv) sizing criteria can be addressed by designing and constructing the solar panels in accordance with the criteria in items 1 – 4 above, however, the quantity control sizing criteria (Cpv, Qp and Qf) from Chapter 4 (or 10) of the Design Manual must still be addressed, unless one of the waiver criteria from Chapter 4 can be applied. **See notes below for additional criteria.

**** Notes**

- Item 1: For solar panel projects where the panels are mounted directly to the ground (i.e. no space below panel to allow for infiltration of runoff), the SWPPP must address post-construction stormwater management controls designed in accordance with the sizing criteria in Chapter 4 of the NYS Stormwater Management Design Manual, dated January 2015 (Note: Chapter 10 for projects in NYC EOH Watershed).

- Item 5: For solar panel projects that include the construction of traditional impervious areas (i.e. buildings, substation pads, gravel access roads or parking areas, etc.), the SWPPP must address post-construction stormwater management controls for those areas of the project. This applies to both Scenario 1 and 2 above.

cc: Carol Lamb-Lafay, BWP
Dave Gasper, BWP

Schmidt, Martin

From: Gasper, David J (DEC) <david.gasper@dec.ny.gov>
Sent: Thursday, July 20, 2023 10:21 AM
To: Schmidt, Martin
Cc: Koenig, Chris
Subject: RE: Impervious Threshold for NOI

Given the size of the pads, your understanding on completing question 4 is correct. Please continue to include the notes in Box 39 also. Thanks

---

From: Schmidt, Martin <m.schmidt@ctmale.com>
Sent: Wednesday, July 19, 2023 2:17 PM
To: Gasper, David J (DEC) <david.gasper@dec.ny.gov>
Cc: Koenig, Chris <c.koenig@ctmale.com>
Subject: Impervious Threshold for NOI

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dave

When filing an NOI question #4 asks for the Future Impervious Area within the Disturbed Area rounded to the nearest tenth of an acre. For solar projects that meet the Scenario 1 guidance the only impervious area within the disturbed area tends to be a small concrete equipment pad less than 0.04 acres (typically 400SF or .009 acres). This should be rounded down to 0.0 for the NOI correct?

We spoke about this around June or July of 2022, but I can't seem to locate that correspondence. This was in reference to NOI submission ID **HPJ-NZ04-GD3Q3** You suggested that I list the concrete pad area under question #39 answer 0.0 to question #4 and therefore no to question #22.

I would like to confirm that this is the correct process for other projects we may encounter that have similar circumstance moving forward.

Thanks.

Martin Schmidt
Civil Project Coordinator

50 Century Hill Drive, Latham, NY 12110
Phone: 518.786.7620
Cell: 518.947.9722
Fax: 518.786.7299
Email: m.schmidt@ctmale.com
www.ctmale.com

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Water Compliance
625 Broadway, Albany, New York 12233-3506
P: (518) 402-8177 | F: (518) 402-8082
www.dec.ny.gov

October 23, 2024

Noah Ginsburg
Executive Director
New York State Energy Industries Association
P.O. Box 1523
Long Island City, New York 11101

Dear Noah Ginsburg,

Thank you for your engagement efforts seeking to clarify New York State Department of Environmental Conservation (NYSDEC) requirements related to solar development. New York State Energy Industries Association (NYSEIA) provided correspondence and questions dated January 25, 2024 and June 26, 2024 seeking engagement on modernization of solar development techniques. In your correspondence, you raised scenarios and questions regarding common stormwater practices related to the NYSDEC Construction Stormwater General Permit (CGP), New York Standards and Specifications for Erosion and Sediment Control (Blue Book) dated November 2016, New York State Stormwater Management Design Manual (2024 White Book) dated July 2024, and use of common solar development methods. Your letter refers to a DEC memo of April 5, 2018 (Solar Memo) providing interpretation of the CGP in relation to solar installation. This letter responds to the correspondence and aids in the implementation of solar development consistent with clean energy goals, the CGP, and design standards while maintaining sound stormwater management related to these developments.

The following answers to these questions should be examined comprehensively as many factors together ultimately decide what post-construction treatment, if any, is required by the CGP and any specific project. When considering whether tables (solar panel arrays) should be modeled as pervious or impervious, NYSDEC recognizes that tables can be designed or constructed in such a way that runoff and infiltration can occur between and underneath tables. Variables such as table height, spacing between tables, site slope, soil conditions, vegetative cover, and hydrology analysis are studied together to determine whether runoff from tables can be considered disconnected for purposes of post-construction treatment practice selection or not.

The following are NYSEIA bullet points/questions and responses. For all responses, these are NYSDEC's interpretation of CGP, Blue Book, and 2024 White Book provisions which should be reviewed and considered for each site-specific application and govern any final determination for that application.

NYSDEC Scenario 1 Issues (Solar Memo):

Item #2: The panels are spaced apart so that rain can flow off the down gradient side of the panel and continue to sheet flow across the ground surface.

1. NYSEIA Question:

   Are the entirety of the solar rows and tables (made up of individual solar modules) considered one large impervious area? Typically, solar modules are installed to include a ~1" gap around all edges which will prevent one large leading drip edge and avoid significant drip edge erosion.

   NYSDEC Response:

   While the actual solar table may be impervious, solar array field areas may be designed to be disconnected impervious area and qualify for impervious area reduction when computing water quality volume requirements. To clarify, NYSDEC has attached a figure (Diagram 1: NYSDEC Solar Plan View) representing common terms and practices. It is typical practice to consider the leading drip edge as the most useful scenario to model in considering impact on sheet flow from the table. Combined with site characteristics like vegetative cover, soil conditions, panel spacing and slope, design professionals can design sites to avoid erosion, promote sheet flow and optimize the perviousness of the ground surface.

   In addition to site characteristics, table height can also influence infiltration capability. For solar panel projects where the panels are mounted directly to the ground with no space below panel to allow for the desired vegetative growth and infiltration of runoff, the panels would not meet the criteria for disconnection of impervious area. NYSDEC has not accepted or developed a specific table height requirement. A height requirement, like the assessment of slope and soil conditions, is a component of a designer's best professional judgement. However, the designer should keep in mind that the tables must be elevated enough to allow for permanent cover of 80% or more as required by the CGP definition for final stabilization. It is also noted that different seed mixes may factor into height requirements and become part of the design consideration for the designer and Landscape Architect team.

2. NYSEIA Question

   Please explain what you mean by the panels need to be spaced apart.

   NYSDEC Response:

   Panel spacing is consistent with the concept of disconnection of impervious area (Section 5.3.4 of the 2024 White Book) and is an important component to consider when avoiding erosive conditions. Disconnection can be achieved through adequate spacing of panel rows over areas of well-established vegetative cover (see Diagram 2: NYSDEC Solar Profile View: Inter-Row Space). For the designer to meet the intent of disconnection, a design should consider the largest solar panel width, considering all solar panel rotations/positions

and provide that width as the minimum spacing downgradient of every row of solar panels in the solar array field area. If inter-row space requirements are insufficient, infiltration is less likely, resulting in panels that are more likely to create concentrated flow paths and perform as impervious. For solar array field areas that have insufficient spacing for infiltration, the disconnection credit for runoff reduction would not be applicable. As a result, the SWPPP would need to address post-construction stormwater management control practices.

Item #3: For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rainwater sheet flows down slope.

3. NYSEIA Question:

   If panels aren't "generally installed along the contour" does that automatically mean the area of solar panels should be considered impervious?

   NYSDEC Response:

   No. NYSDEC recognizes that rows of solar tables are frequently constructed to track the sun's path, not along the contour. The main intent of considering placement along the contour is to ensure that precipitation coming off the panels consists of sheet flow across the site. As explained in the previous section, practices that maintain sheet flow and promote infiltration are necessary to meet CGP sizing criteria for Water Quality Volume (WQv) and Runoff Reduction Volume (RRv).

4. NYSEIA Question:

   If panels aren't "generally installed along the contour" does that mean the area of solar panels wouldn't be allowed to function as a filter strip?

   NYSDEC Response:

   Through proper design and installation of panels even if not along the contour, the site could still be designed to allow the area to function as a pervious filter strip.

   The concept behind the Sheet Flow to Filter Strip practice is outlined in Section 5.3.2 of the 2024 White Book and is important when considering stormwater management needs on solar array field areas. Precipitation falls to a well-vegetated surface with suitable characteristics between the panels and then across the site, which allows infiltration. This meets the WQv and RRv sizing criteria in the CGP for this portion of the solar array field area. Since the panels are not treated as connected impervious area, the 10 ft. pretreatment requirement is not necessary for each row of tables.

   In accordance with Table 5.7 of the 2024 White Book, it is noted that there are slope limitations for the filter strip. They can only be used on slopes less than or equal to 8%. This is to ensure that sheet flow can be maintained. If slopes are greater than 8%, then there are two main alternatives:

a) Design and implement permanent engineered practices from the Blue Book and White Book or use the NYSDEC Gravel Diaphragm detail (Diagram 3) along the slope/contour, to reestablish and maintain sheet flow, which will meet RRv and WQv requirements. It is worth noting that the use of the gravel diaphragm has been effectively implemented in many scenarios. OR
b) Where sheet flow cannot be maintained, consider the panels in that area to be connected impervious and design post-construction stormwater management control practices to provide water quality and quantity controls for this portion of the solar array field area consistent with the CGP and White Book. Some acceptable design elements used on other sites for RRv and WQv include gravel diaphragms (see Diagram 3: NYSDEC Gravel Diaphragm Along the Contour), level spreaders and flow diffusers. Practices such as water bars have generally been shown to not be effective for large areas as they are diversion practices designed to convey stormwater to a stable outlet. Water bars as a practice to maintain sheet flow have posed their own unique set of issues on several sites including unintended ponding, traffic concerns, and poorly stabilized outlets.

Item #4: The ground surface below the panels shall consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP).

5. NYSEIA Question:

   Please confirm that in addition to the space under the panel, the ground surface between the rows needs to have well established vegetation.

   NYSDEC Response:

   This is correct. For the ground surface under the panel to aid in creating a pervious area, a well-established vegetative cover is required for the final stabilization of a site post construction. Please see the definition of "final stabilization" in the CGP.

Item #5: The project does not include the construction of any traditional impervious areas (i.e., buildings, substation pads, gravel access roads or parking areas, etc.)

6. NYSEIA Question:

   All solar facilities will require some impervious areas in the form of concrete or gravel equipment areas and access roads that are fire code compliant. These areas are typically treated with stormwater controls (with stone areas or adjacent grass filter strips). Please explain the rationale behind Item # 5 and how developers should address impervious areas within the proposed solar facility.

NYSDEC Response:

The CGP provides sizing criteria in Part I.C and Part III.C. to address impervious areas. When RRv and WQv are not met for the ancillary areas and/or tables, designers must implement post-construction stormwater practices in accordance with the White Book for those areas. If designers are looking for relief from designing post-construction practices, there are some approved alternatives such as limited use pervious access roads and alternative stormwater management practices for substations to achieve sizing criteria and reduce post-construction practices.

7. NYSEIA Question:

   Does DEC require pervious access roads into the solar facility? If so, is there a typical you can provide for developers to reference?

   NYSDEC Response:

   No, pervious access roads are not required by the CGP and are not listed in the 2024 White Book and therefore are not required on renewable energy sites. It is worth noting that on many solar sites, the pertinent design requirements for the pervious access road detail cannot be met. For example, there are slope limitations. Cross slopes cannot exceed 6% and the longitudinal slope should not exceed 15%. Additionally, these roads should not be utilized during construction as it may impact soil or other conditions and require testing and re-construction to be effective as a pervious feature. Many sites do not have enough available area to construct both temporary and permanent roads in separate footprints. Finally, the limited use pervious access road cannot be constructed or used until all areas subject to runoff onto the road have achieved final stabilization. Attached, please find a copy of a typical limited use pervious access road detail that has been accepted in SWPPP review for your reference.

   One alternative that has been accepted on other sites is the revegetated gravel road scarification detail for upland roads and work areas. This can be used in areas that are not wetlands and are not agricultural areas where restoration is required. This road is meant for minimal intermittent use and does not have the load-bearing capacity to serve as emergency access for the site.

Maryland DE's "Stormwater Design Guidance- Solar Panel Installations," Page 1, 2nd Paragraph: "Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the 2000 Maryland Stormwater Design Manual) is a low-cost alternative for treating runoff in situations like rows of solar panels."

8. NYSEIA Question:

   Should the Maryland Department of the Environment (MDE) Stormwater Design Guidance be applicable in NYS? We feel that the guidance is outdated and doesn't represent typical field conditions in New York.

NYSDEC Response:

While the Maryland Department of the Environment's (MDE) Stormwater Guidance aided in NYSDEC's initial understanding of solar guidance standard development, designs should meet New York State standards. NYSDEC did not propose the MDE document as guidance or intend it to be adopted it in its entirety. Primarily, NYSDEC intended to reference use of the diagrams as suitable alternative practices. To eliminate confusion, changes have been proposed in the draft version of the CGP.

Maryland DE's "Stormwater Design Guidance- Solar Panel Installations," Page 1, 3rd Bullet: "Disconnections should be located on gradual slopes (≤ 5%) to maintain sheet flow. Level spreaders, terraces, or berms may be used to maintain sheet flow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice."

9. NYSEIA Question:

   If panels are placed on slopes greater than 10% does that automatically make them impervious?

   NYSDEC Response:

   No. Please refer to Question 4.

10. NYSEIA Question:

    Please clarify the requirement for an "engineered plan."

    NYSDEC Response:

    With regard to the Maryland guidance, NYSDEC's original intent was to reference diagrams and not the document as a whole. The draft CGP provides clarification as to the need for post-construction controls for solar array field areas. The need for an "engineered plan" references the use of suitable design practices from the White Book for post-construction controls for RRv, WQv, and quantity based on site conditions and solar table layout.

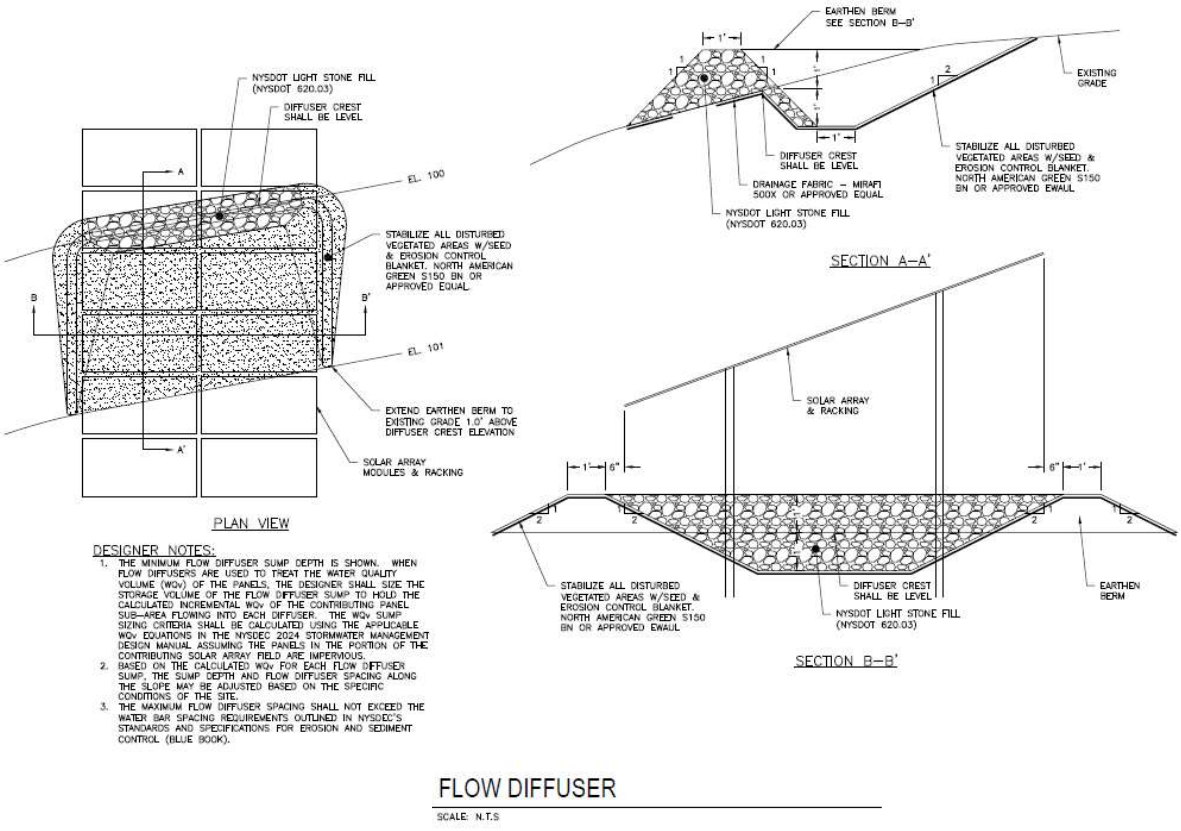
11. NYSEIA Question:

    If the panels are placed on slopes greater than 10%, what is acceptable to demonstrate developers are designing a site with effective stormwater management practices? In our experience we have proposed the following accepted solutions:

    To date, the majority of our solutions have been gravel level spreaders/diaphragms on slopes above 10%, generally spaced throughout the solar panel area site using the NYSDEC blue book spacing for like water bars.

In steep panel areas (e.g. in excess of ~20% slopes), we have had instances where we provided additional attenuation (reducing runoff rates further than what is required by the Stormwater Design Manual) in order to satisfy Town engineers.

An alternative "engineered" solution pioneered by Marathon Engineering have been flow diffusers which he has used at staggered locations primarily beneath the panels to catch water leaving the panels and slow it down while avoiding most of the drive aisles for construction (snip below).



NYSDEC Response:

NYSDEC acknowledges that well-designed projects on slopes steeper than 10 percent have successfully implemented some of the alternative practices mentioned such as flow diffusers and stone diaphragms. The flow diffuser detail (above) from Marathon Engineering has been applied on several sites. If there are instances that trigger 60 day review, please note that it will aid in review if you can provide examples of previous projects that this practice has been approved on.

It has come to NYSDEC's attention that there are a variety of practices that may be useful in managing stormwater on solar sites that have been approved in other states besides New York. NYSDEC will be seeking to include examples of these practices in future training. It is important that when submitting alternative practices for review, that as much documentation is provided to satisfy the Criteria for Practice addition in Section 3.3.2 in the White Book including an 80% reduction in total suspended solids (TSS) and 40% reduction in total phosphorous (TP).

The CGP, White Book, and Blue Book do not exclude solar development on steep slopes or establish specific practices for solar development. For these challenging projects, the designer will need to carefully consider practices and controls during design and provide sufficient information in the SWPPP to facilitate evaluation by NYSDEC staff, and manage erosion and sedimentation during construction, and post-construction stormwater management for the project. For solar projects on steep slopes, it is encouraged that NYSDEC, project developer, designer and contractors work together to ensure that New York's goals for renewable energy are achieved in an environmentally responsible manner and that balance water quality and climate goals.

Additional Question #1

12. NYSEIA Question:

    Are solar trackers (solar tables/rows which move with the sun) considered impervious? Do the current guidelines apply to them? The examples in the 2018 Solar Guidance Memo only show fixed tilt. How can a developer ensure these systems follow DEC guidelines?

    NYSDEC Response:

    Solar trackers are not considered disconnected impervious area unless they meet the criteria discussed above. The SWPPP must demonstrate that the site conditions and placement of the solar panels will allow for disconnection and achieve the runoff reduction objectives of the CGP in order to apply the area reduction credit for the panels in all positions.

Additional Question #2

13. NYSEIA Question:

    On slopes under 8%, can the meadow grass beneath the modules be counted as part of a filter strip to satisfy water quality and RRv? We have typically started our filter strips outside of the system area due to Town Designated Engineer preference and understanding of the "Filter Strip" practice, but we feel the area under the solar panels should suffice as a filter strip.

NYSDEC Response:

The area between the panels counts toward the filter strip. Since the panels are not treated as connected impervious area, the 10 ft. pretreatment requirement is not necessary for each row of tables. Please refer to Question 4.

We hope this information has been of assistance. Although currently solar development falls under Appendix B Table 2 of the current 2020 version of the CGP as "all other construction activities that include the construction or reconstruction of impervious area or alter the hydrology from pre to post development conditions and are not listed in Table 1" the 2024 White Book and the CGP have provisions that allow disconnection of impervious areas. Use of the clarifications provided in this letter will allow design and development practices under the requirements of the CGP and 2024 White Book to be applied for disconnection and should be utilized in lieu of the 2018 Solar Memo. Additionally, provisions for solar development are proposed in the 2024 draft of the new CGP. We hope you were able to review the draft and provide feedback during the public comment period which ended October 1, 2024.

Sincerely,

Edward Hampston

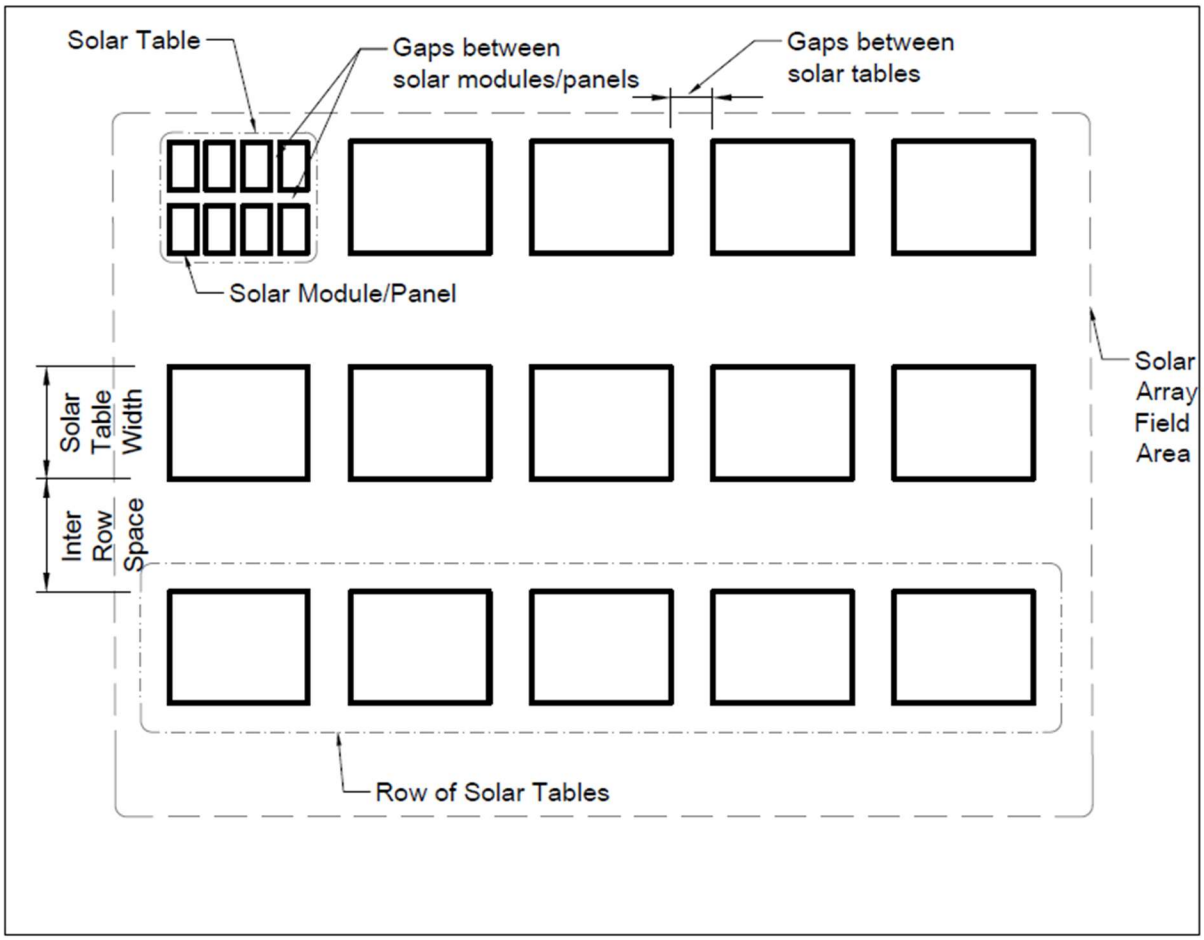
Edward Hampston, P.E.
Director, Bureau of Water Compliance

Attachments:

1. Diagram 1: NYSDEC Solar Plan View
2. Diagram 2: NYSDEC Solar Profile View: Inter-Row Space
3. Diagram 3: NYSDEC Gravel Diaphragm Along the Contour
4. Limited use pervious access road detail
5. Gravel road scarification detail for upland roads and work areas
6. NYSEIA Letter dated June 26th, 2024

cc: C. Lamb-Lafay, PE, NYSDEC
A. Smith, NYSDEC
J. Melançon, CPESC. NYSDEC
C. Warner, NYSERDA

Diagram 1: NYSDEC Solar Plan View N.T.S.

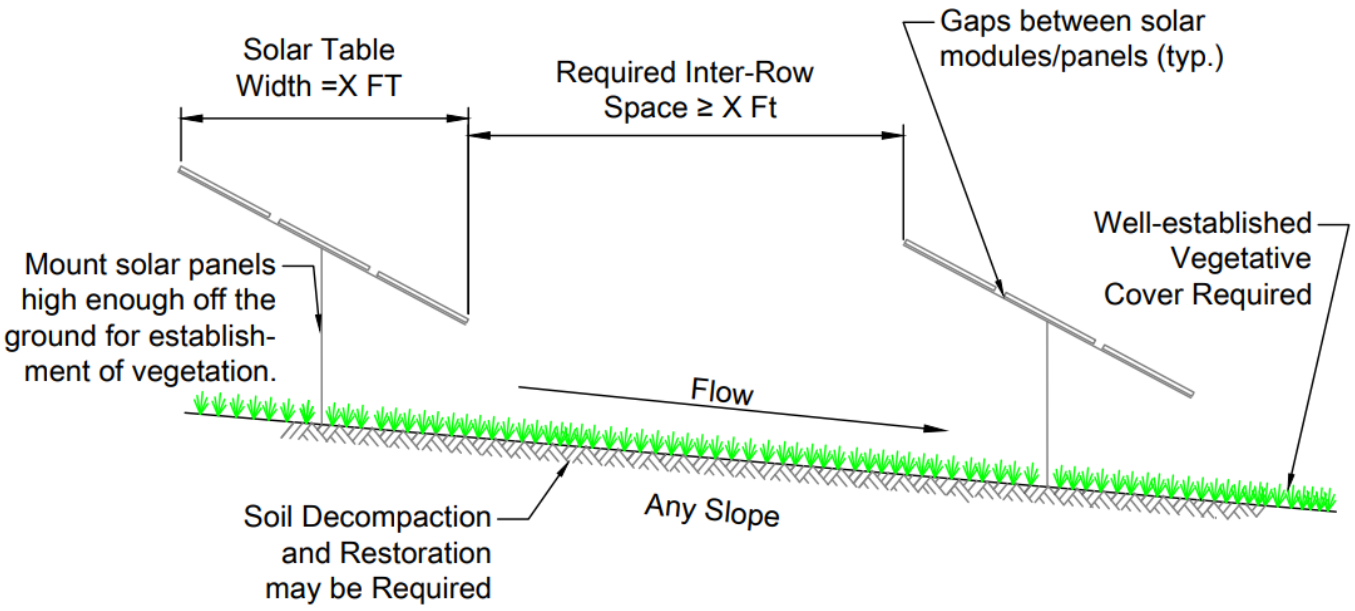


***Definitions:**

**NYSDEC provides the above diagram and the following definitions for solar terminology for the specific purpose of demonstrating how to interpret and apply the NYSDEC solar guidance. The following definitions are intended for that limited context only and are not meant to be used for any other purpose.*

- Gap between solar table: the distance between two solar tables within a row of solar tables. This gap varies depending on the layout and design.
- Gaps between solar modules/panels: the distance(s) between solar modules/panels within a solar table. These gaps vary depending on the layout and design.
- Inter-row space: the plan view distance between two solar table rows. NYSDEC solar guidance sets the minimum inter-row space requirements; see Diagram 2: NYSDEC Solar Profile View: Inter-Row Space Requirements. This requirement is based on the solar table upgradient of the inter-row space.
- Solar array field area: the area of a solar site that includes the rows of solar tables, their inter-row spaces, and the surrounding buffer area. This area does not include access roads and other traditional impervious areas, even if those are located within the solar array field area.
- Solar module/panel: a unit comprised of photovoltaic cells.
- Solar table: one or more modules/panels wired and framed together. Solar tables may be a single module/panel, a single row of modules/panels, or stacked rows of modules/panels. The number of modules/panels framed and stacked together varies.
- Solar table width: the plan view distance, edge to edge, of a solar table. It is the largest distance possible for rotating tables considering all table rotations/positions.

Diagram 2: NYSDEC Solar Profile View: Inter-Row Space N.T.S.



Note:
X= plan view distance,edge to edge (the largest distance possible for rotating tables considering all table rotations/positions).

Diagram 3: NYSDEC Gravel Diaphragm Along the Contour N.T.S.

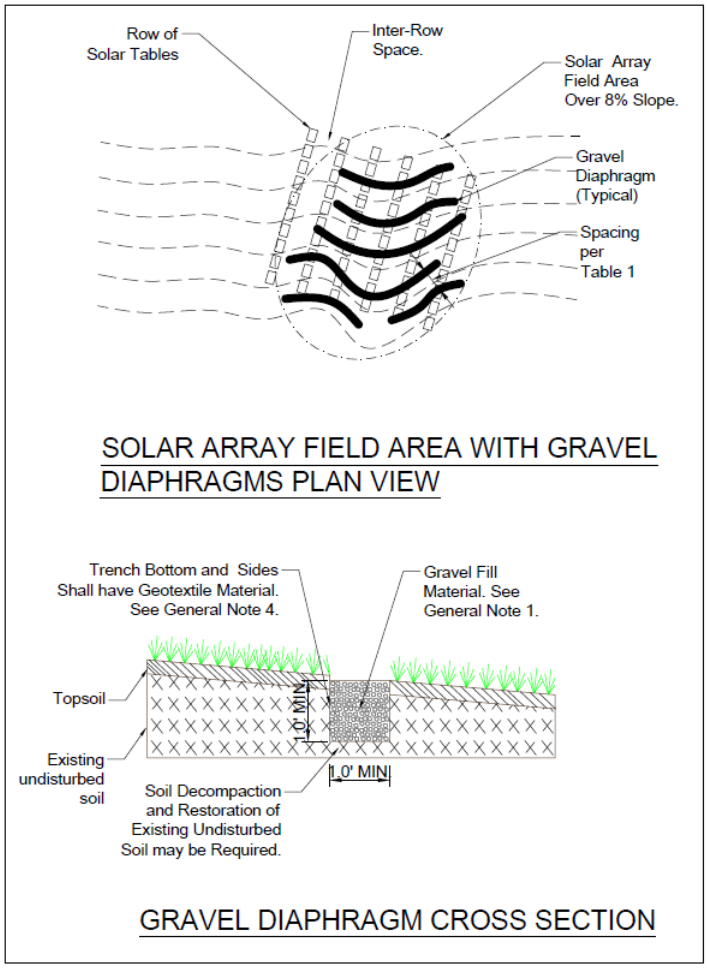


TABLE 1: SPACING	
[1]Slope (%)	[2]Spacing (FT.)
8 to 10	100
10 to 20	75
20 to 35	50

Table 1: Spacing – Notes

1. The average slope downgradient of a given solar panel over a horizontal distance equivalent to the inter-row space.

2. Maximum spacing requirement.

Layout Notes

1. Spacing between gravel diaphragms shall not exceed the maximum spacing specified in Table 1 for any flow path, leaving a solar panel edge for any flow path perpendicular to the contours.

2. Gravel diaphragms may be continuous or staggered to allow maintenance access in the inter-row space. If staggered, provide sufficient overlap, along the contour, to ensure no perpendicular flow path will bypass the downgradient gravel diaphragm and therefore exceed the maximum spacing requirements.

General Notes

1. Gravel fill material shall consist of 1-4” clean, durable, sharp angled crushed stone of uniform quality, meeting the specifications of NYSDOT Item 703-02 Size Designation 3-5 of Table 703-4. Stone may be placed in front of and spread with a tracked vehicle. Gravel shall not be compacted.

2. In addition to meeting the minimum cross section dimensions as shown, when being used to treat the WQv the gravel diaphragm shall be sized to hold the WQv from the contributing drainage area. The sizing criteria shall be calculated assuming that the panels in the portion of the contributing solar array fild area are impervious.

3. To minimize sediment accumulation in the gravel diaphragm, the geotextile fabric shall be wrapped over the top until final stabilization is achieved. The geotextile over the top shall be removed once final stabilization is achieved.

4. The specified geotextile material will be selected based on soil conditions. The geotextile layer shall maintain material separation, allow infiltration to match natural soil conditions, and provide structural support for mowing and other maintenance vehicle activities.To prevent excess silt and debris during construction, it is recommended to leave excess fabric to fold over the diaphragm from the upgradient side. The excess fabric should be removed once the slope has been vegetated and stabilized."

5. The gravel diaphragm shall not be driven upon during solar panel construction activities, unless the gravel is protected with a rigid barrier to minimize compaction, such as with plywood.

GENERAL NOTES:

1. USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E. PROVIDE ACCESS FOR MOVING, EQUIPMENT REPAIR OR MAINTENANCE, ETC.).
2. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
4. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS A DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
5. GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOIL AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
6. REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
7. ROADWAY WIDTH TO BE DETERMINED BY CLIENT.
8. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
9. LIMITED USE PERVIOUS ACCESS ROAD IS NOT TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS TO SEDIMENT TRACKING. THIS SPECIFICATION IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. THE PENETROMETER READINGS SHALL BE COMPARED TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
10. TO ENSURE THAT SOIL IS NOT TRACKED ONTO THE LIMITED USE PERVIOUS ACCESS ROAD, IT SHALL NOT BE USED BY CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. IF ACCESS IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, A STABILIZED CONSTRUCTION ACCESS/ENTRANCE IS REQUIRED TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD. MAINTENANCE OF THE PERVIOUS ACCESS ROAD WILL BE REQUIRED IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.
11. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.
12. PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN FOLLOWING NOTES.
13. THE DRAINAGE DITCH IS OFFERED IN THE DETAIL FOR CIRCUMSTANCES WHEN CONCENTRATING FLOW COULD NOT BE AVOIDED. THE INTENTION OF THIS DESIGN IS TO MINIMIZE ALTERATIONS TO HYDROLOGY, HOWEVER WHEN DEALING WITH 5%-15% GRADES NOT PARALLEL TO THE CONTOUR, A ROADSIDE DITCH MAY BE REQUIRED. THE NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR GRASSED WATERWAYS AND VEGETATED WATERWAYS ARE APPLICABLE FOR SIZING AND STABILIZATION. DIMENSIONS FOR THE GRASSED WATERWAY SPECIFICATION WOULD BE DESIGNED FOR PROJECT SPECIFIC HYDROLOGIC RUNOFF CALCULATIONS, AND A SEPARATE DETAIL FOR THE SPECIFIC GRASSED WATERWAY WOULD BE INCLUDED IN THIS PRACTICE. RUNOFF DISCHARGES WILL BE SUBJECT TO THE OUTLET REQUIREMENTS OF THE REFERENCED STANDARD. INCREASED POST-DEVELOPMENT RUNOFF FROM THE ASSOCIATED ROADSIDE DITCH MAY REQUIRE ADDITIONAL PRACTICES TO ATTENUATE RUNOFF TO PRE-DEVELOPMENT CONDITIONS.
14. IF A ROADSIDE DITCH IS NOT UTILIZED TO CAPTURE RUNOFF FROM THE ACCESS ROAD, THE PERVIOUS ACCESS ROAD WILL HAVE A WELL-ESTABLISHED PERENNIAL VEGETATIVE COVER, WHICH SHALL CONSIST OF UNIFORM VEGETATION, 20 FEET PARALLEL TO THE DOWN GRADIENT SIDE OF THE ACCESS ROAD. POST-CONSTRUCTION OPERATION AND MAINTENANCE PRACTICES WILL MAINTAIN THIS VEGETATIVE COVER TO ENSURE FINAL STABILIZATION FOR THE LIFE OF THE ACCESS ROAD.
15. THE DESIGN PROFESSIONAL MUST ACCOUNT FOR THE LIMITED USE PERVIOUS ACCESS ROAD IN THEIR SITE ASSESSMENT/HYDROLOGY ANALYSIS. IF THE HYDROLOGY ANALYSIS SHOWS THAT THE HYDROLOGY HAS BEEN ALTERED FROM PRE- TO POST-DEVELOPMENT CONDITIONS (SEE APPENDIX A OF GP-0-15-002 FOR THE DEFINITION OF "ALTER THE HYDROLOGY..."), THE DESIGN MUST INCLUDE THE NECESSARY DETENTION/RETENTION PRACTICES TO ATTENUATE THE RATES (10 AND 100 YEAR EVENTS) TO PRE-DEVELOPMENT CONDITIONS.

GEOGRID MATERIAL NOTES:

1. THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE FOR ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
3. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

BASIS OF DESIGN: TENCATE MIRAFI BXG110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

GEOWEB MATERIAL NOTES:

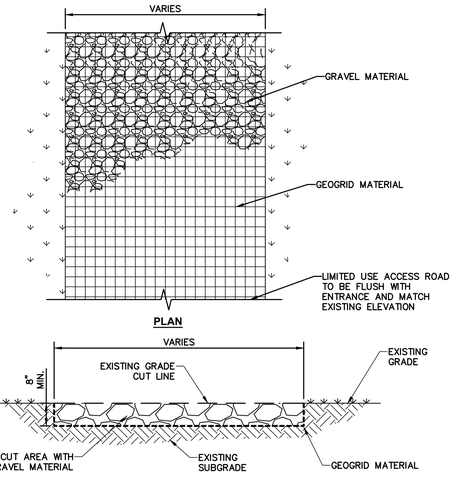
1. THE GEOWEB, OR COMPARABLE PRODUCT, IS SUGGESTED FOR USE ON ROAD PROFILES EXCEEDING 5%. THE GEOWEB PRODUCT IS INTENDED TO LIMIT SHIFTING STONE MATERIAL DURING USE.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. WHERE REQUIRED, A NATIVE SOIL WEDGE SHALL BE PLACED TO ACCOMMODATE ROAD CROSS SLOPE OF 2% NATIVE SOIL SHALL BE COMPACTED TO MATCH EXISTING SOIL CONDITIONS.
4. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
5. GEOWEB SYSTEM SHALL BE PRESTO GEOSYSTEM GEOWEB OR APPROVED EQUAL. GEOWEB SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.
7. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING. ALIGN THE I-SLOTS FOR INTERLEAF AND END TO END CONNECTIONS. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAD AND END TO END CONNECTIONS. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER INSTALLATION, TYING AND CONNECTIONS.

BASIS OF DESIGN: PRESTO GEOSYSTEMS GEOWEB; 670 NORTH PERKINS STREET, APPLETON, WI; 800-548-3424 OR 920-738-1222; INFO@PRESTOGEO.COM; WWW.PRESTOGEO.COM

WOVEN GEOTEXTILE MATERIAL NOTES:

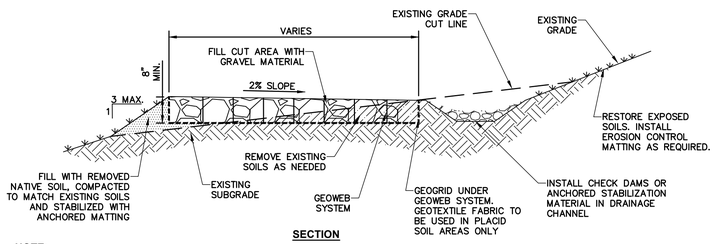
1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D, OR AS SPCIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.
2. THE CONCERN FOR POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI RSI-SERIES WOVEN GEOSYNTHETICS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM



1 LIMITED USE PERVIOUS ACCESS ROAD - 0% TO 5% SLOPES

SCALE: N.T.S.



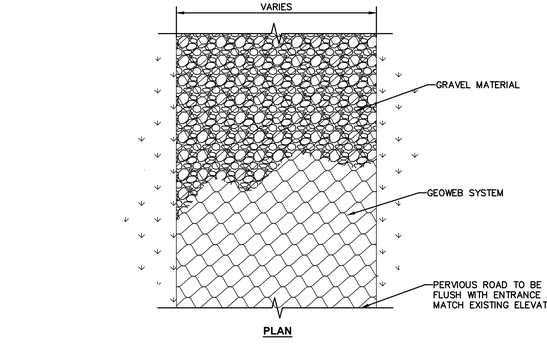
SECTION

NOTE:

1. THE ROADSIDE DITCH SHALL BE DESIGNED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS FOR GRASSED AND VEGETATED WATERWAYS. ADDITIONAL DETAILS WILL BE PROVIDED SPECIFIC TO THE SITE DESIGN.

2 LIMITED USE PERVIOUS ACCESS ROAD - 5% TO 15% SLOPES WITH DITCH

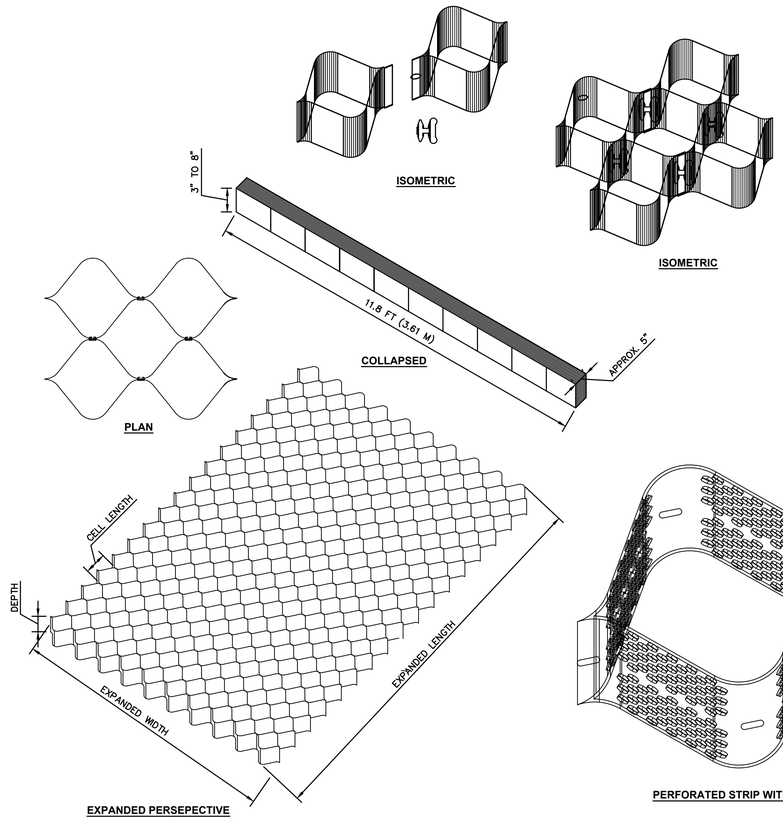
SCALE: N.T.S.



SECTION

3 LIMITED USE PERVIOUS ACCESS ROAD - 5% TO 15% SLOPES

SCALE: N.T.S.



4 GEOWEB SYSTEM

SCALE: N.T.S.

NO.	REVISION	DATE
1	ISSUED AS FINAL	10/30/2018

Client: OWNER OF RENEWABLE ENERGY PROJECTS

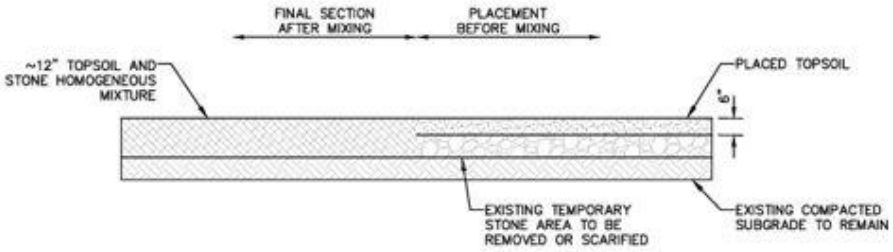
TRC Engineers, Inc.
215 Greenfield Parkway
Liverpool, NY 13088
www.trcsolutions.com

DRAWING TITLE:

LIMITED USE PERVIOUS ACCESS ROAD DETAIL

SCALE:	N.T.S.
DATE:	10/16/2018
DRAWN BY:	CAK
CHECKED BY:	SML
PROJECT:	
DRAWING NO.:	

TTdetdock.DWG



NOTES:

1. REFER TO THE PLAN DRAWINGS FOR LOCATIONS OF STONE WORK PADS AND ACCESS ROADS TO BE SCARIFIED.
2. FINISHED ROAD AND PAD ELEVATIONS SHALL REMAIN AFTER CONSTRUCTION UNLESS OTHERWISE INDICATED ON THE PLANS.
3. IN GENERAL, STONE MATERIAL SHALL REMAIN AFTER CONSTRUCTION AND BE MIXED WITH 6 INCHES OF TOPSOIL, HOWEVER IN SOME CASES THE STONE MAY BE ENTIRELY REMOVED FROM THE SITE REFER TO THE PLAN DRAWINGS FOR SPECIFIC LOCATIONS.
4. STONED AREAS SHALL BE SCARIFIED OR OTHERWISE LOOSENED TO A MINIMUM DEPTH OF 12 INCHES TO PERMIT BONDING OF THE TOPSOIL. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE AREA TO BE RESTORED TO A DEPTH OF 6 INCHES (MINIMUM OF 2 INCHES ON FILL OUTSLOPES) AND INCORPORATED OR TILLED INTO SCARIFIED STONE AREA.
5. SPREADING SHALL BE DONE IN A MANNER SUCH THAT SEEDING CAN BE COMPLETED WITH A MINIMUM OF ADDITIONAL TILLAGE. IRREGULARITIES OF THE SURFACE RESULTING FROM PLACEMENT SHALL BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS.
6. PRE-PLANTING FERTILIZERS AND PH ADJUSTING AGENTS MAY BE APPLIED PRIOR TO INCORPORATING.
7. RESTORATION AREA TO BE SEEDED IN ACCORDANCE WITH RECOMMENDATIONS OF LOCAL COUNTY EXTENSION SERVICE. SEED SHALL BE APPLIED VIA DRILL SEEDER, HYDROSEEDER OR BROADCAST SPREADER ALONG WITH A CARRIER. RAKE SEEDED AREA TO ENSURE PROPER SOIL-SEED CONTACT AND APPLY STRAW MULCH AT 3 TONS/ACRE TO PRESERVE MOISTURE.
8. ESTABLISHMENT OF VEGETATION ON THE RESTORED ACCESS ROAD SHALL BE MAINTAINED BY THE CONTRACTOR INCLUDING BUT NOT LIMITED TO SUPPLEMENTAL WATERING, FERTILIZATION, SEEDING AND OTHER TECHNIQUES, UNTIL AN ACCEPTABLE STAND OF VEGETATION HAS BEEN ESTABLISHED. ACCEPTABLE STAND IS GENERALLY CONSIDERED 80% VEGETATION COVERAGE OF ALL SURFACES..
9. UPON FINAL RESTORATION, THE SCARIFICATION AREAS SHALL BE REVIEWED BY THE DESIGN PROFESSIONAL TO CONFIRM THAT SITE HYDROLOGY HAS NOT BEEN ALTERED PER APPENDIX C OF THE CONSTRUCTION GENERAL PERMIT IF IT IS DETERMINED THAT THE HYDROLOGY HAS BEEN ALTERED, APPROPRIATE NECESSARY/RETENTION PRACTICES WILL NEED TO BE DESIGNED AND IMPLEMENTED TO RESTORE PRE-CONSTRUCTION HYDROLOGIC CONDITIONS.

REVEGETATED GRAVEL ROAD SCARIFICATION DETAIL FOR UPLAND ROADS AND WORK AREAS

SCALE: N.T.S.

Initial Questions/Bullet Points for DEC regarding the Solar Panel Construction Stormwater Permitting/SWPPP Guidance

A number of solar developers have reached out to us with concerns about the DEC's 2018 Solar Panel Construction Stormwater Permitting/SWPPP Guidance memo (attached). The concerns include inconsistencies in the Memo's interpretation and enforcement. The developers expressed concern about their ability to move their projects forward with upcoming interconnection costs, permit applications, etc.

To ensure we meet NYS climate goals, it is important that well designed projects move forward in a timely manner. Please provide clarification on the following items to ensure that developers and reviewers understand and follow the stormwater guidelines as they relate to solar facilities.

Scenario 1 from 2018 NYSDEC Stormwater and Solar Memo:

Item # 2. The panels are spaced apart so that rain can flow off the down gradient side of the panel and continue to sheet flow across the ground surface.

- Questions: Please explain what you mean by the panels need to be spaced apart? Are the entirety of the solar rows and tables (made up of individual solar modules) considered one large impervious area? Typically, solar modules are installed to include a ~1" gap around all edges which will prevent one large leading drip edge and avoid significant drip edge erosion.

Item # 3. For solar panels constructed on slopes, the individual rows of solar panels are generally installed along the contour so rainwater sheet flows down slope.

- Question: If panels aren't "generally installed along the contour" does that automatically mean the area of solar panels should be considered impervious?
- Question: If panels aren't "generally installed along the contour" does that mean the area of solar panels wouldn't be allowed to function as a filter strip?
- Questions: If the solar facility does not align with the contours, could the developer propose effective engineering designs to ensure sheet flow where the panels can't align with the contours? Are there any designs that you would recommend to meet the intent of this item?

Item # 4. The ground surface below the panels shall consist of a well-established vegetative cover (see "Final Stabilization" definition in Appendix A of the CGP).

- Question: Please confirm that in addition to the space under the panel, the ground surface between the rows needs to have well established vegetation.

Item # 5. The project does not include the construction of any traditional impervious areas (i.e., buildings, substation pads, gravel access roads or parking areas, etc.)

- Question: All solar facilities will require some impervious areas in the form of concrete or gravel equipment areas and access roads that are fire code-compliant. These areas are typically treated with stormwater controls (with stone areas or adjacent grass filter strips). Please explain the rationale behind Item # 5 and how developers should address impervious areas within the proposed solar facility.
- Question: Does DEC require pervious access roads into the solar facility? If so, is there a typical you can provide for developers to reference?

Maryland DE's "Stormwater Design Guidance- Solar Panel Installations"

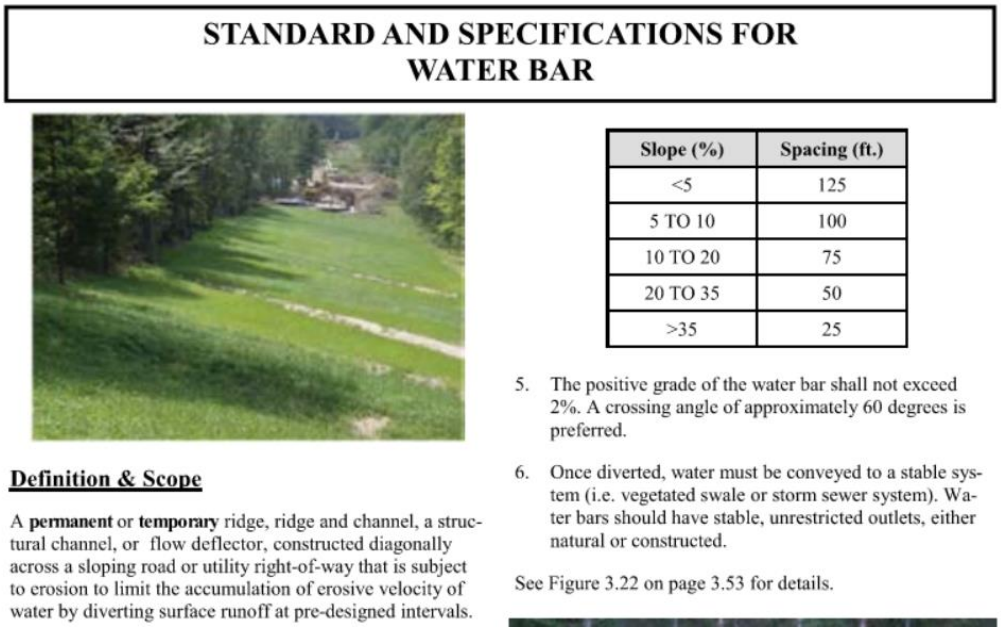
Page 1. 2nd Paragraph. "Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the 2000 Maryland Stormwater Design Manual) is a low-cost alternative for treating runoff in situations like rows of solar panels."

- Question: Should the Maryland Department of the Environment (MDE) Stormwater Design Guidance be applicable in NYS? We feel that the guidance is outdated and doesn't represent typical field conditions in New York.

Page 1. Bullet 3. "Disconnections should be located on gradual slopes (≤ 5%) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice."

- Questions: If panels are placed on slopes greater than 10% does that automatically make them impervious? Please clarify the requirement for an "engineered plan". If the panels are placed on slopes greater than 10%, what is acceptable to demonstrate developers are designing a site with effective stormwater management practices ? In our experience we have proposed the following accepted solutions:

To date, the majority of our solutions have been gravel level spreaders /diaphragms on slopes above 10%, generally spaced throughout the solar panel area site using the NYSDEC blue book spacing for like waterbars (see snip below).



STANDARD AND SPECIFICATIONS FOR WATER BAR

Slope (%)	Spacing (ft.)
<5	125
5 TO 10	100
10 TO 20	75
20 TO 35	50
>35	25

Definition & Scope

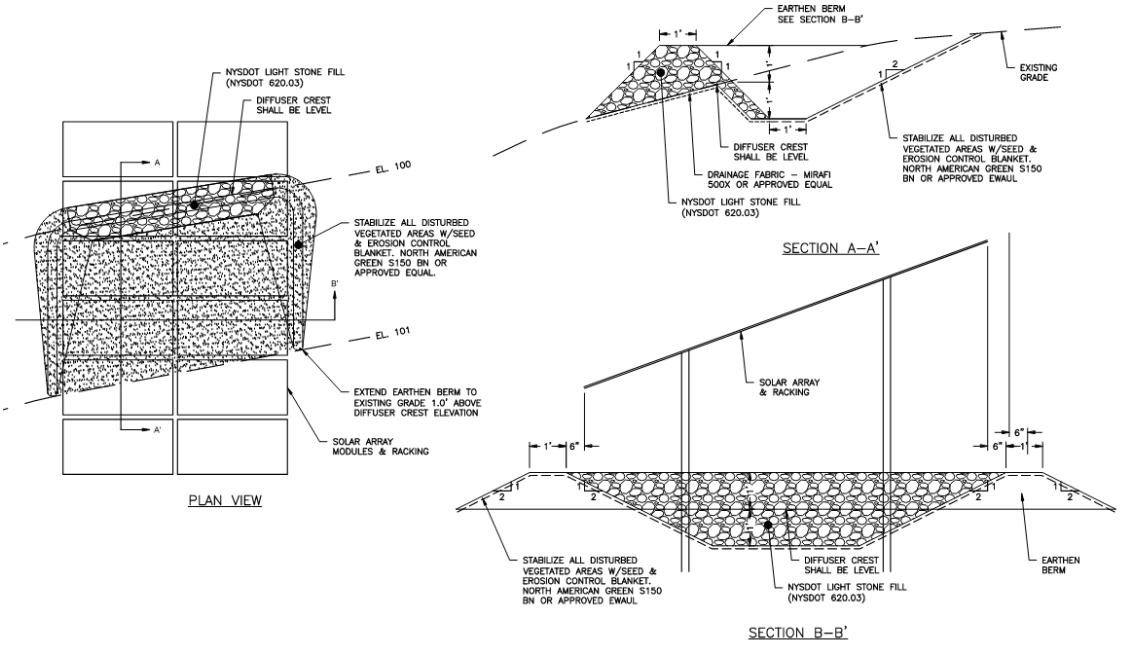
A **permanent** or **temporary** ridge, ridge and channel, a structural channel, or flow deflector, constructed diagonally across a sloping road or utility right-of-way that is subject to erosion to limit the accumulation of erosive velocity of water by diverting surface runoff at pre-designed intervals.

5. The positive grade of the water bar shall not exceed 2%. A crossing angle of approximately 60 degrees is preferred.
6. Once diverted, water must be conveyed to a stable system (i.e. vegetated swale or storm sewer system). Water bars should have stable, unrestricted outlets, either natural or constructed.

See Figure 3.22 on page 3.53 for details.

In steep panel areas (e.g. in excess of ~20% slopes), we have had instances where we provided additional attenuation (reducing runoff rates further than what is required by the Stormwater Design Manual) in order to satisfy Town engineers.

An alternative "engineered" solution pioneered by Adam Fishel from Marathon have been flow diffusers which he has used at staggered locations primarily beneath the panels to catch water leaving the panels and slow it down while avoiding most of the drive aisles for construction (snip below)



2 FLOW DIFFUSER

Additional Questions:

- Are solar trackers (solar tables/rows which move with the sun) considered impervious? Do the current guidelines apply to them? The examples in the 2018 Memo only show fixed tilt. How can a developer ensure these systems follow DEC guidelines?

- On slopes under 8%, can the meadow grass beneath the modules be counted as part of a filter strip to satisfy water quality and RRv? We have typically started our filter strips outside of the system area due to Town Designated Engineer preference and understanding of the "Filter Strip" practice, but we feel the area under the solar panels should suffice as a filter strip.

APPENDIX C

Soils Information

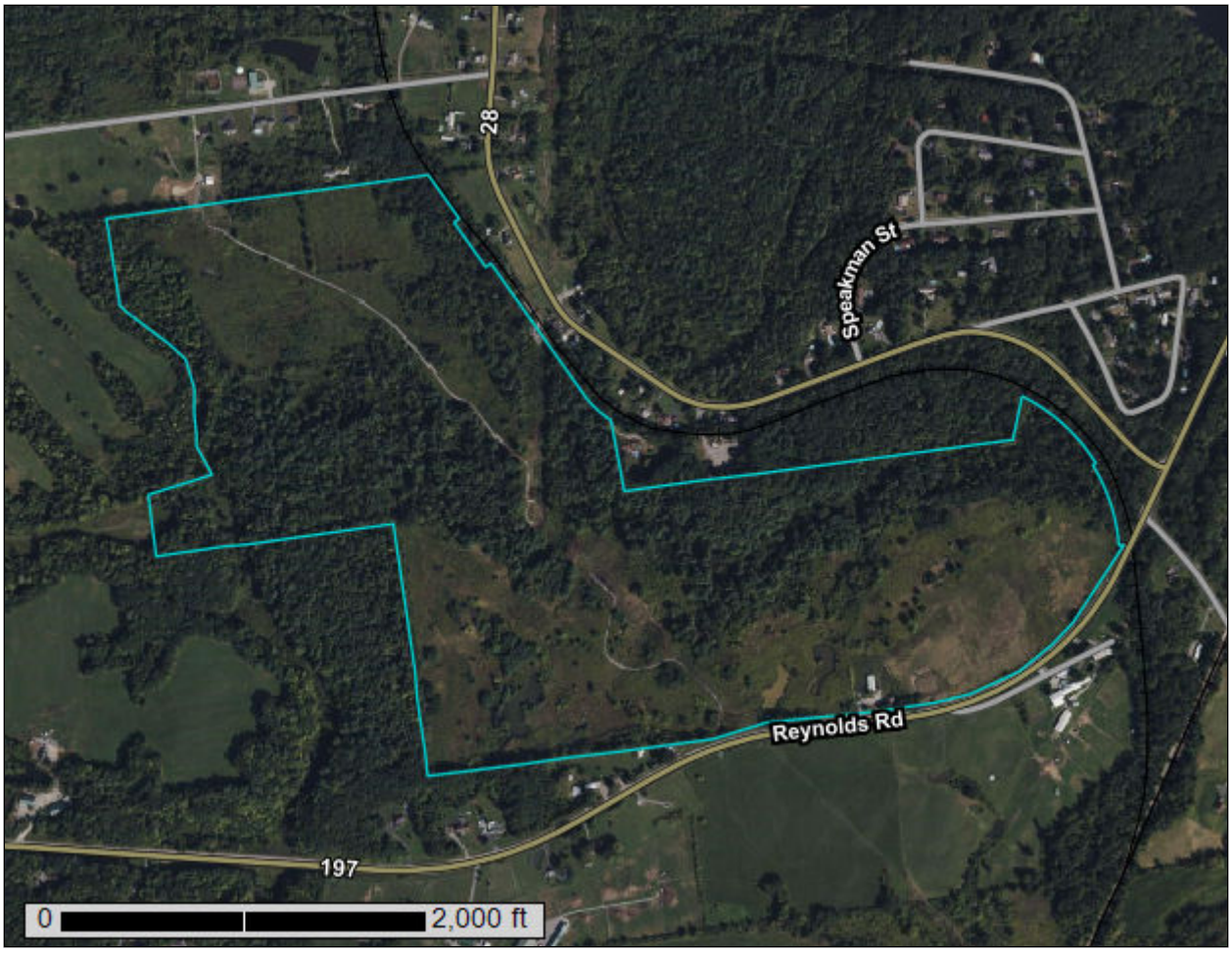
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Saratoga County, New York



December 10, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....8
Soil Map.....9
Legend.....10
Map Unit Legend.....11
Map Unit Descriptions.....11
Saratoga County, New York.....13
ClB—Claverack loamy fine sand, 3 to 8 percent slopes.....13
HuB—Hudson silt loam, 3 to 8 percent slopes.....14
HuC—Hudson silt loam, 8 to 15 percent slopes.....15
HuD—Hudson silt loam, hilly.....17
HuE—Hudson silt loam, 25 to 35 percent slopes.....18
RhA—Rhinebeck silt loam, 0 to 3 percent slopes.....19
RhB—Rhinebeck silt loam, 3 to 8 percent slopes.....20
SeB—Scio silt loam, 3 to 8 percent slopes.....22
UnB—Unadilla very fine sandy loam, 3 to 8 percent slopes.....23
References.....25

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Saratoga County, New York
Survey Area Data: Version 24, Aug 29, 2024

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

Date(s) aerial images were photographed: Sep 9, 2022—Oct 22, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ClB	Claverack loamy fine sand, 3 to 8 percent slopes	0.9	0.4%
HuB	Hudson silt loam, 3 to 8 percent slopes	58.6	28.0%
HuC	Hudson silt loam, 8 to 15 percent slopes	13.2	6.3%
HuD	Hudson silt loam, hilly	27.4	13.1%
HuE	Hudson silt loam, 25 to 35 percent slopes	63.2	30.2%
RhA	Rhinebeck silt loam, 0 to 3 percent slopes	34.2	16.4%
RhB	Rhinebeck silt loam, 3 to 8 percent slopes	11.2	5.4%
SeB	Scio silt loam, 3 to 8 percent slopes	0.1	0.0%
UnB	Unadilla very fine sandy loam, 3 to 8 percent slopes	0.4	0.2%
Totals for Area of Interest		**209.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the

scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Saratoga County, New York

ClB—Claverack loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9w9r
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Claverack and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Claverack

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciolacustrine deposits, derived primarily from non-calcareous sandstone or granite, that overlie clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: loamy fine sand
H2 - 8 to 27 inches: fine sand
2C - 27 to 31 inches: silt loam
3C - 31 to 72 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Hudson
Percent of map unit: 10 percent
Hydric soil rating: No

Cosad
Percent of map unit: 10 percent
Hydric soil rating: No

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

Deerfield
Percent of map unit: 3 percent
Hydric soil rating: No

Rhinebeck
Percent of map unit: 1 percent
Hydric soil rating: No

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

HuB—Hudson silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 9wbb
Elevation: 300 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Hudson and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting
Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 13 inches: silty clay loam
H3 - 13 to 32 inches: silty clay
H4 - 32 to 72 inches: clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 72 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Unadilla

Percent of map unit: 10 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 10 percent
Hydric soil rating: No

Scio

Percent of map unit: 10 percent
Hydric soil rating: No

HuC—Hudson silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9wbc
Elevation: 300 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hudson and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 13 inches: silty clay loam
H3 - 13 to 32 inches: silty clay
H4 - 32 to 72 inches: clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 72 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Rhinebeck

Percent of map unit: 10 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 10 percent
Hydric soil rating: No

Scio

Percent of map unit: 10 percent
Hydric soil rating: No

HuD—Hudson silt loam, hilly

Map Unit Setting

National map unit symbol: 9wbd
Elevation: 300 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hudson and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 13 inches: silty clay loam
H3 - 13 to 32 inches: silty clay
H4 - 32 to 72 inches: clay

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 72 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Rhinebeck
Percent of map unit: 10 percent
Hydric soil rating: No

Unadilla
Percent of map unit: 10 percent
Hydric soil rating: No

Scio
Percent of map unit: 10 percent
Hydric soil rating: No

HuE—Hudson silt loam, 25 to 35 percent slopes

Map Unit Setting
National map unit symbol: 9wbf
Elevation: 300 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Hudson and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting
Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile
H1 - 0 to 8 inches: silt loam
H2 - 8 to 13 inches: silty clay loam
H3 - 13 to 32 inches: silty clay
H4 - 32 to 72 inches: clay

Properties and qualities
Slope: 25 to 35 percent
Depth to restrictive feature: 20 to 72 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Unadilla

Percent of map unit: 10 percent
Hydric soil rating: No

Scio

Percent of map unit: 10 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 10 percent
Hydric soil rating: No

RhA—Rhinebeck silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9wcf
Elevation: 80 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave

Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 37 inches: silty clay
H3 - 37 to 72 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Hudson

Percent of map unit: 10 percent
Hydric soil rating: No

Hornell

Percent of map unit: 10 percent
Hydric soil rating: No

Madalin

Percent of map unit: 10 percent
Landform: Depressions
Hydric soil rating: Yes

RhB—Rhinebeck silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9wcg
Elevation: 80 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: silt loam
H2 - 11 to 37 inches: silty clay
H3 - 37 to 72 inches: silty clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F144AY018NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Hudson

Percent of map unit: 10 percent
Hydric soil rating: No

Hornell

Percent of map unit: 10 percent
Hydric soil rating: No

Madalin

Percent of map unit: 10 percent
Landform: Depressions
Hydric soil rating: Yes

SeB—Scio silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9wcm
Elevation: 100 to 1,000 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Scio and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scio

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 23 inches: silt loam
H3 - 23 to 72 inches: silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F144AY026CT - Moist Silty Outwash
Hydric soil rating: No

Minor Components

Unadilla
Percent of map unit: 10 percent
Hydric soil rating: No

Raynham
Percent of map unit: 10 percent
Hydric soil rating: No

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

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

UnB—Unadilla very fine sandy loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 9wd0
Elevation: 600 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 125 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Unadilla and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Unadilla

Setting
Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile
Oi - 0 to 2 inches: slightly decomposed plant material
H2 - 2 to 8 inches: very fine sandy loam
H3 - 8 to 42 inches: very fine sandy loam
2C - 42 to 72 inches: loamy very fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F144AY024NY - Well Drained Eolian Outwash
Hydric soil rating: No

Minor Components

Scio

Percent of map unit: 10 percent
Hydric soil rating: No

Hudson

Percent of map unit: 10 percent
Hydric soil rating: No

Windsor

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

Oakville

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

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX D

OPRHP Correspondence

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

March 26, 2021

Jorel Spain
Wetlands Scientist II
C.T. Male Associates
50 Century Hill Drive
Latham, NY 12110

Re: DEC
Moreau Solar Project (5MW/6.5 acres of 80 acre parcel)
Town of Moreau, Saratoga County, NY
19PR05194

Dear Jorel Spain:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (NY Environmental Conservation Law Article 8) and its implementing regulations (5NYCRR Part 617).

We have reviewed the Phase I archaeological survey report (No. 21SR00125) and no archaeological resources were identified. It is OPRHP's opinion that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact me via email at Andrew.Farry@parks.ny.gov.

Sincerely,

Andrew Farry, Ph.D.
Scientist/Archaeology

Cc: John Munsey, CT Male
David Moyer, Birchwood

APPENDIX E

Threatened and Endangered Species Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

August 23, 2019

Justin Campbell
C.T. Male Associates
50 Century Hill Drive
Latham, NY 12110

Re: US Light Energy - 65 Reynolds Road Moreau
County: Saratoga Town/City: Moreau

Dear Mr. Campbell:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at the project site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 5 Office, Division of Environmental Permits, at dep.r5@dec.ny.gov.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

892

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
Phone: (518) 402-8935 | Fax: (518) 402-8925
www.dec.ny.gov

01/30/2025

The attached report from the Environmental Resource Mapper includes information from the New York Natural Heritage Program database with respect to the location indicated on the map below. This letter, together with the attached report from the Environmental Resource Mapper, is equivalent to, and carries the same validity, as a letter from the New York Natural Heritage Program, including for projects where a Natural Heritage letter is required.

If your location of interest does not fall within an area covered by the Rare Plants and Rare Animals layer or in the Significant Natural Communities layer, then New York Natural Heritage has no records to report in the vicinity of your project site. Submitting a project screening request to NY Natural Heritage is not necessary.

If the attached report lists that your location of interest is in the vicinity of state-listed animals, including state-listed bats, please consult the **EAF Mapper** to obtain a list of the species involved. (You do not have to be filling out an Environmental Assessment Form in order to use the EAF Mapper). Then consult the appropriate **NYSDEC Regional Office** for information on any project requirements or permit conditions.

If the attached report lists unlisted animals, rare plants, or significant natural communities, and if you would like more information on these, please submit a project screening request to **New York Natural Heritage**. For more information, please see the DEC webpage **Request Natural Heritage Information for Project Screening**.

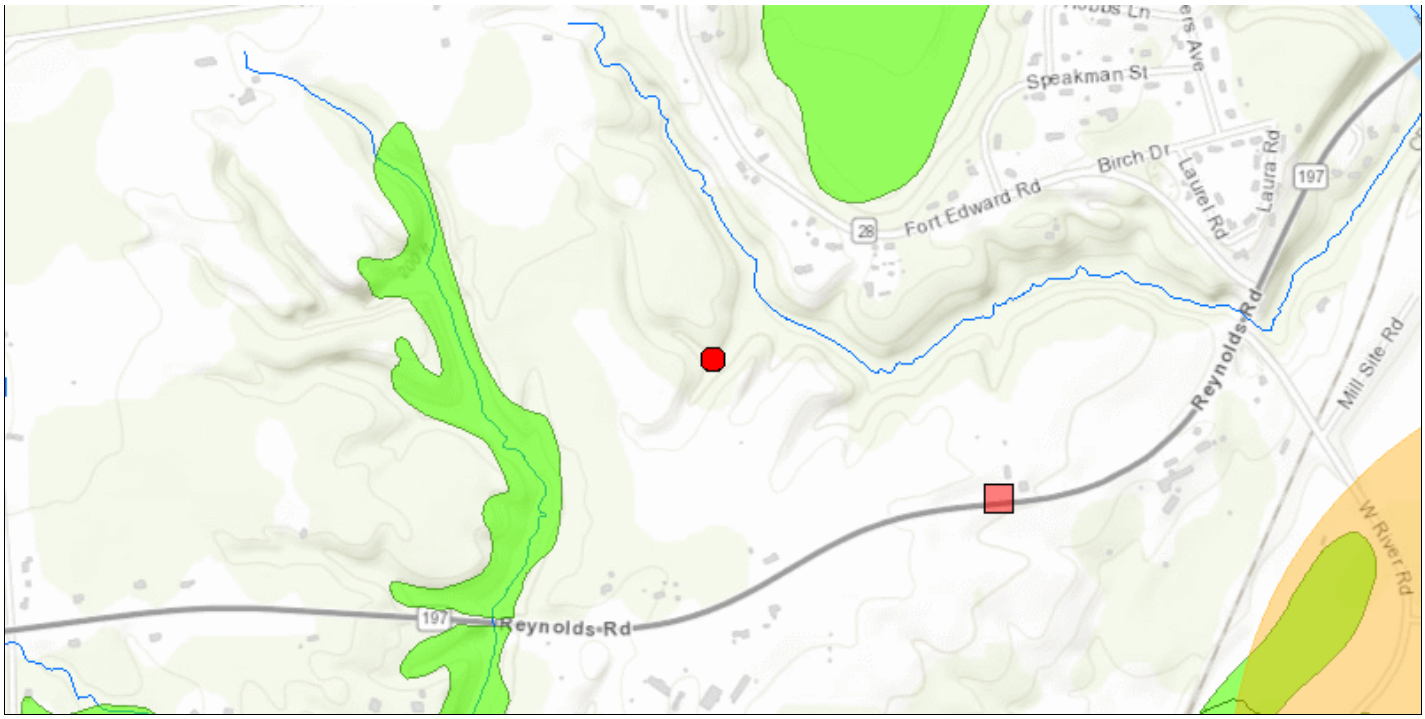
The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, NYNHP files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. NYNHP cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources from a proposed project.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the NYNHP database.

New York Natural Heritage Program

https://www.nynhp.org/.

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	**Easting:**	612977.1869595976	**Northing:**	4790499.035128891
Longitude/ Latitude	**Longitude:**	-73.60807199375247	**Latitude:**	43.25884249175412

The approximate address of the point you clicked on is:
Tee-Bird South Golf Club

County: Saratoga
Town: Moreau
USGS Quad: HUDSON FALLS

If your project or action is within or near an area with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the action may be harmful to the species or its habitat.

If your project or action is within or near an area with rare plants and/or significant natural communities, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are

currently not included on the maps.

Print Preview

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 01/30/2025 15:09:41 UTC
Project Code: 2025-0049419
Project Name: Moreau Community Solar Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

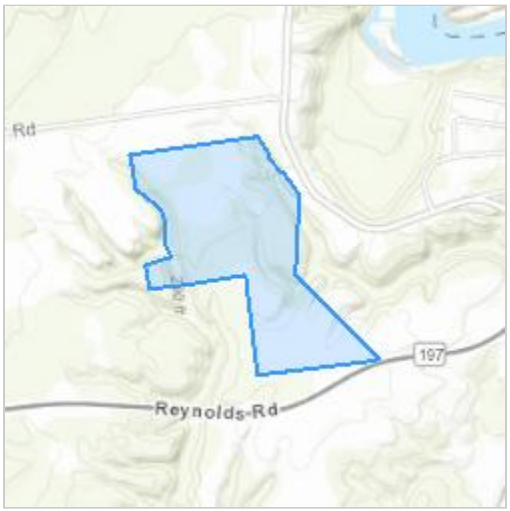
This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

PROJECT SUMMARY

Project Code: 2025-0049419
Project Name: Moreau Community Solar Project
Project Type: Power Gen - Solar
Project Description: Instalation of Photovoltaic solar array within subject property
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.2600064,-73.61136272912884,14z



Counties: Saratoga County, New York

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

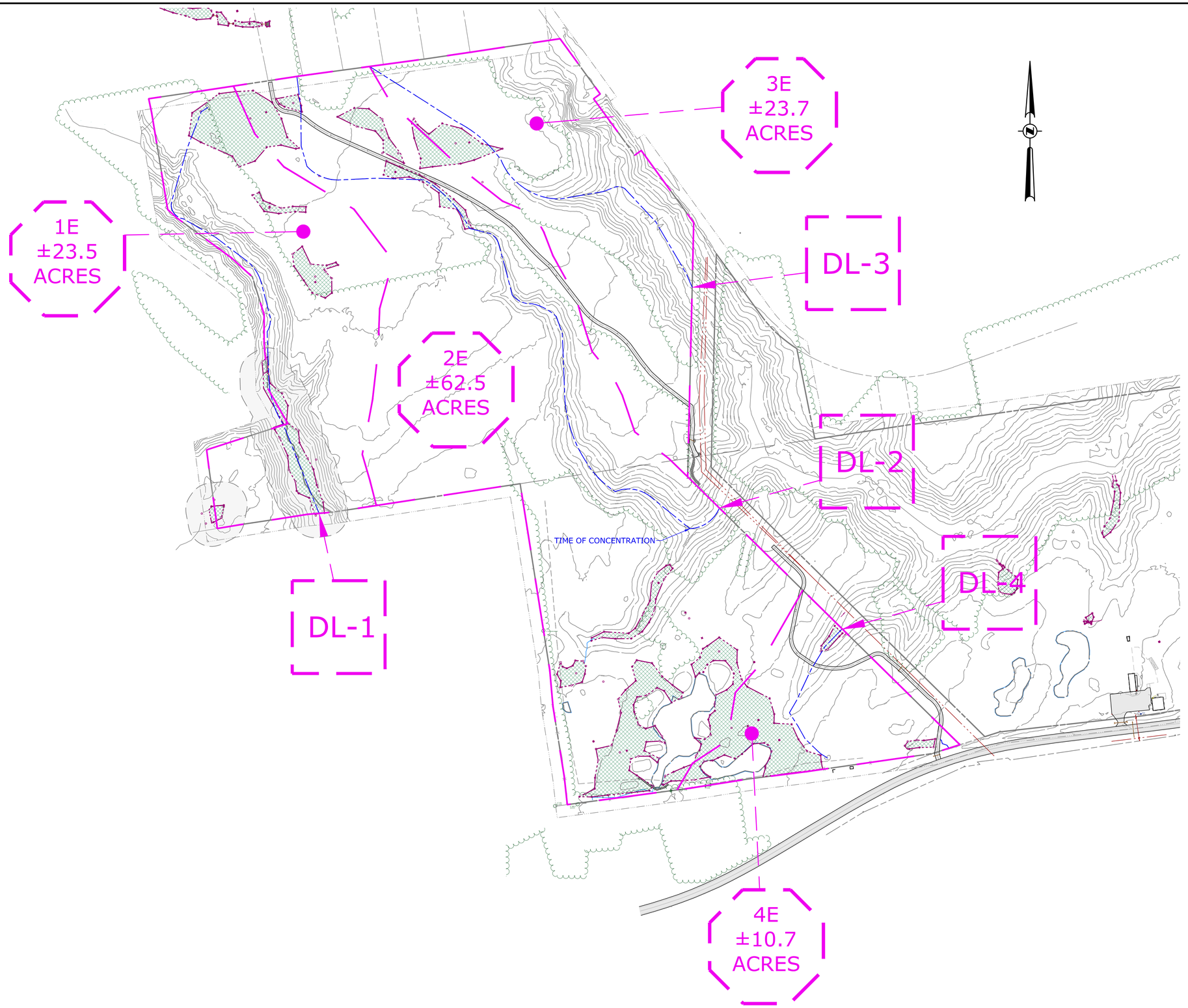
IPAC USER CONTACT INFORMATION

Agency: C.T. Male Associates
Name: Jorel Spain
Address: 50 Century Hill Drive
City: Latham
State: NY
Zip: 12110
Email j.spain@ctmale.com
Phone: 5187867400

APPENDIX F

Drainage Calculations

NONE XREFS



LEGEND:

SUBCATCHMENT AREA — 1E ±23.5 ACRES

DESIGN LOCATION — DL-1

TIME OF CONCENTRATION PATH

BAR SCALE
200 0 100 200 400
1 inch = 200 ft.

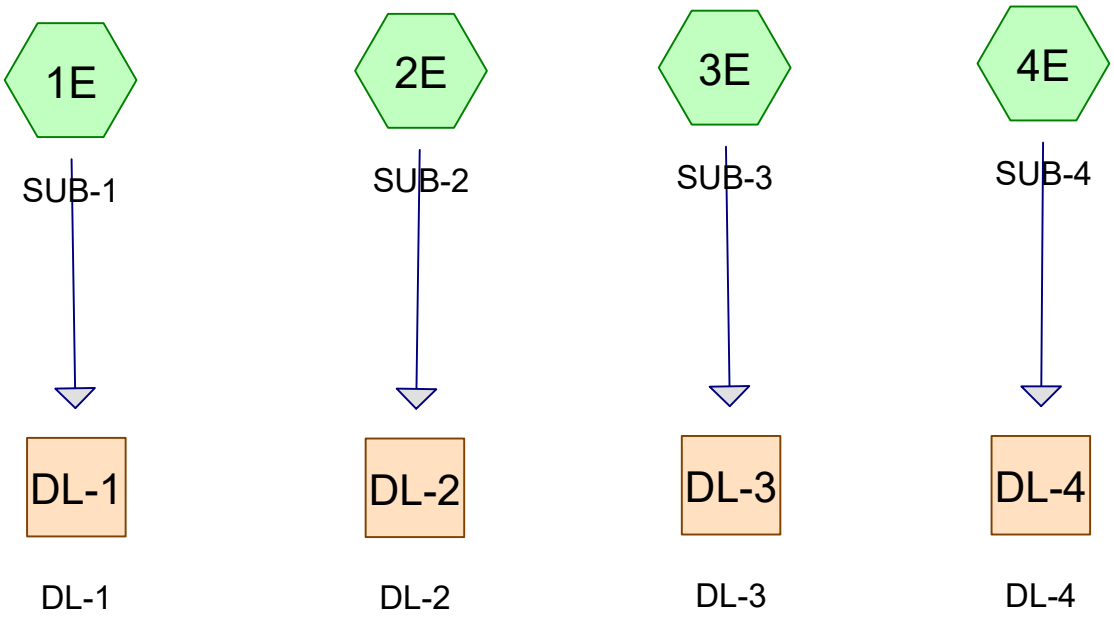
CAD DWG. FILE NAME: FILENAME

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

EXISTING CONDITIONS DRAINAGE MAP

MOREAU COMMUNITY SOLAR

PROJ. NO.: 24.5097	DRAFTED: DCP	SCALE: AS SHOWN	DATE: JAN. 2025	TOWN OF MOREAU	SARATOGA COUNTY, NEW YORK



Subcat Reach Pond Link

Routing Diagram for 245097 Moreau Solar Existing v2
Prepared by C T Male Associates, Printed 01/17/2025
HydroCAD® 10.20-5c s/n 00410 © 2023 HydroCAD Software Solutions LLC

245097 Moreau Solar Existing v2

Prepared by C T Male Associates

HydroCAD® 10.20-5c s/n 00410 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	Type II 24-hr		Default	24.00	1	2.23	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.71	2
3	100-yr	Type II 24-hr		Default	24.00	1	6.25	2

245097 Moreau Solar Existing v2

Prepared by C T Male Associates

HydroCAD® 10.20-5c s/n 00410 © 2023 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
60.425	77	Brush, Fair, HSG D (1E, 2E, 3E, 4E)
1.107	98	Paved parking, HSG D (2E, 3E, 4E)
0.613	98	Unconnected pavement, HSG D (2E)
1.791	98	Water Surface, HSG D (2E, 4E)
0.363	55	Woods, Good, HSG B (3E)
56.100	77	Woods, Good, HSG D (1E, 2E, 3E, 4E)
120.398	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.363	HSG B	3E
0.000	HSG C	
120.035	HSG D	1E, 2E, 3E, 4E
0.000	Other	
120.398		**TOTAL AREA**

245097 Moreau Solar Existing v2

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	60.425	0.000	60.425	Brush, Fair	1E, 2E, 3E, 4E
0.000	0.000	0.000	1.107	0.000	1.107	Paved parking	2E, 3E, 4E
0.000	0.000	0.000	0.613	0.000	0.613	Unconnected pavement	2E
0.000	0.000	0.000	1.791	0.000	1.791	Water Surface	2E, 4E
0.000	0.363	0.000	56.100	0.000	56.463	Woods, Good	1E, 2E, 3E, 4E
0.000	**0.363**	**0.000**	**120.035**	**0.000**	**120.398**	**TOTAL AREA**	

Summary for Subcatchment 1E: SUB-1

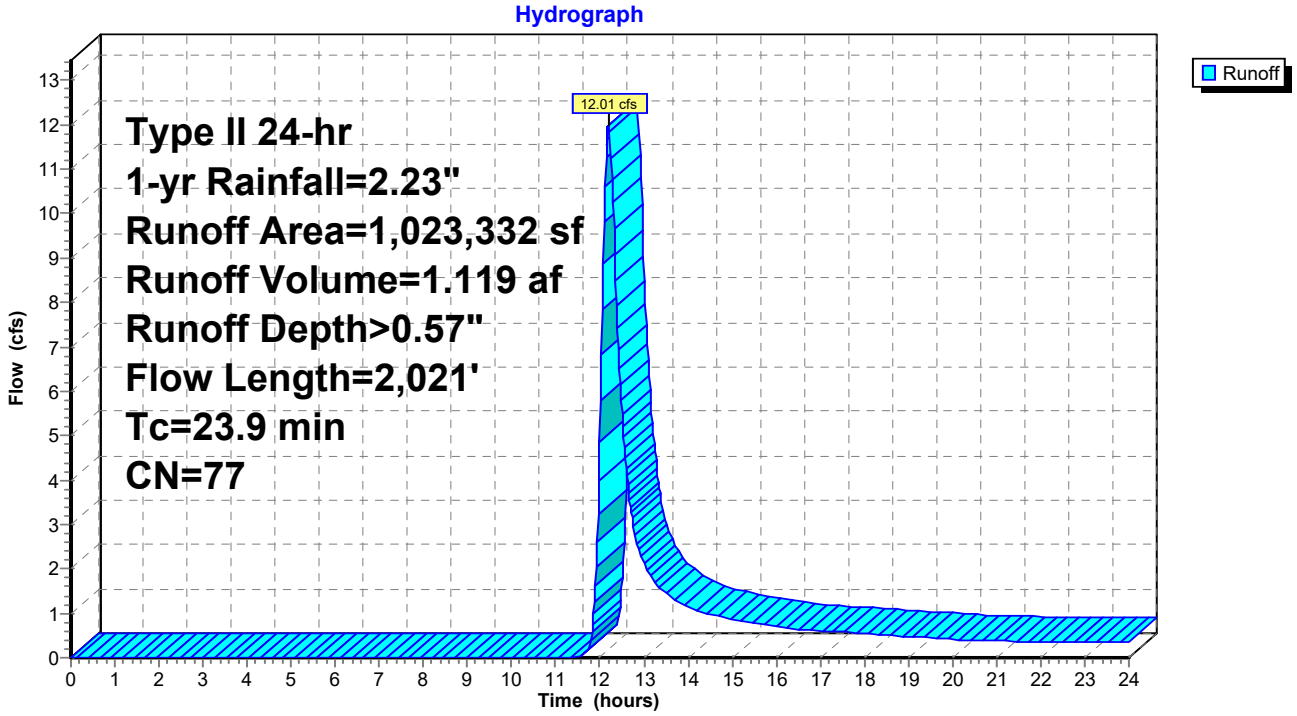
Runoff = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af, Depth> 0.57"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
185,369	77	Brush, Fair, HSG D
126,193	77	Brush, Fair, HSG D
711,770	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1E: SUB-1



Summary for Subcatchment 2E: SUB-2

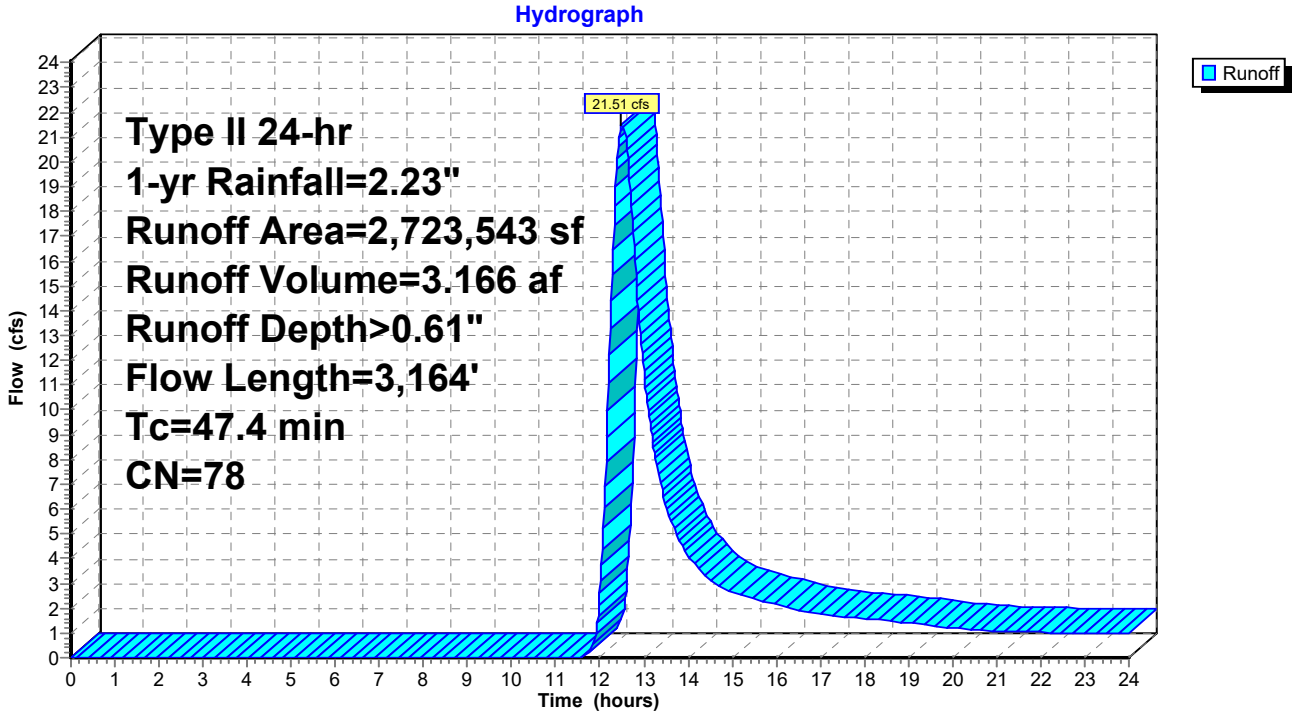
Runoff = 21.51 cfs @ 12.50 hrs, Volume= 3.166 af, Depth> 0.61"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
26,702	98	Paved parking, HSG D
1,185,938	77	Brush, Fair, HSG D
244,154	77	Brush, Fair, HSG D
1,184,658	77	Woods, Good, HSG D
26,697	98	Unconnected pavement, HSG D
55,394	98	Water Surface, HSG D
2,723,543	78	Weighted Average
2,614,750		96.01% Pervious Area
108,793		3.99% Impervious Area
26,697		24.54% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru Woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040 Winding stream, pools & shoals
47.4	3,164	Total			

Subcatchment 2E: SUB-2



Summary for Subcatchment 3E: SUB-3

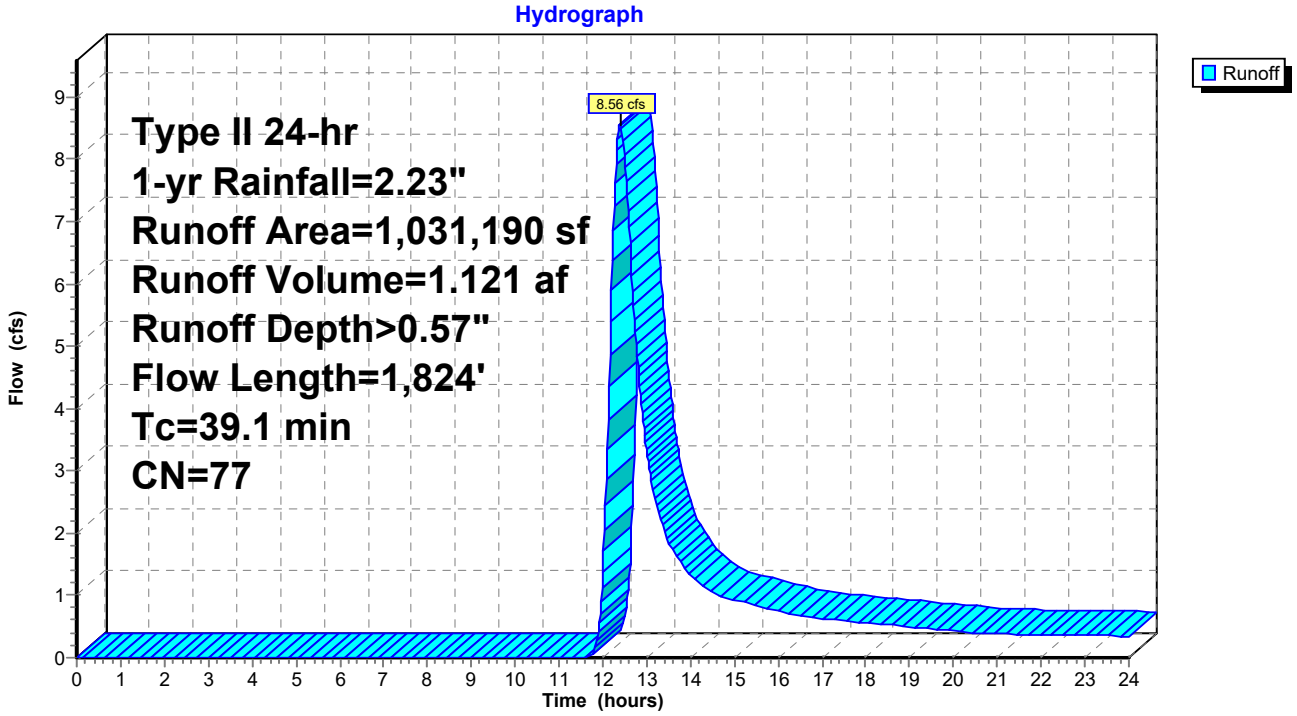
Runoff = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af, Depth> 0.57"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
10,672	98	Paved parking, HSG D
431,762	77	Brush, Fair, HSG D
28,575	77	Brush, Fair, HSG D
15,812	55	Woods, Good, HSG B
544,369	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,518		98.97% Pervious Area
10,672		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3E: SUB-3



Summary for Subcatchment 4E: SUB-4

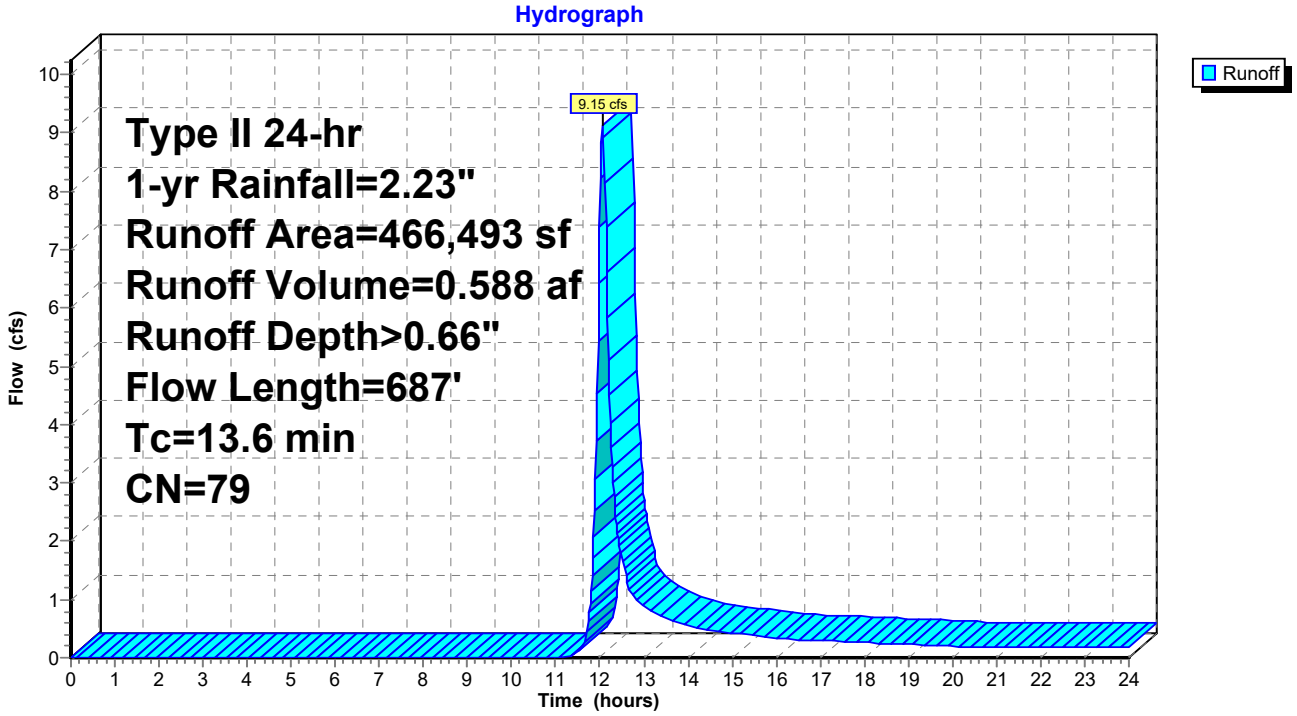
Runoff = 9.15 cfs @ 12.07 hrs, Volume= 0.588 af, Depth> 0.66"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
332,303	77	Brush, Fair, HSG D
97,812	77	Brush, Fair, HSG D
2,914	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
466,493	79	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4E: SUB-4

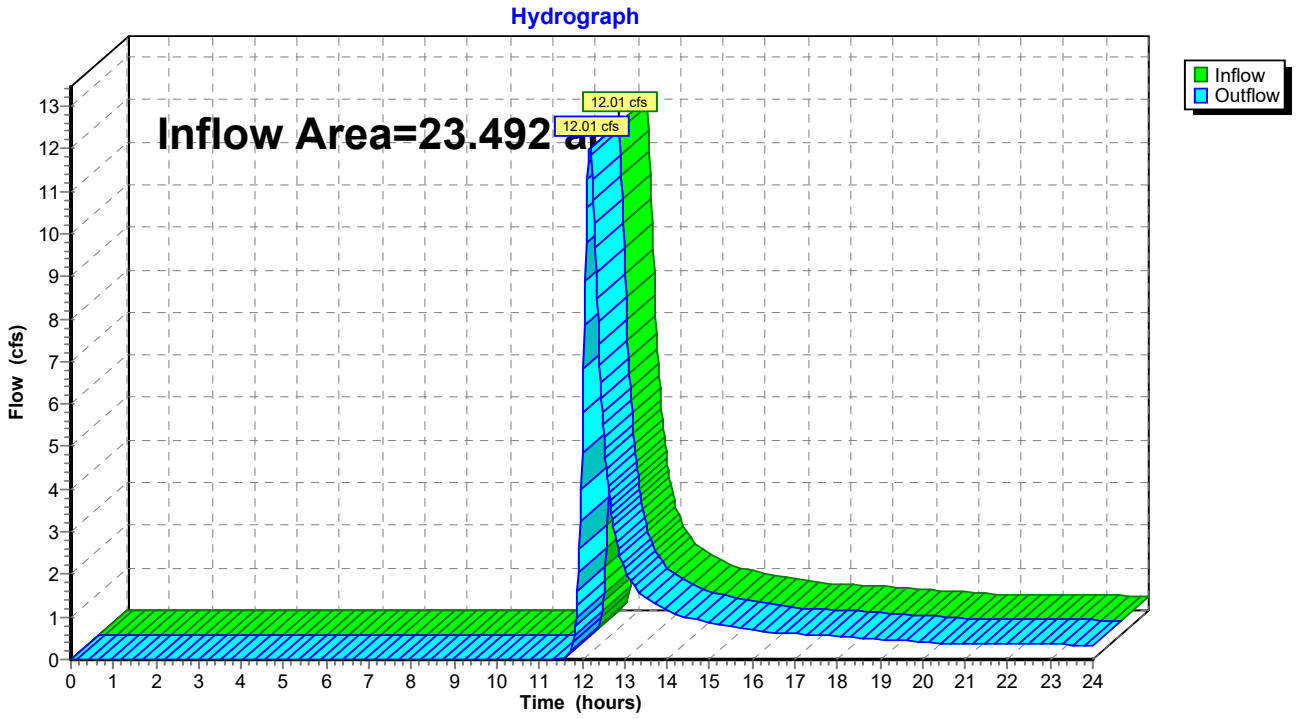


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 0.57" for 1-yr event
Inflow = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af
Outflow = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

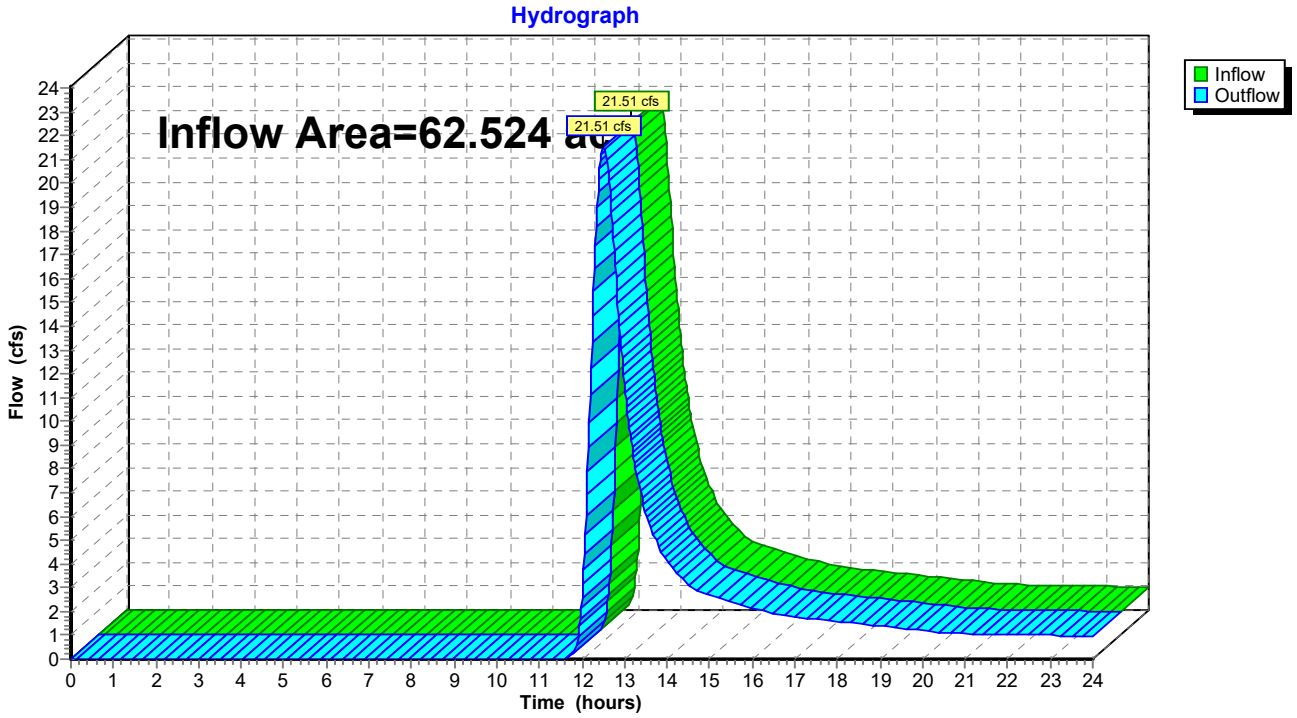


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.99% Impervious, Inflow Depth > 0.61" for 1-yr event
Inflow = 21.51 cfs @ 12.50 hrs, Volume= 3.166 af
Outflow = 21.51 cfs @ 12.50 hrs, Volume= 3.166 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

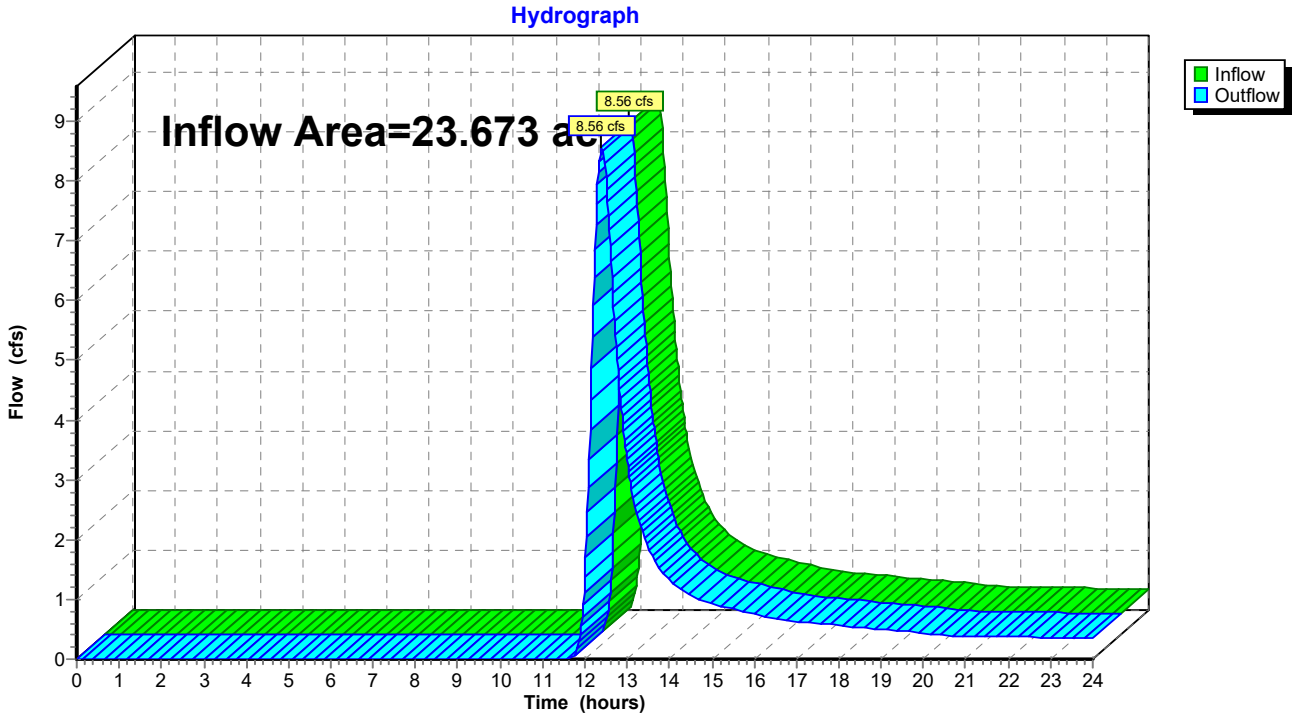


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 0.57" for 1-yr event
Inflow = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af
Outflow = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

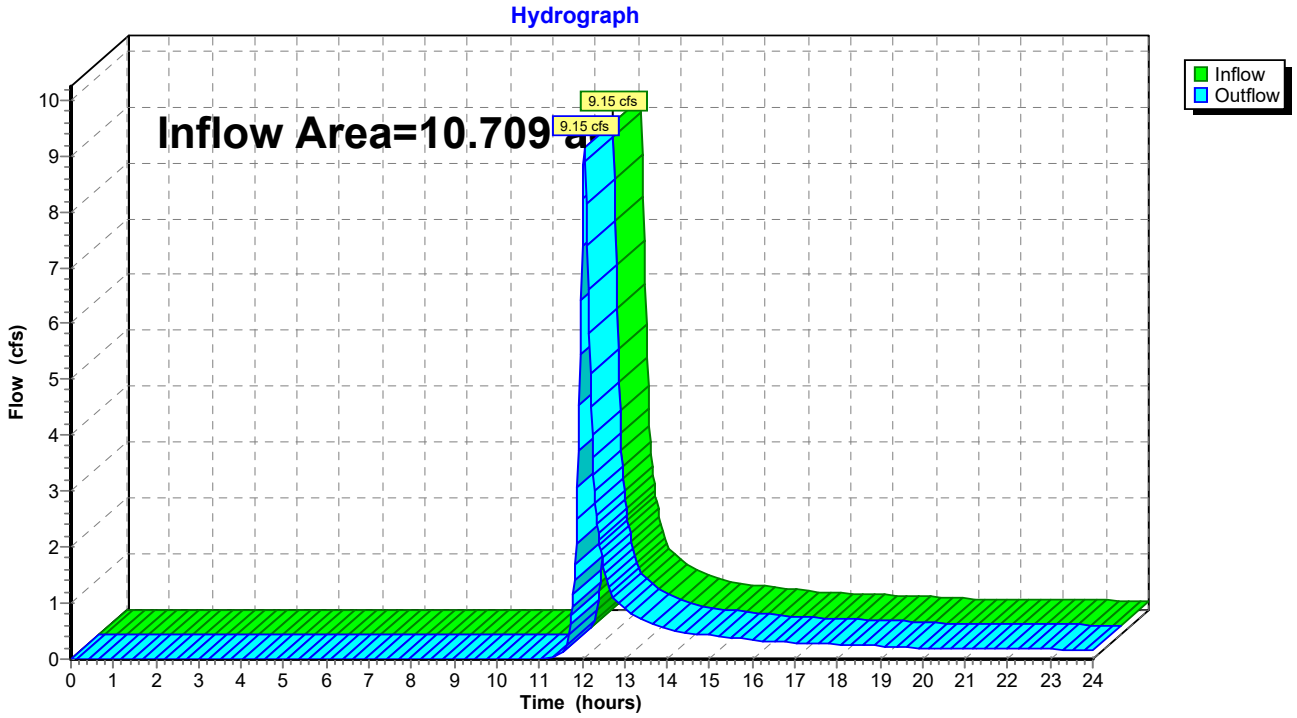


Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 0.66" for 1-yr event
Inflow = 9.15 cfs @ 12.07 hrs, Volume= 0.588 af
Outflow = 9.15 cfs @ 12.07 hrs, Volume= 0.588 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4



Summary for Subcatchment 1E: SUB-1

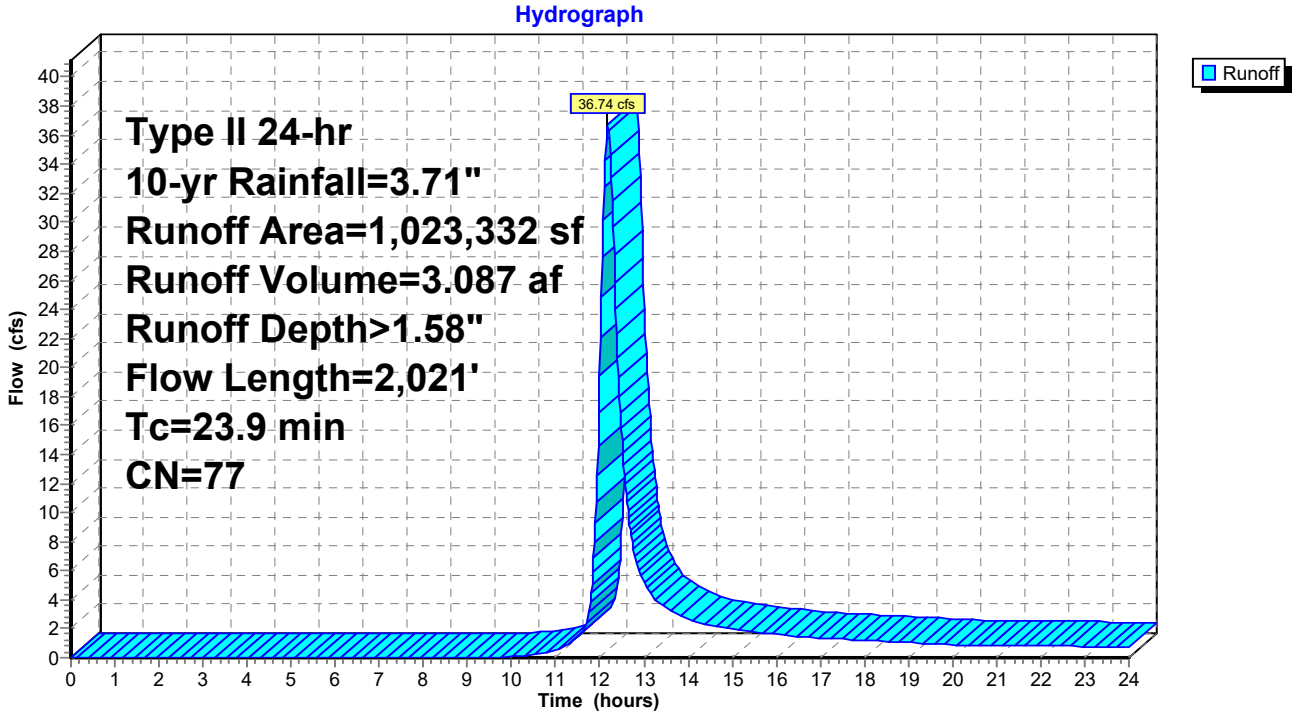
Runoff = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af, Depth> 1.58"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
185,369	77	Brush, Fair, HSG D
126,193	77	Brush, Fair, HSG D
711,770	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1E: SUB-1



Summary for Subcatchment 2E: SUB-2

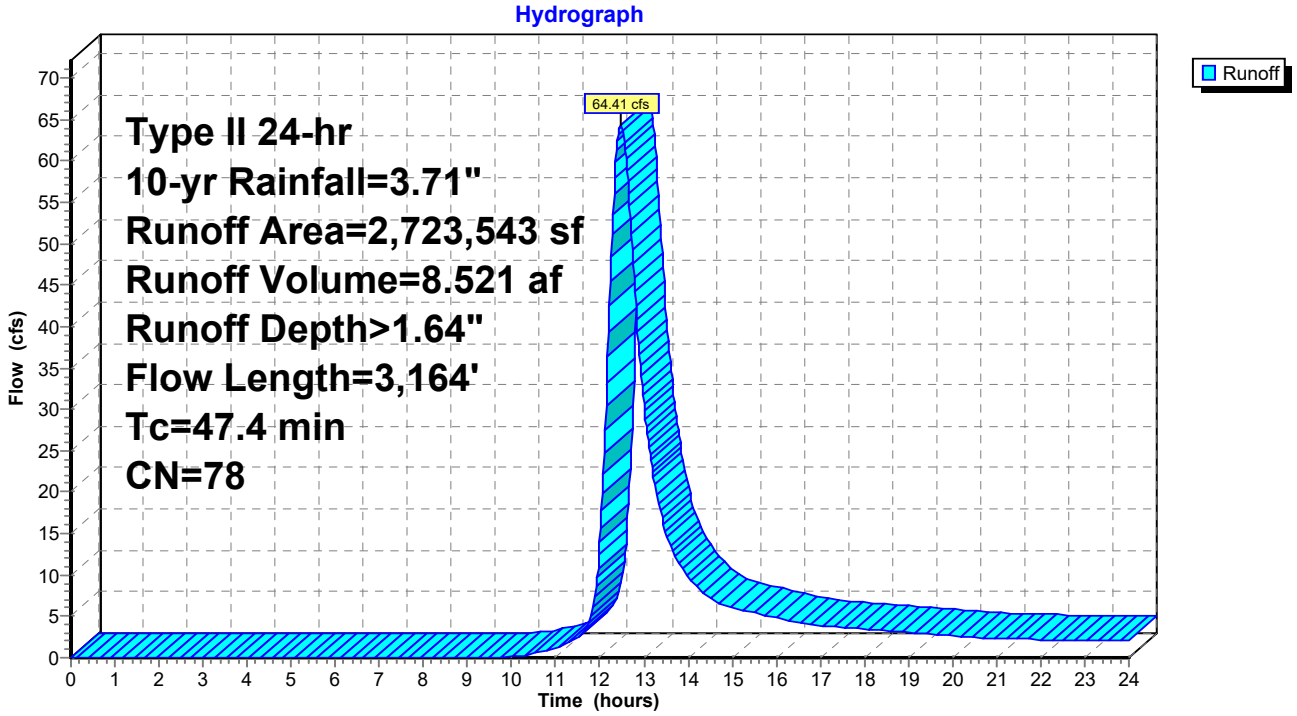
Runoff = 64.41 cfs @ 12.48 hrs, Volume= 8.521 af, Depth> 1.64"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
26,702	98	Paved parking, HSG D
1,185,938	77	Brush, Fair, HSG D
244,154	77	Brush, Fair, HSG D
1,184,658	77	Woods, Good, HSG D
26,697	98	Unconnected pavement, HSG D
55,394	98	Water Surface, HSG D
2,723,543	78	Weighted Average
2,614,750		96.01% Pervious Area
108,793		3.99% Impervious Area
26,697		24.54% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru Woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040 Winding stream, pools & shoals
47.4	3,164	Total			

Subcatchment 2E: SUB-2



Summary for Subcatchment 3E: SUB-3

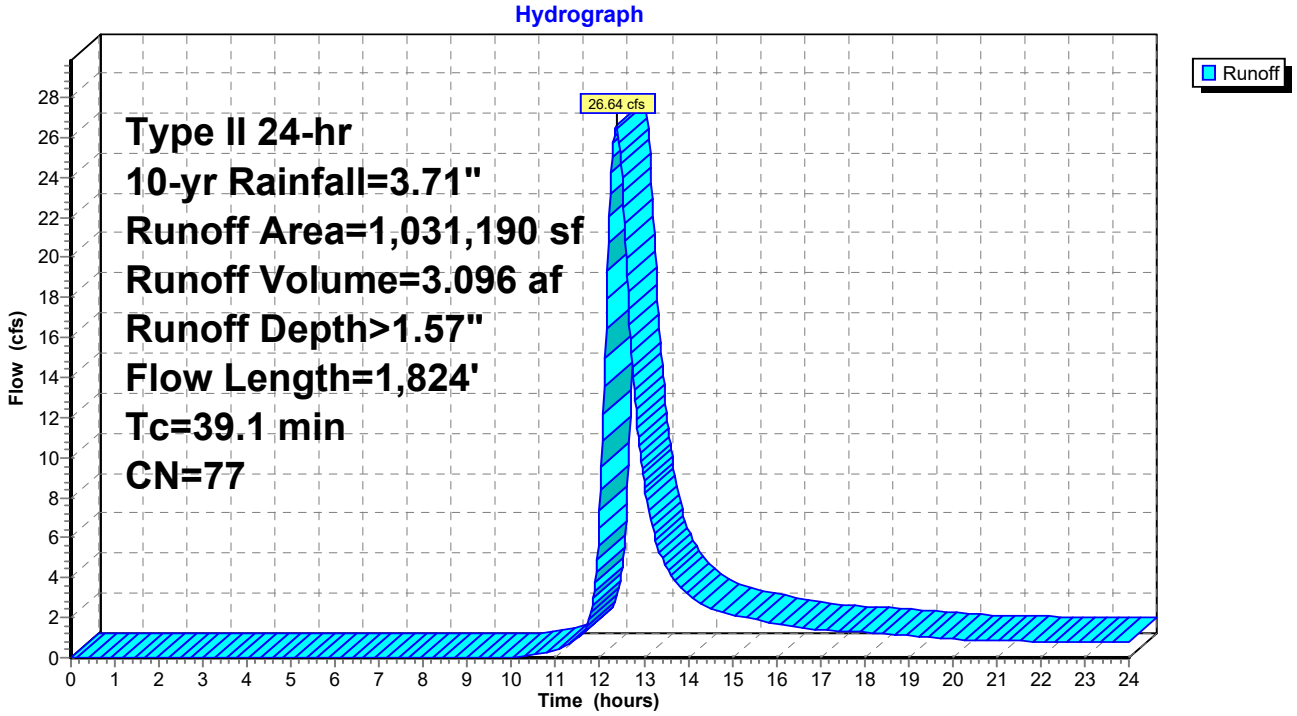
Runoff = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af, Depth> 1.57"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
10,672	98	Paved parking, HSG D
431,762	77	Brush, Fair, HSG D
28,575	77	Brush, Fair, HSG D
15,812	55	Woods, Good, HSG B
544,369	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,518		98.97% Pervious Area
10,672		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3E: SUB-3



Summary for Subcatchment 4E: SUB-4

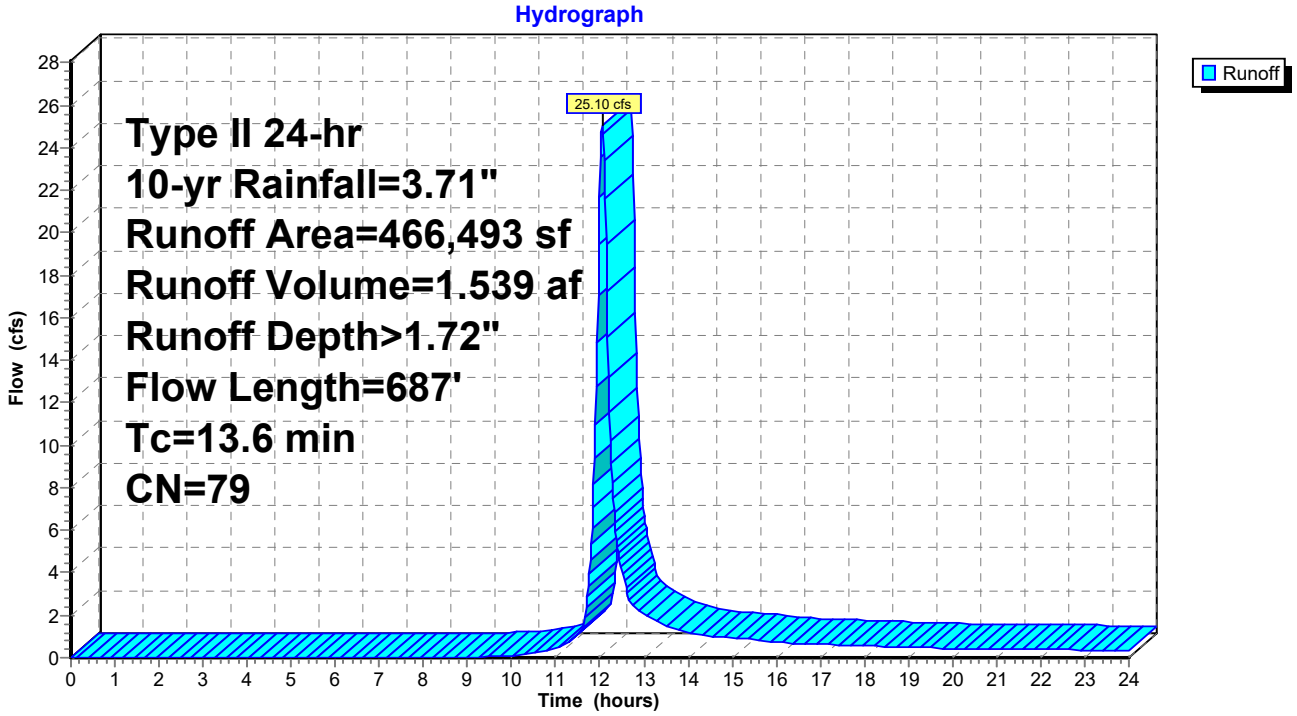
Runoff = 25.10 cfs @ 12.06 hrs, Volume= 1.539 af, Depth> 1.72"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
332,303	77	Brush, Fair, HSG D
97,812	77	Brush, Fair, HSG D
2,914	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
466,493	79	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4E: SUB-4

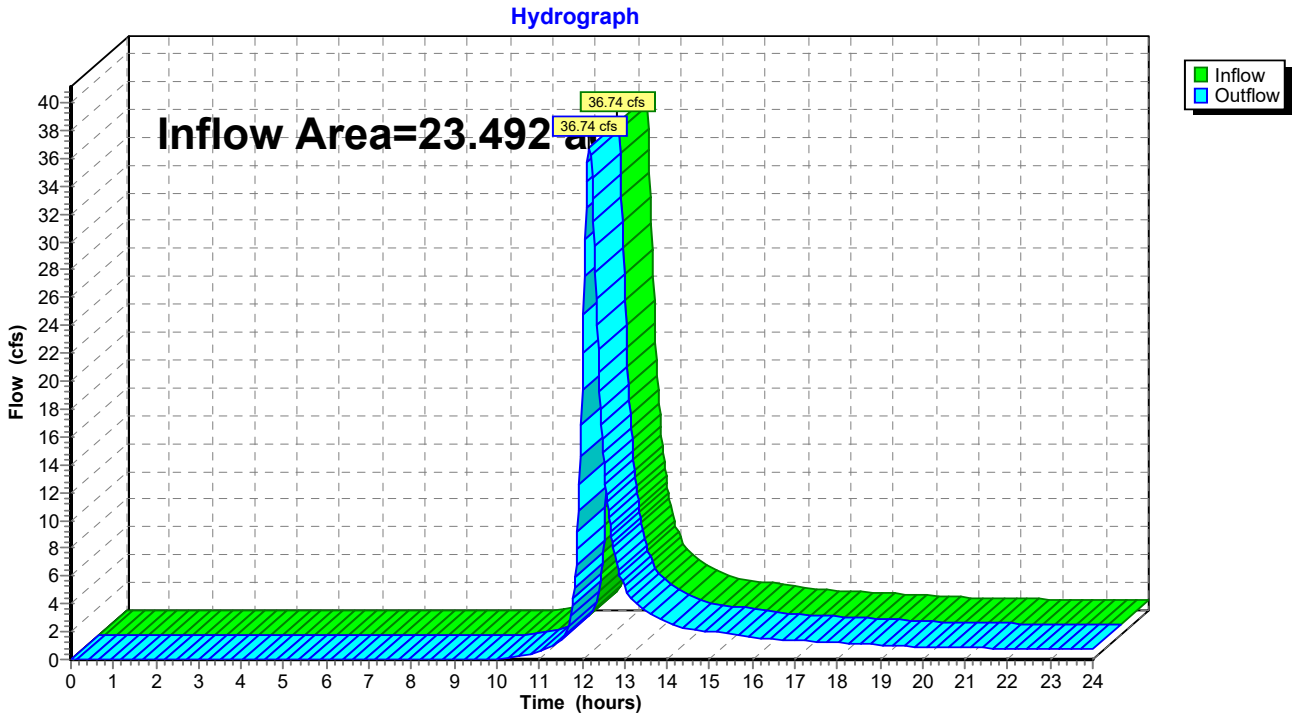


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 1.58" for 10-yr event
Inflow = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af
Outflow = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

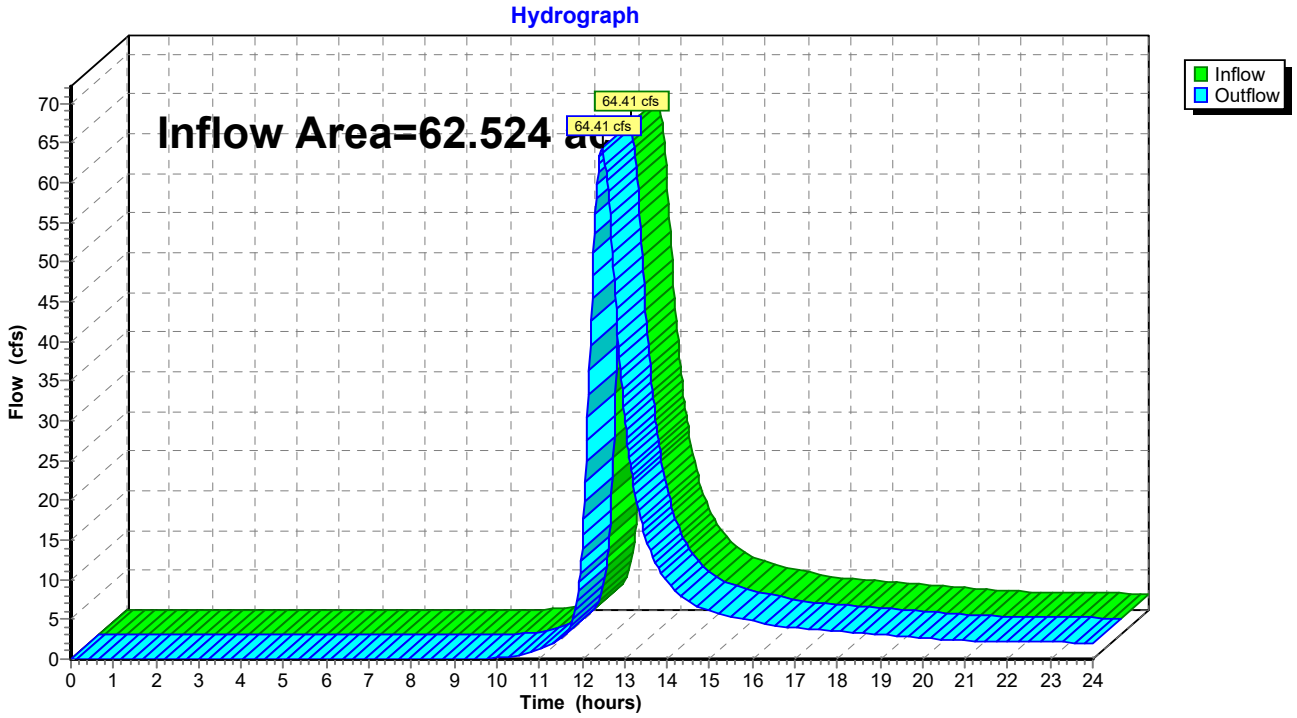


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.99% Impervious, Inflow Depth > 1.64" for 10-yr event
Inflow = 64.41 cfs @ 12.48 hrs, Volume= 8.521 af
Outflow = 64.41 cfs @ 12.48 hrs, Volume= 8.521 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

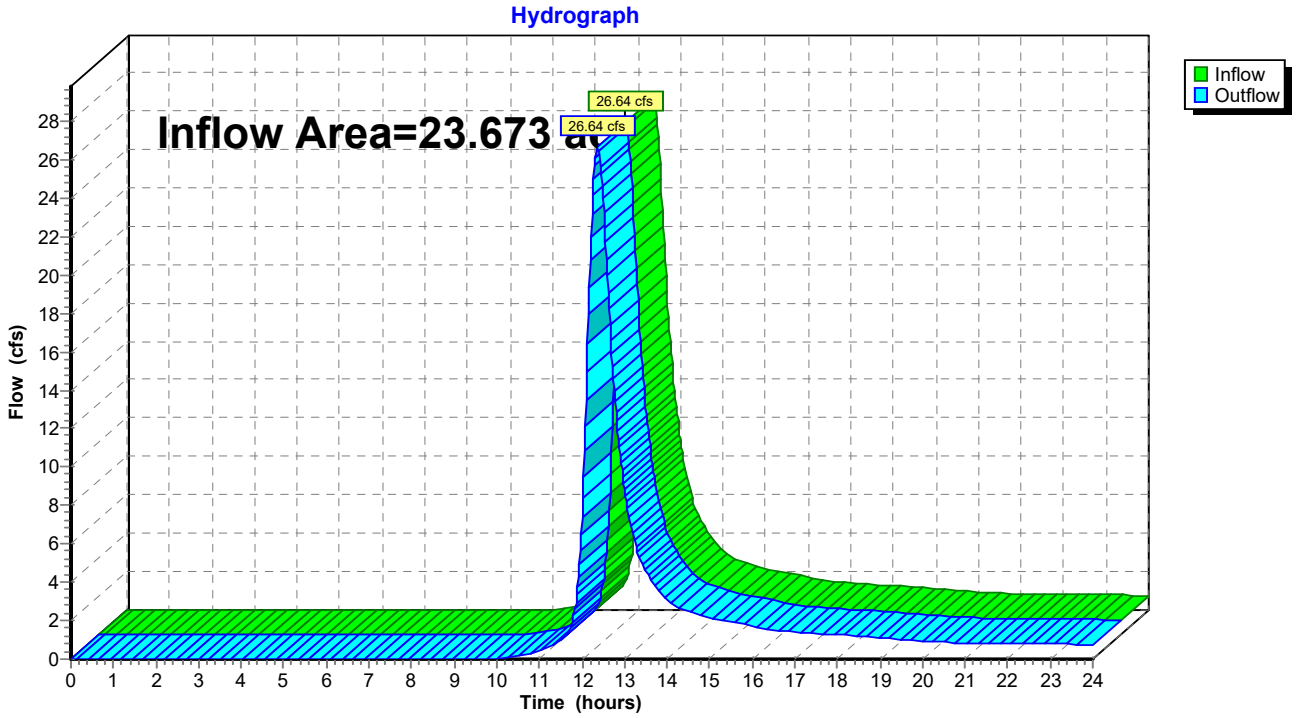


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 1.57" for 10-yr event
Inflow = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af
Outflow = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

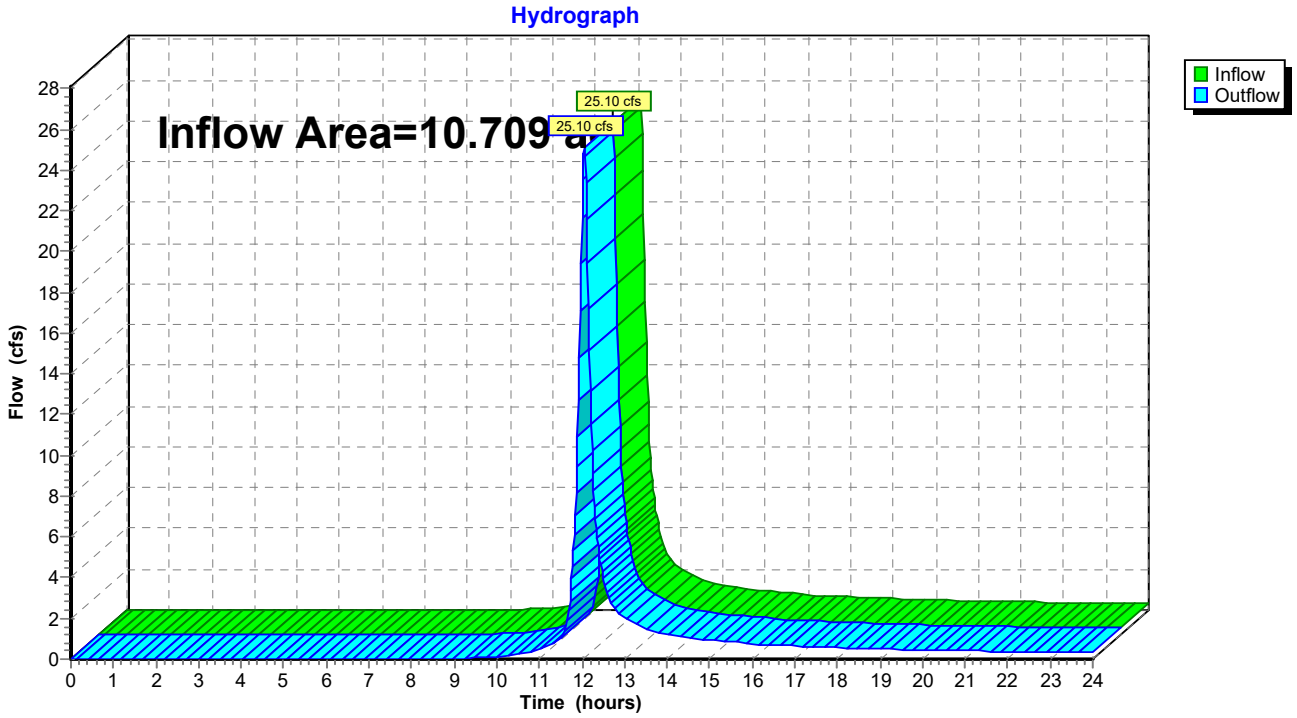


Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 1.72" for 10-yr event
Inflow = 25.10 cfs @ 12.06 hrs, Volume= 1.539 af
Outflow = 25.10 cfs @ 12.06 hrs, Volume= 1.539 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4



Summary for Subcatchment 1E: SUB-1

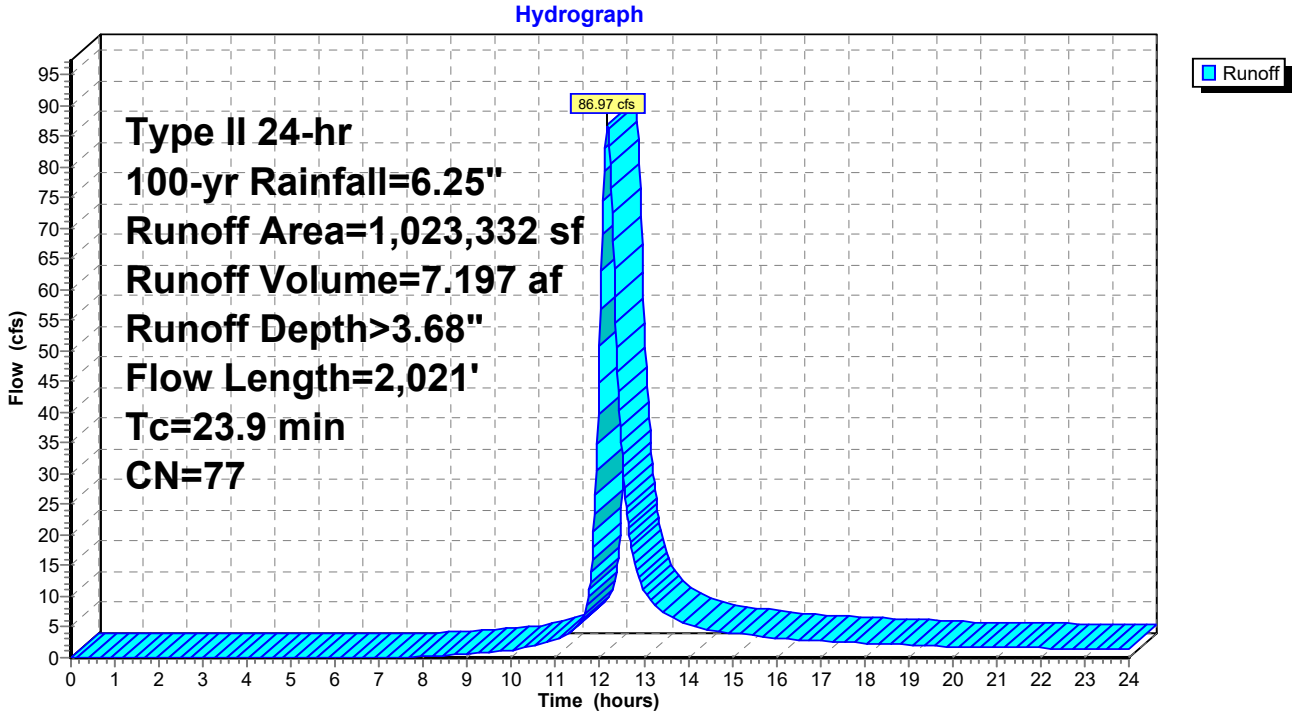
Runoff = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af, Depth> 3.68"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
185,369	77	Brush, Fair, HSG D
126,193	77	Brush, Fair, HSG D
711,770	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1E: SUB-1



Summary for Subcatchment 2E: SUB-2

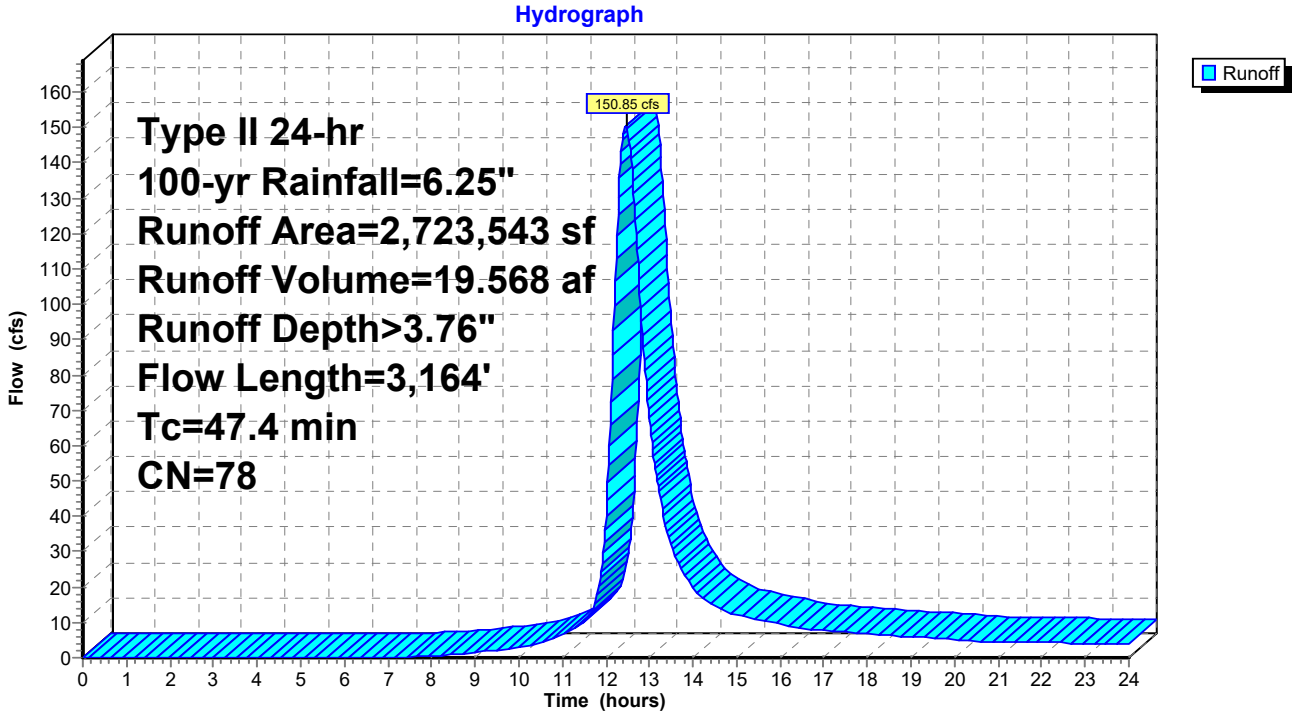
Runoff = 150.85 cfs @ 12.47 hrs, Volume= 19.568 af, Depth> 3.76"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
26,702	98	Paved parking, HSG D
1,185,938	77	Brush, Fair, HSG D
244,154	77	Brush, Fair, HSG D
1,184,658	77	Woods, Good, HSG D
26,697	98	Unconnected pavement, HSG D
55,394	98	Water Surface, HSG D
2,723,543	78	Weighted Average
2,614,750		96.01% Pervious Area
108,793		3.99% Impervious Area
26,697		24.54% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru Woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040 Winding stream, pools & shoals
47.4	3,164	Total			

Subcatchment 2E: SUB-2



Summary for Subcatchment 3E: SUB-3

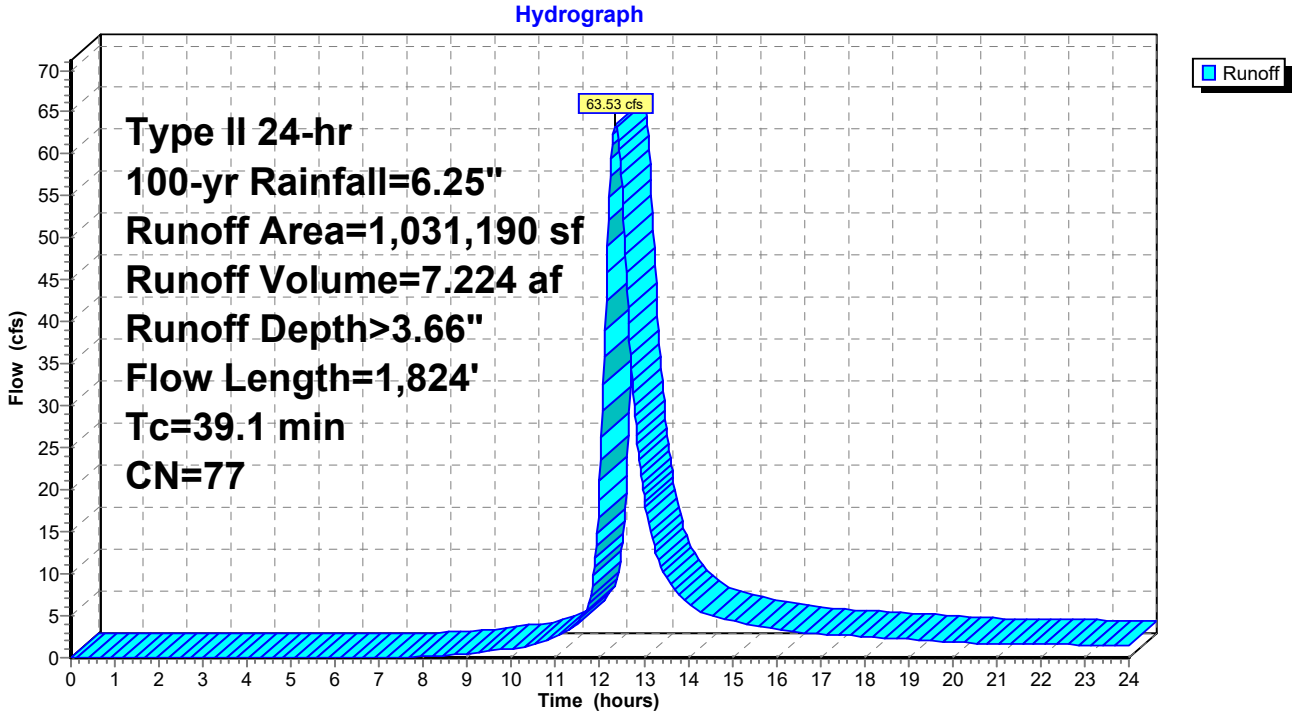
Runoff = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af, Depth> 3.66"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
10,672	98	Paved parking, HSG D
431,762	77	Brush, Fair, HSG D
28,575	77	Brush, Fair, HSG D
15,812	55	Woods, Good, HSG B
544,369	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,518		98.97% Pervious Area
10,672		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3E: SUB-3



Summary for Subcatchment 4E: SUB-4

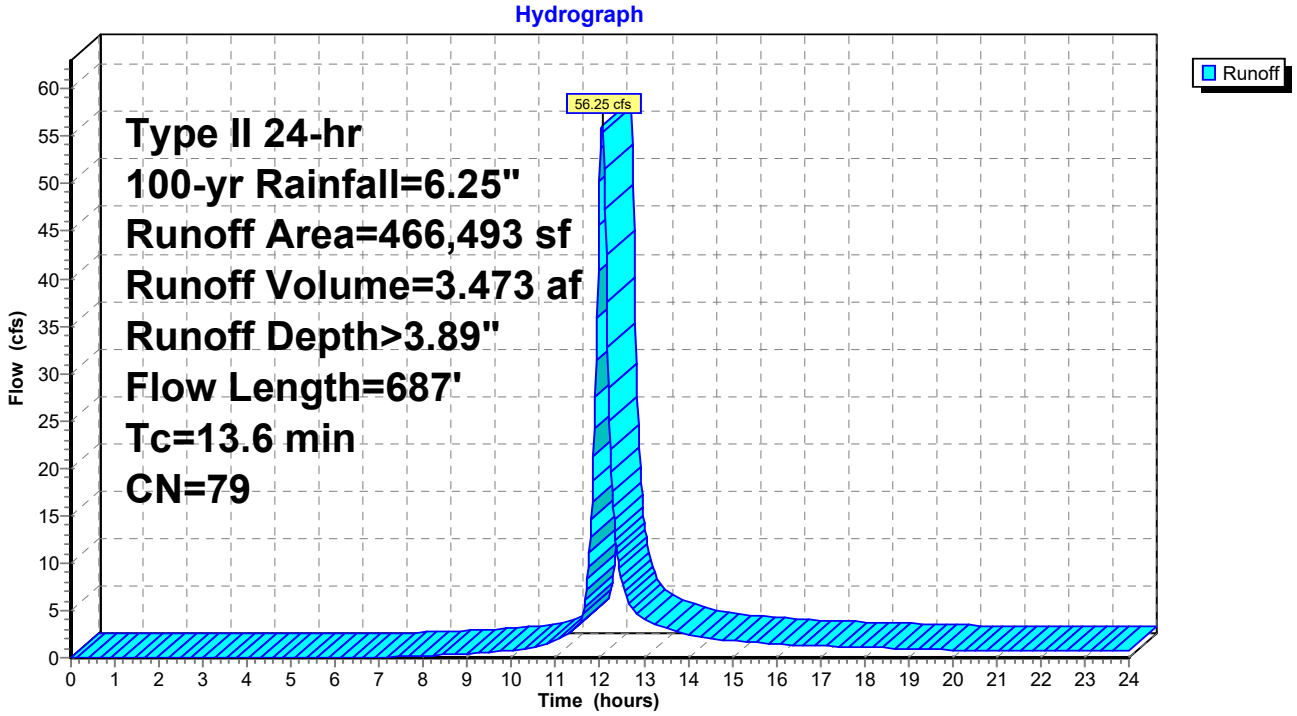
Runoff = 56.25 cfs @ 12.05 hrs, Volume= 3.473 af, Depth> 3.89"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
332,303	77	Brush, Fair, HSG D
97,812	77	Brush, Fair, HSG D
2,914	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
466,493	79	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4E: SUB-4

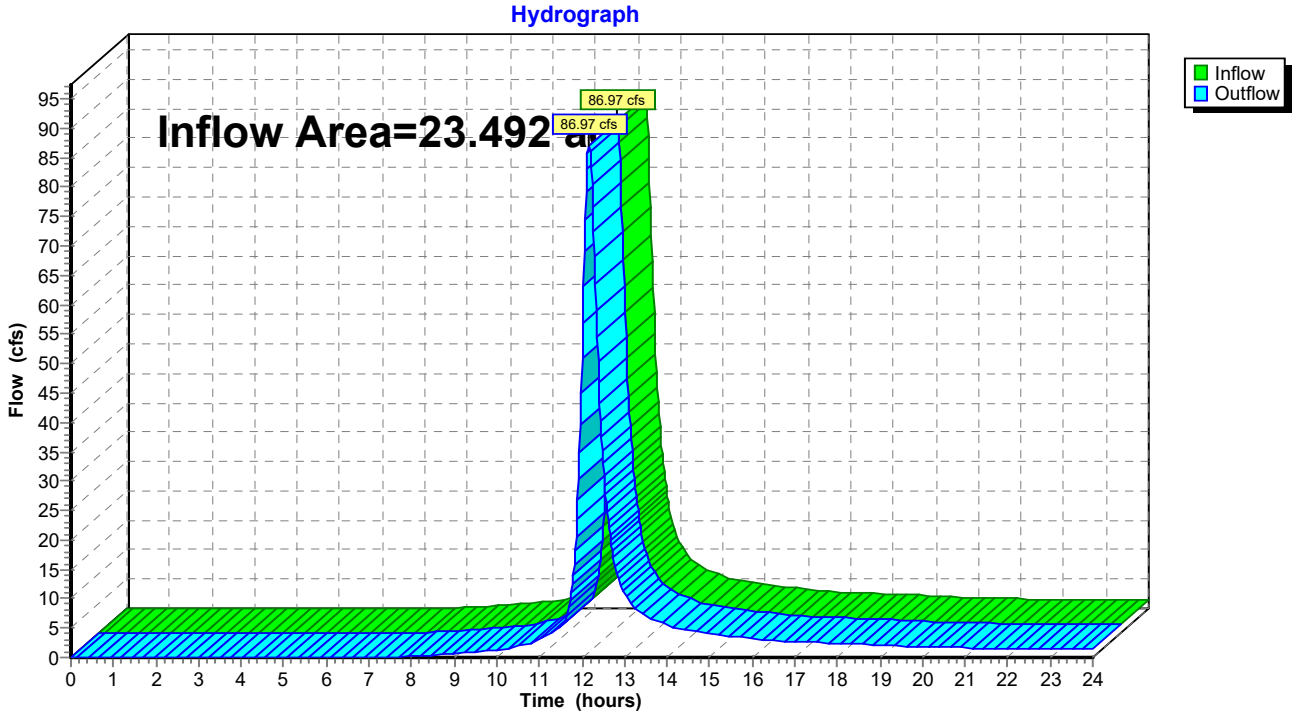


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 3.68" for 100-yr event
Inflow = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af
Outflow = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

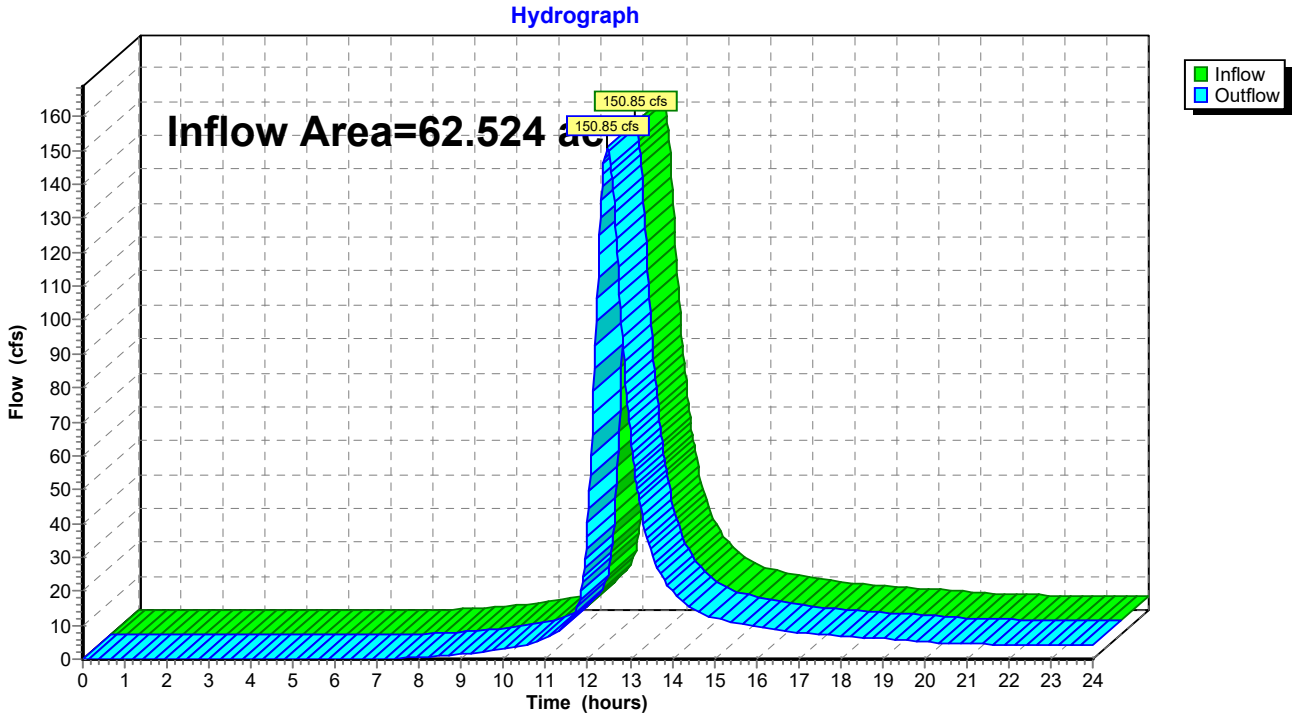


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.99% Impervious, Inflow Depth > 3.76" for 100-yr event
Inflow = 150.85 cfs @ 12.47 hrs, Volume= 19.568 af
Outflow = 150.85 cfs @ 12.47 hrs, Volume= 19.568 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

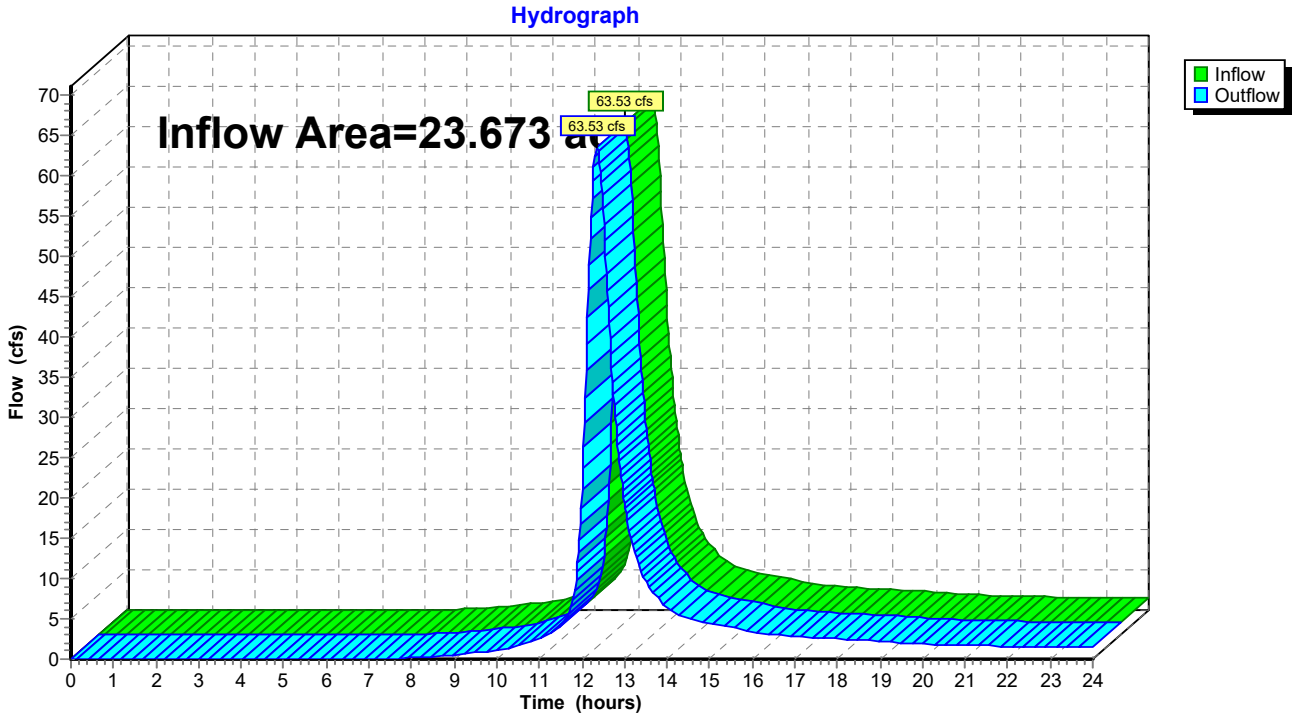


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 3.66" for 100-yr event
Inflow = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af
Outflow = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

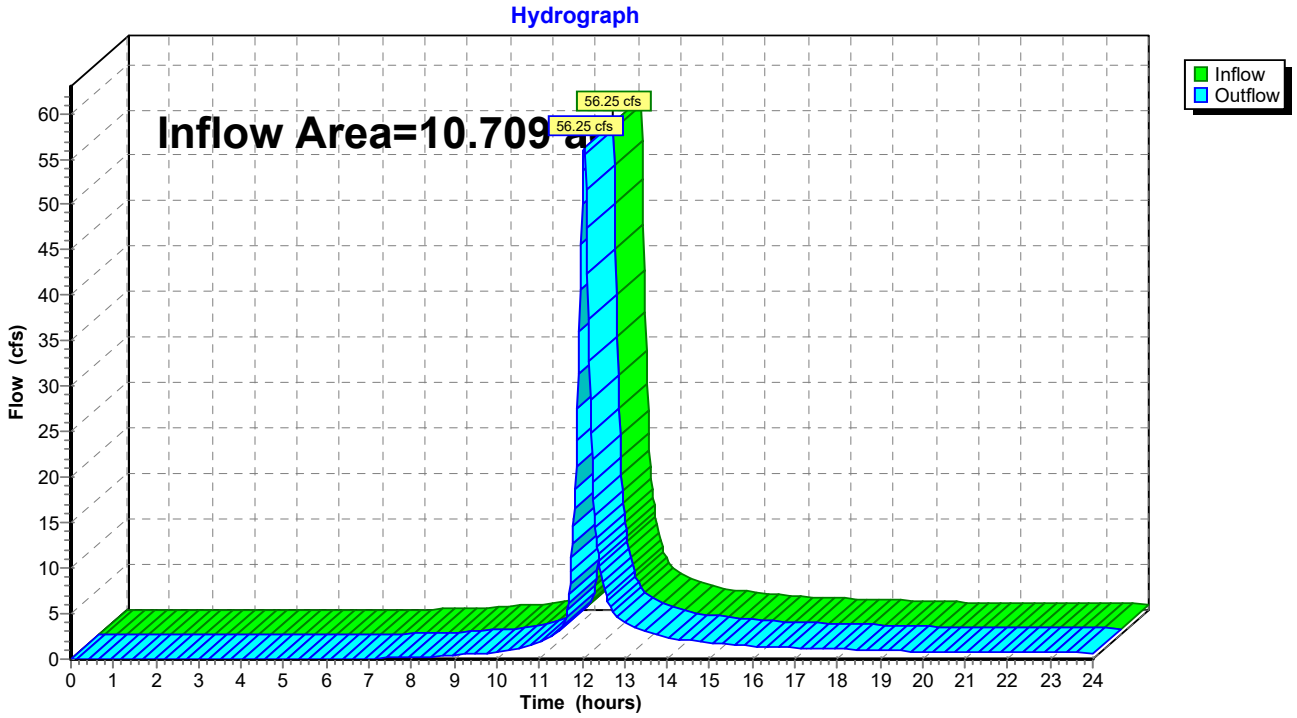


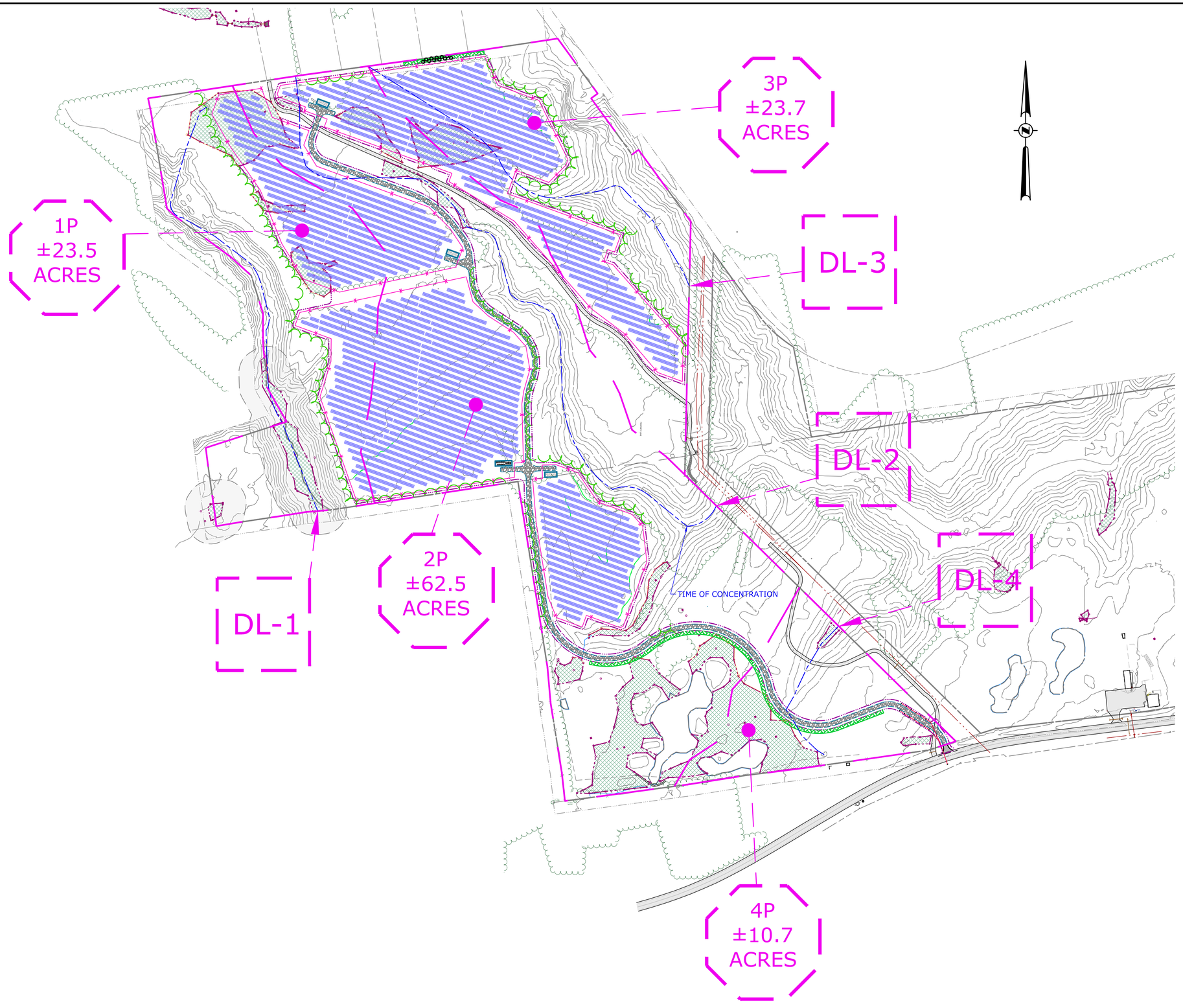
Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 3.89" for 100-yr event
Inflow = 56.25 cfs @ 12.05 hrs, Volume= 3.473 af
Outflow = 56.25 cfs @ 12.05 hrs, Volume= 3.473 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1R

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4





LEGEND:

SUBCATCHMENT AREA — 1P ±68.8 ACRES

DESIGN LOCATION — DL-1

TIME OF CONCENTRATION PATH

BAR SCALE
200 0 100 200 400
1 inch = 200 ft.

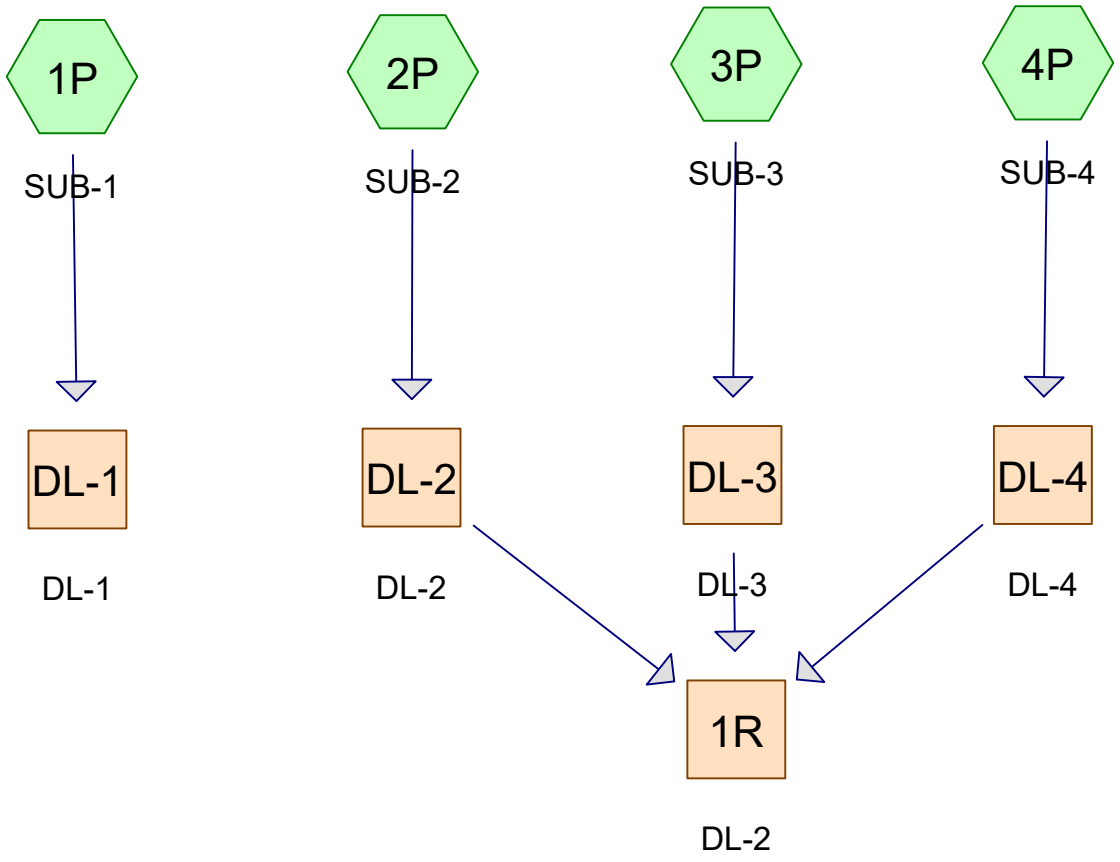
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

PROPOSED CONDITIONS DRAINAGE MAP

MOREAU COMMUNITY SOLAR

PROJ. NO.: 24.5097	DRAFTED: WSG	SCALE: AS SHOWN	DATE: JAN. 2025	TOWN OF MOREAU	SARATOGA COUNTY, NEW YORK

NONE XREFS
CAD DWG. FILE NAME: FILENAME



Subcat Reach Pond Link

Routing Diagram for 245097 Moreau Solar Proposed
Prepared by C T Male Associates, Printed 1/30/2025
HydroCAD® 10.20-5c s/n 00410 © 2023 HydroCAD Software Solutions LLC

Project Notes

Defined 9 rainfall events from extreme_precip_Moreau Solar IDF
Defined 9 rainfall events from extreme_precip_Moreau Solar IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	Type II 24-hr		Default	24.00	1	2.23	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.71	2
3	100-yr	Type II 24-hr		Default	24.00	1	6.25	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
11.394	77	Brush, Fair, HSG D (1P, 2P, 3P, 4P)
2.401	91	Gravel roads, HSG D (2P, 4P)
71.599	78	Meadow, non-grazed, HSG D (1P, 2P, 3P, 4P)
1.100	98	Paved parking, HSG D (2P, 3P, 4P)
1.791	98	Water Surface, HSG D (2P, 4P)
0.357	55	Woods, Good, HSG B (3P)
31.757	77	Woods, Good, HSG D (1P, 2P, 3P, 4P)
120.398	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.357	HSG B	3P
0.000	HSG C	
120.041	HSG D	1P, 2P, 3P, 4P
0.000	Other	
120.398		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	11.394	0.000	11.394	Brush, Fair	1P, 2P, 3P, 4P
0.000	0.000	0.000	2.401	0.000	2.401	Gravel roads	2P, 4P
0.000	0.000	0.000	71.599	0.000	71.599	Meadow, non-grazed	1P, 2P, 3P, 4P
0.000	0.000	0.000	1.100	0.000	1.100	Paved parking	2P, 3P, 4P
0.000	0.000	0.000	1.791	0.000	1.791	Water Surface	2P, 4P
0.000	0.357	0.000	31.757	0.000	32.114	Woods, Good	1P, 2P, 3P, 4P
0.000	**0.357**	**0.000**	**120.041**	**0.000**	**120.398**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: SUB-1 Runoff Area=1,023,332 sf 0.00% Impervious Runoff Depth>0.57"
Flow Length=2,021' Tc=23.9 min CN=77 Runoff=12.01 cfs 1.119 af

Subcatchment2P: SUB-2 Runoff Area=2,723,543 sf 3.00% Impervious Runoff Depth>0.65"
Flow Length=3,164' Tc=47.4 min CN=79 Runoff=23.55 cfs 3.391 af

Subcatchment3P: SUB-3 Runoff Area=1,031,190 sf 1.03% Impervious Runoff Depth>0.57"
Flow Length=1,824' Tc=39.1 min CN=77 Runoff=8.56 cfs 1.121 af

Subcatchment4P: SUB-4 Runoff Area=466,493 sf 7.17% Impervious Runoff Depth>0.70"
Flow Length=687' Tc=13.6 min CN=80 Runoff=9.89 cfs 0.629 af

Reach 1R: DL-2 Inflow=33.65 cfs 5.141 af
Outflow=33.65 cfs 5.141 af

Reach DL-1: DL-1 Inflow=12.01 cfs 1.119 af
Outflow=12.01 cfs 1.119 af

Reach DL-2: DL-2 Inflow=23.55 cfs 3.391 af
Outflow=23.55 cfs 3.391 af

Reach DL-3: DL-3 Inflow=8.56 cfs 1.121 af
Outflow=8.56 cfs 1.121 af

Reach DL-4: DL-4 Inflow=9.89 cfs 0.629 af
Outflow=9.89 cfs 0.629 af

Total Runoff Area = 120.398 ac Runoff Volume = 6.260 af Average Runoff Depth = 0.62"
97.60% Pervious = 117.508 ac 2.40% Impervious = 2.890 ac

Summary for Subcatchment 1P: SUB-1

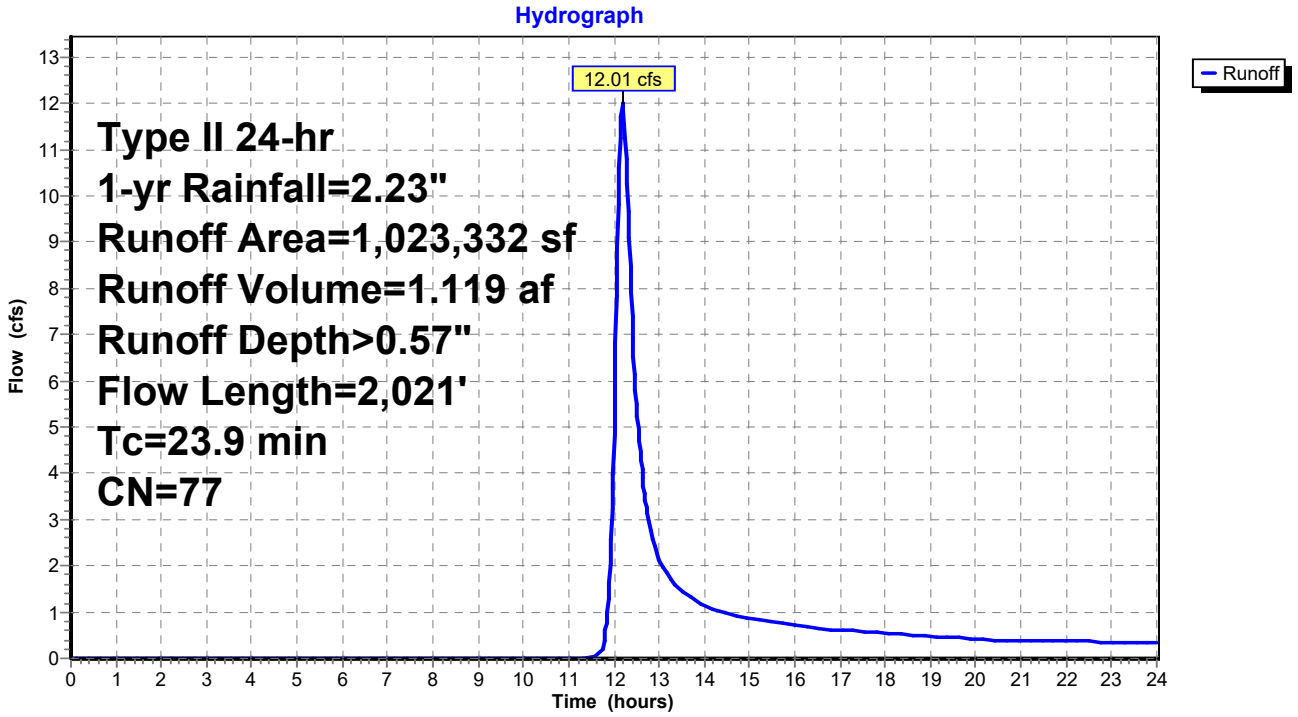
Runoff = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af, Depth> 0.57"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
471,580	78	Meadow, non-grazed, HSG D
125,799	77	Brush, Fair, HSG D
425,953	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1P: SUB-1



Summary for Subcatchment 2P: SUB-2

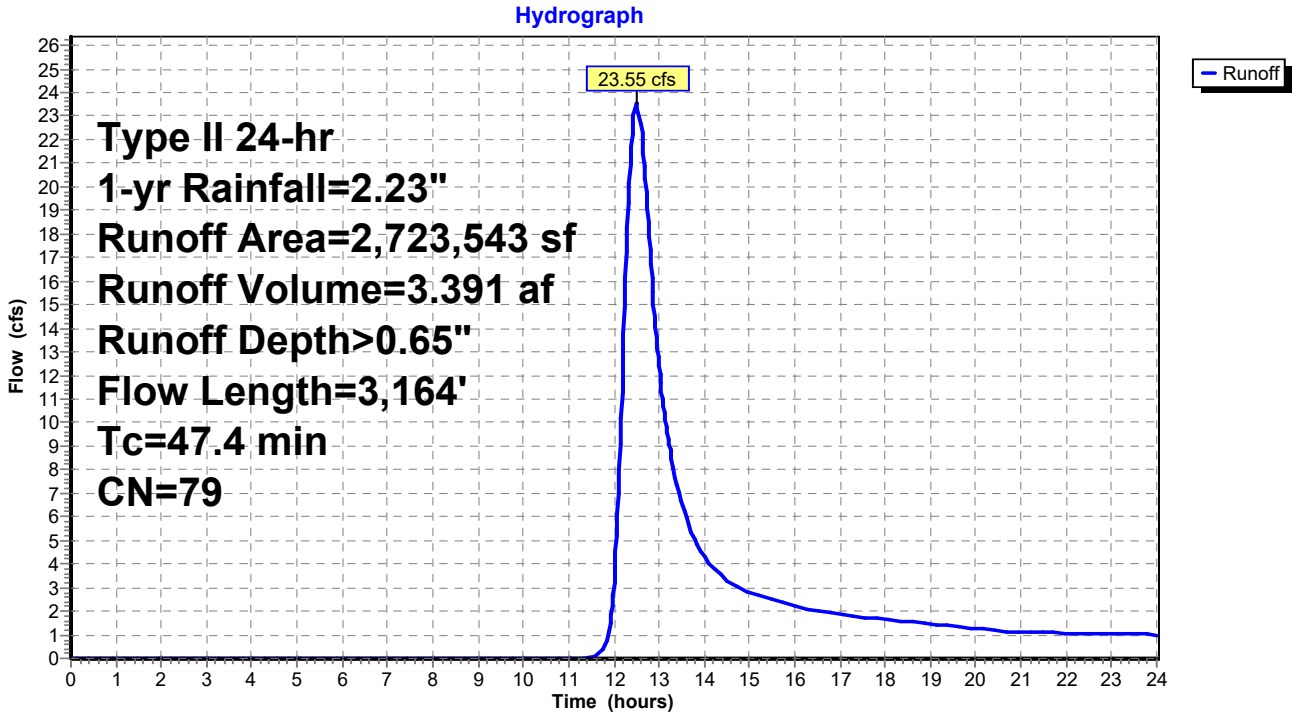
Runoff = 23.55 cfs @ 12.49 hrs, Volume= 3.391 af, Depth> 0.65"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
26,368	98	Paved parking, HSG D
1,796,551	78	Meadow, non-grazed, HSG D
244,151	77	Brush, Fair, HSG D
514,827	77	Woods, Good, HSG D
55,394	98	Water Surface, HSG D
86,252	91	Gravel roads, HSG D
2,723,543	79	Weighted Average
2,641,781		97.00% Pervious Area
81,762		3.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040
47.4	3,164	Total			

Subcatchment 2P: SUB-2



Summary for Subcatchment 3P: SUB-3

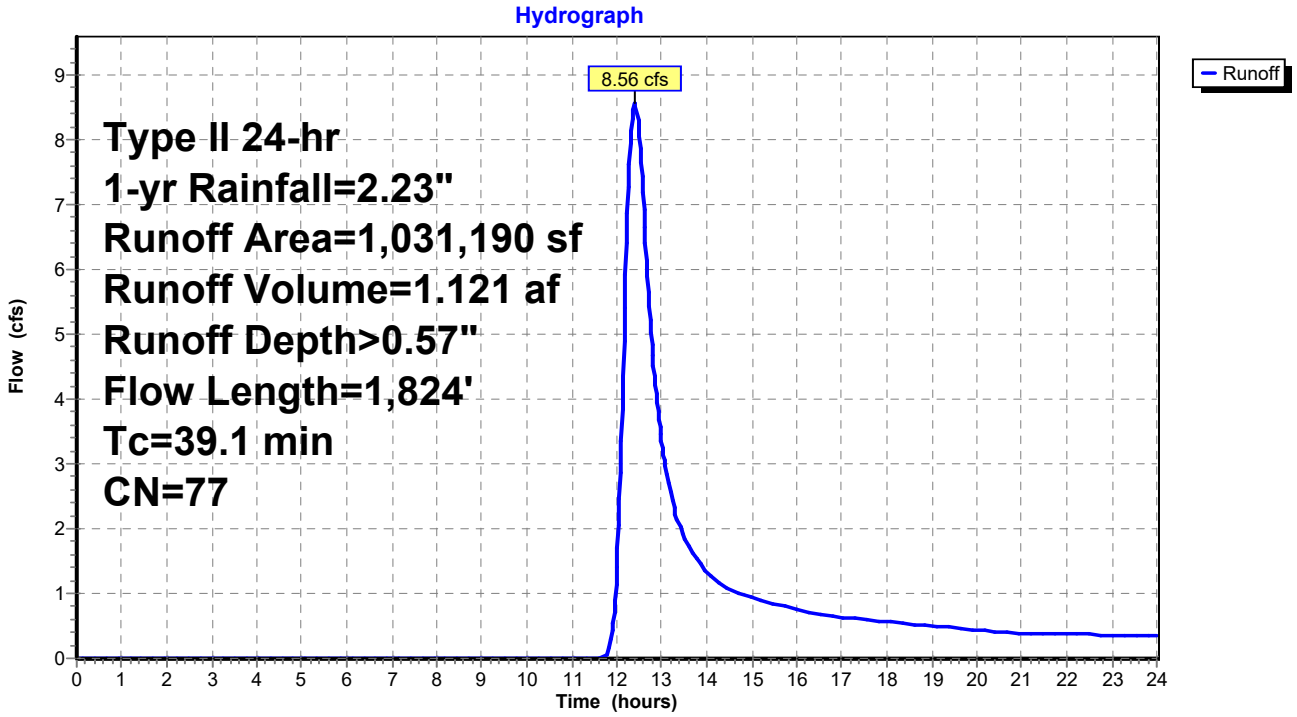
Runoff = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af, Depth> 0.57"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
10,665	98	Paved parking, HSG D
536,739	78	Meadow, non-grazed, HSG D
28,581	77	Brush, Fair, HSG D
15,554	55	Woods, Good, HSG B
439,651	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,525		98.97% Pervious Area
10,665		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3P: SUB-3



Summary for Subcatchment 4P: SUB-4

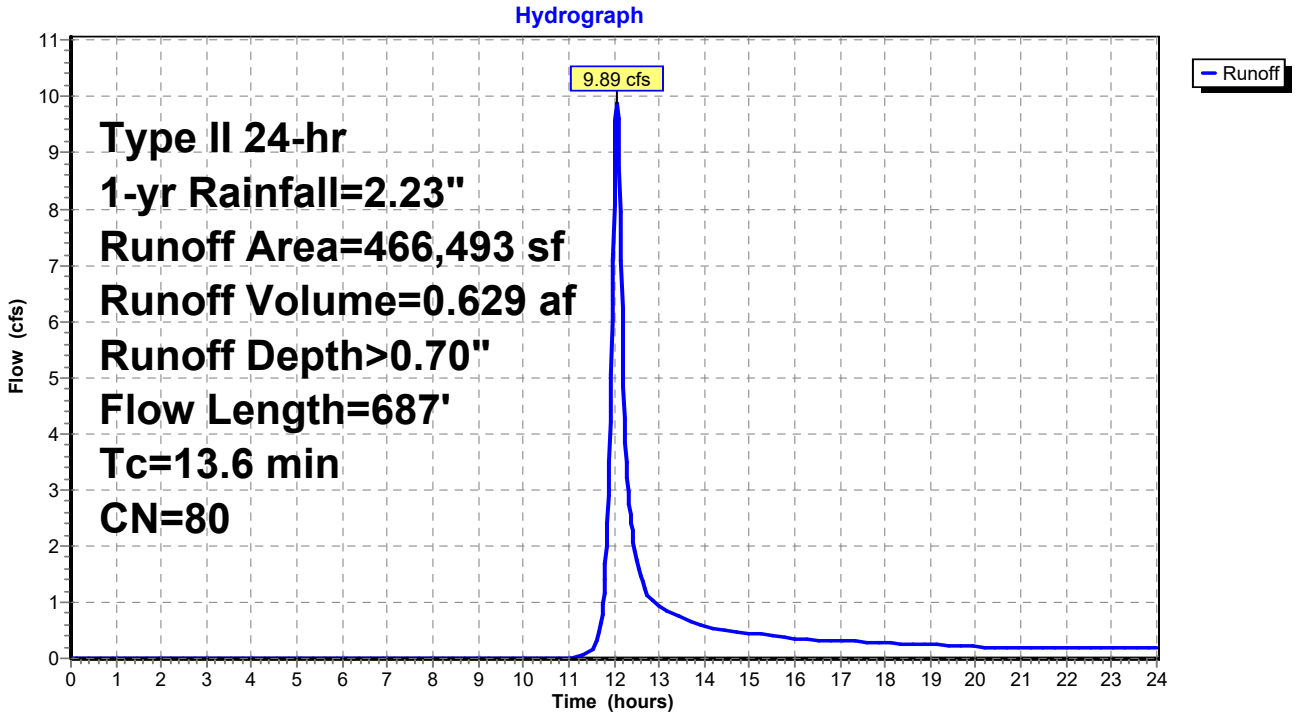
Runoff = 9.89 cfs @ 12.07 hrs, Volume= 0.629 af, Depth> 0.70"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 1-yr Rainfall=2.23"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
313,987	78	Meadow, non-grazed, HSG D
97,812	77	Brush, Fair, HSG D
2,913	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
18,317	91	Gravel roads, HSG D
466,493	80	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4P: SUB-4

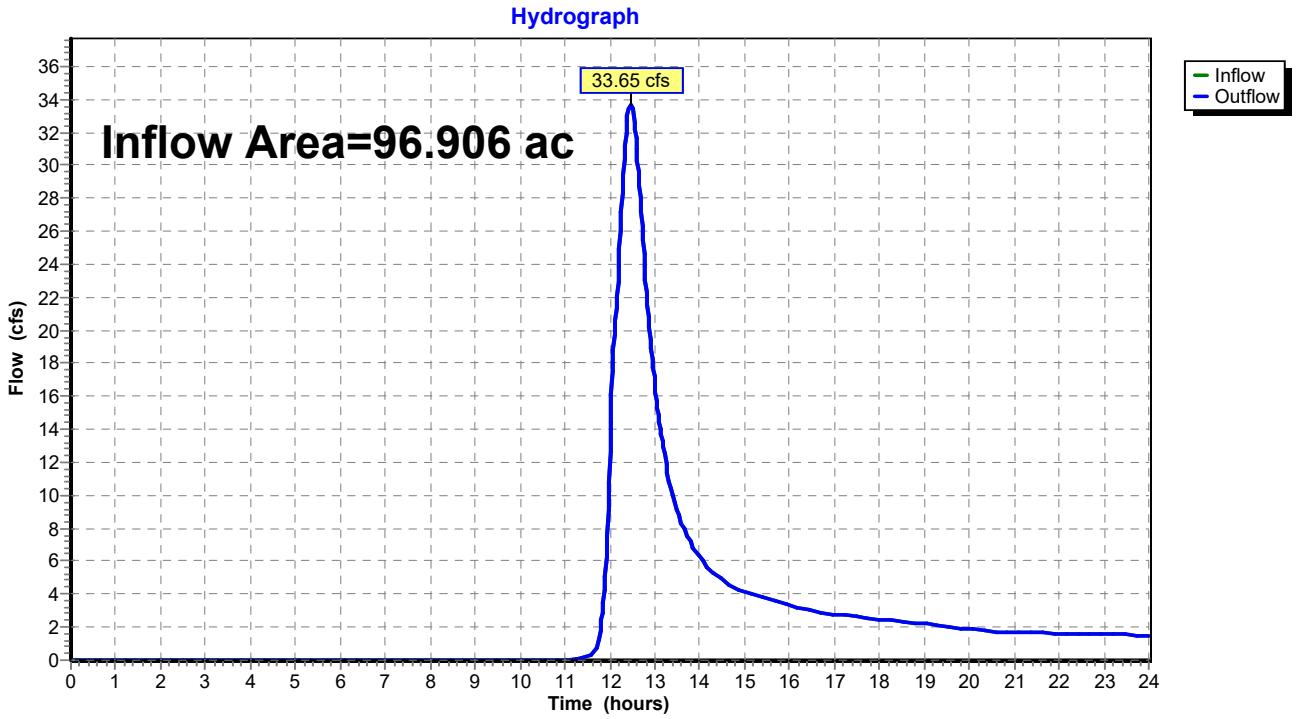


Summary for Reach 1R: DL-2

Inflow Area = 96.906 ac, 2.98% Impervious, Inflow Depth > 0.64" for 1-yr event
Inflow = 33.65 cfs @ 12.47 hrs, Volume= 5.141 af
Outflow = 33.65 cfs @ 12.47 hrs, Volume= 5.141 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach 1R: DL-2

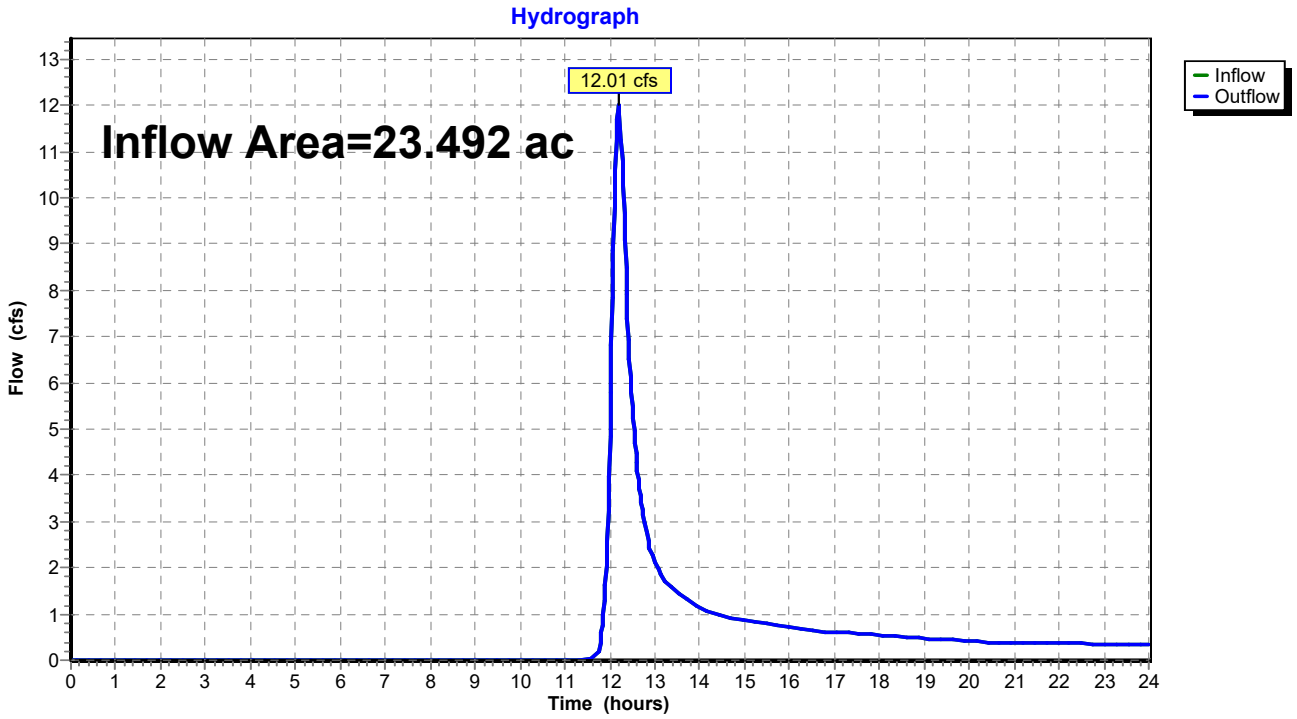


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 0.57" for 1-yr event
Inflow = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af
Outflow = 12.01 cfs @ 12.20 hrs, Volume= 1.119 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

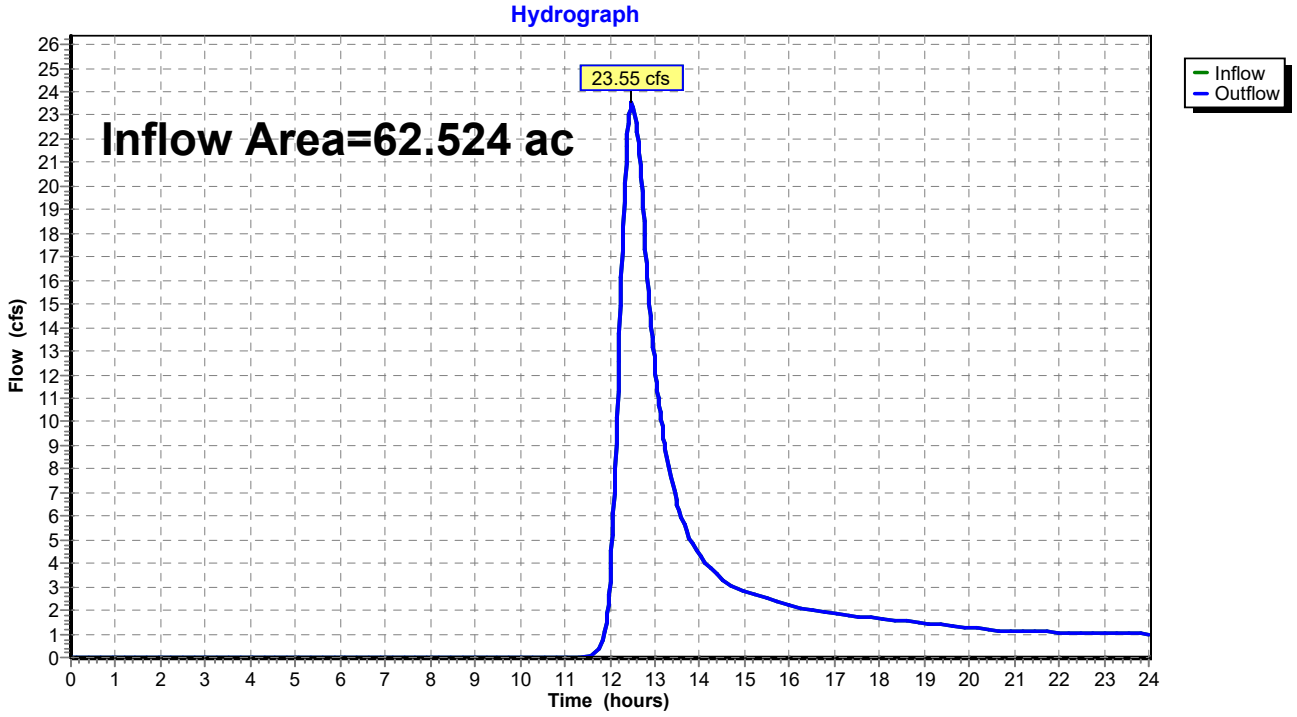


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.00% Impervious, Inflow Depth > 0.65" for 1-yr event
Inflow = 23.55 cfs @ 12.49 hrs, Volume= 3.391 af
Outflow = 23.55 cfs @ 12.49 hrs, Volume= 3.391 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

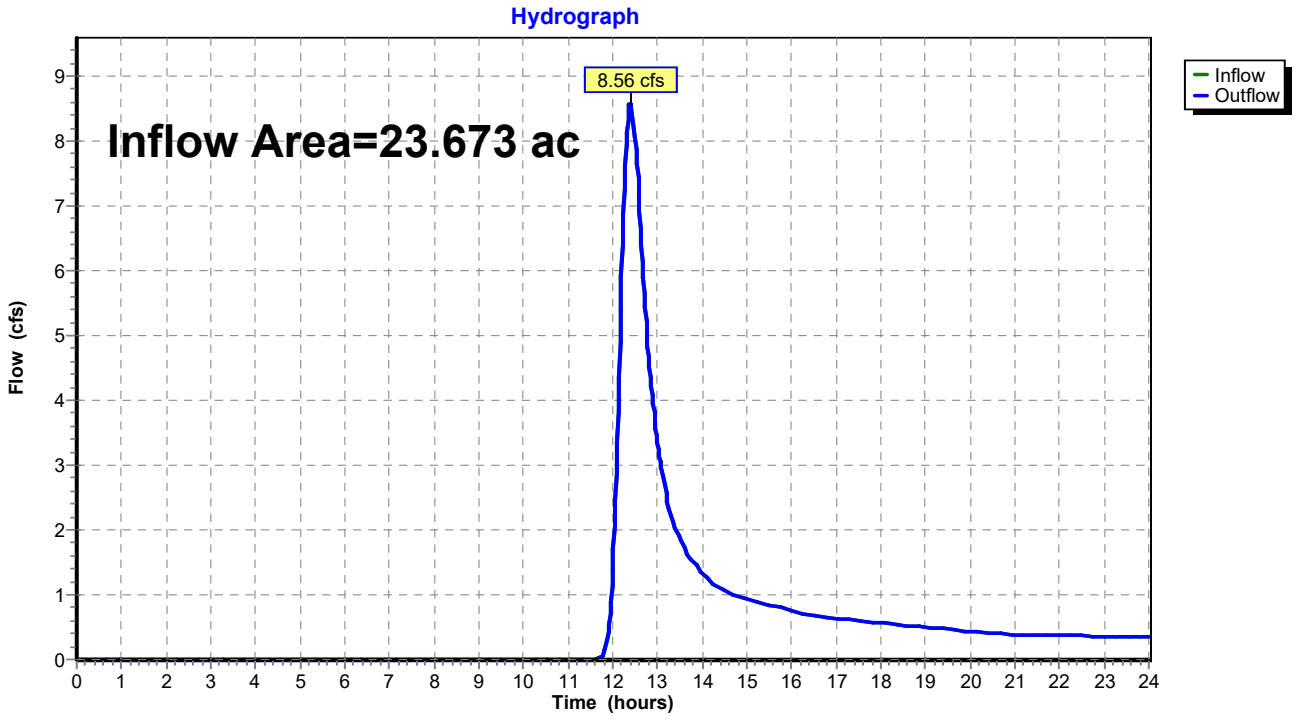


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 0.57" for 1-yr event
Inflow = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af
Outflow = 8.56 cfs @ 12.39 hrs, Volume= 1.121 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

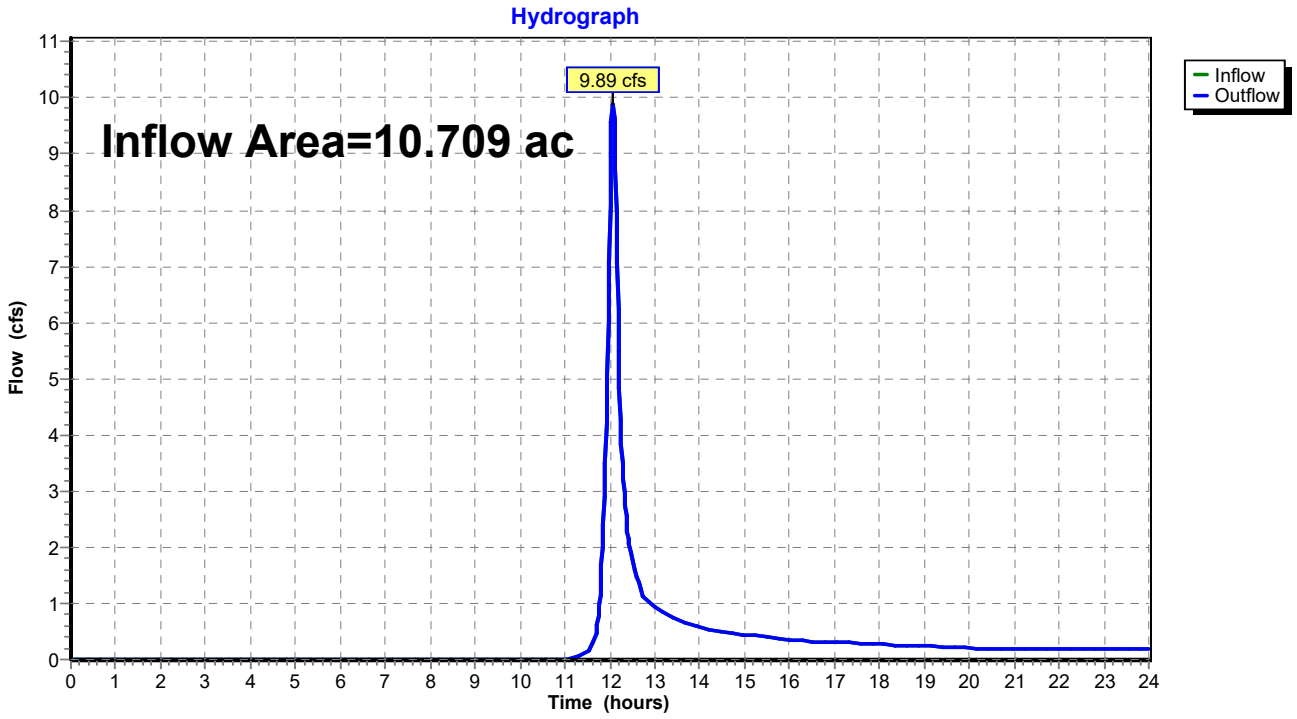


Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 0.70" for 1-yr event
Inflow = 9.89 cfs @ 12.07 hrs, Volume= 0.629 af
Outflow = 9.89 cfs @ 12.07 hrs, Volume= 0.629 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4



Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: SUB-1 Runoff Area=1,023,332 sf 0.00% Impervious Runoff Depth>1.58"
Flow Length=2,021' Tc=23.9 min CN=77 Runoff=36.74 cfs 3.087 af

Subcatchment2P: SUB-2 Runoff Area=2,723,543 sf 3.00% Impervious Runoff Depth>1.71"
Flow Length=3,164' Tc=47.4 min CN=79 Runoff=67.56 cfs 8.894 af

Subcatchment3P: SUB-3 Runoff Area=1,031,190 sf 1.03% Impervious Runoff Depth>1.57"
Flow Length=1,824' Tc=39.1 min CN=77 Runoff=26.64 cfs 3.096 af

Subcatchment4P: SUB-4 Runoff Area=466,493 sf 7.17% Impervious Runoff Depth>1.80"
Flow Length=687' Tc=13.6 min CN=80 Runoff=26.20 cfs 1.605 af

Reach 1R: DL-2 Inflow=97.57 cfs 13.595 af
Outflow=97.57 cfs 13.595 af

Reach DL-1: DL-1 Inflow=36.74 cfs 3.087 af
Outflow=36.74 cfs 3.087 af

Reach DL-2: DL-2 Inflow=67.56 cfs 8.894 af
Outflow=67.56 cfs 8.894 af

Reach DL-3: DL-3 Inflow=26.64 cfs 3.096 af
Outflow=26.64 cfs 3.096 af

Reach DL-4: DL-4 Inflow=26.20 cfs 1.605 af
Outflow=26.20 cfs 1.605 af

Total Runoff Area = 120.398 ac Runoff Volume = 16.682 af Average Runoff Depth = 1.66"
97.60% Pervious = 117.508 ac 2.40% Impervious = 2.890 ac

Summary for Subcatchment 1P: SUB-1

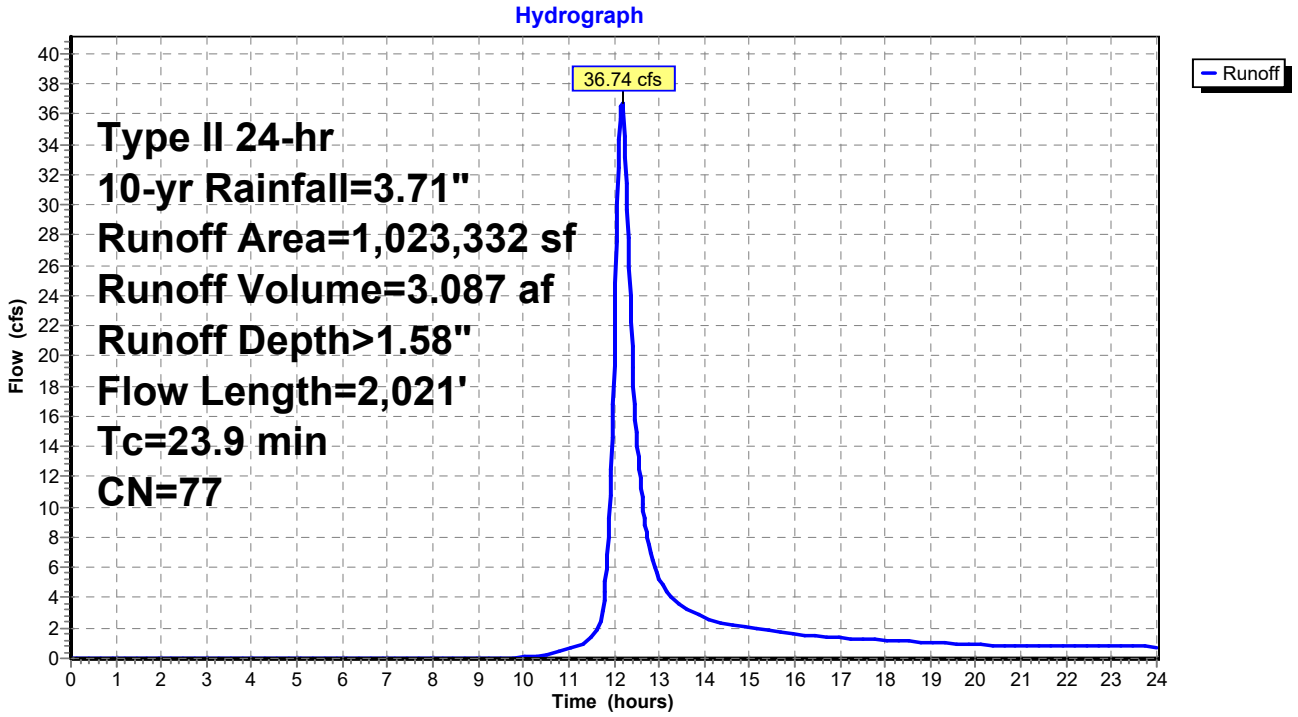
Runoff = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af, Depth> 1.58"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
471,580	78	Meadow, non-grazed, HSG D
125,799	77	Brush, Fair, HSG D
425,953	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1P: SUB-1



Summary for Subcatchment 2P: SUB-2

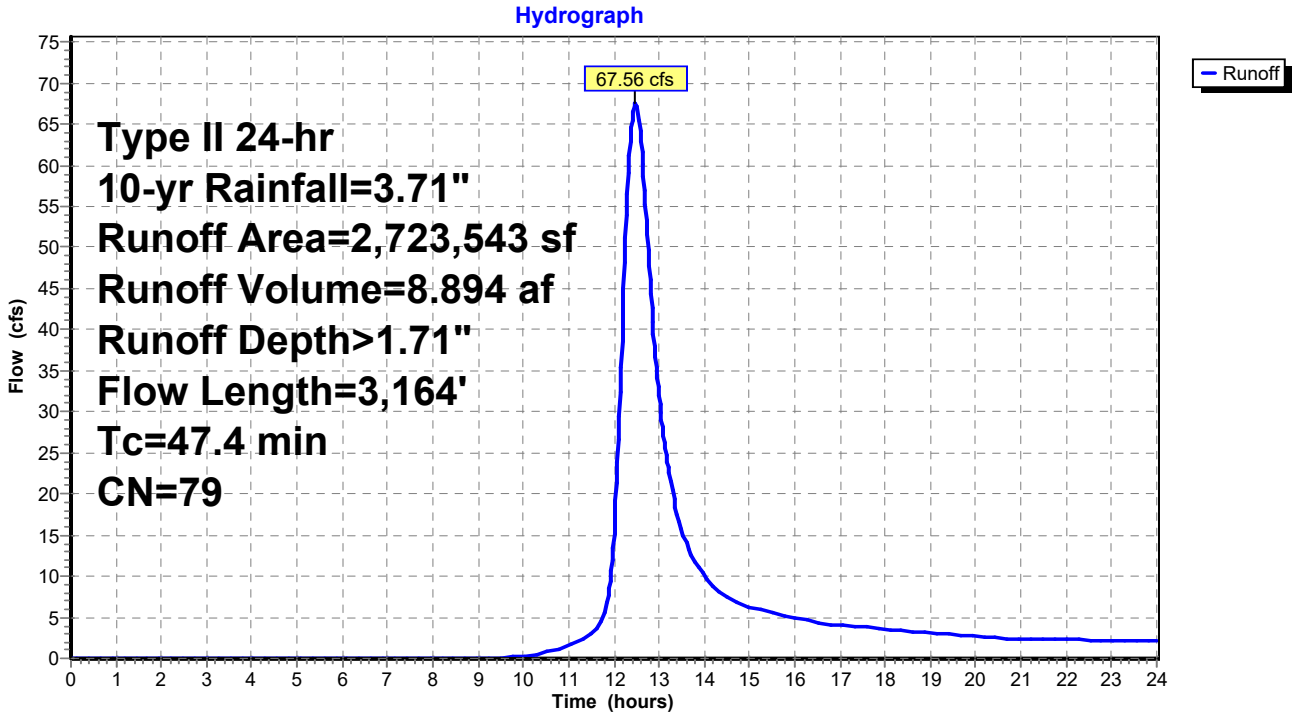
Runoff = 67.56 cfs @ 12.48 hrs, Volume= 8.894 af, Depth> 1.71"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
26,368	98	Paved parking, HSG D
1,796,551	78	Meadow, non-grazed, HSG D
244,151	77	Brush, Fair, HSG D
514,827	77	Woods, Good, HSG D
55,394	98	Water Surface, HSG D
86,252	91	Gravel roads, HSG D
2,723,543	79	Weighted Average
2,641,781		97.00% Pervious Area
81,762		3.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040
47.4	3,164	Total			

Subcatchment 2P: SUB-2



Summary for Subcatchment 3P: SUB-3

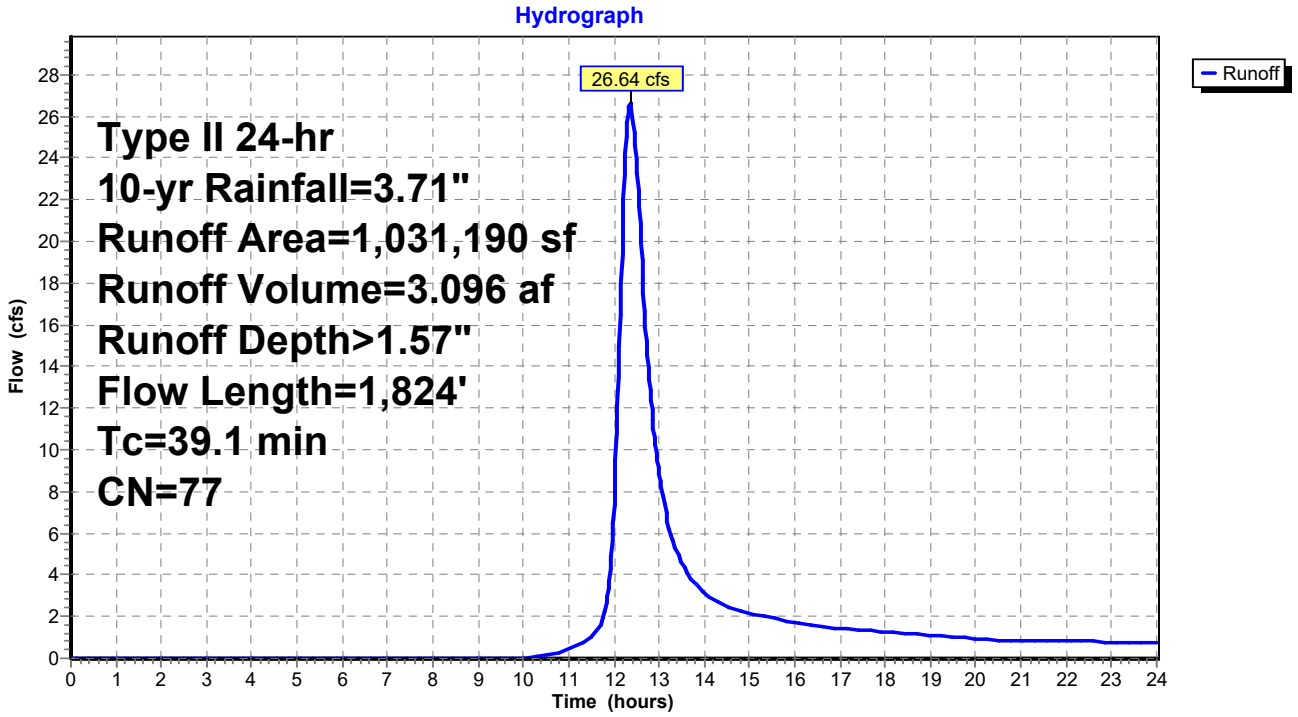
Runoff = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af, Depth> 1.57"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
10,665	98	Paved parking, HSG D
536,739	78	Meadow, non-grazed, HSG D
28,581	77	Brush, Fair, HSG D
15,554	55	Woods, Good, HSG B
439,651	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,525		98.97% Pervious Area
10,665		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3P: SUB-3



Summary for Subcatchment 4P: SUB-4

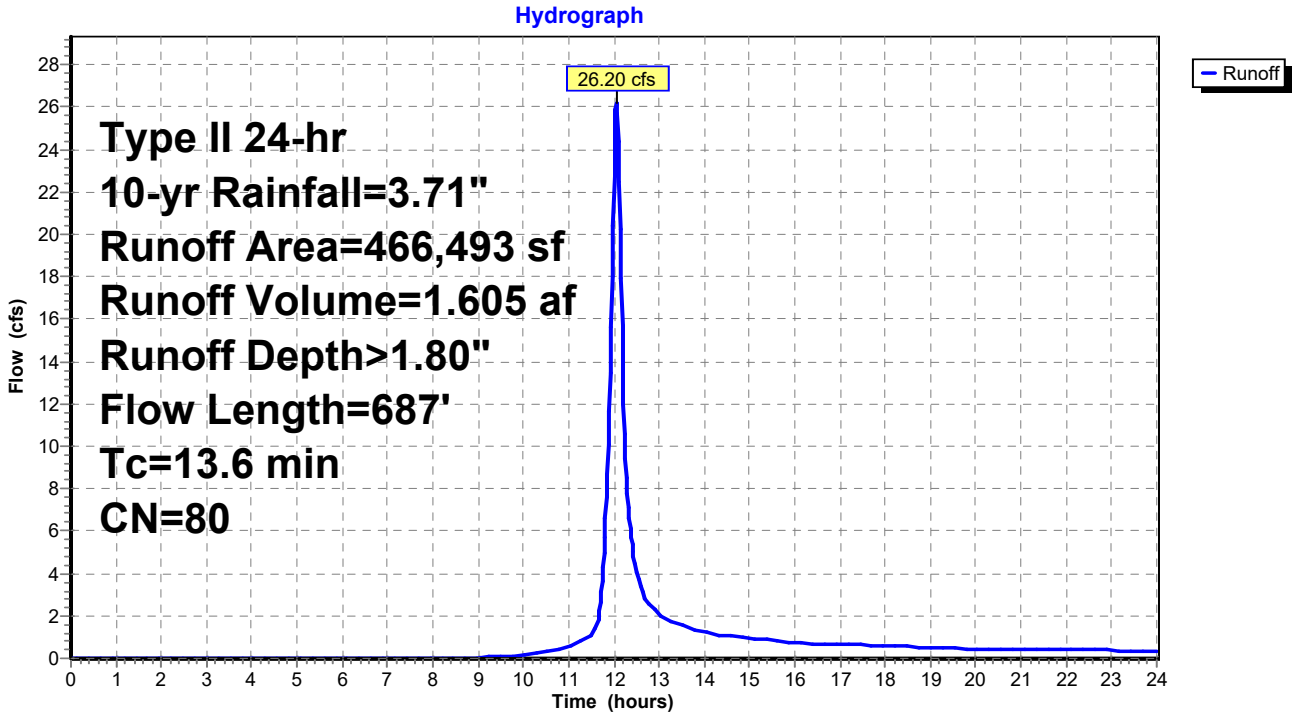
Runoff = 26.20 cfs @ 12.06 hrs, Volume= 1.605 af, Depth> 1.80"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 10-yr Rainfall=3.71"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
313,987	78	Meadow, non-grazed, HSG D
97,812	77	Brush, Fair, HSG D
2,913	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
18,317	91	Gravel roads, HSG D
466,493	80	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4P: SUB-4

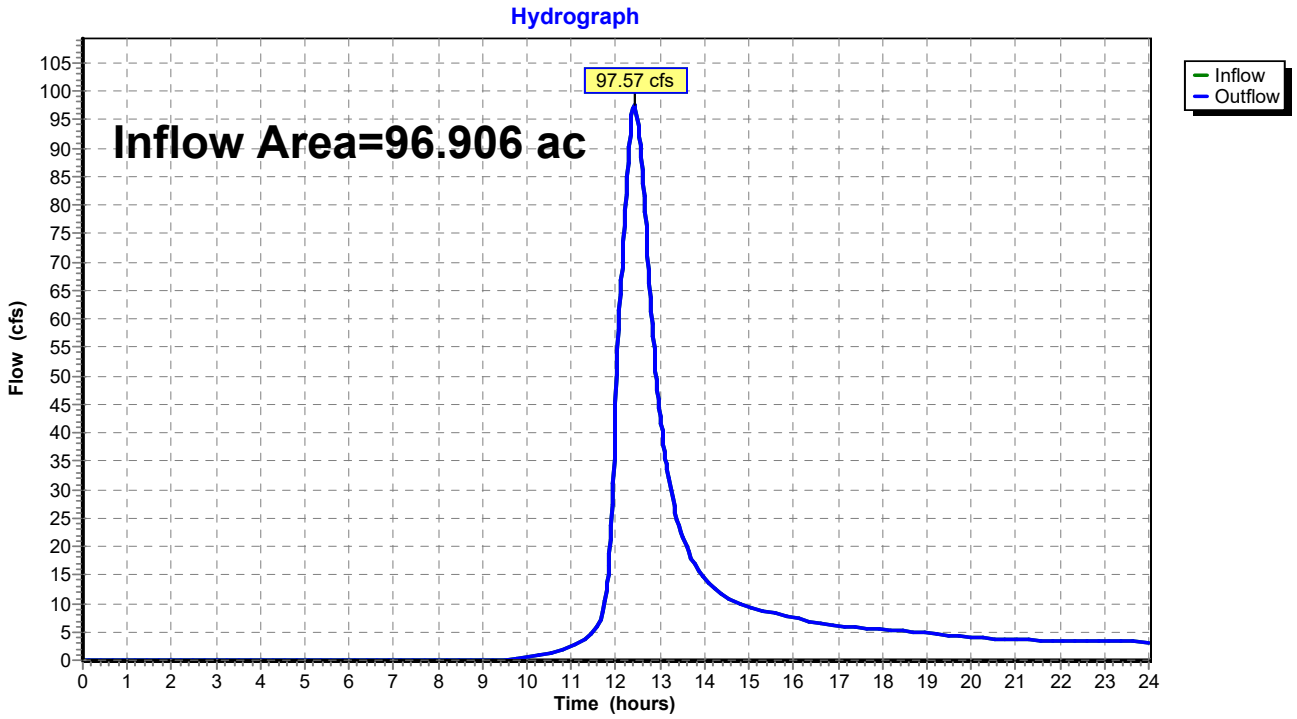


Summary for Reach 1R: DL-2

Inflow Area = 96.906 ac, 2.98% Impervious, Inflow Depth > 1.68" for 10-yr event
Inflow = 97.57 cfs @ 12.43 hrs, Volume= 13.595 af
Outflow = 97.57 cfs @ 12.43 hrs, Volume= 13.595 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach 1R: DL-2

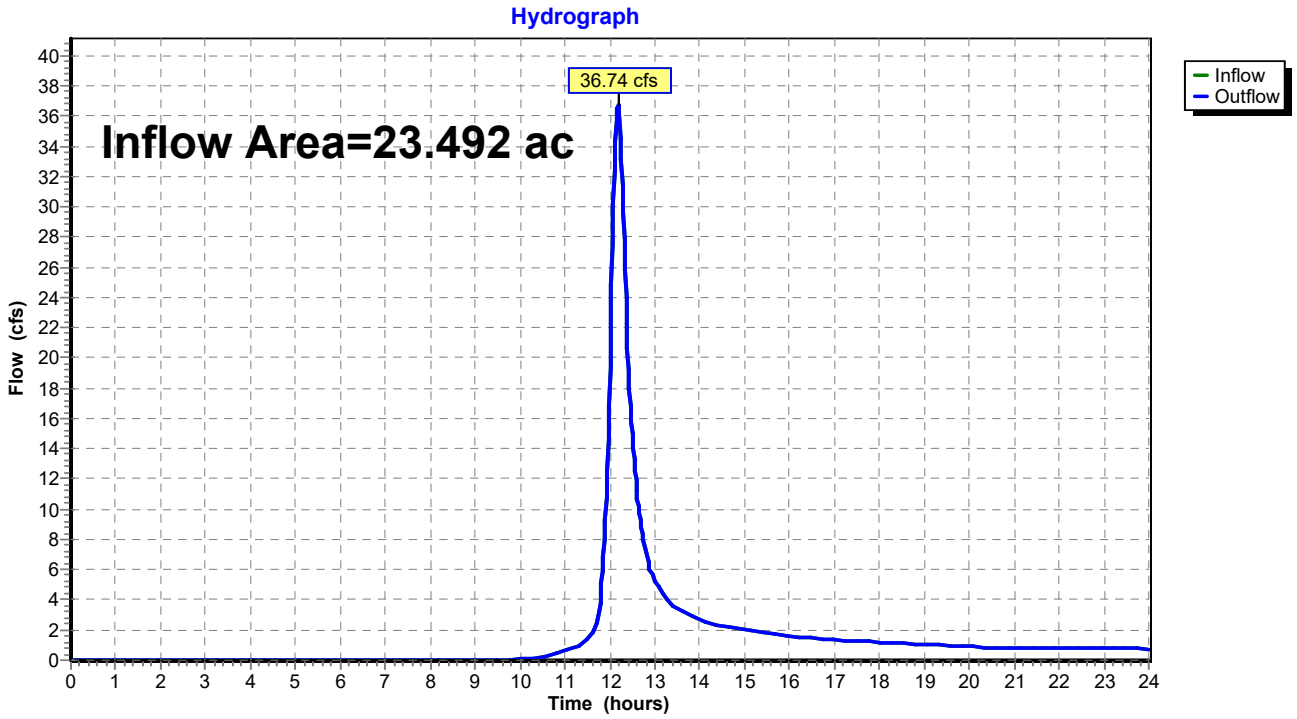


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 1.58" for 10-yr event
Inflow = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af
Outflow = 36.74 cfs @ 12.18 hrs, Volume= 3.087 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

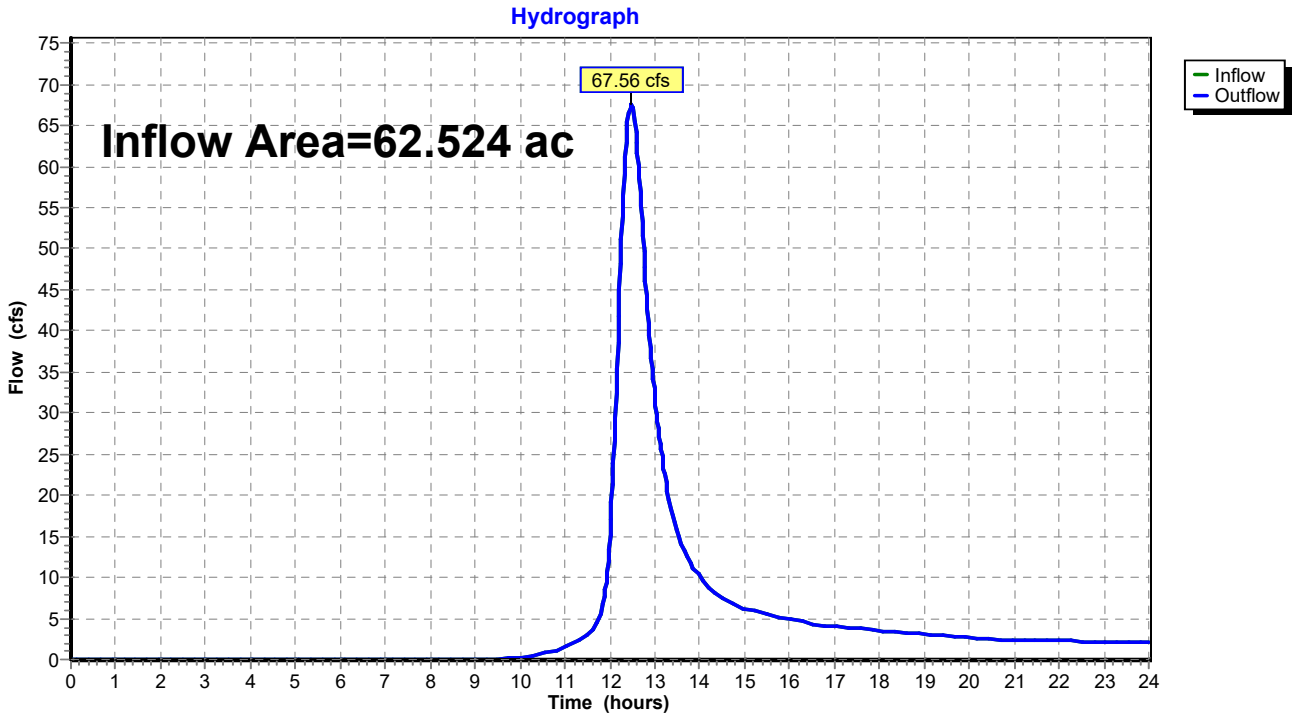


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.00% Impervious, Inflow Depth > 1.71" for 10-yr event
Inflow = 67.56 cfs @ 12.48 hrs, Volume= 8.894 af
Outflow = 67.56 cfs @ 12.48 hrs, Volume= 8.894 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

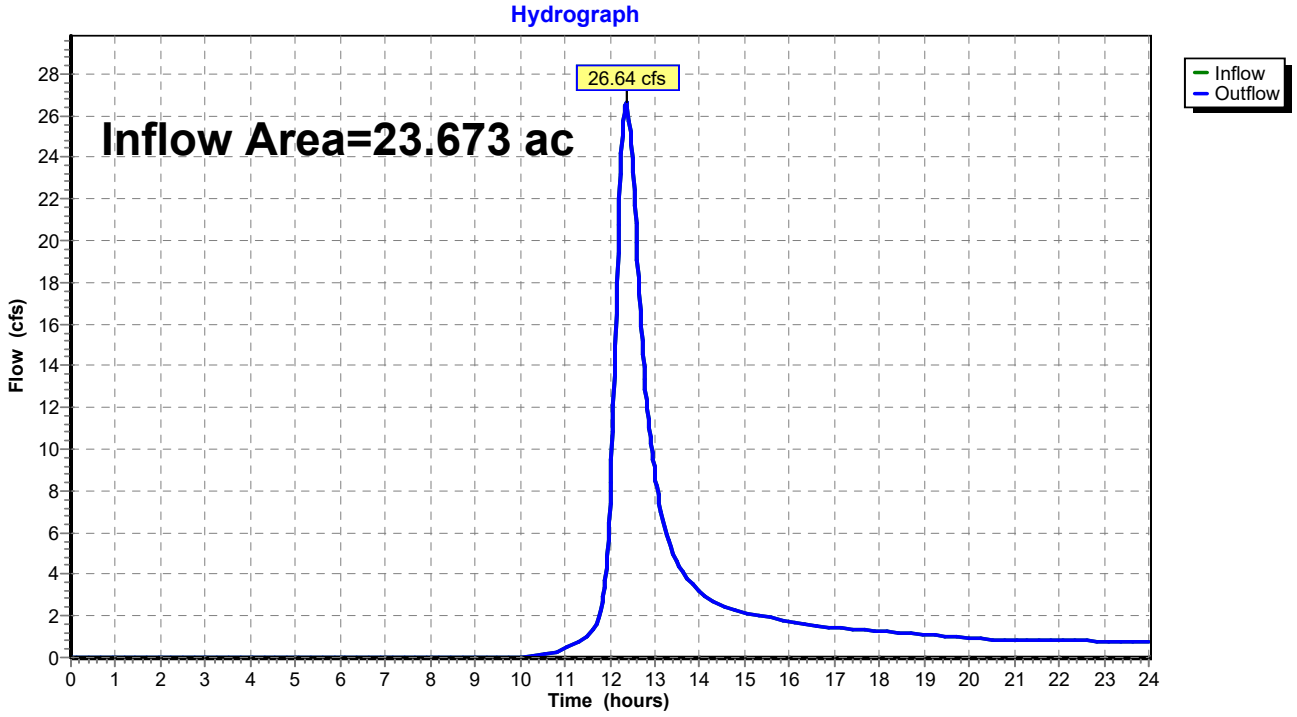


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 1.57" for 10-yr event
Inflow = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af
Outflow = 26.64 cfs @ 12.37 hrs, Volume= 3.096 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

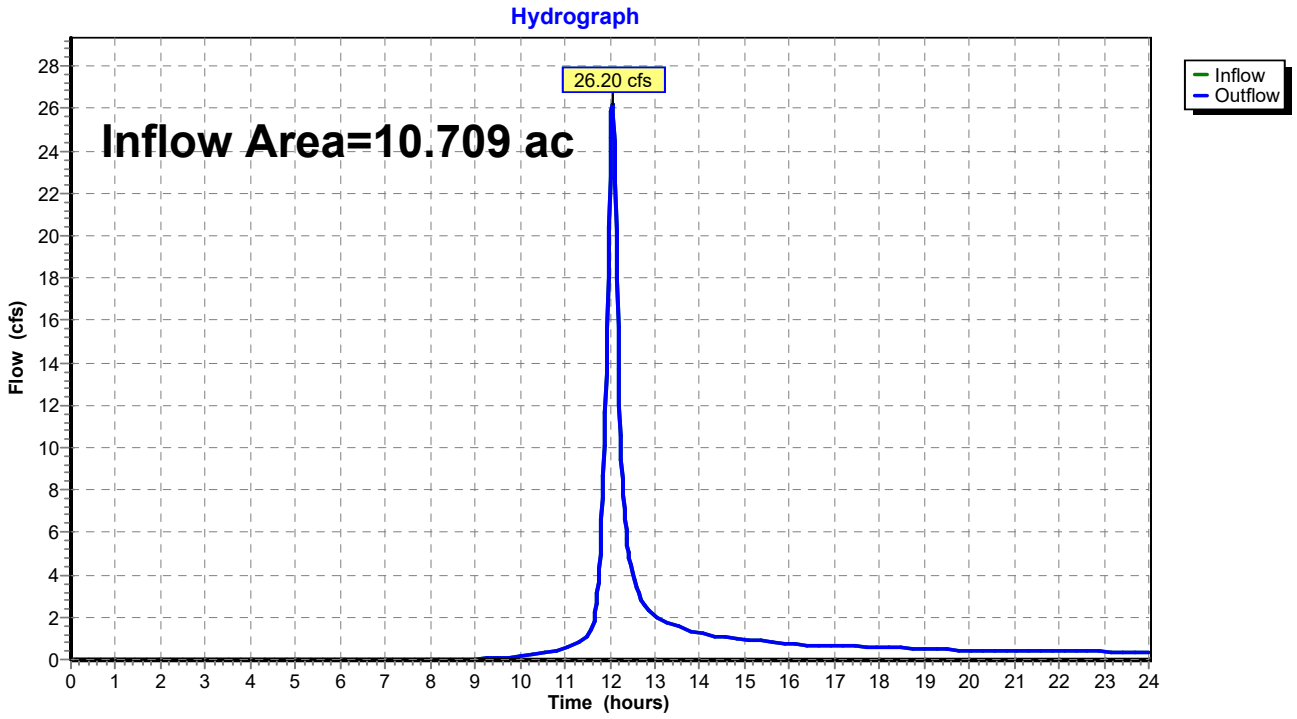


Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 1.80" for 10-yr event
Inflow = 26.20 cfs @ 12.06 hrs, Volume= 1.605 af
Outflow = 26.20 cfs @ 12.06 hrs, Volume= 1.605 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4



Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1P: SUB-1 Runoff Area=1,023,332 sf 0.00% Impervious Runoff Depth>3.68"
Flow Length=2,021' Tc=23.9 min CN=77 Runoff=86.97 cfs 7.197 af

Subcatchment2P: SUB-2 Runoff Area=2,723,543 sf 3.00% Impervious Runoff Depth>3.86"
Flow Length=3,164' Tc=47.4 min CN=79 Runoff=154.93 cfs 20.102 af

Subcatchment3P: SUB-3 Runoff Area=1,031,190 sf 1.03% Impervious Runoff Depth>3.66"
Flow Length=1,824' Tc=39.1 min CN=77 Runoff=63.53 cfs 7.224 af

Subcatchment4P: SUB-4 Runoff Area=466,493 sf 7.17% Impervious Runoff Depth>4.00"
Flow Length=687' Tc=13.6 min CN=80 Runoff=57.60 cfs 3.565 af

Reach 1R: DL-2 Inflow=225.82 cfs 30.891 af
Outflow=225.82 cfs 30.891 af

Reach DL-1: DL-1 Inflow=86.97 cfs 7.197 af
Outflow=86.97 cfs 7.197 af

Reach DL-2: DL-2 Inflow=154.93 cfs 20.102 af
Outflow=154.93 cfs 20.102 af

Reach DL-3: DL-3 Inflow=63.53 cfs 7.224 af
Outflow=63.53 cfs 7.224 af

Reach DL-4: DL-4 Inflow=57.60 cfs 3.565 af
Outflow=57.60 cfs 3.565 af

Total Runoff Area = 120.398 ac Runoff Volume = 38.088 af Average Runoff Depth = 3.80"
97.60% Pervious = 117.508 ac 2.40% Impervious = 2.890 ac

Summary for Subcatchment 1P: SUB-1

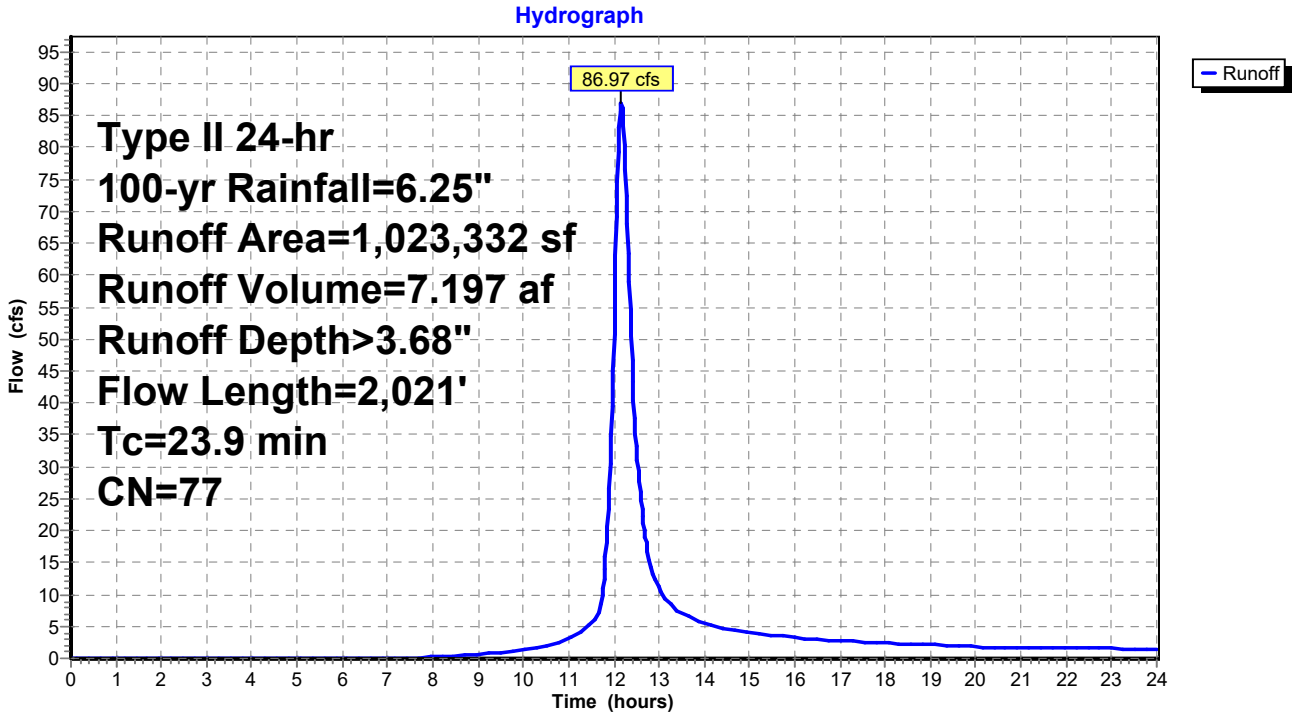
Runoff = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af, Depth> 3.68"
Routed to Reach DL-1 : DL-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
471,580	78	Meadow, non-grazed, HSG D
125,799	77	Brush, Fair, HSG D
425,953	77	Woods, Good, HSG D
1,023,332	77	Weighted Average
1,023,332		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	100	0.0229	0.11		**Sheet Flow, wetland sheet** Grass: Dense n= 0.240 P2= 2.59"
0.4	46	0.0169	1.95		**Shallow Concentrated Flow, wetland shallow** Grassed Waterway Kv= 15.0 fps
0.8	75	0.1016	1.59		**Shallow Concentrated Flow, through woods to stream channel** Woodland Kv= 5.0 fps
7.7	1,800	0.0270	3.91	26.06	**Parabolic Channel, stream channel to PL** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.030 Stream, clean & straight
23.9	2,021	Total			

Subcatchment 1P: SUB-1



Summary for Subcatchment 2P: SUB-2

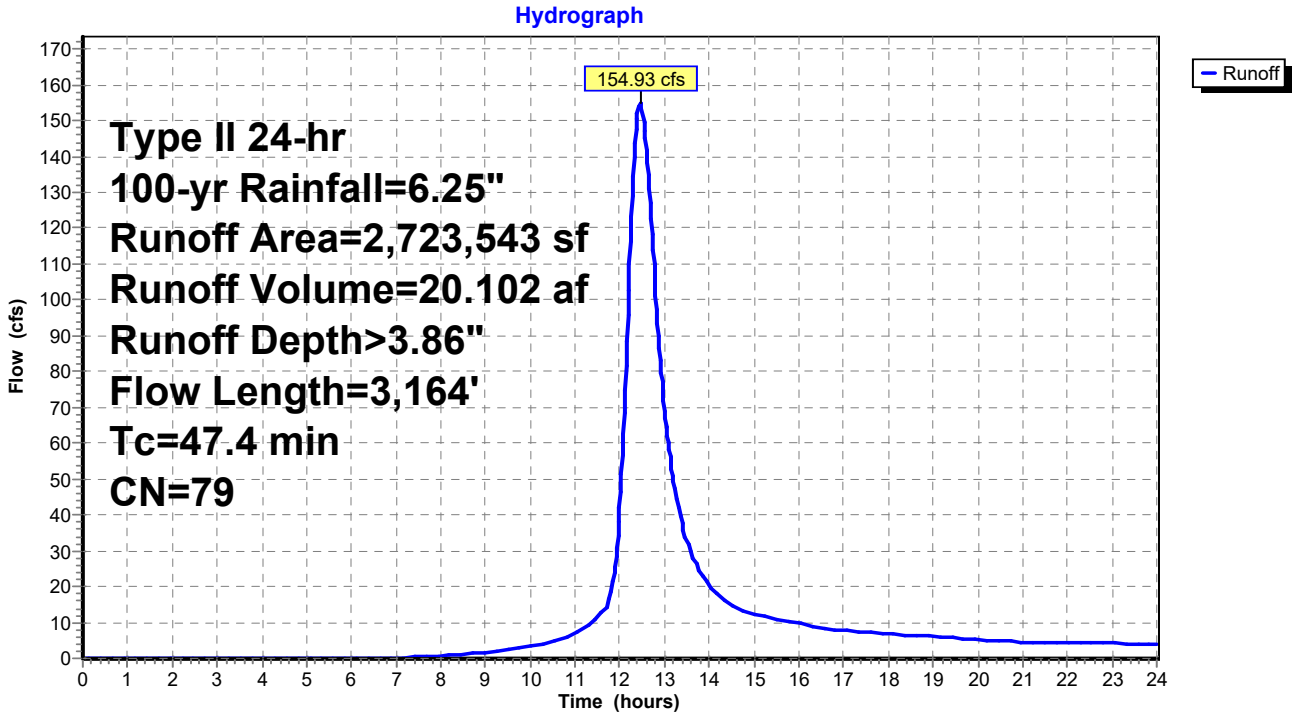
Runoff = 154.93 cfs @ 12.47 hrs, Volume= 20.102 af, Depth> 3.86"
Routed to Reach DL-2 : DL-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
26,368	98	Paved parking, HSG D
1,796,551	78	Meadow, non-grazed, HSG D
244,151	77	Brush, Fair, HSG D
514,827	77	Woods, Good, HSG D
55,394	98	Water Surface, HSG D
86,252	91	Gravel roads, HSG D
2,723,543	79	Weighted Average
2,641,781		97.00% Pervious Area
81,762		3.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0100	0.12		**Sheet Flow, Meadow Sheet** Grass: Short n= 0.150 P2= 2.59"
21.8	1,101	0.0144	0.84		**Shallow Concentrated Flow, Meadow** Short Grass Pasture Kv= 7.0 fps
11.2	1,963	0.0270	2.93	19.54	**Parabolic Channel, Channel thru woods** W=20.00' D=0.50' Area=6.7 sf Perim=20.0' n= 0.040
47.4	3,164	Total			

Subcatchment 2P: SUB-2



Summary for Subcatchment 3P: SUB-3

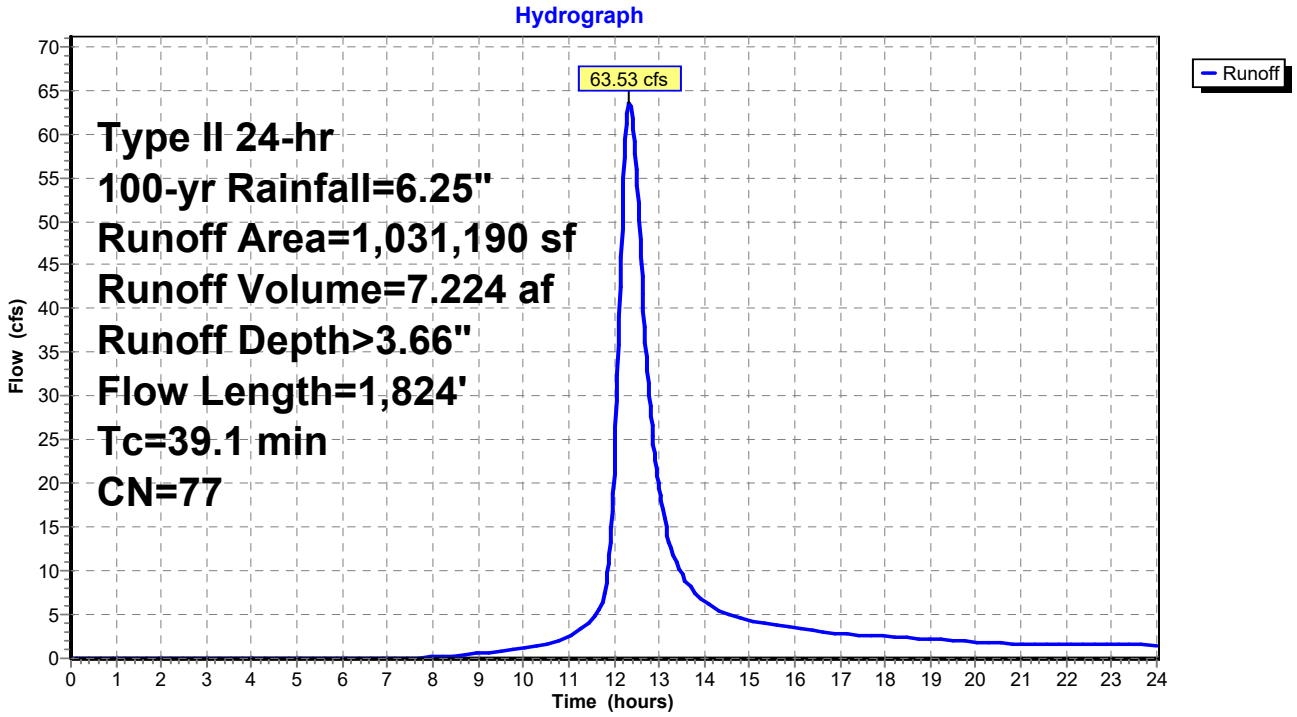
Runoff = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af, Depth> 3.66"
Routed to Reach DL-3 : DL-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
10,665	98	Paved parking, HSG D
536,739	78	Meadow, non-grazed, HSG D
28,581	77	Brush, Fair, HSG D
15,554	55	Woods, Good, HSG B
439,651	77	Woods, Good, HSG D
1,031,190	77	Weighted Average
1,020,525		98.97% Pervious Area
10,665		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	28	0.1700	0.13		**Sheet Flow, through woods** Woods: Light underbrush n= 0.400 P2= 2.59"
16.1	72	0.0100	0.07		**Sheet Flow, through grass** Grass: Dense n= 0.240 P2= 2.59"
14.0	516	0.0077	0.61		**Shallow Concentrated Flow, shallow to wetland** Short Grass Pasture Kv= 7.0 fps
0.3	37	0.0184	2.03		**Shallow Concentrated Flow, through wetland** Grassed Waterway Kv= 15.0 fps
1.7	111	0.0244	1.09		**Shallow Concentrated Flow, grass to stream** Short Grass Pasture Kv= 7.0 fps
3.3	1,060	0.0509	5.37	53.70	**Parabolic Channel, stream to pl** W=30.00' D=0.50' Area=10.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
39.1	1,824	Total			

Subcatchment 3P: SUB-3



Summary for Subcatchment 4P: SUB-4

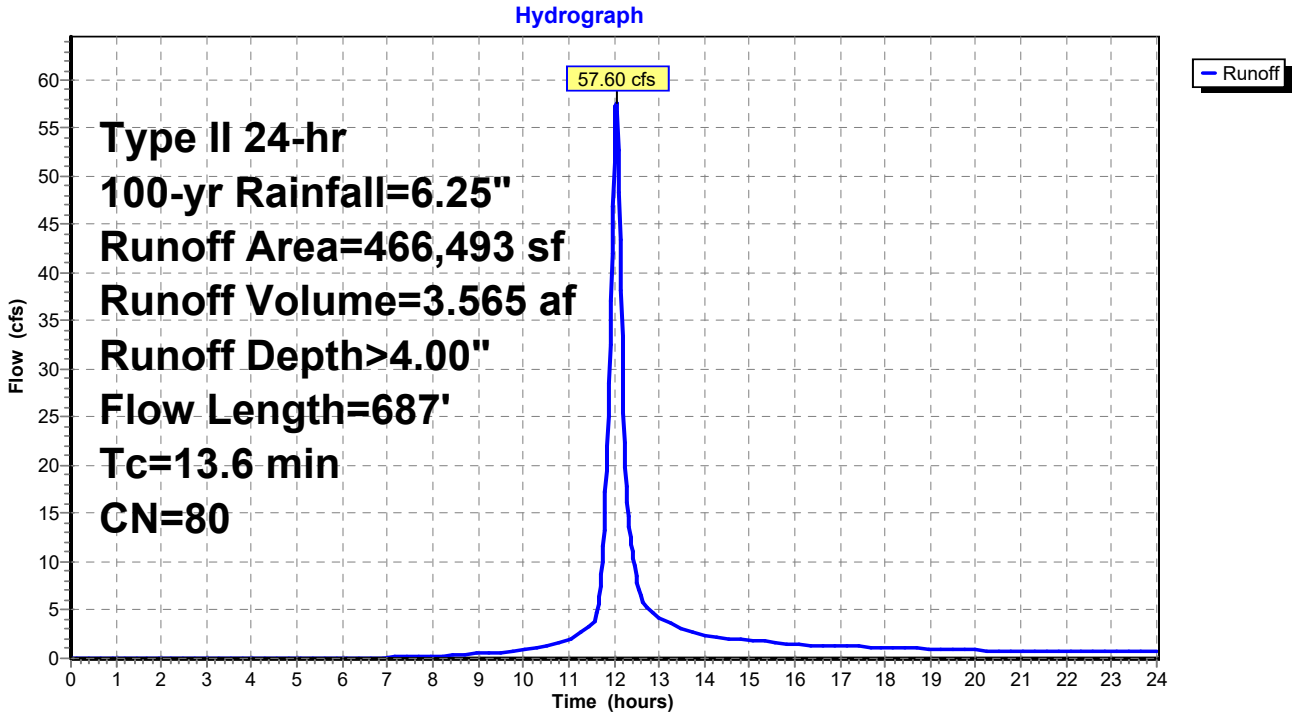
Runoff = 57.60 cfs @ 12.05 hrs, Volume= 3.565 af, Depth> 4.00"
Routed to Reach DL-4 : DL-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type II 24-hr 100-yr Rainfall=6.25"

Area (sf)	CN	Description
10,862	98	Paved parking, HSG D
313,987	78	Meadow, non-grazed, HSG D
97,812	77	Brush, Fair, HSG D
2,913	77	Woods, Good, HSG D
22,602	98	Water Surface, HSG D
18,317	91	Gravel roads, HSG D
466,493	80	Weighted Average
433,029		92.83% Pervious Area
33,464		7.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	100	0.0597	0.16		**Sheet Flow, high point** Grass: Dense n= 0.240 P2= 2.59"
1.9	157	0.0380	1.36		**Shallow Concentrated Flow, shallow through grass to channel** Short Grass Pasture Kv= 7.0 fps
1.5	430	0.0437	4.64	41.75	**Parabolic Channel, Stream to PL** W=30.00' D=0.45' Area=9.0 sf Perim=30.0' n= 0.030 Stream, clean & straight
13.6	687	Total			

Subcatchment 4P: SUB-4

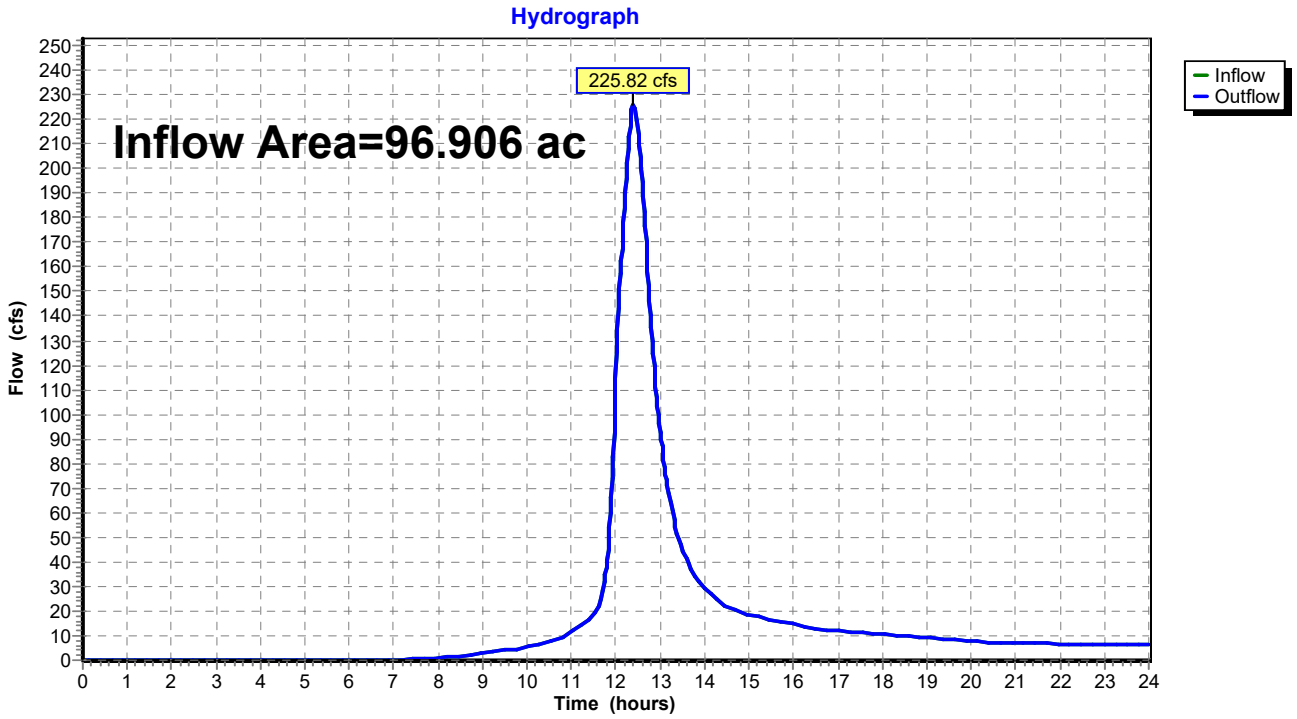


Summary for Reach 1R: DL-2

Inflow Area = 96.906 ac, 2.98% Impervious, Inflow Depth > 3.83" for 100-yr event
Inflow = 225.82 cfs @ 12.40 hrs, Volume= 30.891 af
Outflow = 225.82 cfs @ 12.40 hrs, Volume= 30.891 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach 1R: DL-2

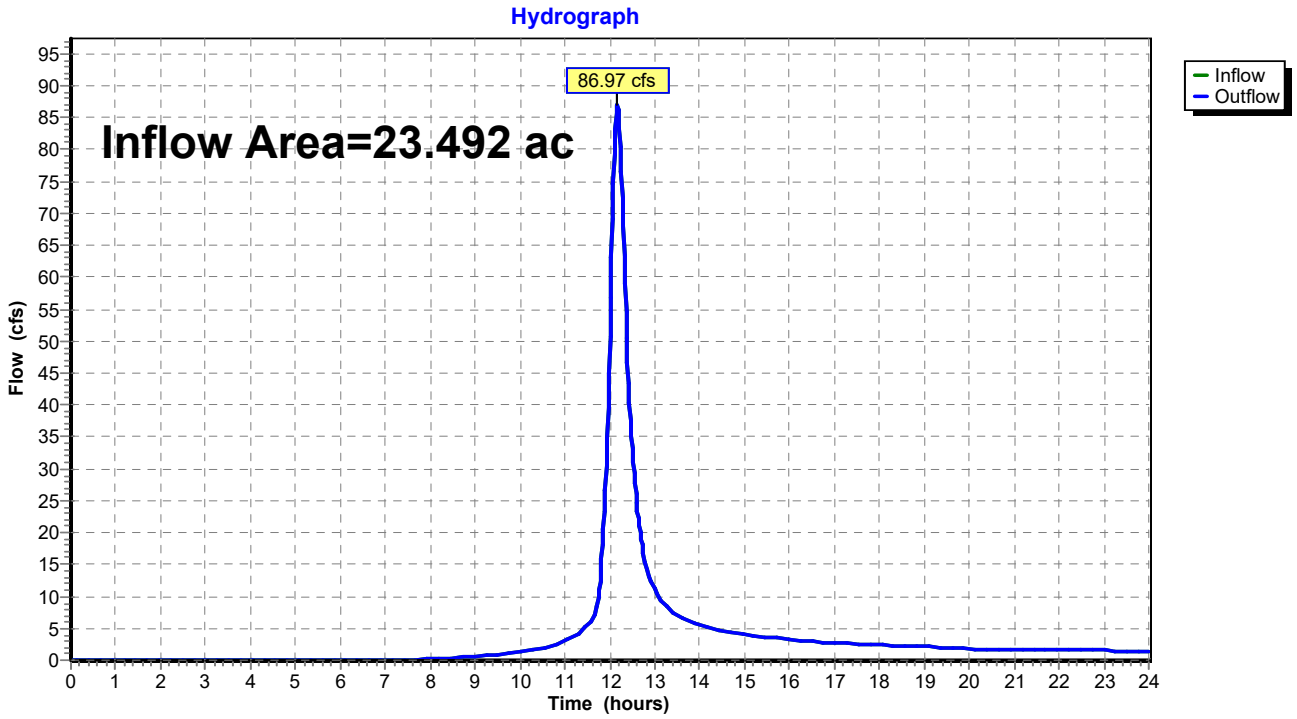


Summary for Reach DL-1: DL-1

Inflow Area = 23.492 ac, 0.00% Impervious, Inflow Depth > 3.68" for 100-yr event
Inflow = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af
Outflow = 86.97 cfs @ 12.17 hrs, Volume= 7.197 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-1: DL-1

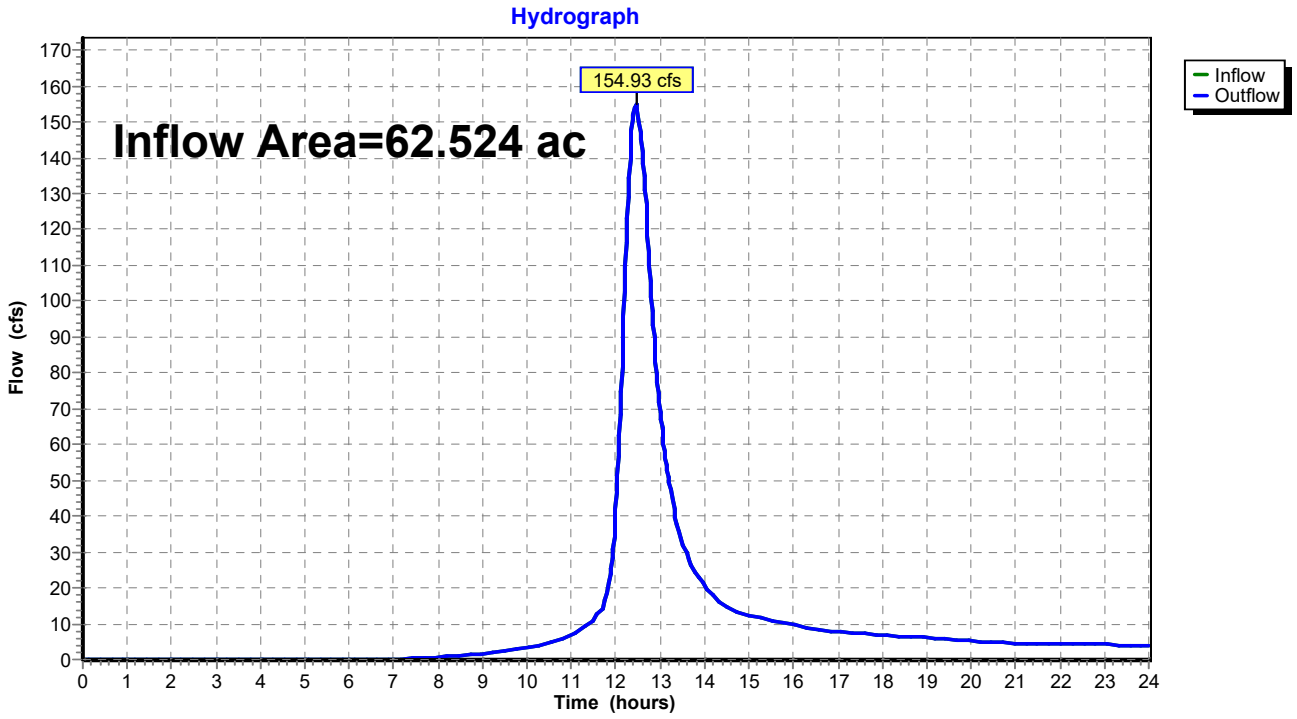


Summary for Reach DL-2: DL-2

Inflow Area = 62.524 ac, 3.00% Impervious, Inflow Depth > 3.86" for 100-yr event
Inflow = 154.93 cfs @ 12.47 hrs, Volume= 20.102 af
Outflow = 154.93 cfs @ 12.47 hrs, Volume= 20.102 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-2: DL-2

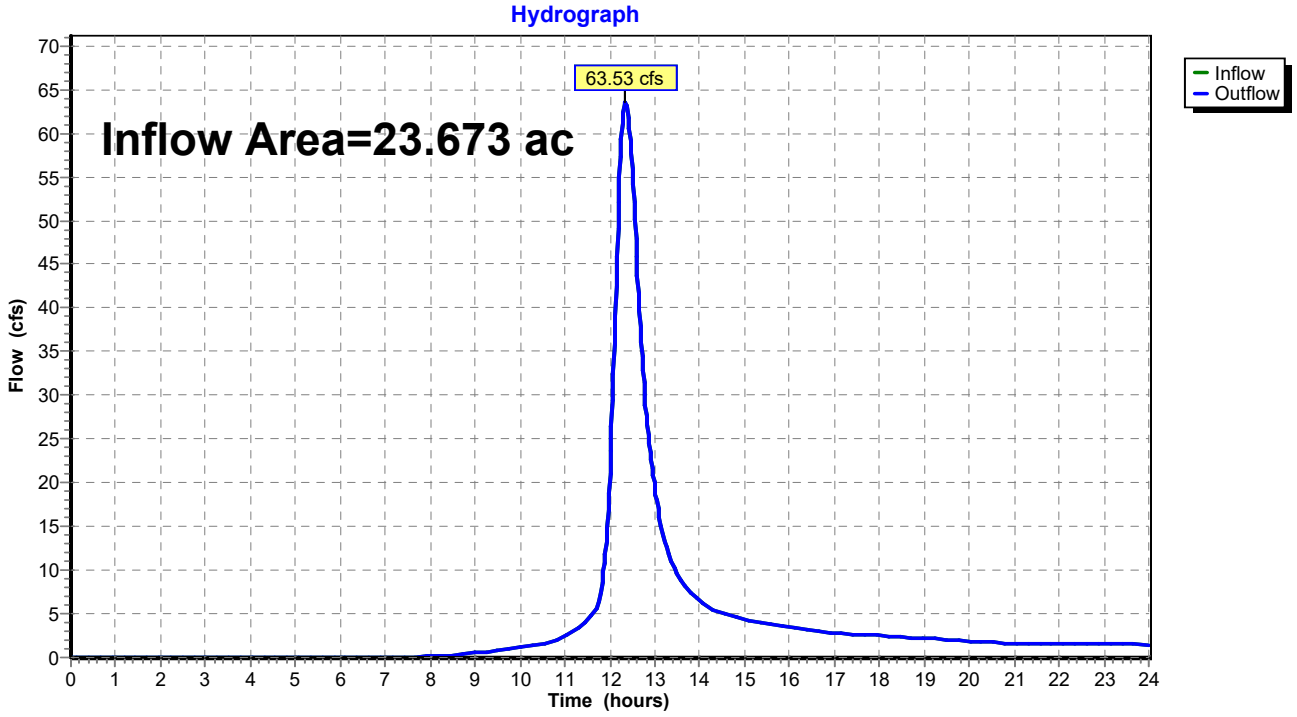


Summary for Reach DL-3: DL-3

Inflow Area = 23.673 ac, 1.03% Impervious, Inflow Depth > 3.66" for 100-yr event
Inflow = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af
Outflow = 63.53 cfs @ 12.35 hrs, Volume= 7.224 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-3: DL-3

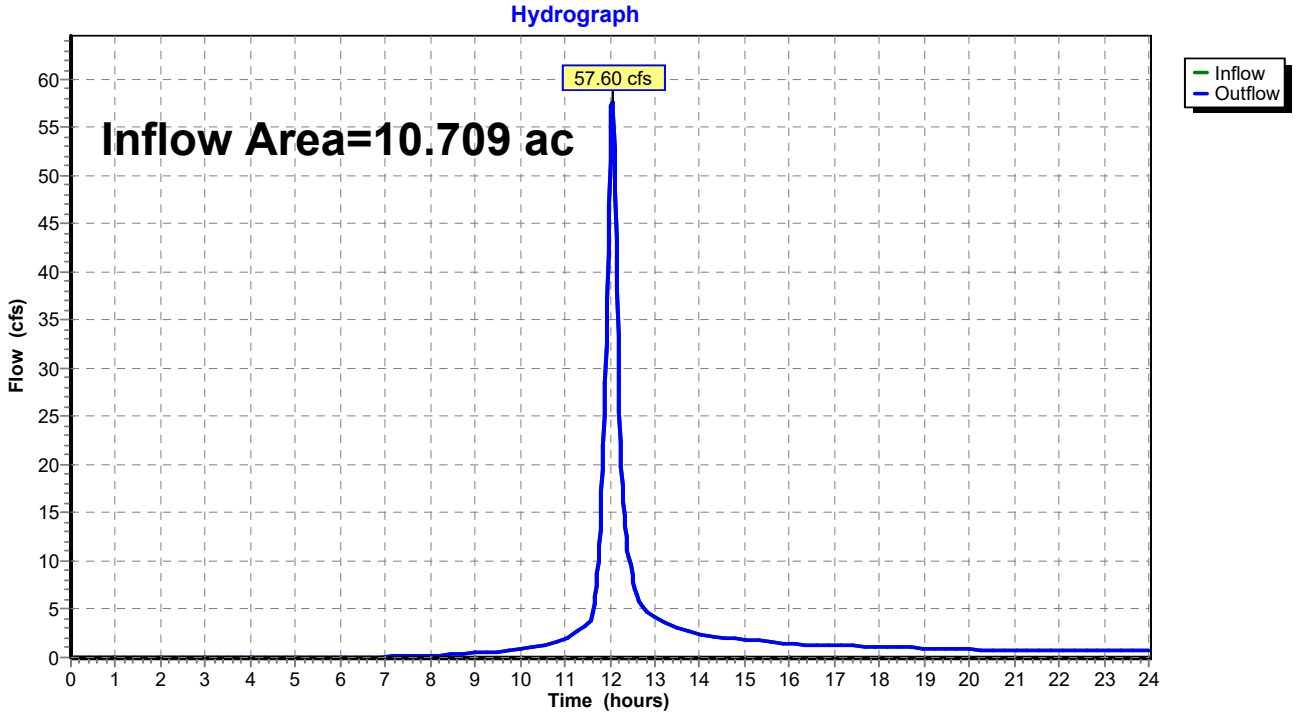


Summary for Reach DL-4: DL-4

Inflow Area = 10.709 ac, 7.17% Impervious, Inflow Depth > 4.00" for 100-yr event
Inflow = 57.60 cfs @ 12.05 hrs, Volume= 3.565 af
Outflow = 57.60 cfs @ 12.05 hrs, Volume= 3.565 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 1R : DL-2

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Reach DL-4: DL-4



APPENDIX G
Construction Sequencing Plan

NONE XREFS



CONSTRUCTION SEQUENCE PLAN:

TOTAL DISTURBANCE = ±47.4 ACRES

PHASE 1: INSTALL EROSION AND SEDIMENT CONTROL MEASURES, CHAINLINK FENCE, CLEAR VEGETATION FOR AND INSTALL THE GRAVEL ACCESS ROAD, INSTALL ELECTRICAL CONDUIT AND CONCRETE EQUIPMENT PADS. TOTAL DISTURBANCE = ±4.8 ACRES

- INSTALL ESC MEASURES, INCLUDING STABILIZED CONSTRUCTION ACCESS, SILT FENCE, COMPOST FILTER SOCK, AND CONCRETE WASHOUT. TIMBER MATTING SHALL BE UTILIZED IN AREAS OF PONDED WATER OR SATURATED AREAS DURING CLEARING OR CONSTRUCTION OF THE ACCESS ROAD.
- INSTALL CHAINLINK FENCE.
- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 1".
- CONSTRUCT THE TEMPORARY GRAVEL ACCESS ROAD IN CONFORMANCE WITH ALL ASSOCIATED DETAILS AND NOTES. INSTALL TEMPORARY GRAVEL ACCESS ROAD AT LOCATION OF PERMANENT GRAVEL ACCESS ROAD.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- FORM AND POUR CONCRETE EQUIPMENT PADS. SET ELECTRICAL EQUIPMENT ONTO CONCRETE PADS.
- INSTALL LANDSCAPING. INSTALLATION MAY BE PERFORMED AT CONTRACTOR'S DISCRETION.

PHASE 2: INSTALL EROSION AND SEDIMENT CONTROL MEASURES, CHAINLINK FENCE, CLEAR VEGETATION FOR AND INSTALL THE GRAVEL ACCESS ROAD, INSTALL ELECTRICAL CONDUIT AND CONCRETE EQUIPMENT PADS. TOTAL DISTURBANCE = ±2.9 ACRES

- INSTALL ESC MEASURES, INCLUDING STABILIZED CONSTRUCTION ACCESS, SILT FENCE, COMPOST FILTER SOCK, AND CONCRETE WASHOUT. TIMBER MATTING SHALL BE UTILIZED IN AREAS OF PONDED WATER OR SATURATED AREAS DURING CLEARING OR CONSTRUCTION OF THE ACCESS ROAD.
- INSTALL CHAINLINK FENCE.
- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 2".
- CONSTRUCT THE TEMPORARY GRAVEL ACCESS ROAD IN CONFORMANCE WITH ALL ASSOCIATED DETAILS AND NOTES. INSTALL TEMPORARY GRAVEL ACCESS ROAD AT LOCATION OF PERMANENT GRAVEL ACCESS ROAD.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- FORM AND POUR CONCRETE EQUIPMENT PADS. SET ELECTRICAL EQUIPMENT ONTO CONCRETE PADS.
- INSTALL LANDSCAPING. INSTALLATION MAY BE PERFORMED AT CONTRACTOR'S DISCRETION.

PHASE 3: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±2.4 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 3".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

PHASE 4: INSTALL RACKING, PANELS, DETENTION BASIN, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±2.8 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 4".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

PHASE 5: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±2.1 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 5".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.

PHASE 6: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±4.0 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 6".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.

PHASE 7: INSTALL RACKING, PANELS, DETENTION BASIN, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±4.3 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 7".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.

PHASE 8: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±5.0 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 8".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

PHASE 9: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±3.5 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 9".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.

PHASE 10: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±3.8 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 10".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.

PHASE 11: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±3.9 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 11".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

PHASE 12: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±3.3 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 12".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

PHASE 13: INSTALL RACKING, PANELS, AND ELECTRICAL CONDUIT. TOTAL DISTURBANCE = ±4.6 ACRES

- CLEAR VEGETATIVE COVER IN THE AREA ILLUSTRATED AS "PHASE 13".
- INSTALL RACKING. RACKING INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL PANELS. PANEL INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.
- INSTALL UNDERGROUND ELECTRICAL CONDUIT.
- INSTALL STONE DIAPHRAGM LEVEL SPREADERS. INSTALLATION MAY BE PERFORMED AT THE CONTRACTOR'S DISCRETION.

NOTES:

- UPON COMPLETION OF PHASES 1-2 CONSTRUCTION ACCESS TO PHASES 3-13 SHALL BE LIMITED TO A SINGLE PATH THROUGH THE OPEN FIELDS ON TRACKED MACHINERY TO THE GREATEST EXTENT PRACTICAL AND SHALL BE COMPLETED IN A MANNER AS TO NOT CREATE DISTURBANCE.
- UPON COMPLETION OF PHASES 3-13 THE TEMPORARY CONSTRUCTION ACCESS ROAD SHALL BE REMOVED AND THE UNDERLYING SOILS RESTORED TO PRECONSTRUCTION COMPACTION LEVELS PER NYSDEC DEEP RIPPING & DECOMPACTION GUIDELINES. UPON COMPLETION THE LIMITED USE PERVIOUS ACCESS ROAD SHALL BE CONSTRUCTED PER THE APPROVED SITE PLAN DETAIL 1 FOUND ON C-502.
- ALL WORK IN ALL PHASES IS TO OCCUR IN INCREMENTS, SO THAT AREAS OF DISTURBANCE DOES NOT EXCEED 5 ACRES AT ANY GIVEN TIME. THE AREA(S) OF WORK IS AT THE CONTRACTOR'S DISCRETION. EACH <5 ACRE AREA OF DISTURBED LAND SHALL BE TEMPORARILY STABILIZED PRIOR TO MOVING ONTO THE NEXT AREA OF DISTURBANCE. TEMPORARY STABILIZATION MAY UTILIZE SEED & STRAW OR WOOD MULCH/CHIPS. THE CONTRACTOR MAY OBTAIN A 5 ACRE WAIVER FROM THE REGIONAL DEC OFFICE IF DESIRED.
- ALL WORK, IN ALL PHASES, PERFORMED WITHIN DELINEATED WETLANDS, WATERCOURSES, PONDED AND/OR SATURATED AREAS SHALL UTILIZE TIMBER MATTING.

LEGEND:

- PHASE 1 = ±4.8 ACRES
- PHASE 2 = ±2.9 ACRES
- PHASE 3 = ±2.4 ACRES
- PHASE 4 = ±2.8 ACRES
- PHASE 5 = ±2.1 ACRES
- PHASE 6 = ±4.0 ACRES
- PHASE 7 = ±4.3 ACRES
- PHASE 8 = ±5.0 ACRES
- PHASE 9 = ±3.5 ACRES
- PHASE 10 = ±3.8 ACRES
- PHASE 11 = ±3.9 ACRES
- PHASE 12 = ±3.3 ACRES
- PHASE 13 = ±4.6 ACRES

BAR SCALE
200 0 100 200 400
1 inch = 200 ft.

CAD DWG. FILE NAME: FILENAME

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY • JOHNSTOWN, NY • POUGHKEEPSIE, NY • SYRACUSE, NY
www.ctmale.com

CONSTRUCTION SEQUENCING PLAN

MOREAU COMMUNITY SOLAR

PROJ. NO.: 24.5097	DRAFTED: WSG	SCALE: AS SHOWN	DATE: JAN. 2025	TOWN OF MOREAU	SARATOGA COUNTY, NEW YORK

APPENDIX H

Erosion and Sediment Control Plan and Details

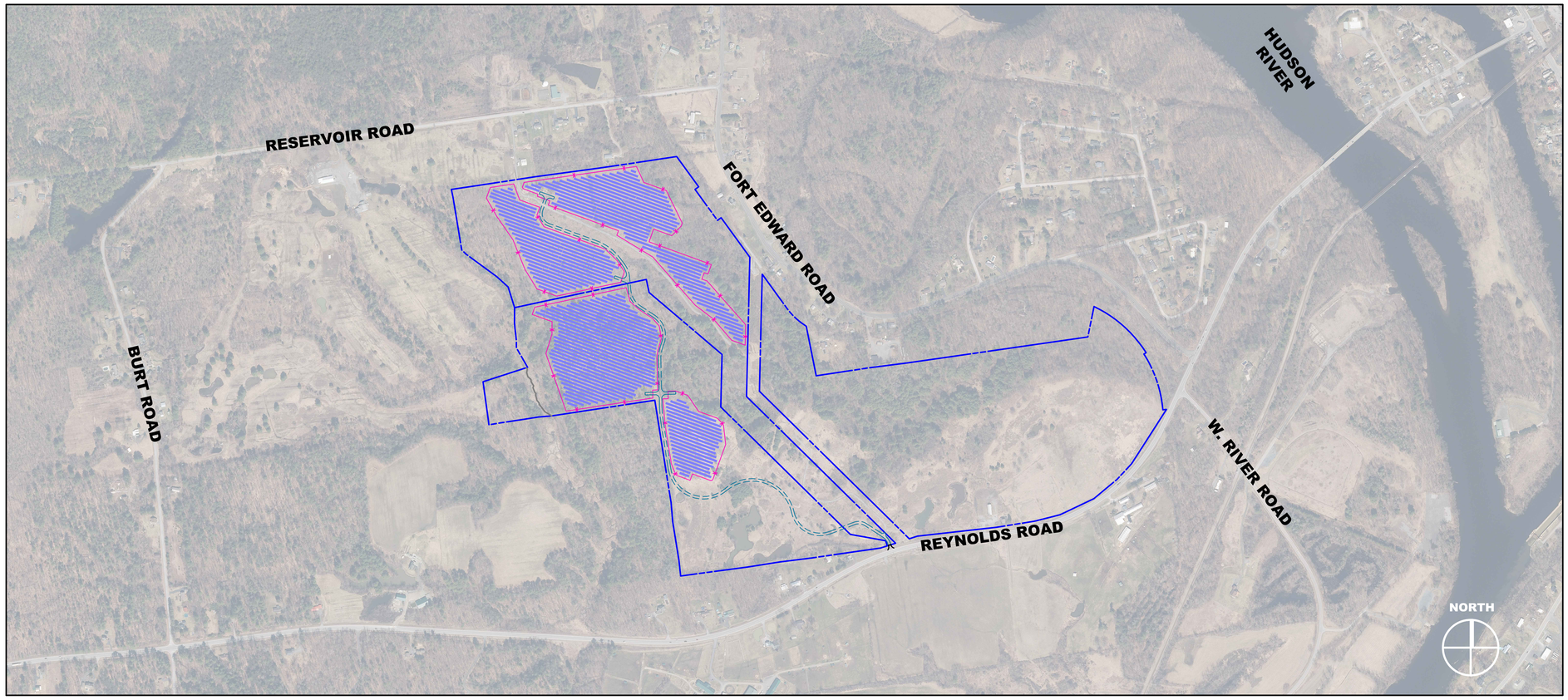
PROJECT NUMBER: 24.5097

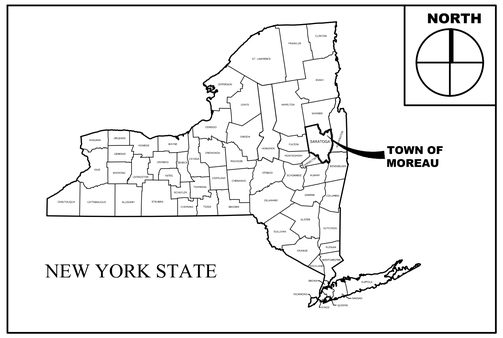
MOREAU COMMUNITY SOLAR PROJECT

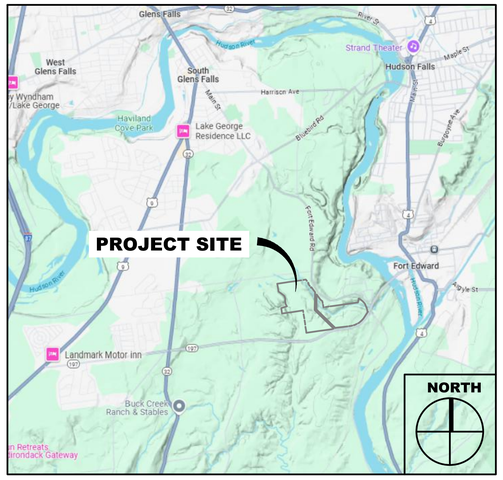
65 REYNOLDS ROAD

FEB. 04, 2025

US LIGHT ENERGY







SITE LOCATION MAP

Drawing List

Sheet ID	Sheet Title	Sheet Number
G-001	COVER PAGE	01
C-101	OVERALL EXISTING CONDITIONS PLAN	02
C-102	OVERALL SITE LAYOUT PLAN	03
C-103	SOLAR ARRAY - AREA 1	04
C-104	SOLAR ARRAY - AREA 2	05
C-105	SOLAR ARRAY - AREA 3	06
C-106	SOLAR ARRAY - AREA 4	07
C-107	CLEARING & LANDSCAPING PLAN	08
C-108	UTILITY POLE & ENTRANCE PLAN	09
C-109	NYSDOT MINOR COMMERCIAL ENTRANCE PLAN	10
C-110	EXISTING SLOPES	11
C-111	PROPOSED SLOPES	12
C-501	SITE DETAILS	13
C-502	SITE DETAILS	14
C-503	EROSION & SEDIMENT CONTROL DETAILS	15
C-701	TRAFFIC AND MAINTENANCE CONTROL DETAILS	16
C-702	TRAFFIC AND MAINTENANCE CONTROL DETAILS	17
C-703	TRAFFIC AND MAINTENANCE CONTROL DETAILS	18

©2025

C.T. MALE ASSOCIATES

WARNING: IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ARCHITECT IS ALTERED, THE ALTERING ARCHITECT SHALL AFFIX TO HIS ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. ARCHITECTURE
- COMMISSIONER'S REGULATIONS PART 69.5.

WARNING: IT IS A VIOLATION OF THIS LAW FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION. PROFESSIONAL ENGINEERING AND LAND SURVEYING - ART. 145, SECTION. 7209

C.T. MALE ASSOCIATES

Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.

50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400

GLENS FALLS, NY ▪ JOHNSTOWN, NY ▪ POUGHKEEPSIE, NY ▪ SYRACUSE, NY

www.ctmale.com

PROJECT NO. 24.5097
DRAWING NO. 24-0607

G-001

SHEET 01 OF 18

CAD DWG. FILE NAME: K:\Projects\24\5097\Civil\Drawings & Maps\G-001.dwg

PROJECT NUMBER: 24.5097

PROJECT SUMMARY		
	NY USLE MOREAU REYNOLDS A LLC	NY USLE MOREAU REYNOLDS B LLC
NAME PLATE RATING	7.74 MW DC / 5.0MW AC MAX	8.25 MW DC / 5.0MW AC MAX
UTILITY TERRITORY	NATIONAL GRID	NATIONAL GRID
UTILITY LOAD ZONE	F	F
SUBSTATION	BUTLER	BUTLER
CIRCUIT	36_39_36253	36_39_36253
PV MODULES	(16,830) CANADIAN SOLAR CS460	(17,952) CANADIAN SOLAR CS460
INVERTERS	(40) SMA SHP125-US	(40) SMA SHP125-US

SITE PLAN METRICS			
	NY USLE MOREAU REYNOLDS A LLC.	NY USLE MOREAU REYNOLDS B LLC.	TOTAL
ZONING DISTRICT:	(R-3) AGRICULTURAL AND ONE-FAMILY RESIDENTIAL	(R-3) AGRICULTURAL AND ONE-FAMILY RESIDENTIAL	N/A
TAX MAP I.D.:	64.-2-80.12	64.-2-80.11	N/A
TOTAL PARCEL SIZE:	62± AC	58.4± AC	120.4± AC
PROPOSED FENCE LINE:	5,450 LF, 21.3± AC (34.4% OF PARCEL)	8,620± LF, 23.5± AC (40.2% OF PARCEL)	1,470± LF, 44.8± AC
PROPOSED ARRAY ENVELOPE:	18.7± AC (30.1% OF PARCEL)	19.6± AC (33.5% OF PARCEL)	38.3± AC
PROPOSED LOT COVERAGE BY SOLAR PANELS:	8.3± AC (13.4% OF PARCEL)	8.9± AC (15.2% OF PARCEL)	17.2± AC
PROPOSED AREA OF DISTURBANCE:	27.6± AC	24.3± AC	51.9± AC
PROPOSED STONE ACCESS ROAD:	3,550± LF, 71,316± SQ. FT.	1,815± LF, 36,400± SQ. FT.	5,365± LF, 107,720± SQ. FT.
SELECTIVE CLEARING FOR SHADING:	1.8± AC	3.0± AC	4.8± AC
CLEARING WITH STUMP REMOVAL FOR INSTALLATION:	17.9± AC	2.2± AC	20.1± AC
PROPOSED COMPOST FILTER SOCK:	6,020± LF	4,870± LF	10,890± LF
PROPOSED CONCRETE EQUIPMENT PAD:	2,400± SF	2,000± SF	4,400± SF
NUMBER OF PROPOSED UTILITY POLES:	8	8	16
PROPOSED CONDUIT TRENCH:	2,740± LF	4,655± LF	7,395± LF

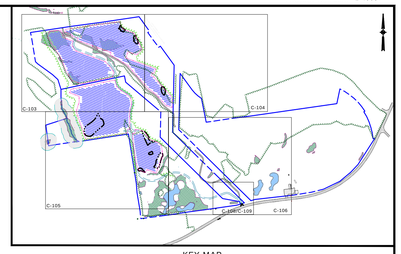
ZONING ANALYSIS:

METRIC	SOLAR LAW	NY USLE MOREAU REYNOLDS A LLC	NY USLE MOREAU REYNOLDS B LLC
MAX. SOLAR PANEL HEIGHT (NOTE 1)	20 FT.	20 FT. MAX.	20 FT. MAX.
MIN. FENCE HEIGHT	6 FT.	8 FT.	8 FT.
MIN. FRONT SETBACK (NOTE 2)	50 FT.	732 ± FT.	1,982± FT.
MIN. SIDE SETBACK (NOTE 2)	40 FT.	40 FT.	40 FT.
MIN. REAR SETBACK (NOTE 2)	50 FT	50 FT.	50 FT.
MAX SOLAR USE LOT COVERAGE (NOTE 3)	60%	± 13.4%	± 15.2%

NOTE 1: AS MEASURED TO THE HIGHEST POINT OF THE PANEL AT MAXIMUM TILT.

NOTE 2: AS MEASURED FROM THE EDGE OF THE SOLAR PANELS.

NOTE 3: MEASURED AS THE SQUARE FOOTAGE OF THE PANELS AND MECHANICAL EQUIPMENT (CONCRETE PADS) EXCLUSIVE OF FENCING AND ROADWAYS.



KEY MAP
SCALE: 1"=1000'

NOTE:

1. DIG SAFELY NEW YORK (PHONE 800-962-7962 / PHONE 811 / WWW.UDIG.ORG) SHALL BE NOTIFIED PRIOR TO BE CONDUCTING ANY TEST BORINGS, EXCAVATION OR CONSTRUCTION. UTILITY MARK-OUTS SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. SITE REGRADING OUTSIDE OF PROPOSED GRADING AREAS AND ACCESS ROAD SHALL BE LIMITED TO THE RESTORATION OF DISTURBED AREAS CREATED DURING THE INSTALLATION OF THE SOLAR ENERGY SYSTEM COMPONENTS AND PERVIOUS STONE ACCESS ROAD. PER THE NEW YORK STATE DEPARTMENT OF AGRICULTURE AND MARKETS ALL DISPLACED TOPSOIL OBTAINED DURING CONSTRUCTION SHALL BE STOCKPILED IN THE DESIGNATED STOCKPILE AREA. STOCKPILED TOPSOIL SHALL BE USED IN THE RESTORATION OF DISTURBED AREAS AND ANY REMAINING TOPSOIL SHALL BE EVENLY SPREAD WITHIN THE PROJECT DISTURBANCE LIMITS. THE DISBURSEMENT OF THE TOPSOIL SHALL BE COMPLETED AT THE CONTRACTOR'S DISCRETION AND SHALL NOT ALTER THE SLOPE OF HYDROLOGY OF THE AREA.

NEW YORK STATE DEPARTMENT OF AGRICULTURE AND MARKETS (NYSDAM):

1. ALL SITE WORK SHALL CONFORM TO THE NYSDAM GUIDELINE FOR SOLAR ENERGY PROJECTS- CONSTRUCTION MITIGATION FOR AGRICULTURAL LANDS (REVISIONS 10/18/2019).
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO THE COMMENCEMENT OF CONSTRUCTIONALL SITE WORK SHALL BE COMPLETED IN CONFORMANCE WITH ALL APPLICABLE NYSDAM GUIDELINES INCLUDING BUT NOT LIMITED TO:
   - 2.1. TOPSOIL SAMPLING, STOCKPILING, SPREADING, SEEDING, AND SITE RESTORATION IS TO BE PERFORMED IN ACCORDANCE WITH THE NYS DEPARTMENT OF AGRICULTURE & MARKETS GUIDELINES FOR SOLAR ENERGY PROJECTS CONSTRUCTION MITIGATION. REVISED 10/18/2019.
   - 2.2. THE CONTRACTOR SHALL NOTIFY DIG SAFELY NEW YORK (UDIG NY OR CALL 811) PRIOR TO CONSTRUCTION.
   - 2.3. THERE SHALL BE A DESIGNATED ENVIRONMENTAL MONITOR ON SITE WHENEVER CONSTRUCTION OR RESTORATION WORK IS OCCURRING ON AGRICULTURE LAND. COORDINATION WITH THE NYSDAM, DIVISION OF LAND AND WATER RESOURCES, IS REQUIRED TO DEVELOP A SCHEDULE FOR INSPECTIONS AND ENSURE COMPLIANCE WITH THE DEPARTMENT'S CURRENT GUIDELINES.

WETLAND NOTES:

1. WETLAND/WATERCOURSE DELINEATION WAS COMPLETED BY C. T. MALE ASSOCIATES IN SEPTEMBER 2024 IN ACCORDANCE WITH THE 1987 U.S. ARMY CORPS OF ENGINEERS (CORPS) WETLAND DELINEATION MANUAL AND THE NORTHCENTRAL AND NORTHEAST REGIONAL SUPPLEMENT, AS WELL AS THE NYSDEC FRESHWATER WETLAND DELINEATION MANUAL DATED JULY 1995. LABELED FLAGGING WAS SET IN THE FIELD AND LOCATED WITH A TRIMBLE GEO7X GPS UNIT.
2. PRIOR TO CONSTRUCTION ALL WETLANDS SHALL BE STAKED OUT AND OR REFLAGGED THEN ORANGE CONSTRUCTION FENCING WITH POSTED SIGNAGE "WETLANDS KEEP OUT" EVERY 200' SHALL BE INSTALLED AS DEPICTED. SECTIONS OF THE ORANGE CONSTRUCTION FENCING MAY BE TEMPORARILY REMOVED TO ALLOW FOR THE INSTALLATION OF PERIMETER FENCING, LANDSCAPING, SOLAR ARRAY COMPONENTS, AND TREE CLEARING/BRUSH REMOVAL AS SHOWN BUT SHALL BE REPLACED UPON COMPLETION OF THESE TASKS. THE CONTRACTOR SHALL MAINTAIN THE ORANGE CONSTRUCTION FENCING FOR THE DURATION OF CONSTRUCTION.
3. TIMBER MATTING SHALL BE UTILIZED IN AREAS OF PONDED WATER OR SATURATED AREAS WITHIN THE WETLAND DURING CONSTRUCTION TO LIMIT TEMPORARY DISTURBANCE OF THE WETLAND. ONCE CONSTRUCTION ACTIVITIES ARE COMPLETED TIMBER MATTING SHALL BE REMOVED FROM THE WETLANDS.
4. TREE CLEARING WITHIN THE LIMITS OF THE WETLANDS SHALL BE COMPLETED WITHOUT THE USE OF MECHANIZED EQUIPMENT. CUTTING SHALL BE AT OR ABOVE GRADE WITHOUT THE REMOVAL OF STUMPS. ALL "EXCESS" VEGETATION WILL BE REMOVED FROM THE WETLAND AREAS. NO MORE THAN A THIN LAYER OF MULCH WILL BE SPREAD OVER THE PRESERVED WETLAND SOIL.
5. NO FILL MATERIAL SHALL BE DISCHARGED TO THE WETLANDS.

RESERVOIR ROAD
FORT EDWARD ROAD
COUNTY ROUTE NO. 28 AKA FORT EDWARD ROAD
COUNTY ROUTE NO. 29 AKA WEST RIVER ROAD
REYNOLDS CORNERS - FORT EDWARD S.H. NO. 1748
NEW YORK STATE ROUTE 197
(VARIABLE WIDTH RIGHT OF WAY)

WILLOW HEDGE (TYP) 3/C-107
LIMITS OF CLEARING (TYP)
LIMITS OF DISTURBANCE (TYP): ±51.9 ACRES
ORANGE CONSTRUCTION FENCING (TYP)
COMPOST FILTER SOCK (TYP) 2/C-503
8' HIGH AGRICULTURAL STYLE FENCE WITH "DANGER" SIGNAGE MOUNTED EVERY 100' LF (TYP) 1/C-501
CONCRETE WASHOUT (TYP) 5/C-503
SOIL STOCKPILE STABILIZATION (TYP) 4/C-503
CONCRETE EQUIPMENT PAD (TYP)
DOUBLE PANEL AGRICULTURAL STYLE CHAIN LINK SELF-LOCKING SWING GATE W/ KNOX BOX AND PROJECT INFORMATION MOUNTED 2/C-501
TEMPORARY STAGING AREA (TYP) 3/C-503
SOLAR PANEL (TYP) 4/C-501
UTILITY TRENCH (TYP)
PERVIOUS STONE ACCESS ROAD (TYP) 1/C-502
STABILIZED CONSTRUCTION ENTRANCE (TYP) 1/C-503

PROPERTY LINE
50' REAR YARD SETBACK
40' SIDE YARD SETBACK
50' FRONT YARD SETBACK
R1000'
R300'
R180'
R270'
R220'
R100'
R25'
R130'
R15'
20' MIN
20' (TYP)
14' (TYP)
12.5± (TYP)
25-W
30'
164'
211'
1982'±
1327'±

WETLAND Z POTENTIALLY NON-JURISDICTIONAL AREA = 4,798± SQ. FT. OR 0.11± ACRES
WETLAND Y POTENTIALLY NON-JURISDICTIONAL AREA = 92,891± SQ. FT. OR 2.12± ACRES
WETLAND U AREA = 18,360± SQ. FT. OR 0.42± ACRES
WETLAND T POTENTIALLY NON-JURISDICTIONAL AREA = 43,861± SQ. FT. OR 1.01± ACRES
WETLAND W POTENTIALLY NON-JURISDICTIONAL AREA = 6,713± SQ. FT. OR 0.15± ACRES
WETLAND X POTENTIALLY NON-JURISDICTIONAL AREA = 19,525± SQ. FT. OR 0.45± ACRES
WETLAND ZZ AREA = 40,657± SQ. FT. OR 0.93± ACRES
WETLAND YY AREA = 3,375± SQ. FT. OR 0.08± ACRES
WETLAND CP2 AREA = 16,946± SQ. FT. OR 0.37± ACRES
WETLAND L AREA = 3,834± SQ. FT. OR 0.09± ACRES
WETLAND U AREA = 15,878± SQ. FT. OR 0.36± ACRES
WETLAND R AREA = 9,678± SQ. FT. OR 0.22± ACRES
WETLAND B POTENTIALLY NON-JURISDICTIONAL AREA = 86,506± SQ. FT. OR 1.99± ACRES
WETLAND A POTENTIALLY NON-JURISDICTIONAL AREA = 136,375± SQ. FT. OR 3.13± ACRES
WETLAND J AREA = 2,750± SQ. FT. OR 0.063± ACRES
WETLAND I AREA = 7,593± SQ. FT. OR 0.17± ACRES
WETLAND D POTENTIALLY NON-JURISDICTIONAL AREA = 988± SQ. FT. OR 0.02± ACRES
WETLAND H AREA = 7,432± SQ. FT. OR 0.17± ACRES
WETLAND E POTENTIALLY NON-JURISDICTIONAL AREA = 13,933± SQ. FT. OR 0.32± ACRES
WETLAND F POTENTIALLY NON-JURISDICTIONAL AREA = 845± SQ. FT. OR 0.01± ACRES
WETLAND G POTENTIALLY NON-JURISDICTIONAL AREA = 2,710± SQ. FT. OR 0.06± ACRES

LEGEND:
- SOLAR PANEL
- UTILITY POLE
- PERIMETER FENCE
- PROPOSED TREE LINE
- UE — UNDERGROUND ELECTRIC LINE
- DELINEATED WETLAND
- PERVIOUS GRAVEL ROAD
- CONCRETE EQUIPMENT PAD
- WILLOW HEDGE
- COMPOST FILTER SOCK
- TEMPORARY STAGING AREA
- LIMITS OF DISTURBANCE
- ORANGE CONSTRUCTION FENCE

BAR SCALE
150 0 75 150 300
1 inch = 150 ft.

OWEN KIETH SPEULSTRA
P.E. NO. 104125

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.
© 2025 C.T. MALE ASSOCIATES

DESIGNED: MLS
DRAFTED : DCP
CHECKED : OKS
PROJ. NO : 24.5097
SCALE : 1"=150'
DATE : FEB. 04, 2025

OVERALL SITE LAYOUT PLAN

MOREAU COMMUNITY SOLAR PROJECT

TOWN OF MOREAU — SARATOGA COUNTY, NEW YORK

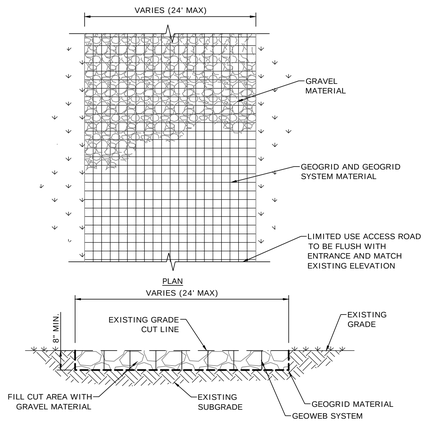
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY · JOHNSTOWN, NY · POUGHKEEPSIE, NY · SYRACUSE, NY
www.ctmale.com

C-102
SHEET 03 OF 18
DWG. NO: 24-0607

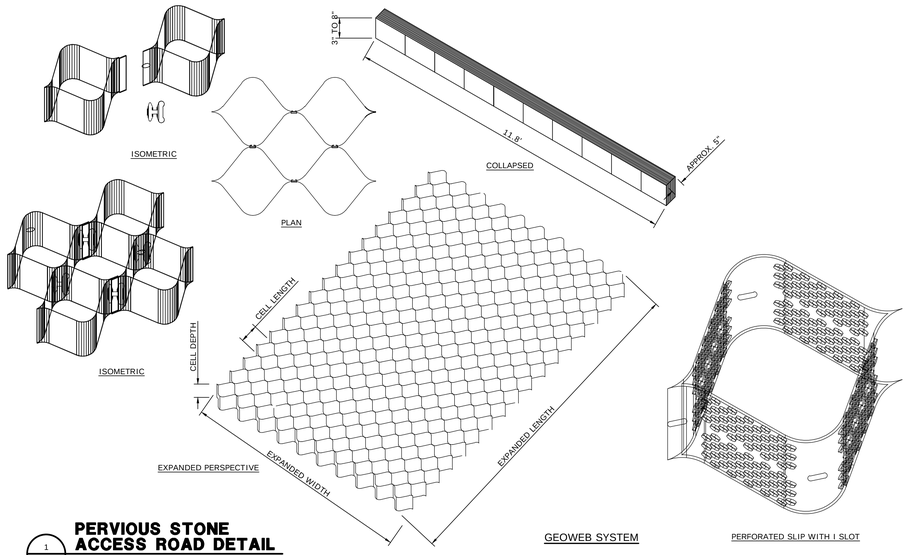
CAD DWG. FILE NAME: K:\Projects\24\0907\Civil\Drawings & Maps\C-102-106.dwg

NOTES FOR PERVIOUS ACCESS ROADS:

1. USE OF THIS DETAIL/CRITERION IS LIMITED TO ACCESS ROADS USED ON AN OCCASIONAL BASIS ONLY (I.E. PROVIDE ACCESS FOR MOWING, EQUIPMENT REPAIR OR MAINTENANCE, ETC.).
2. LIMITED USE PERVIOUS ACCESS ROAD IS LIMITED TO LOW IMPACT IRREGULAR MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. REMOVE STUMPS, ROCKS AND DEBRIS AS NECESSARY. FILL VOIDS TO MATCH EXISTING NATIVE SOILS AND COMPACTION LEVEL.
4. REMOVED TOPSOIL MAY BE SPREAD IN ADJACENT AREAS AS DIRECTED BY THE PROJECT ENGINEER. COMPACT TO THE DEGREE OF THE NATIVE INSITU SOIL. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
5. GRADE ROADWAY, WHERE NECESSARY, TO NATIVE SOIL AND DESIRED ELEVATION. MINOR GRADING FOR CROSS SLOPE CUT AND FILL MAY BE REQUIRED.
6. REMOVE REFUSE SOILS AS DIRECTED BY THE PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDES STORMWATER DRAINAGE.
7. THE LIMITED USE PERVIOUS ACCESS ROAD CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS DRIVE SHOULD NOT EXCEED 15%.
8. LIMITED USE PERVIOUS ACCESS ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS TO SEDIMENT TRACKING. THE CONTRACTOR SHALL INSTALL A TRADITIONAL CONSTRUCTION ACCESS ALONG THE PROPOSED LIMITED ACCESS ROAD PATH TO BE UTILIZED DURING CONSTRUCTION. UPON COMPLETION OF THE MAJORITY OF CONSTRUCTION THE TEMPORARY CONSTRUCTION ACCESS ROAD SHALL BE REMOVED AND THE UNDERLYING SOILS RESTORED TO PRE-EXISTING CONDITIONS PER THE NYSDEC GUIDELINES FOR DEEP-RIPPING AND DE-COMPACTION. ONCE COMPLETED THE CONTRACTOR MAY INSTALL THE LIMITED ACCESS.
9. THE LIMITED USE PERVIOUS ACCESS ROAD SHALL NOT BE CONSTRUCTED OR USED UNTIL ALL AREAS SUBJECT TO RUNOFF ONTO THE PERVIOUS ACCESS HAVE ACHIEVED FINAL STABILIZATION.
10. PROJECTS SHOULD AVOID INSTALLATION OF THE LIMITED USE PERVIOUS ACCESS ROAD IN POORLY DRAINED AREAS, HOWEVER IF NO ALTERNATIVE LOCATION IS AVAILABLE, THE PROJECT SHALL UTILIZE WOVEN GEOTEXTILE MATERIAL AS DETAILED IN FOLLOWING NOTES.
11. A HYDROLOGIC ANALYSIS OF THE ARRAY SITE HAS BEEN PERFORMED AND THE RESULTS SHOW THAT THE HYDROLOGY HAS NOT BEEN ALTERED FROM THE PRE- TO POST-DEVELOPMENT CONDITIONS AS DEFINED IN APPENDIX A OF GP-0-25-001. THE SUPPORTING CALCULATIONS FOR THIS ANALYSIS ARE INCLUDED IN THE SEPARATELY BOUND SWPPP PREPARED FOR THIS PROJECT.



LIMITED USE PERVIOUS ACCESS ROAD



1 C-502 PERVIOUS STONE ACCESS ROAD DETAIL

SCALE: NONE
CROSS REFERENCE: NONE

GEOGRID MATERIAL NOTES:

1. THE GEOGRID, OR COMPARABLE PRODUCT, IS INTENDED FOR USE FOR ALL CONDITIONS, IN ORDER TO ASSIST IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUAUTY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
3. GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF SIX INCHES.
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

BASIS OF DESIGN: TENCATE MIRAFI BXG110 GEOGRIDS; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;800-685-9990 OR 706-693-2226; WWW.MIRAFI.COM

GEOWEB MATERIAL NOTES:

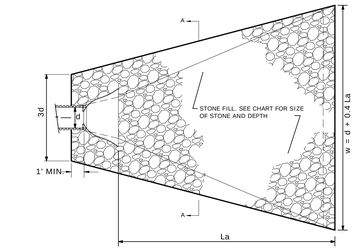
1. THE GEOWEB PRODUCT IS INTENDED TO LIMIT SHIFTING STONE MATERIAL DURING USE.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. WHERE REQUIRED, A NATIVE SOIL WEDGE SHALL BE PLACED TO ACCOMMODATE ROAD CROSS SLOPE OF 2%. NATIVE SOIL SHALL BE COMPACTED TO MATCH EXISTING SOIL CONDITIONS.
4. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, DURABLE, SHARP-ANGLED CRUSHED STONE OF UNIFORM QUAUTY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 703-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH, A TRACKED VEHICLE. GRAVEL SHALL NOT BE COMPACTED.
5. GEOWEB SYSTEM SHALL BE PRESTO GEOSYSTEM GEOWEB OR APPROVED EQUAL. GEOWEB SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPES.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE, SIZE 3A, MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.
7. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING. ALIGN THE I-SLOTS FOR INTERLEAF AND END TO END CONNECTIONS. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAD AND END TO END CONNECTIONS. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER INSTALLATION, TYING AND CONNECTIONS.

BASIS OF DESIGN: PRESTO GEOSYSTEMS GEOWEB; 670 NORTH PERKINS STREET, APPLETON, WI; 800-548-3424 OR 920-738-1222; INFO@PRESTOGEO.COM; WWW.PRESTOGEO.COM

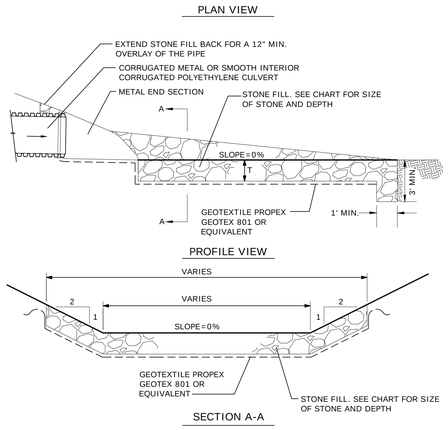
WOVEN GEOTEXTILE MATERIAL NOTES:

1. SPECIFIED GEOTEXTILE WILL ONLY BE UTILIZED IN PLACID SOILS. PLACID SOILS CONSIST OF POORLY DRAINED SOILS COMPOSED OF FINELY TEXTURED PARTICLES AND ARE PRONE TO RUTTING. PLACID SOILS ARE TYPICALLY PRESENT IN LOW-LYING AREAS WITH HYDROLOGIC SOILS GROUP (HSG) OF C OR D, OR AS SPECIFIED FROM AN ENVIRONMENTAL SCIENTIST, SOIL SCIENTIST, OR GEOTECHNICAL DATA.
2. THE CONCERN FOR POTENTIAL REDUCTION OF NATIVE INFILTRATION RATES DUE TO THE GEOTEXTILE MATERIAL WOULD NOT BE A SIGNIFICANT CONCERN IN POORLY DRAINED SOILS WHERE SEGREGATION OF PERVIOUS STONE AND NATIVE MATERIALS IS CRUCIAL FOR LONG TERM OPERATION AND MAINTENANCE.

BASIS OF DESIGN: TENCATE MIRAFI 160N; 365 SOUTH HOLLAND DRIVE, PENDERGRASS, GA;B00-685-9990 OR 706-693-2226; WWW.MIRAFI.COM



PLAN VIEW



RIPRAP APRON SIZING*

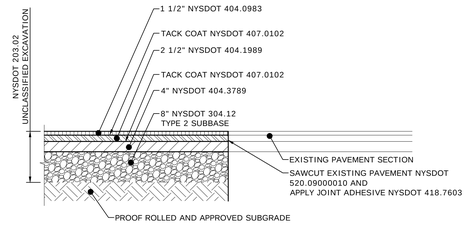
PIPE SIZE [d] (IN.)	PIPE SLOPE	STONE DIMENSION [d50] (IN.)	NYSDOT STANDARD STONE FILLING	APRON THICKNESS [T] (IN.)	APRON LENGTH [La] (FT.)
18	0-2%	6	LIGHT	18	14
	2-5%	9	MEDIUM	24	20
	5-10%	12	MEDIUM	30	24
24	0-1%	6	MEDIUM	24	14
	1-2%	9	MEDIUM	24	20
	2-5	12	MEDIUM	30	26

*THE ABOVE TABLE IS BASED ON:
NYSDEC "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" - FIGURE 3.16 OUTLET PROTECTION DESIGN - MINIMUM TAILWATER CONDITION (DESIGN OF OUTLET PROTECTION FOR A ROUND PIPE FLOWING FULL, MINIMUM TAILWATER CONDITION: Tw < 0.5Do) (USDA-NRCS)

NOTES:
1. APRON DIMENSIONS ARE BASED ON PIPES FLOWING FULL; USING ACTUAL FLOWS MAY RESULT IN DIFFERENT APRON DIMENSIONS.
2. MINIMUM THICKNESS OF THE RIPRAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER FOR d50 OF 15 INCHES OR LESS; AND 1.2 TIMES THE MAXIMUM STONE SIZE FOR d50 GREATER THAN 15 INCHES.

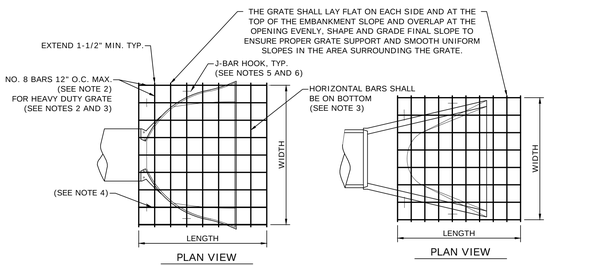
2 C-502 ROCK PROTECTION OUTLET

SCALE: NONE
CROSS REFERENCE: NONE

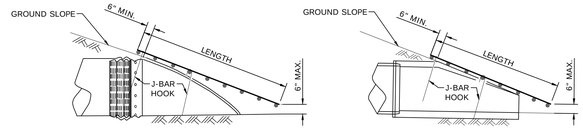


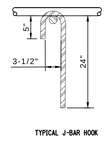
3 C-502 FULL DEPTH PAVEMENT SECTION

SCALE: NONE
CROSS REFERENCE: NONE



NOTES:
1. CORRUGATED POLYETHYLENE PIPES UTILIZE METAL END SECTIONS WHICH ARE ONE STANDARD PIPE DIAMETER LARGER THAN CORRUGATED STEEL PIPE. THEREFORE, A SAFETY GRATE FOR A 36" DIA. CORRUGATED POLYETHYLENE PIPE WOULD HAVE DIMENSIONS OF 10'-0" X 7'-0".
2. BARS SHALL BE GRADE 60, FULL LENGTH, WITH NO SPLICES OR BUTT WELDS. VERTICAL BARS SHALL BE ON TOP.
3. THE HORIZONTAL BARS SHALL BE NO. 11 FOR THE HEAVY-DUTY GRATES.
4. BARS SHALL BE WELDED AT EACH INTERSECTION WITH 4 TACK WELDS OR A DOUBLE FLARE BEVEL GROOVE WELD, AT THE CONTRACTOR'S OPTION. WELDING SHALL MEET THE REQUIREMENTS OF THE NYS STEEL CONSTRUCTION MANUAL, EXCEPT THAT RADIOGRAPHIC INSPECTION WILL NOT BE REQUIRED.
5. J-BAR HOOKS SHALL BE NO. 6 BAR, OR NO. 4 GALVANIZED IN ACCORDANCE WITH §719-01.





TYPICAL J-BAR HOOK

4 C-502 NYSDOT STANDARD TRASH RACK DETAIL

SCALE: NONE
CROSS REFERENCE: NONE

OWEN KIETH SPEULSTRA P.E. NO. 104125	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
		1			
		2			
		3			
		4			
		5			
		6			
		7			
		8			
		9			

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.
© 2025 C.T. MALE ASSOCIATES

DESIGNED: MLS
DRAFTED : DCP
CHECKED : OKS
PROJ. NO : 24.5097
SCALE : AS NOTED
DATE : FEB. 04, 2025

SITE DETAILS

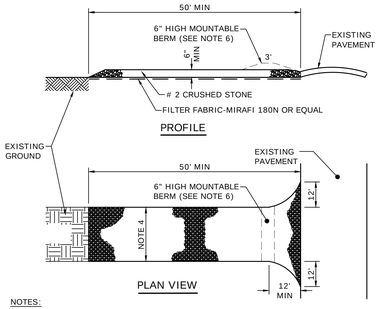
MOREAU COMMUNITY SOLAR PROJECT

TOWN OF MOREAU — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY · JOHNSTOWN, NY · POUGHKEEPSIE, NY · SYRACUSE, NY
www.ctmale.com

C-502
SHEET 14 OF 18
DWG. NO: 24-0607

CAD DWG. FILE NAME: K:\Projects\245097\Civil\Drawings & Maps\C-501-503.dwg

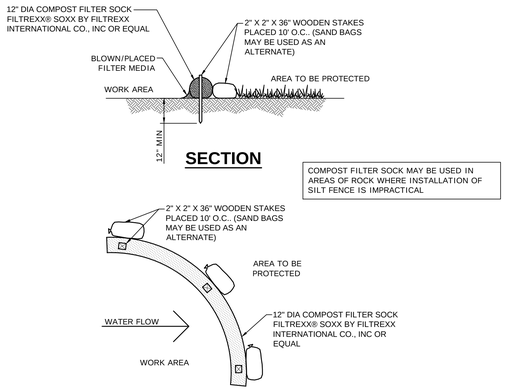


NOTES:

1. USE NYSDOT #2 STONE, RECLAIMED, OR RECYCLED CONCRETE OR APPROVED EQUAL.
2. THE LENGTH SHALL NOT BE LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. CRUSHED STONE SHALL BE MAINTAINED AT A MINIMUM OF 6" IN DEPTH.
4. ENTRANCE SHALL HAVE A 12 FOOT MINIMUM WIDTH, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. ENTRANCE SHALL BE AT LEAST 24 FEET WIDE IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS NOT PRACTICAL, A MOUNTABLE BERM WITH 1:5 SLOPES WILL BE PERMITTED.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

1 C-503 STABILIZED CONSTRUCTION ENTRANCE DETAIL

SCALE: NONE
CROSS REFERENCE: NONE

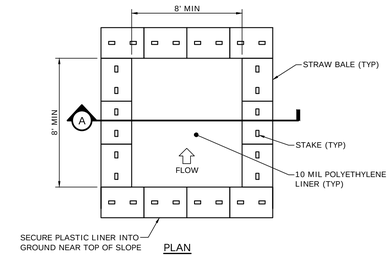


NOTE:

1. FILL COMPOST FILTER SOCK WITH FILTER MEDIA APPROVED BY NYSDEC FOR THIS APPLICATION.
2. WHEN USING COMPOST FILTER SOCKS ADJACENT TO SURFACE WATER, THE COMPOST SHOULD HAVE A LOW NUTRIENT VALUE

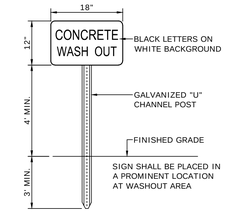
2 C-503 COMPOST FILTER SOCK

SCALE: NONE
CROSS REFERENCE: NONE



3 C-503 CONCRETE WASHOUT DETAIL

SCALE: NONE
CROSS REFERENCE: NONE



WASHOUT SIGN

NOTES

CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.

CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.

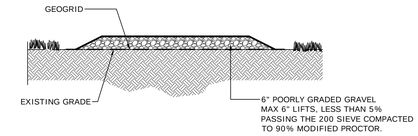
WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.

WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.

ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.

AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

SIGN SHALL BE PLACED IN A PROMINENT LOCATION AT WASHOUT AREA



NOTES:

1. PLACED ON EXISTING UNDISTURBED GRADE. SOIL DISTURBANCE SHALL BE LIMITED TO THE AREAS INDICATED ON THE SITE PLAN.
2. GRASS AND VEGETATION SHALL BE MOWED TO MAXIMUM HEIGHT OF 1" PRIOR TO PLACING GEOGRID.
3. UPON COMPLETION OF CONSTRUCTION ACTIVITY APPLY 3" THICKNESS OF TOPSOIL ON POORLY GRADED GRAVEL WHERE SHOWN AND APPLY GRASS SEED

4 C-503 TEMPORARY STAGING AREA

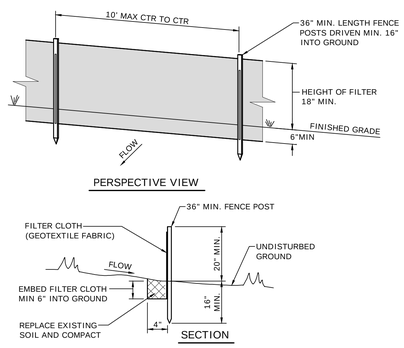
SCALE: NONE
CROSS REFERENCE: NONE

SEEDING AND MULCHING NOTES:

1. TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN (7) DAYS AFTER WORK HAS CEASED. ACCEPTABLE TEMPORARY STABILIZATION MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO SEEDING, MULCH, STRAW, EROSION CONTROL BLANKETS, SOIL STABILIZING EMULSION PRODUCTS, OR SOME FUNCTIONALY EQUIVALENT MEASURE. TEMPORARY SEEDING SHALL BE ANNUAL RYE GRASS, APPLIED AT A RATE OF 30 LBS./ACRE.
2. TEMPORARY EROSION CONTROL PROTECTION BY MULCHING SHALL BE CARRIED OUT WITHIN (7) DAYS OF THE FILL GRADE BEING FINALIZED TO AVOID POSSIBLE CONTAMINATION OF PONDS, STREAMS, OR OTHER WATERCOURSES. PLACEMENT OF JUTE MESH OR EROSION CONTROL BLANKETS OVER THE MULCH IS RECOMMENDED TO PROVIDE POSITIVE "TACKING" OF THE MULCH AND INCREASED PROTECTION AGAINST EROSION.
3. PERMANENT SEEDING AND MULCH SHALL BE APPLIED AS SOON AS THE DISTURBED AREAS HAVE ACHIEVED FINAL GRADE. IF THE SPECIFIED SEEDING DATES ARE MISSED, MULCH SHALL BE APPLIED TO THE SLOPE AND SEED SHALL BE APPLIED TO THE TOP OF THE MULCH IN THE NEXT SEEDING SEASON AFTER RECONDITIONING THE TOPSOIL. WHEN THE FINAL GRADE CANNOT BE OBTAINED IN (7) DAYS, MULCH SHALL BE APPLIED FOR PURPOSES OF TEMPORARY EROSION CONTROL.
4. EROSION CONTROL BLANKETS OR SOIL STABILIZING EMULSION PRODUCTS SERVE AS A TEMPORARY EROSION CONTROL MEASURE ON ALL SLOPES STEEPER THAN OR EQUAL 1V:3H AND AS INDICATED ON THE PLANS.
5. THE UNDERLYING SOIL IN AREAS THAT WILL BE PERMANENTLY PERVIOUS (LAWN, GRASS AND LANDSCAPED AREAS) SHALL BE RESTORED IN ACCORDANCE WITH THE MEASURES IDENTIFIED IN THE JANUARY 2015, NYSDEC STORM WATER MANAGEMENT DESIGN MANUAL, SECTION 5.1.6 "SOIL RESTORATION".
6. SEEDBED SHALL BE PREPARED BY LOOSENING THE TOPSOIL TO A DEPTH OF 4 TO 6 INCHES, AND LIMING TO A PH OF 6.5. FERTILIZER SHALL BE APPLIED IF NECESSARY.
7. MULCH OVER PREEMINENT SEED AREAS SHALL CONSIST OF SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE AND ANCHORED WITH WOOD FIBER HYDROMULCH APPLIED AT A RATE OF 500 TO 750 POUNDS PER ACRE. THE WOOD FIBER MULCH SHALL BE APPLIED THROUGH A HYDROSEEDER IMMEDIATELY AFTER SEEDING
8. SEED MIXTURE:
   A. LOW GROWING WILDFLOWER AND GRASS MIX - ERNMX#611 OR APPROVED EQUAL.
   B. AS PER SEED MIX DETAIL,

TEMPORARY SEEDING AND MULCHING NOTES:

1. TEMPORARY STABILIZATION MEASURES SHALL START AS SOON AS PRACTICAL ON PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT NOT MORE THAN (7) DAYS AFTER WORK HAS CEASED. ACCEPTABLE TEMPORARY STABILIZATION MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO SEEDING MULCH, STRAW, EROSION CONTROL BLANKETS, SOIL STABILIZING EMULSION PRODUCTS, OR SOME FUNCTIONALLY EQUIVALENT MEASURE. TEMPORARY SEEDING SHALL BE ANNUAL RYE GRASS, APPLIED AT A RATE OF 30 LBS./ACRE.
2. AREAS TO RECEIVE TEMPORARY SEEDING AND MULCHING SHALL RECEIVE BOTH GRASS SEED AND MULCH, AS DESCRIBED BELOW.
3. SEED MIX TO BE LOW GROWING WILDFLOWER AND GRASS MIX - ERNMX#611 OR APPROVED EQUAL.
4. MULCH SHALL CONSIST OF STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR WOOD CHIPS (MIN. 3" DEEP). (A WOOD FIBER HYDROMULCH OR OTHER APPROVED SPRAYABLE PRODUCT MAY BE SUBSTITUTED, IF APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.)
5. A JUTE MESH SHALL BE PLACED OVER THE MULCH IN AREAS WHERE WIND OR WATER EROSION PREVENTS ESTABLISHMENT OF GRASS COVER.



6 C-503 STANDARD SILT FENCE

SCALE: NONE
CROSS REFERENCE: NONE

NOTES:

1. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
4. FILTER CLOTH SHALL BE MIRAFI 100X OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. WHEN THE ACCUMULATED SEDIMENT REACHES 30% OF THE SILT FENCE HEIGHT, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.
6. PREFABRICATED UNITS SHALL BE MIRAFI SILT FENCE, MIRAFI ENVIROFENCE OR APPROVED EQUIVALENT.

NORTHEAST SOLAR POLLINATOR 4' MIX		
GRASSES & GRASS-LIKE SPECIES MIX - ERNMX#611 (OR APPROVED EQUAL)		
SEEDING RATE: 15 LB PER ACRE BROADCAST OR 10 LB PER ACRE DRILLED WITH A COVER CROP OF GRAIN RYE AT 30 LB PER ACRE		
	COMMON NAME	% OF MIX
BOUTELOUA CURTIPENDULA, BUTTE	SIDEOATS GRAMA, BUTTE	35%
SCHIZACHYRIUM SCOPARIUM, 'CAMPER'	LITTLE BLUESTEM, 'CAMPER'	35%
AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE	AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE	10%
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	4%
CHAMAECRISTA FASCICULATA, PA ECOTYPE	PARTRIDGE PEA, PA ECOTYPE	4%
COREOPSIS LANCEOLATA	LANCELEAF COREOPSIS	4%
RUDBECKIA HIRTA	BLACKEYED SUSAN	4%
PYCNANTHEMUM TENUIFOLIUM	NARROWLEAF MOUNTAINMINT	0.9%
ASTER OBLONGIFOLIUS, PA ECOTYPE	AROMATIC ASTER, PA ECOTYPE	0.7%
ASTER PRENANTHOIDES, PA ECOTYPE	ZIGZAG ASTER, PA ECOTYPE	0.5%
PENSTEMON DIGITALIS	TALL WHITE BEARDTONGUE	0.5%
TRADESCANTIA OHIENSIS, PA ECOTYPE	OHIO SPIDERWORT, PA ECOTYPE	0.5%
ZIZIA AUREA	GOLDEN ALEXANDERS	0.5%
OENOTHERA FRUTICOSA VAR FRUTICOSA	SUNDROPS	0.3%
SOLIDAGO NEMORALIS, PA ECOTYPE	GRAY GOLDENROD, PA ECOTYPE	0.1%
COMPANY INFORMATION		
ERNST CONSERVATION SEEDS, INC.		
ADDRESS: 8884 MERCER PIKE, MEADVILLE, PA 16335		
PHONE: (800) 873-3321		
WEB: HTTP://WWW.ERNSTSEED.COM		

7 C-503 SEED MIXTURES TABLE

SCALE: NONE
CROSS REFERENCE: NONE

CAD DWG. FILE NAME: K:\Projects\24.5097\Civil\Drawings & Maps\C-501-503.dwg

OWEN KIETH SPEULSTRA
P.E. NO. 104125

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW.

© 2025
C.T. MALE ASSOCIATES

DESIGNED: MLS
DRAFTED : DCP
CHECKED : OKS
PROJ. NO : 24.5097
SCALE : AS NOTED
DATE : FEB. 04, 2025

EROSION & SEDIMENT CONTROL DETAILS

MOREAU COMMUNITY SOLAR PROJECT

TOWN OF MOREAU — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH: 518.786.7400
GLENS FALLS, NY · JOHNSTOWN, NY · POUGHKEEPSIE, NY · SYRACUSE, NY
www.ctmale.com

C-503
SHEET 15 OF 18
DWG. NO: 24-0607

APPENDIX I

Erosion and Sediment Control Inspection Checklist

Field Inspection Report: SPDES GP-0-25-001

Project Name: Moreau Community Solar CTM Proj. #: 24.5097

Date: _____ Time: _____ Inspector/ Title _____

Weather During Inspection _____ Rain Since Last Inspection: _____

Previous 24 hours: _____ Rain: _____

Site Soil Conditions: _____

Description of Run off at Discharge Points _____

Erosion and Sediment Control Features: **(Refer to Map for Location)**

	Condition	Corrective Action Required
Compost Filter Sock		
Road Sweeping / Offsite		
Construction Entrances		
Concrete Washout		
Temporary Staging Areas		
Soil Stockpile Areas		
Other:		

Field Inspection Report: SPDES GP-0-25-001

Description of Disturbed Area:	Total Disturbance=
Description of Stabilized Areas:	
Areas that Require Stabilization:	

Permanent Stormwater Management Practices:	

Repairs Required:

Improvements Since Last Visit:

Signature of Qualified Inspector:

Date Inspection Mailed to Owner/Contractor:

Signature of Owner (if required):