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STORMWATER POLLUTION PREVENTION PLAN for CONSTRUCTION ACTIVITIES at

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
TOWN OF ELLENBURG, NY

Prepared for

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NOI Permittee: MAPLE RIDGE RENEWABLES, LLC
MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT

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SECTION 1

Written Stormwater Pollution Prevention Plan

I. SCOPE

A. **PURPOSE:** MAPLE RIDGE RENEWABLES, LLC intends to implement the appropriate Stormwater Pollution Prevention Plan measures in accordance with the SPDES general permit governing stormwater discharges during construction, and in accordance with erosion control practices. This section provides a descriptive explanation of the means by which MAPLE RIDGE RENEWABLES, LLC will comply with the National Stormwater Pollution Prevention Program.

B. **NPDES GENERAL PERMITS FOR STORMWATER DISCHARGE FROM CONSTRUCTION SITES:** Regulations promulgated by the New York State Department of Environmental Conservation (NYSDEC) regulate the discharge of storm water from construction activities on sites where one (1) or more acres of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the General Permit for Construction Activities. (Copy enclosed herewith) In order to be authorized to discharge under the General Permit, a Stormwater Pollution Prevention Plan (SWPPP) for the site must be prepared in accordance with all applicable requirements of this permit and followed during the construction activities. If the construction activity is **not** subject to the requirements of a regulated, traditional land use control MS4 a Notice of Intent (NOI) form must be completed and received by the New York State Department of Environmental Conservation at least 5-days prior to any earth-disturbing activities. If the construction activity is subject to the requirements of a regulated, traditional land use control MS4, then the owner/operator must have its SWPPP reviewed and accepted by the MS4 prior to submitting the NOI to the Department. The owner/operator shall have the "MS4 SWPPP Acceptance" form signed and then submit that form along with the NOI to the Department.

C. **RESPONSIBILITIES OF CONTRACTOR REGARDING THE GENERAL PERMIT:** The CONTRACTOR shall manage the discharge of stormwater from the site in accordance with the SPDES General Permit for Construction Activities conditions and the following provisions of this section of the specifications. The CONTRACTOR shall be responsible for conducting the stormwater management practices in accordance with the permit. The CONTRACTOR shall be responsible for providing qualified inspectors to conduct the inspections required by the SWPPP. The CONTRACTOR shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the CONTRACTOR'S failure to comply with the permit provisions. It shall be the responsibility of the CONTRACTOR to make any changes to the SWPPP necessary when the CONTRACTOR or any of his subcontractors elects to use borrow or fill or material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by state or local jurisdictional entity regulations. The CONTRACTOR should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

D. **NOTICE OF INTENT:** The NOI Permittee petitions the New York State Department of Environmental Conservation for the stormwater discharges during construction at this site to be covered by the SPDES General Permit for Construction Activity for the State of New York. A Notice of Intent (NOI) (using the form required by the NYSDEC) to be covered under this permit is hereby filed. An Erosion and Sediment Control Plan has been prepared and is attached herewith.

E. **CONTRACTOR RESPONSIBILITIES**: The SWPPP and associated Erosion and Sediment Control Plans represent the **MINIMUM** erosion and sediment control measures that will be required to protect the site during construction. MAPLE RIDGE RENEWABLES, LLC and the CONTRACTOR understand that additional erosion and sediment control measures will be necessary during construction. It will be the responsibility of the CONTRACTOR to implement additional erosion and sediment control measures as necessary to protect the site during construction. MAPLE RIDGE RENEWABLES, LLC and the CONTRACTOR shall designate a Project

Manager prior to commencing construction. The Project Manager will ensure that all construction managers and sub-contractors are appropriately assigned and understand the importance of the following topics:

- Erosion and Sedimentation Control for Water Quality Protection
- Implementation of the Erosion and Sedimentation Control Plan
- The Importance to Proper Installation of Erosion and Sedimentation Control Measures
- Regular Inspection by qualified personnel of Erosion and Sedimentation Control Measures
- Diligent Maintenance of Erosion and Sedimentation Control Measures
- Contemporaneous preparation of accurate and complete records regarding inspection and maintenance of Erosion and Sedimentation Control Measures
- Record Keeping for Inspections and Maintenance activities

F. **REQUIREMENTS FOR THE CONTRACTOR AND SUBCONTRACTOR(S):** The *SWPPP Ledger* shall provide a "Contractor's Certification Log" **(Form 2)**, identifying the Company Name, Business Address and Telephone Number along with the Responsible Person for the CONTRACTOR and all subcontractors' who will implement the measures identified in the SWPPP. Each of the entities identified on **Form 2** shall sign a "Contractor's Certification" **(Form 3)**, verifying they have been instructed and fully understand the requirements of the New York State Department of Environmental Conservation and SWPPP. **This certification must be signed, by a fully qualified individual on behalf of each entity, prior to the beginning of any construction activities and shall be filed in the project's *SWPPP* Ledger.**

Additionally, the "Trained Contractor" must be identified on Form 3 and his/her credentials should be kept on-site in the SWPPP ledger.

G. **STORMWATER POLLUTION PREVENTION PROGRAM LOCATION REQUIREMENTS:** The *SWPPP Ledger* is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project, shall be readily available upon request by the NOI Permittee's personnel or New York State Department of Environmental Conservation or any other agency with regulatory authority over stormwater issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. Refer to Part VII., F., Duty to Provide Information, of the General Permit for additional public viewing requirements.

H. **SWPPP LEDGER:** The SWPPP Ledger shall be a 3-ring Binder, tabbed and indexed for the following sections:

SECTION 1:
- **Written SWPPP**

SECTION 2:
- **Site Map and General Location Map**
- **Erosion and Sediment Control Plan(s)**

SECTION 3:
- **New York State Notice of Intent**
- **New York State NOI Acknowledgement Letter**

SECTION 4:

- **New York State SPDES General Permit**

SECTION 5:

- **NOI Permittee's Certification (Form 1)**
- **Contractor's/Subcontractor's Certification Log (Form 2)**
- **Contractor's Certification for each contractor listed on Form 2 (Form 3)**
- **Inspection Report (Form 4)**
- **Modification Report (Form 5)**
- **Record of Stabilization and Construction Activities Report (Form 6)**
- **Record of Temporary Erosion and Sediment Control Practices (Form 6A)**
- **Project Rainfall Log (Form 7)**
- **Final Stabilization/Termination Checklist (Form 8)**

SECTION 6:

- **Supplemental Information**
  - **Stormwater Management Report**
  - **NYSDEC OPRHP Letter of No Effect**
  - **SHPO Letter of No Effect**
  - **FEMA Map**
  - **NRCS Soil Survey**

SECTION 7:

- **Completed Inspection Forms**

The Project Manager must review and evaluate for compliance the *SWPPP Ledger* at each Project Review meeting. All Inspection and Maintenance Forms (*Forms 4 - 7*) will be initialed by the Project Manager at each reporting interval.

I. **INSPECTIONS AND RECORD KEEPING:** Inspections are required at least weekly by a "Qualified Inspector". Sites that have a waiver to disturb greater than five (5) acres require two (2) inspections every seven (7) days with at least two (2) days between inspections. Inspections shall continue until the site complies with the "Final Stabilization" section of this document and a Notice of Termination (NOT) has been filed with the NYSDEC. Each inspection must be followed up by a report documenting the inspector's findings and request the required maintenance and/or repair for the erosion and sedimentation control measures. The inspector shall notify the Project Manager within one day of the inspection of any deficiencies. Within one day of this notification the Project Manager must commence with corrective measures. It is imperative that the Project Manager documents the Inspection and Maintenance of all erosion and sedimentation control measures as soon as possible after the inspection and/or maintenance is completed. These records are used to prove that the required inspection and maintenance were performed and shall be placed in the *SWPPP Ledger*. In addition to inspection and maintenance reports, records should be kept of the Construction Activities that occur on the site. The Project Sponsor shall retain copies of the SWPPP, all reports and data for a minimum of five (5) years after the project is complete. The following list identifies the **required** Inspection and Maintenance documentation that must be maintained by the Project Manager under this SWPPP.

- **Form 4 Inspection Report for SWPPP**
- **Form 5 Requested Changes to the SWPPP (Modification Report)**
- **Form 6 Record of Stabilization and Construction Activities**
- **Form 6A Record of Temporary Erosion and Sediment Control Practices**
- **Form 7 Project Rainfall Log**

J. **SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever the design, construction, operation, or maintenance of the site changes in a way

which significantly affects the potential for the discharge of pollutants or when the plan proves to be ineffective in eliminating or significantly minimizing pollutant discharges. Any such changes to the SWPPP must be made in writing on the Modification Report Form **(Form 5)** within 7 days of the date such modification or amendment is made. The CONTRACTOR'S failure to monitor or report deficiencies to the NOI Permittee will result in the CONTRACTOR being liable for fines and construction delays resulting from any federal, state, or local agency enforcement action.

K. **FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:** The site will be considered finally stabilized when all soil disturbing activities have been completed and a uniform perennial vegetative cover for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established and the development area no longer discharges stormwater associated with construction activities and a Notice of Termination (NOT) form filed by the NOI Permittee with the New York State Department of Environmental Conservation. This filing terminates coverage under the General Permit and terminates the CONTRACTOR'S responsibility to implement the SWPPP. Requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed.

II. SITE DESCRIPTION

A. PROJECT NAME AND LOCATION

The MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT site is geographically situated at Latitude N 44° 80' 14", Longitude W 73° 99' 00" in the Town of ELLENBURG, CLINTON COUNTY, NEW YORK. The site is located on the north side of HARRIS ROAD, east of the intersection with STATE ROUTE 374. The project site is comprised of 54.1 +/- acres of land. The overall disturbance area is 19.4 +/- acres. The project is bounded on the north, east and west by PRIVATE RURAL PROPERTY and on the south by HARRIS ROAD. Access to the project will be from HARRIS ROAD. The entire parcel will remain privately owned and maintained. Approximately 0.20 +/- acres of impervious surfaces, including travel surfaces will be constructed. On-going reclamation during construction will consist of all activities listed in Section 1.III.A.1 for temporary actions. Permanent reclamation activities for the laydown area outside of the solar array shall follow the NYSDEC Deep-Ripping and Decompaction April 2008 guidance. Final stabilization is defined as the completion of all soil disturbance activities with the phase area having perennial vegetative cover with a density of eighty (80) percent, or other equivalent stabilization measures such as permanent landscape mulches, rock rip-rap or washed/crushed stone.

B. NOI PERMITTEE'S NAME AND ADDRESS

MAPLE RIDGE RENEWABLES, LLC
101 SUMMER STREET, 2ND FLOOR
BOSTON, MA 02110

C. PROJECT DESCRIPTION

The project will involve the installation of a 4 MWac Community Solar array on an approximately 54-acre site. The design will include a fenced solar development footprint of under 30 acres. The installation will also include associated infrastructure such as a concrete equipment pad, a wooden "knot farm fence" and improved site access via the conversion of HARRIS ROAD to a gravel access road. Vegetative screening is proposed along key perimeters to minimize visual impacts to neighboring properties. Soil disturbing activities will include:

1. Construction of stabilized construction access points
2. Clearing and grubbing
3. Installation of solar modules

4. Construction of stormwater areas
5. Construction of utilities on site
6. Construction of landscaped areas
7. Final grading

D. RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The predevelopment Curve Number (CN) for green areas was determined to be 61 (HSG B). Soils within the project area consist of moderately well drained fine sandy loam that fall in the hydrologic soil group B, as described by the Soil Conservation Service. The post development CN for disturbed green areas is 58 and the weighted CN for the post-development contributing area is 66. A CN of 98 was used for all post-development impervious surface areas.

The site is in Clinton County, which receives an average of 36 inches of rainfall annually with the highest amounts of rainfall received in the months of June and July.

E. NAME OF RECEIVING WATERS

Drainage will be directed via an on-site vegetated filter strip with emergency overflow swales directed to a minor tributary to Lower Chateaugay Lake/Narrows.

F. INDIAN COUNTRY LANDS

The site is not located on any known current or previously designated Indian Country lands.

G. ENDANGERED OR THREATENED SPECIES

A review of the New York State Department of Environmental Conservation's (NYSDEC) Environmental Resource Mapper (http://www.dec.ny.gov/imsmaps/ERM/viewer.htm) indicated no known State regulated rare plants, rare animals or significant natural communities on-site. A letter has been received from the NYSDEC New York Natural Heritage Program stating that the project is likely to have no impact on endangered or threatened species. This letter is included within Section 6 of the SWPPP.

H. HISTORIC PLACES

A review of the New York State Historic Preservation Office (OPRHP) Geographic Information System Mapper (http://www.oprhp.state.ny.us/nr/main.asp) indicated that the site is not located in an archeo sensitive area. A letter has been received from the OPRHP Historic Preservation Field Services Bureau stating that the project is likely to have no impact. This letter is included within Section 6 of the SWPPP.

I. CLIMATE CHANGE RESILIENCY PLANNING

With the Community Risk and Resiliency Act (CRRA) being adopted in New York State, MAPLE RIDGE RENEWABLES, LLC has demonstrated consideration of several future risks due to the effects of climate change.

Increasing Temperature: When developing the solar layout, MAPLE RIDGE RENEWABLES, LLC dedicated approximately 34.8 +/- acres of land to be undisturbed and remain forested. The roadway includes only 0.20 +/- acres of impervious surfaces to reduce material heat absorption (Urban Heat Island Effect) to the maximum extent possible. The stormwater management area on site is a vegetated filter strip, which will prevent runoff from entering heat-vulnerable environments.

Increasing Precipitation: The use of a vegetated filter strip will allow infiltration on-site which will minimize the amount of runoff and water quality pollution from leaving the site. MAPLE RIDGE

RENEWABLES, LLC will provide the proper long-term operation/maintenance procedures to ensure conveyance systems will not be overwhelmed during large and more frequent storm events. In the event of drought, there will be no physical or ecological risks due to the vegetated filter strip not retaining water.

Rising Sea Level: According to the FEMA Flood Insurance Rate Map (Map No. 36091C0365E) the project area is located within Zone X (unshaded), which is considered to be outside of the 500-year floodplain, see Section 6. As such, there will also be no increase in storm surge within the project limits.

Shifting Ecology: As stated in part G of this section, there are no known State regulated rare plants, rare animals or significant natural communities on-site. The predominant wildlife species that might occupy the project site include squirrels, birds, and deer. The development of this project site will promote sustainable development and should not have any impact on the local ecosystem.

III. CONTROLS

A. EROSION AND SEDIMENT CONTROLS

The following section describes the anticipated Erosion and Sediment Controls required for use during construction of the proposed site. These controls represent the **MINIMUM** erosion and sediment control measures that will be required to protect the site during construction. **Additional erosion and sediment control measures will be necessary during construction.** It will be the responsibility of the NOI permittee to authorize the CONTRACTOR to implement all additional erosion and sediment control measures necessary to protect the site during construction.

1. Stabilization practices include (but not limited to):
   a) Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed
   b) Frequent watering of excavation and fill areas to minimize wind erosion during construction.
   c) Use of stabilization fabric for all slopes having a slope of 1V:3H or greater.
   d) Seeding and planting of all unpaved areas
      - Temporary seedings should be made within 24 hours of construction or disturbance. If not, the soil must be scarified prior to seeding.
      - Broadcasting or hydroseeding may be used as seeding methods.
      - Seeding mixtures should be as follows
        a) Ryegrass (annual or perennial) applied at 30 lbs. per acre (0.7 lbs./1000 sq. ft.)
        b) Certified "Aroostook" winter rye (cereal rye) applied at 100 lbs. per acre (2.5 lbs./1000 sq. ft.) *Winter rye shall be used if seeding in November/November.
   e) Topsoiling
      - Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent.
      - Remove refuse, woody plant parts, stones over 3 inches in diameter, and other liter.
      - Topsoil material shall have at least 2 percent by weight of fine textured stable organic material, and no greater than 6 percent.
      - Topsoil shall have no less than 20 percent fine textured material (passing the No. 200 sieve) and not more than 15 percent clay.
      - Topsoil shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water.
   f) Mulching
      - For grass / legume establishment apply straw mulch applied at 2 ton/acre (90 lbs./1000 sq. ft.) and anchor with wood fiber mulch (hydromulch) at 500-750 lbs./acre (11 – 17 lbs./1000 sq. ft.)
   g) Protecting Vegetation During Construction
      - Limit soil placement over existing tree and shrub roots to a maximum of 3 inches.

- Use retaining walls and terraces to protect roots of trees and shrubs when grades are lowered. Lowered grades should start no closer than the dripline of the tree.
- Avoid trenching within the dripline of the tree.
- Construction limits should be identified and clearly marked to exclude equipment.

2. Structural practices include (but not limited to):

a) Perimeter protection using silt fences
   - See detail on Erosion and Sediment Control Plans

b) Stabilized construction exit points
   - Aggregate size shall be 2 inch stone or reclaimed / recycled concrete equivalent
   - Thickness shall be not less than 6 inches
   - Width to be the full width of the access point, but not less than 12 ft
   - Length shall be as required, but not less than 50 ft.
   - Filter cloth shall be applied over the entire area to be covered with aggregate
   - The entrance shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way.

c) Vegetated Filter Strip

3. Sequence of Major Activities

The CONTRACTOR will be responsible for implementing erosion and sediment control measures outlined in the SWPPP and any additional erosion and sediment control measures required to stabilize the site. The CONTRACTOR may designate these tasks to certain subcontractors as appropriate, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the CONTRACTOR. The order of activities will be as follows (refer to Stormwater Pollution Prevention Plan Sheet contained in this SWPPP for additional details):

a) Construct temporary construction exits at locations shown on the SWPPP plan sheet.

b) Install perimeter silt fences.

c) Begin clearing and grubbing operations. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where building is planned to commence within 7 days after clearing and grubbing. Clearing and grubbing operations shall be limited so that no more than 5 acres of disturbed soil exists at any one time without prior written approval from the NYS DEC.

d) Frequent watering of the excavation and fill areas shall be done to minimize wind erosion.

e) Commence site grading and solar panel construction.

f) Disturbed areas of the site where construction activity has ceased for more than 7 days should be temporarily seeded and watered.

g) Finalize access road subgrade preparation.

h) Install base material as required for pavement.

i) Carry out final grading and seeding and planting, including stormwater management areas.

j) Remove silt fencing only after all paving is complete and exposed surfaces are stabilized.

k) Remove temporary construction exits only prior to pavement construction in these areas (These areas are to be paved last).

4. Stormwater Management

The proposed stormwater management system was designed by The Environmental Design Partnership, Clifton Park, NY. The following paragraphs summarize the stormwater management measures to be incorporated on the site to control pollutants in stormwater discharges after construction is completed. A copy of the Stormwater Management Report is enclosed under Section 6 – Supplemental Information.

The construction of a vegetated filter strip 60' wide running the length of the access road. The filter strip has been designed to capture and treat the water quality storm event runoff from the project site as per NYSDEC guidance.

5. Post-Construction Maintenance of the Stormwater Management System

Post construction maintenance and protection of the Stormwater Management System shall be performed in accordance with Section VI. LONG TERM OPERATION AND MAINTENANCE PROCEDURES of the SWPPP.

B. OTHER CONTROLS

1. Waste Disposal

All waste materials will be collected and stored in a securely lidded metal dumpster rented from a local waste management company which must be a solid waste management company licensed to do business in New York State. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as often as necessary, and the trash will be hauled to a landfill approved by New York State and the local government authority. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these practices will be posted in the job site construction office trailer, and the job site superintendent will be responsible for seeing that these procedures are followed.

2. Sanitary Waste

All sanitary waste will be collected from the portable units a minimum of two times per week by a licensed portable facility provider in complete compliance with local and state regulations.

3. Off-Site Vehicle Tracking

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site entrance will be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin. The job site superintendent will be responsible for seeing that these procedures are followed.

4. Concrete Waste From Concrete Trucks

a) Emptying of excess concrete and/or washout from concrete delivery trucks will be allowed on the job site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or washout and stormwater which will be discharged from the site or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

b) The hardened residue from the concrete washout diked areas will be disposed of in accordance with the procedures given in the Spill Prevention Control and Countermeasures (SPCC) Plan and in accordance with applicable state and federal regulations. The job site superintendent will be responsible for seeing that these procedures are followed.

5. Hazardous Substances and Hazardous Waste

a) All hazardous waste materials will be disposed of by the CONTRACTOR in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job site superintendent, who will also be responsible for seeing that these practices are followed. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

b) The CONTRACTOR will implement the Spill Prevention Control and Countermeasures (SPCC) Plan found within this SWPPP and will train all personnel in the proper cleanup and handling of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with stormwater discharges. If such contact occurs, the stormwater discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated stormwater. It shall be the responsibility of the job site superintendent to properly train all personnel in the use of the SPCC plan.

c) Any spills of hazardous materials which are in quantities in excess of Reportable Quantities as defined by EPA regulations shall be immediately reported to the EPA National Response Center 1-800-424-8802.

d) In order to minimize the potential for a spill of hazardous materials to come into contact with stormwater, the following steps will be implemented:

- All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, under cover, when not in use. All such materials shall have secondary containment to prevent contamination of soil and runoff.

- The minimum practical quantity of all such materials will be kept on the job site.

- A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

- All of the product in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

- All products will be stored in and used from the original container with the original product label.

- All products will be used in strict compliance with instructions on the product label.

- The disposal of excess or used products will be in strict compliance with instructions on the product label.

6. Contaminated Soils

a) Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Spill Prevention Control and Countermeasures (SPCC) Plan and in accordance with applicable state and federal regulations.

b) The job site superintendent will be responsible for seeing that these procedures are followed.

IV. COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

A. The CONTRACTOR will obtain copies of any and all local and state regulations that are applicable to stormwater management, erosion control, and pollution minimization at this job site and will comply fully with such regulations. The CONTRACTOR will submit written evidence of such compliance if requested by any agent of a regulatory body. The CONTRACTOR will comply with all conditions of the New York State Department of Environmental Conservation SPDES General Permit for Construction Activities, including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the job site and allowing regulatory personnel access to the job site and to records in order to determine compliance.

V. MAINTENANCE/INSPECTION PROCEDURES DURING CONSTRUCTION

A. Erosion and Sediment Control and Stabilization Measures Maintenance and Inspection Practices

1. The following is a list of erosion and sediment controls to be used on this site during construction practice.

a) Stabilization practices for this site include:
- Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed
- Frequent watering of excavation and fill areas to minimize wind erosion during construction.
- Use of stabilization fabric for all slopes having a slope of 1V:3H or greater.
- Permanent seeding and planting of all unpaved areas using the hydromulching grass seeding technique.

b) Structural practices for this site include:
- Perimeter protection using silt fences
- Inlet protection and outlet protection using silt fences
- Storm sewer, curbs and gutters
- Stabilized construction exit points
- Stormwater detention ponds (which may also serve as a temporary sediment basin)

2. The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures.

a) All control measures will be inspected once every seven (7) days at a minimum. Sites that have a waiver to disturb greater than five (5) acres require two (2) inspections every seven (7) days with at least two (2) days between inspections.
b) All measures will be maintained in good working order; if repairs are found to be necessary, they will be initiated within 24 hours of report.
c) Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.

d) Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
e) The sediment basins will be inspected for depth of sediment, and built up sediment will be removed when it reaches 50 percent of the capacity.
f) Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
g) A maintenance inspection report will be made after each inspection. Copies of the report forms to be completed by the inspector are included in this SWPPP.
h) The job site superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.
i) Personnel selected for the inspection and maintenance responsibilities will receive appropriate instruction from the job site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of this personnel training will be kept on site with the SWPPP.
j) Disturbed areas and material storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.
k) Report to the NYS Department of Environmental Conservation within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event.

B. Inspection and Maintenance Report Forms

Once installation of any required or optional erosion control device or measure has been implemented, weekly inspections of each measure shall be performed by the CONTRACTOR'S inspection personnel. The Inspection and Maintenance Reports found in this SWPPP shall be used by the inspectors to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the NOI Permittee's Engineer, and the NOI Permittee for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the NOI Permittee for five years following the final stabilization of the site.

C. Other Record-Keeping Requirements

The CONTRACTOR shall keep the following records related to construction activities at the site:
- Dates when major grading activities occur and the areas that were graded
- Dates and details concerning the installation of structural controls
- Dates when construction activities cease in an area
- Dates when areas are stabilized, either temporarily or permanently
- Dates of rainfall and the amount of rainfall
- Dates and descriptions of the character and amount of any spills of hazardous materials
- Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

D. Winter Operations

The following is a list of erosion and sediment controls and inspection and maintenance practices for winter operations for this site.

a) **Prior to November 1st of any given year all exposed soil areas must be covered with:**
   - Mulch

- Seed and mulch
- Geotextile
- Erosion control matting
- Rock or
- Other approved mulch to prevent soil from eroding

b) Mulch shall be installed at twice the typical rate (4 tons/acre for straw mulch, double the manufacturer's recommended rate for other mulches).

c) Install sediment barriers (silt fence or drop inlet protection) at ALL necessary perimeter and sensitive locations BEFORE SOIL FREEZES.

d) Slopes and Stockpiles:
   - Protect slopes and stockpiles with anchored straw or mulch, rolled erosion control product or other durable covering.
   - Sediment barrier must be installed around piles and at slope toes to prevent soil transport from the pile or slope.
   - Stabilize exposed areas BEFORE snow covers them.

e) All entrance/exit locations must be properly stabilized and maintained to accommodate snow management.

f) In areas where soil work has stopped temporarily or permanently, soil stabilization should begin by the end of the next business day and be finished within three days.

g) Inspections:
   - If soil disturbance is COMPLETELY suspended AND site is PROPERLY STABILIZED, qualified inspection frequency may be reduced with written notification to NYSDEC or MS4.
   - Confirmation must be received from NYSDEC prior to reducing inspection frequency.
   - Monthly inspections must be performed at a minimum.
   - Sediment control measures should be checked after rain or snowmelt events.
   - Regular inspections must resume by March 15th.

VI. LONG TERM OPERATION AND MAINTENANCE PROCEDURES

The proposed MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT project will be PRIVATELY OWNED, and the operation and maintenance requirements will be the responsibility of the private owner.

The entire Stormwater Management System shall be inspected on a yearly basis to ensure that the system operates in the manner originally intended. Specific components of the system shall require additional attention as described below.

1. Vegetated Filter Strip
   a. Vegetated Filter Strips shall be inspected annually and following major storm events to ensure the system operates in the manner originally intended.
   b. Debris and litter shall be removed from the filter strop and gravel diaphragm as necessary.
   c. Accumulated sand, grit and/pr debris shall be removed from the filter strip and gravel diaphragm if present.
   d. If rill erosion is present, fill in areas with native soil and reseed as required. Gravel diaphragm shall be increased in width above rill erosion locations to ensure sheet flow onto the vegetated filter strip.

STORMWATER POLLUTION PREVENTION PLAN
SUMMARY OF EROSION AND SEDIMENT CONTROL AND STABILIZATION MEASURES
MAINTENANCE/INSPECTION PROCEDURES

☐ All control measures will be inspected at least once every seven (7) days. Sites that have a waiver to disturb greater than five (5) acres require two (2) inspections every seven (7) days with at least two (2) days between inspections.

☐ All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.

☐ Built-up sediment will be removed from silt fences when it has reached one-third the height of the fence.

☐ Silt fences will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.

☐ Sediment basins, if present, will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50% of the design capacity or at the end of the job.

☐ Diversion dikes, if present, will be inspected and any breaches promptly repaired.

☐ Temporary and permanent seeding and planting and other stabilization measures will be inspected for bare spots, washouts, and healthy growth.

☐ A maintenance inspection report will be made after each inspection. Copies of the report forms to be used are included in this SWPPP.

☐ The site job superintendent will select the individuals who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance reports.

☐ Personnel selected for inspection and maintenance responsibilities will receive training from the site job superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

☐ Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.

☐ Report to The Department of Environmental Conservation within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event.

STORMWATER POLLUTION PREVENTION PLAN

CONSTRUCTION/IMPLEMENTATION CHECKLIST

1. Maintain Records (Project Manager) of Construction Activities, including:

   ☐ Dates when major grading activities occur

   ☐ Dates when construction activities temporarily cease on a portion of the site

   ☐ Dates when construction activities permanently cease on a portion of the site

   ☐ Dates when stabilization measures are initiated on the site

   ☐ Dates of rainfall and the amount of rainfall

   ☐ Dates and descriptions of the character and amount of any spills of hazardous materials

   ☐ Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

2. Prepare Inspection Reports (Qualified Inspector) summarizing:

   ☐ Name of inspector

   ☐ Qualifications of inspector

   ☐ Measures/areas inspected

   ☐ Observed conditions

   ☐ Changes necessary to the SWPPP

3. Report Releases of Reportable Quantities of Oil or Hazardous Materials (Project Manager, if they occur):

   ☐ Notify National Response Center (1-800-424-8802) immediately

   ☐ Notify permitting authority in writing within 14 days

   ☐ Modify the pollution prevention plan to include:

   - the date of release
   - circumstances leading to the release
   - steps taken to prevent reoccurrence of the release

4. Modify Pollution Prevention Plan (per Qualified Inspector) as necessary to:

   ☐ Comply with the minimum permit requirements when notified by The Department of Environmental Conservation that the plan does not comply

   ☐ Address a change in design, construction operation, or maintenance that has an effect on the potential for discharge of pollutants

   ☐ Prevent reoccurrence of reportable quantity releases of a hazardous material or oil

VII. SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

A. MATERIALS COVERED

The following materials or substances with known hazardous properties are expected to be present onsite during construction:

Concrete	Cleaning solvents
Detergents	Petroleum based products
Paints	Pesticides
Paint solvents	Acids
Fertilizers	Concrete additives
Soil stabilization additives	

B. MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

1. Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

a) An effort will be made to store only enough product required to do the job.

b) All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.

c) Products will be kept in their original containers with the original manufacturer's label in legible condition.

d) Substances will not be mixed with one another unless recommended by the manufacturer.

e) Whenever possible, all of a product will be used up before disposing of the container.

f) Manufacturer's recommendations for proper use and disposal will be followed.

g) The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

2. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials.

a) Products will be kept in original containers with the original labels in legible condition.

b) Original labels and material safety data sheets (MSDS's) will be procured and used for each material.

c) If surplus product must be disposed of, manufacturer's or local/state/federal recommended methods for proper disposal will be followed.

d) A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

e) All of the product in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

3. Product Specific Practices

The following product specific practices will be followed on the job site.

a) Petroleum Products

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks used onsite will have a dike or berm containment structure constructed around it to contain any spills that may occur. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

b) Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

c) Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

d) Concrete Trucks

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or washout and stormwater which will be discharged from the site or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete washout diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the CONTRACTOR. The job site superintendent will be responsible for seeing that these procedures are followed.

4. Spill Prevention Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup.

a) Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

b) Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.).

c) All spills will be cleaned up immediately after discovery.

d) The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

e) Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 302 list and oil) will be immediately reported to the EPA National Response Center, telephone 1-800-424-8802. Reportable Quantities of some substances which may be used at the job site are as follows:

oil - appearance of a film or sheen on water

pesticides - usually 1 lb.

acids - 5000 lb.

solvents, flammable - 100 lb.

f) The SPCC plan will be adjusted to include measures to prevent this type of spill from recurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included. If the spill exceeds a Reportable Quantity, all federal regulations regarding reports of the incident will be complied with.

g) The job site superintendent will be the spill prevention and cleanup coordinator. He will designate the individuals who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

VIII. CONTROL OF ALLOWABLE NON-STORMWATER DISCHARGES

A. Certain types of discharges are allowable under the NYS Department of Environmental Conservation SPDES General Permit for Construction Activity, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures, which have been outlined previously in this SWPPP, will be strictly followed to ensure that no contamination of these non-stormwater discharges takes place. The following allowable non-stormwater discharges that may occur from the job site include:

a) Discharges from fire fighting activities

b) Fire hydrant flushings (see note below)

c) Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking

d) Potable water sources such as waterline flushings (see note below), irrigation drainage from watering vegetation, routine exterior building washdown (without detergents present) (See Note below)

e) Pavement washwaters where spills or leaks of hazardous materials have not occurred or detergents have not been used

f) Springs and other uncontaminated groundwater, including dewatering ground water infiltration

g) Foundation or footing drains where no contamination with process materials such as solvents is present

NOTE: CONTRACTOR shall neutralize any super-chlorinated water from water distribution pipes before releasing it into the environment. Neutralization techniques are available from the Operator's Engineer.

IX. CERTIFICATION AND NOTIFICATION

A. The NYS Department of Environmental Conservation requires that certifications of knowledge of the contents of this SWPPP and agreement to follow the SWPPP be made by the NOI Permittee and the CONTRACTOR. The terms of the General Permit also require that each CONTRACTOR sign the SWPPP plan, (Form 3) thereby making them co-permittees and acknowledging their responsibility for certain operational aspects of the plan. These certifications should be signed before the CONTRACTOR begins activities and should be filed with the site's SWPPP at the jobsite. These certifications are provided within this document, see Table of Contents for location.

SECTION 2

Erosion and Sedimentation Control Plan
Site Map and General Location Map

Site Location Map
Maple Ridge Renewables

Town of Ellenburg

Clinton County

Source: Google Earth 2025

March 27, 2025

The Environmental Design Partnership, LLP © 2025

Figure 1

SECTION 3

NYSDEC Notice of Intent (NOI)

NYSDEC NOI Acknowledgement Letter (Pending)

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

version 1.11

(Submission #: HQF-3W1C-21S72, version 1)

Details

Originally Started By	Brandon Ferguson
Alternate Identifier	Maple Ridge Renewables Community Solar Project—Region 5
Submission ID	HQF-3W1C-21S72
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)?
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.)?
Yes

5.a. Has the owner/operator obtained documentation that the project review pursuant to SEQR, or the equivalent, has been satisfied per Part I.A.5. or I.A.6. of GP-0-25-001?
Yes

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
Maple Ridge Renewables LLC

9. Owner/Operator Contact Person Information

First and Last Name	Phone	E-mail
Fred Ball	(617) 431-1440	fball@nexamp.com

10. Owner/Operator Mailing Address

101 Summer Street 2nd Floor
Boston, MA 02110
USA

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

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

Site Information

13. Project/Site Name
Maple Ridge Renewables Community Solar Project

14. Site Address

Harris Road
Ellenburg, NY 12933
Clinton

DEC Region
5

15. Site Latitude & Longitude
44.801434893091724,-73.99001482110971

Project Details

16. This eNOI submission is for:
A construction activity not part of a common plan of development or sale in accordance with Part I.D.1.a.

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 2

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.
Maple Ridge Renewables, LLC is proposing the development of a 4MWac solar array on an approximately 54-acre site. The project area is comprised of two parcels owned by The Forest Farmers LLC. The design will include a fenced solar development footprint of under 30 acres. The installation will also included associated infrastructure such as a concrete equipment pad, a wooden "knot farm fence" and improved site access via the conversion of an existing dirt road to a gravel access road. Vegetative screening is proposed along key perimeters to minimize visual impacts to neighboring properties.

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)
54.1

20. Total Area to be Disturbed (acres)
19.4

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

22. Future Impervious Area Within Disturbed Area (acres)
0.2

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 (%)
100

C (%)
0

D (%)
0

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

Start Date
12/06/2025

End Date
05/30/2026

26. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Tribs to Lower Chateaugay Lake/Narrows - 0902-0041

27. Type of waterbody identified in question 26?
River Off 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

37. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the NYS Stormwater Management Design Manual?
Yes

37.a. Which version of the NYS Stormwater Management Design Manual was used to develop the SWPPP?
2024

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
Travis Mitchell

41. SWPPP Preparer Organization Name
The Environmental Design Partnership LLP

42. SWPPP Preparer Contact Information

First and Last Name	Phone	E-mail
Travis Mitchell	518-371-7621	tmitchell@edpllp.com

43. SWPPP Preparer Address

900 NY-146
Clifton Park, NY 12065

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

Post-Construction Criteria

Site Planning and Soil Restoration

46. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Undisturbed Area

47. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6 ("Soil Restoration") of the Design Manual.
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

Water Quality Criteria

49. Water Quality Sizing Criteria

Total WQv required (acre-feet)	Total RRv provided (acre-feet)	Minimum RRv (acre-feet)	Total WQv provided (acre-feet)	Sum of RRv and WQv provided
.015	.015			NaN

Water Quantity Criteria

51. Does one of the waiver conditions apply to the channel protection for this construction activity?
Yes

51.a. The need to provide channel protection has been waived because:
Reduction of the entire CPv is achieved by application of runoff reduction techniques or infiltration systems.

52. Does one of the waiver conditions apply to the Qp and Qf for this construction activity?
No

Overbank Flood Control Criteria (Qp)

52.b.i. Pre-Development (CFS)
4.59

52.b.ii. Post-Development (CFS)
4.20

Total Extreme Flood Control Criteria (Qf)

52.b.iii. Pre-Development (CFS)
23.87

52.b.iv. Post-Development (CFS)
22.18

Operation and Maintenance

53. Has a long-term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

53.a. Identify the entity responsible for the long-term Operation and Maintenance.
Owner

Post-Construction SMP Identification

54. Post-Construction RR Techniques and Standard SMPs

RR Techniques and SMPs	Contributing Impervious Area (acres)	Total Contributing Area (acres)
Sheet Flow to Riparian Buffers or Filter Strips (RR-2)	0.200	0.200

55. Alternative SMPs

Type of Alternative SMP	Manufacturer of the Alternative SMP	Name of the Alternative SMP	Contributing Impervious Area (acres)
NONE PROVIDED	*NONE PROVIDED*	*NONE PROVIDED*	*NONE PROVIDED*

Other Permits

56. Identify other permits, existing and new, that are required for this project/facility.
Individual SPDES

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

58. Is this eNOI for informational purposes only?
Yes

MS4 SWPPP Acceptance

59. Will the construction activities be within the municipal boundary(ies) of Traditional Land Use Control MS4 Operator(s) and discharge to the MS4(s)?
No

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?
Yes

Additional Project Information

62. Enter any additional pertinent project information in the text box below.

NONE PROVIDED

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: Maple Ridge Renewables Community Solar Project

eNOI Submission ID: HQF-3W1C-21S72

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.

Travis	J	Mitchell
Owner/Operator First Name	MI	Owner/Operator Last Name

_____

Signature

_____

Date

Revised: January 2025

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:	Maple Ridge Renewables Community Solar Project
eNOI Submission ID:	HQF-3W1C-21S72
Owner/Operator Name:	Travis Mitchell P.E. (The Environmental Design Partnership LLP)

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.

Travis	J	Mitchell
SWPPP Preparer First Name	MI	SWPPP Preparer Last Name

Signature Date

SECTION 4

NYSDEC SPDES General Permit (GP-0-25-001)

SECTION 5

Certifications, Forms, Reports, and Daily Logs

STORMWATER POLLUTION PREVENTION PLAN
NOI PERMITTEE'S CERTIFICATION

FORM 1

Construction Site
MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
TOWN OF ELLENBURG, CLINTON County, New York

STORMWATER POLLUTION PREVENTION PLAN DATED SEPTEMBER 2025

NOI PERMITTEE'S CERTIFICATION:

> "I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

NOI Permittee's
Designated Project Manager: _____

Signed: _____

Printed Name: _____

Position: _____

Date: _____

STORMWATER POLLUTION PREVENTION PLAN
CONTRACTOR'S CERTIFICATION LOG

FORM 2

Construction Site

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT

TOWN OF ELLENBURG, Clinton County, New York

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

Designated Project Manager_____

STORMWATER POLLUTION PREVENTION PLAN
CONTRACTOR'S/SUBCONTRACTOR'S CERTIFICATION
FORM 3

This form to be completed for each contractor listed on Form 2. Reproduce as needed

Construction Site

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
TOWN OF ELLENBURG, Clinton County, New York
CONSTRUCTION POLLUTION PREVENTION PROGRAM
DATED NOVEMBER 2025

CONTRACTOR'S CERTIFICATION:

"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."

The Contractor/Subcontractor further understands that the SWPPP and associated Erosion and Sediment Control Plans represent the **MINIMUM** erosion and sediment control measures that will be required to protect the site during construction. Additional erosion and sediment control measures will be necessary during construction. It will be the responsibility of Contractor/Subcontractor to implement all additional erosion and sediment control measures necessary to protect the site during construction.

CONTRACTOR:	**SUB**CONTRACTOR:
Name (Print): _____	Name (Print): _____
Signature: _____	Signature: _____
Date: _____	Date: _____
Title: _____	Title: _____
Company Name: _____	Company Name: _____
Address: _____	Address: _____
_____	_____
Phone: _____	Phone: _____

Elements of SWPPP Contractor/Subcontractor responsible for: _____

Name of Trained Contractor Responsible for SWPPP Implementation: _____

Title of Trained Contractor Responsible for SWPPP Implementation: _____

FORM 4
MAPLE RIDGE RENEWABLES, LLC – MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
SWPPP # _____

This form to be completed by Contractor's designated inspector at least weekly. Reproduce as needed.

SWPPP INSPECTION REPORTS

Date _____

Weather and Soil Conditions

Weather Conditions: _____

Soil Conditions: Dry [ ] Wet [ ] Saturated [ ] Snow Covered [ ] Frozen [ ]

Maintaining Water Quality

Yes	No	NA	
[ ]	[ ]	[ ]	Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
[ ]	[ ]	[ ]	Is there residue from oil and floating substances, visible oil film, or globules or grease?
[ ]	[ ]	[ ]	All disturbance is within the limits of the approved plans.
[ ]	[ ]	[ ]	Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes	No	NA	
[ ]	[ ]	[ ]	Is construction site litter and debris appropriately managed?
[ ]	[ ]	[ ]	Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ]	[ ]	[ ]	Is construction impacting the adjacent property?
[ ]	[ ]	[ ]	Is dust adequately controlled?

2. Temporary Stream Crossing

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

Runoff Control Practices

1. Excavation Dewatering

Yes	No	NA	
[ ]	[ ]	[ ]	Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ]	[ ]	[ ]	Clean water from upstream pool is being pumped to the downstream pool.
[ ]	[ ]	[ ]	Sediment-laden water from work area is being discharged to a silt-trapping device.
[ ]	[ ]	[ ]	Constructed upstream berm with one-foot minimum freeboard.

2. Water Bar

Yes	No	NA	
[ ]	[ ]	[ ]	Installed per plan with vehicle crossings stabilized with gravel.
[ ]	[ ]	[ ]	Outlet located on undisturbed soil or lined with riprap.
[ ]	[ ]	[ ]	Bar height is 12-inch minimum from bottom of channel with minimum base width of 6-foot.

3. Interceptor Dikes and Swales

Yes	No	NA	
[ ]	[ ]	[ ]	Installed per plan with minimum side slopes 1V:3H or flatter.
[ ]	[ ]	[ ]	Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ]	[ ]	[ ]	Sediment-laden runoff directed to sediment trapping structure.

4. Stone Check Dam

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

5. Rock Outlet Protection

Yes	No	NA	
[ ]	[ ]	[ ]	Installed per plan.
[ ]	[ ]	[ ]	Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes	No	NA	
[ ]	[ ]	[ ]	Stockpiles are stabilized with vegetation and/or mulch.
[ ]	[ ]	[ ]	Sediment control is installed at the toe of the slope.

2. Revegetation

Yes	No	NA	
[ ]	[ ]	[ ]	Temporary seedings and mulch have been applied to idle areas.
[ ]	[ ]	[ ]	Four inches minimum of topsoil has been applied under permanent seedings.

Sediment Control Practices

1. Stabilized Construction Entrance

Yes	No	NA	
[ ]	[ ]	[ ]	Stone is clean enough to effectively remove mud from vehicles.
[ ]	[ ]	[ ]	Installed per standards and specifications?
[ ]	[ ]	[ ]	Does all traffic use the stabilized entrance to enter and leave site?
[ ]	[ ]	[ ]	Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence

Yes	No	NA	
[ ]	[ ]	[ ]	Installed on Contour, ten feet from toe of slope (not across conveyance channels).
[ ]	[ ]	[ ]	Joints constructed by wrapping the two ends together for continuous support.
[ ]	[ ]	[ ]	Fabric buried six inches minimum.
[ ]	[ ]	[ ]	Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is _____% of design capacity.

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

Yes	No	NA	
[ ]	[ ]	[ ]	Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ]	[ ]	[ ]	Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ]	[ ]	[ ]	Drainage area is one acre or less.
[ ]	[ ]	[ ]	Excavated area is 900 cubic feet.
[ ]	[ ]	[ ]	Excavated side slopes should be 2:1.
[ ]	[ ]	[ ]	2" x 4" frame is constructed and structurally sound.
[ ]	[ ]	[ ]	Posts three-foot maximum spacing between posts.
[ ]	[ ]	[ ]	Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at maximum eight inch spacing.
[ ]	[ ]	[ ]	Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation _____% of design capacity.

SWPPP INSPECTION REPORT
Date _____

4. Temporary Sediment Trap

Yes	No	NA	
[ ]	[ ]	[ ]	Outlet structure is constructed per the approved plan or drawing.
[ ]	[ ]	[ ]	Geotextile fabric has been placed beneath rock fill.

Sediment accumulation is _____% of design capacity.

5. Temporary Sediment Basin

Yes	No	NA	
[ ]	[ ]	[ ]	Basin and outlet structure constructed per the approved plan.
[ ]	[ ]	[ ]	Basin side slopes are stabilized with seed/mulch.
[ ]	[ ]	[ ]	Drainage structure flushed and basin surface restored upon removal of sediment basin facility.

Sediment accumulation is _____% of design capacity.

Dust Control Practices

1. Haul Road and Current Work Areas

Yes	No	NA	
[ ]	[ ]	[ ]	Are all traffic surface areas sufficiently treated to prevent fugitive dust?
[ ]	[ ]	[ ]	Are any areas of site's non-traffic and work area experiencing wind erosion?
[ ]	[ ]	[ ]	Are there any disturbed areas in need of temporary seed and mulch to protect surface from wind erosion?
[ ]	[ ]	[ ]	Is watering truck on-site?
[ ]	[ ]	[ ]	Is dust visible in air at any location of the site?

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site-specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

Description of condition of runoff at all points of discharge from the construction site. (This shall include identification of discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow.) _____

_____

_____

_____

Description of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection (see Page 5 for Sketch). _____

_____

_____

_____

FORM 4
MAPLE RIDGE RENEWABLES, LLC – MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
SWPPP # _____

This form to be completed by Contractor's designated inspector at least weekly. Reproduce as needed.

SWPPP INSPECTION REPORT Page 4 of _____
Date _____

ADDITIONAL COMMENTS*:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____
Inspector (print name and title) Date and Time of Inspection

_____ _____
Qualified Professional (print name) Qualified Professional Signature

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

***Attach photographs of practices identified as needing corrective actions.**

NOTE: IN ACCORDANCE WITH PART IV.C.4 OF THE SPDES GENERAL PERMIT (GP-0-25-001), THE QUALIFIED INSPECTOR MUST NOTIFY THE OWNER OR OPERATOR AND APPROPRIATE CONTRACTOR OF ANY CORRECTIVE ACTIONS THAT NEED TO BE TAKEN. THE CONTRACTOR SHALL BEGIN IMPLEMENTING THE CORRECTIVE ACTIONS WITHIN ONE (1) BUSINESS DAY OF THIS NOTIFICATION AND SHALL COMPLETE THE CORRECTIVE ACTIONS IN A REASONABLE TIME FRAME.

STORMWATER POLLUTION PREVENTION PLAN
MODIFICATION REPORT
FORM 5

This form to be used only when Contractor's designated inspector believes changes to the SWPPP and/or Erosion and Sediment control plans is warranted. For example, additional erosion control measures needed or removal of specific control measures can be done without adverse impact. This form must be approved by Designated Project Manager prior to implementation.

Construction Site

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT

TOWN OF ELLENBURG, Clinton County, New York

CHANGES REQUIRED FOR STORMWATER POLLUTION PREVENTION PLAN

To:	**Designated Project Manager**	**Date:**	
Address:			
Telephone:			
Facsimile:			
Sent Via:	☐ **Facsimile**	☐ **E-mail**	☐ **US Mail**

INSPECTOR: _____ DATE: _____
(Print)

_____
(Signature)

QUALIFICATIONS OF INSPECTOR: _____

CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN: _____

_____

_____

REASONS FOR CHANGES: _____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

APPROVED BY DESIGNATED PROJECT MANAGER _____ DATE: _____

STORMWATER POLLUTION PREVENTION PLAN
RECORD OF STABILIZATION AND CONSTRUCTION ACTIVITIES
FORM 6

Construction Site

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT

TOWN OF ELLENBURG, Clinton County, New York

A record of dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be maintained until final site stabilization is achieved and the Notice of Termination is filed. *Reproduce copies of this form as needed.*

MAJOR GRADING, CONSTRUCTION, OR STABILIZATION ACTIVITIES

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Description of Activity: _____

Begin Date:_____ Site Contractor: _____

Location: _____

End Date: _____

Designated Project Manager_____

STORMWATER POLLUTION PREVENTION PLAN
RECORD OF TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES
FORM 6A

Construction Site

MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT

TOWN OF ELLENBURG, Clinton County, New York

A record of the timing of temporary erosion and sediment control practices to be implemented, including the timing of initial placement and the duration that each practice should remain in place. The record may reflect the actual date of planned installation or the specific construction activity with which it will be associated. The timing of removal may reflect an actual date or the length of time over which the practice will be implemented.

TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES

Description of Practice: _____

Date/Timing of Initial Placement:_____ Site Contractor: _____

Location: _____

Projected Date/Timing of Removal: _____

Description of Practice: _____

Date/Timing of Initial Placement:_____ Site Contractor: _____

Location: _____

Projected Date/Timing of Removal: _____

Description of Practice: _____

Date/Timing of Initial Placement:_____ Site Contractor: _____

Location: _____

Projected Date/Timing of Removal: _____

Description of Practice: _____

Date/Timing of Initial Placement:_____ Site Contractor: _____

Location: _____

Projected Date/Timing of Removal: _____

Description of Practice: _____

Date/Timing of Initial Placement:_____ Site Contractor: _____

Location: _____

Projected Date/Timing of Removal: _____

Designated Project Manager_____

YEAR 20___ **STORMWATER POLLUTION PREVENTION PLAN** **FORM 7**

PROJECT RAINFALL LOG (to be completed by Contractor)

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Day												
1												
2												
3												
4												
5												
6												
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30												
31												
PM Initials												

STORMWATER POLLUTION PREVENTION PLAN

FINAL STABILIZATION CERTIFICATION /NOTICE OF TERMINATION CHECKLIST

FORM 8

This form is to be completed by Contractor and submitted to Designated Project Manager for approval only after Contractor believes all work regulated by SWPPP is complete.

Construction Site
MAPLE RIDGE RENEWABLES COMMUNITY SOLAR PROJECT
TOWN OF ELLENBURG, Clinton County, New York

1. ☐ **All soil disturbing activities are complete.**

2. ☐ **Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.**

3. ☐ **All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 85% or equivalent measures have been employed.**

CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that all storm water discharges associated with industrial activity from the identified project that are authorized by NPDES general permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been removed or will be removed at the appropriate time."

Company Name _____

Name (Print) _____

Signature _____

Date _____

APPROVED BY DESIGNATED PROJECT MANAGER_____ DATE: _____

SECTION 6

Supplemental Information

1. Stormwater Management Narrative
2. NYSDEC OPRHP Letter of No Effect
3. SHPO Letter of No Effect
4. FEMA Map
5. NRCS Soil Survey

Stormwater Management Narrative

Maple Ridge Renewables
Community Solar Project

Harris Road

Town of Ellenburg

Clinton County, New York

Applicant:

Maple Ridge Renewables, LLC

101 Summer Street, 2nd Floor

Boston, MA 02110

AUGUST 2025

Revised: November 2025

Prepared By:

The Environmental Design Partnership, LLP

900 Route 146

Clifton Park, NY 12065

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900 Route 146, Clifton Park, New York 12065
phone (518) 371-7621

1.0 Introduction

Maple Ridge Renewables, LLC is proposing the development of a solar for on existing parcels of land totaling approximately 54+/- acres located on Harris Road in the Town of Ellenburg, New York. The proposed site development includes a solar farm which consists of approximately 5.36 +/- acres of solar panels spaces 32 +/- ft center to center and the construction of approximately 275 +/- linear feet (LF) of access road, stormwater management areas, and eight-foot-high perimeter fencing. The total area of proposed disturbance is approximately 19.4 +/- acres and 0.20 +/- acres of new impervious area will be associated with the project.

A stormwater management system has been developed to provide pollutant removal, reduce channel erosion, prevent overbank flooding, and safely control extreme flood events in accordance with the NYS Stormwater Management Design Manual (Design Manual). The NYS Department of Environmental Conservation (NYSDEC) issued specific guidance in April 2018 relative to stormwater management design consideration for solar panel installations. The temporary erosion control measures and post-construction stormwater management systems for this project have been designed in accordance with those guidelines and subsequent discussions with the NYSDEC relative to their guidelines. Section 7.0 of this report addresses specific solar panel application guidance.

The proposed stormwater management system for the project will include the use of a vegetated filter strip designed to convey runoff from the gravel access road and concrete equipment pad. Runoff from the impervious access road is directed into the vegetated filter strip prior to discharging offsite.

This narrative presents a review of the design concepts and parameters of the stormwater management system for the proposed increased impervious areas, in accordance with NYSDEC solar application guidance, including the access roads and the equipment pads. The purpose of the stormwater management narrative is to ensure that changes in the surface runoff characteristics, as a result of the proposed construction, will not adversely impact adjacent or downstream properties. On-site stormwater management will be implemented in accordance with the Design Manual and NYSDEC solar application guidance to accommodate both additional stormwater runoff and to provide water quality treatment according to the green infrastructure standards.

2.0 Existing Conditions

The site consists of mostly wooded area with small patches of grass areas and a gravel access road. The topography of the land consists of drainage from east to west. The typical slopes within the area of the proposed development range from 5% to 15%, with localized areas over 20%. Elevations at the site vary between 1440 and 1570 feet above sea level.

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2.1 Soil and Groundwater Conditions

The USDA Natural Resources Conservation Service Soil Survey identifies the soils on the site, in the proposed development, consist of fine sand loams, which are moderately well drained. These soils are predominantly classified as Hydrologic Soil Group (HSG) B. The results from the USDA Natural Resources Conservation Soil Survey (NRCS Soil Survey) are included in Section 6 of the SWPPP.

3.0 Predevelopment Stormwater Analysis

The existing hydrologic conditions, in the area to be disturbed as a result of the proposed construction, were analyzed using Applied Microcomputer Systems' "HydroCAD" computer modeling program. The HydroCAD stormwater modeling program employs the United States Department of Agriculture's Soil Conservation Service (SCS) Technical Release 20 (TR-20) method for stormwater analysis. Using this modeling technique, the site is divided into "subcatchments" that represent specific areas contributing stormwater runoff to an existing, or proposed drainage feature. The subcatchments typically flow through "reaches" (i.e., swales, channels, or pipes) that convey the stormwater to storm basins or discharge areas.

A hydrologic model of the existing site was prepared using the Hydrocad program. One (1) large sub catchment was used to represent the existing drainage condition, see Figure 2.

The existing parameters of topography, vegetation, slope and soil type are all incorporated into the predevelopment model.

Table 1 presents a summary of the pre-development stormwater peak discharge for the 1 year, 10 year and 100-year design storm events at the respective Design Point. As will be discussed in subsequent sections, the post development stormwater discharge rate has been limited to the predevelopment discharge rate for the 1-year, 10-year, and 100-year storm events.

Table 1: Pre-Development Runoff Rates

Storm Event	Total Discharge (cfs)
1-Year (1.86")	0.18
10-Year (3.09")	4.59
100-Year (5.25")	23.87

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The pre-development Curve Numbers (CN) for the existing ground covers are listed in Table 2.

Table 2: Pre-Development Ground Cover

Pre-Development Ground Cover Description	Curve Number
Meadow, Non-grazed, HSG B	58
Woods, Fair, HSG B	60
Impervious Surfaces	98

The weighted CN for the pre-development conditions for the site is approximately 64. The HydroCAD model results for the pre-development conditions are included within Attachment B.

4.0 Stormwater Management Planning and Practice Selection

The site layout and stormwater design for this project was completed while taking into consideration the potential impacts on the existing site and downstream hydrology. Stormwater runoff from the existing site predominately sheet flows to areas to the west of the site. The stormwater management system will replicate similar practices.

Stormwater from impervious areas on the site is designed to be treated with a vegetated filter strip. This design method was chosen on this site due to the minor amount of impervious surface and the uniform grade of the access road. Vegetated filter strips are considered standard stormwater management practices with runoff reduction volume capacity.

The total disturbance for the project will be on the order of 19.4± acres. The proposed development will result in an increase of impervious cover by 0.20± acres.

5.0 Post-Development Stormwater Analysis

The post-development conditions were analyzed using the HydroCAD computer modeling program.

Two (2) subcatchments were used to represent the post development drainage conditions of the site in the areas of the proposed solar development. Site improvements to the property will consist of a solar farm which will include 5.36 +/- acres of solar panels, approximately 275 +/- LF of access road, a solar electrical equipment pad, and perimeter fencing. Also included, as permanent elements of the development, is the on-site stormwater management area depicted as a vegetated filter strip. This vegetated filter strip has been designed to provide treatment and attenuation of stormwater runoff from the proposed impervious surfaces on the site.

Runoff from the undeveloped portion of the project site, outside of the stormwater management areas, will sheet flow off site, which is similar to predevelopment drainage

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patterns. In areas with slopes greater than 5% where solar panels will be installed, overland flow dispersion devices will be installed on 100-foot intervals. The overland flow dispersion devices will maintain sheet flow patterns similar to predevelopment conditions.

The post-development ground cover Curve Numbers (CN) are listed in Table 3.

Table 3: Post-Development Ground Cover

Post-Development Ground Cover Description	Curve Number
Meadow, non-grazed, HSG B	58
Woods, Fair, HSG B	60
Impervious Surfaces	98

The weighted CN for the post-development conditions for the site is approximately 61. The HydroCAD model results for the post-development conditions are included within Attachment B. The contributing area to each stormwater management area is identified in Figure 3.

Table 4 presents a summary of the post-development stormwater peak discharge for the 1 year, 10 year and 100-year design storm events at the respective Design Points.

Table 4: Post-Development Runoff Rates

Storm Event	Total Discharge (cfs)
1-Year (1.86")	0.16
10-Year (3.09")	4.20
100-Year (5.25")	22.17

5.1 Stormwater Management Area #1 – Vegetated Filter Strip

Stormwater Management Area #1 is designed as a vegetated filter strip with a gravel diaphragm. The filter strip and diaphragm will provide treatment and attenuation of stormwater runoff from the impervious access road and concrete equipment pad. Runoff contributing to SMA #1 will be conveyed via shallow concentrated flow and sheet flow.

5.2 NYS Unified Stormwater Sizing Criteria

The area to be disturbed as a result of the proposed development was modeled in HydroCAD under the post-development conditions using two subcatchments (Figure 3) routed into the stormwater management areas. The contributing area of each stormwater management area is

900 Route 146, Clifton Park, New York 12065
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identified in Figure 3. The post-development stormwater management system has been designed based on the Unified Stormwater Sizing Criteria as described in the following sections.

5.2.1 Water Quality (WQ_v)

In general, small storm events and the initial runoff from larger storm events are an environmental concern as this stormwater runoff typically contains roadway pollutants and thermal energy stored by the asphalt. In accordance with the Design Manual, this initial runoff is designated as the Water Quality Volume (WQ_v) and special attention is given to this volume of runoff to meet water quality objectives.

The Design Manual identifies several standard practices, such as the proposed infiltration basins which are acceptable for water quality treatment. These acceptable Stormwater Management Practices (SMPs) can capture and treat the full water quality volume (WQ_v), are capable of 80% TSS removal and 40% TP removal, have acceptable longevity in the field, and have pretreatment mechanism.

The water quality storage volume, WQ_v, is calculated as follows:

$$WQ_v = \frac{P \cdot R_v \cdot A}{12}$$

Where: WQ_v = water quality volume (acre-feet)

P = 90% rainfall event number

R_v = 0.05+0.009(I), where I is percent impervious cover

A = site area (acres), impervious area used with I = 100%

Table 5: Required Water Quality Volume

Drainage Area	P	R_v	A (Acres)	Required WQ_v (cf)	Provided WQ_v (cf)
SMA #1	1.00	0.95	0.20	690	690

5.2.2 Runoff Reduction Volume (RRv)

The Design Manual specifies that runoff shall be reduced by 100% of the site WQv using standard SMPs with RRv capacity and green infrastructure techniques. The proposed project area on the site is approximately 19.4 acres. The total watershed area contributing to the SMA for analysis is approximately 8.3 acres, with a total post-development impervious area on the order of 0.20 acres (1%). The resulting RRv for these site coverages is computed as 690 CF. Runoff reduction will be provided by standard SMP's with RRv capacity. (See Appendix A for summary of calculations)

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phone (518) 371-7621

5.2.2.1 Stormwater Management Practices (SMP's)

A vegetated filter strip has been proposed to collect, treat and infiltrate the stormwater runoff from the site. This infiltration practice is considered a standard SMP with RRv capacity. The RRv provided by the infiltration practices is on the order of 690 CF.

5.2.2.2 Green Infrastructure Practices

The project does not propose the use of green infrastructure practices because the runoff reduction provided by standard SMPs is greater than the minimum runoff reduction required.

The following Table provides a summary of the Runoff Reduction provided for the proposed development, based on each management practice and technique.

Table 6: Runoff Reduction Volume Summary

Runoff Reduction Technique	RRv (cf)
Vegetated Filter Strip	690
Total Site Reduction	690
% WQv. Reduction	**>100%**

Many of the green infrastructure practices recommended in the Design Manual were not applied to the stormwater management design on this site due to either site restrictions or the use of more feasible green infrastructure in place of the more restrictive and/or maintenance intensive practices. The following table discusses why the unused green infrastructure practices were not feasible.

Table 7: Non-Feasible Green Infrastructure Practices

Green Infrastructure Practice	**Reason use is not feasible**
Vegetated Swales	There are no swales proposed to receive runoff from impervious areas onsite
Tree Planting/Tree Pit	Trees will be saved on the site to the greatest extent possible. Trees will also be planted to maintain a buffer from the surrounding properties to the proposed site, though the resulting runoff reduction value for adding additional trees is minimal.
Conservation of Natural Areas	Natural areas will be conserved on site as much as possible, but the resulting runoff reduction value is minimal.
Stream Daylighting	No existing piped streams are located on the site.
Green Roofs	There is no building construction proposed as part of the project
Stormwater Planters	The proposed practices were deemed more economically feasible and effective as opposed to stormwater planters. Additionally, they require less maintenance.

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Rain Barrels/Cisterns	Rain Barrels/Cisterns would require the ability to use the water between storm events which is not feasible for this project type.
Rain Gardens	Rain gardens are not recommended for commercial applications as well as not economically feasible.
Disconnection of Rooftop Runoff	There is no building construction proposed as part of the project

5.2.3 Channel Protection (Cp_v)

In accordance with the Design Manual, stream channel protection, designed to protect stream channels from erosion, is accomplished by providing 24-hour extended detention of the one-year, 24-hour storm event. The Cp_v requirement is typically satisfied by providing additional storage above the water quality (WQ_v) volume.

According to Chapter 4 of the Design Manual, the stream channel protection requirement does not apply when the entire channel protection volume is reduced through green infrastructure or infiltration systems. The stormwater management practice onsite is designed as an infiltration practice; additionally, stormwater modelling indicates the proposed stormwater management areas designed to fully attenuate and infiltrate the contributing stormwater runoff for stormwater events up to the 100-Year design storm.

5.2.4 Overbank Flood (Q_p)

Overbank Flood Control Criteria has been established to limit the frequency and magnitude of out-of-bank flooding generated through changes in runoff characteristics as a result of increased impervious surface area. In accordance with the Design Manual, providing sufficient storage volume to attenuate the post development 10-year, 24-hour peak discharge rate to the equivalent pre-development discharge rate controls overbank flooding.

The 10-year design storm event was analyzed using the HydroCAD stormwater modeling program (TR-20) under the post-development drainage conditions shown on Figure 3. Using a 10-year, 24-hour design storm of 3.09 inches, the stormwater management area was designed with sufficient storage volume to limit the post-development 10-year, 24-hour peak discharge rate to the pre-development discharge rate. The following table presents the pre- and post-development discharge rates for the offsite discharge. As indicated, the post-development discharge rate is less than the pre-development rate as required.

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Table 8: Overbank Flow Runoff Summary

	10-year (3.09") runoff rate (cfs)	
	Predevelopment	Post-Development
DP-1	4.59	4.20

5.2.5 Extreme Storm (Q_f)

In accordance with the Design Manual, the stormwater management system must attenuate the post development 100-year, 24-hour peak discharge rate to the predevelopment rate while providing safe passage of this storm event.

The 100-year storm event was analyzed using the HydroCAD stormwater modeling program (TR-20) under the post-development drainage conditions shown in Figure 3. Using a 100-year, 24-hour design storm of 5.25 inches, the stormwater management areas were designed with sufficient storage volume to limit the post-development 100-year, 24-hour peak discharge rate to the predevelopment discharge rate. The following table presents the pre and post development discharge rates for the offsite discharge. As indicated, the post-development discharge rate is less than the predevelopment rate as required.

Table 9: Extreme Storm Runoff Summary

	100-year (5.25") runoff rate (cfs)	
	Predevelopment	Post-Development
DP-1	23.87	22.18

6.0 Summary

Development of the proposed project site will alter the stormwater drainage characteristics of the site; impervious area will be added in the form of an improved compacted gravel or paved access road, solar panels, and a solar equipment pad. Changes to the stormwater drainage characteristics of the site have been evaluated in accordance with the Design Manual. The proposed stormwater management system has been designed to comply with the recommendations in the Design Manual and the NYSDEC SPCG as it relates to maintaining sheet flow, providing water quality/runoff reduction/channel protection volume, overbank flood control and extreme flood control for new development projects.

The proposed stormwater management system has been designed to attenuate and treat the stormwater runoff generated from the contributing areas for storm events to the pre-

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development rates, up to and including the 100-Year design storm event. The proposed stormwater management design includes the use of a vegetated filter strip. Stormwater modeling results indicate the ability to reduce the overall post-development discharge rate from the site as summarized in Table 10.

Table 10: Reduction in Peak Discharge Rates

Peak Discharge Rates in cfs	1-Year Storm	10-Year Storm	100-Year Storm
Pre-Development	0.18	4.59	23.87
Post-Development	0.16	4.20	22.18
Overall Reduction (cfs)	0.02	0.39	1.69

Through the implementation of acceptable stormwater management practices, recommended by the NYS Stormwater Management Design Manual, the proposed project will not adversely affect adjacent or downstream properties.

Prepared by:

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The Environmental Design Partnership, LLP

Reviewed by:

Travis Mitchell, P.E.

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REFERENCES

HydroCAD version 10.2, Applied Microcomputer Systems, Chocura, New Hampshire.

NYSDEC, 1990. "Technical and Operational Guidance Series (5.1.8) Stormwater Management Guidelines for New Development", New York State Department of Environmental Conservation, Division of Water.

NYSDEC, 1992. "Reducing the Impacts of Stormwater Runoff from New Development", New York State Department of Environmental Conservation, Division of Water.

NYSDEC, 2015. "New York State Stormwater Management Design Manual", Center for Watershed Protection, Ellicott City, MD.

Rawls, W.J., Brakensiek, D.L., and Saxton, K. E., 1982. "Estimation of Soil Properties", Transactions of the American Society of Agricultural Engineers, Vol. 25, No. J, pp. 1316-1320.

S.C.S., 1982. "TR-20 Project Formulation-Hydrology, Technical Release No. 20", U.S. Department of Agriculture, Soil Conservation Service, Hydrology Unit Division of Engineering.

United States Department of Agriculture, Web Soil Survey. Retrieved from https://websoilsurvey.sc.egov.usda.gov

NYSDEC, 2018. "Solar Panel Construction Stormwater Permitting/ SWPPP Guidance", New York State Department of Environmental Conservation, Division of Water.

MDE,2000. "2000 Maryland Stormwater Design Manual, Volumes I and II". Maryland Department of the Environment

MDE. "Stormwater Design Guidance- Solar Panel Installations". Maryland Department of the Environment

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Figures

1. Site Location map
2. Pre-Development Drainage Map
3. Post Development Drainage Map

Figure 1: Site Location Map

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MAP KEY	
	SUBCATCHMENT BOUNDARY
S1	SUBCATCHMENT I.D.
4P	STORMWATER DEVICE
DP	DESIGN POINT
	TC PATH

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

1 INCH = 200 FT.

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STORMWATER ANALYSIS FOR

MAPLE RIDGE RENEWABLES LLC

HARRIS ROAD
TOWN OF ELLENBURG
CLINTON COUNTY, NEW YORK

AUGUST 26, 2025

REVISION	DATE	BY

SCALE: 1" = 200'

SHEET TITLE: PRE DEVELOPMENT

SHEET NO. FIGURE 2

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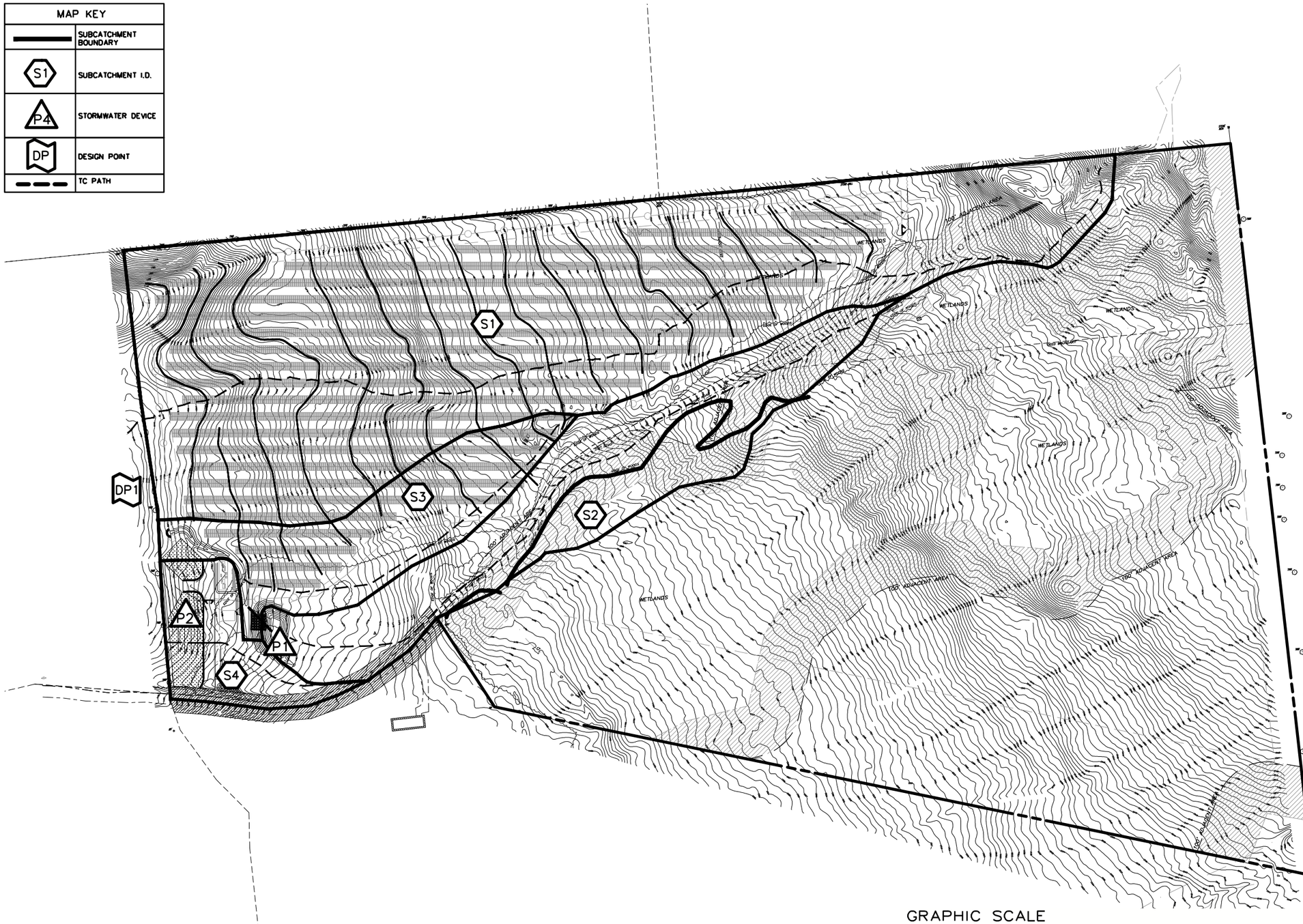
MAP KEY	
	SUBCATCHMENT BOUNDARY
S1	SUBCATCHMENT I.D.
P4	STORMWATER DEVICE
DP	DESIGN POINT
	TC PATH



GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)

1 INCH = 200 FT.

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STORMWATER ANALYSIS FOR

MAPLE RIDGE RENEWABLES LLC

HARRIS ROAD
TOWN OF ELLENBURG
CLINTON COUNTY, NEW YORK

AUGUST 26, 2025

REVISION	DATE	BY

SCALE: 1" = 200'

SHEET TITLE: POST DEVELOPMENT

SHEET NO. FIGURE 3

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Attachment A

Water Quality Calculation

Runoff Reduction Calculation

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Step 1 - Site Planning

Practice		Description	Applicable	Project Specific Evaluation
Preservation of Natural Features and Conservation Design	**Preservation of Undisturbed Areas**	Delineate and protect undisturbed forests, native vegetated areas, riparian corridors, water bodies, wetlands, and natural terrain.	N/A	The project does not propose permanent conservation of this area at this time.
	Preservation of Buffers	Delineate and protect naturally vegetated buffers along perennial streams, rivers, shorelines, and wetlands.	N/A	There are no water bodies located on or adjacent to the project site.
	Reduction of Clearing and Grading	Limit clearing and grading to the minimum amount needed for roads, driveways, foundations, utilities and stormwater management facilities.	N/A	Clearing and grading will be limited to the area of disturbance and will be minimized to the greatest extent practical. The limits of all proposed clearing will be demarcated in the field with orange construction fencing, prior to construction, to prevent unnecessary removal of trees.
	Locating Development in Less Sensitive Areas	Avoid sensitive resource areas such as floodplains, steep slopes, erodible soils, wetlands, mature forests and critical habitats by locating development to fit the terrain in areas that will create the least impact.	N/A	There are no floodplains, steep slopes, erodible soils, wetlands, mature forests or critical habitats located on the project site.
	Open Space Design	Use clustering, conservation design or open space design to reduce impervious cover, preserve more open space and protect water resources.	N/A	The site layout has been designed to maximize open space. Impervious surfaces have been minimized to the greatest extent practical.
	Soil Restoration	Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of post construction practices.	Yes	All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual.
	Roadway Reduction	Minimize roadway widths and lengths, below local requirements, to reduce site impervious area		Reducing the roadway width is not feasible for the project's intended use.

Step 1 - Site Planning

Reduction of Impervious Cover	**Sidewalk Reduction**	Minimize sidewalk lengths and widths, below local requirements, to reduce site impervious area	N/A	No new sidewalks are proposed as part of this project.
	Driveway Reduction	Minimize driveway lengths and widths, below local requirements, to reduce site impervious area	N/A	No new driveways are proposed as part of this project.
	Cul-de-sac Reduction	Minimize the number of cul-de-sacs and incorporate landscaped areas to reduce their impervious cover.	N/A	No cul-de-sacs are proposed as part of this project.
	Building Footprint Reduction	Reduce the impervious footprint of residences and commercial buildings by using alternate or taller buildings while maintaining the same floor to area ratio.	N/A	No new buildings are proposed as part of this project.
	Parking Reduction	Reduce imperviousness on parking lots by eliminating unneeded spaces, providing compact car spaces and efficient parking lanes, reducing stall dimensions below local requirements, using porous pavement surfaces in overflow parking areas, and using multi-storied parking decks where appropriate.	N/A	No new parking stalls are proposed as part of this project.

Step 2 - Calculate Water Quality Volume

Is this project subject to Section 4.3 of the NYS Design Manual for Enhanced Phosphorus Removal?	No
What is the nature of this construction project?	New Construction

Design Point:	1	
P=	1.00	inches

Enter 90% Rainfall Event as P

Calculate Required WQv

Drainage Area Number	Contributing Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (cf)	SMP Description
1	0.20	0.20	100	0.95	690	Sheet Flow to Grass Filter Strip
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
Total	0.20	0.20	100	0.95	**690**	**Required WQv**

Steps 3 and 5 - Apply RR Techniques and Standard SMPs

Runoff Reduction Volume and Treated Volumes						
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**	**WQv Treated**
			(acres)	**(acres)**	**(cf)**	**(cf)**
RR Techniques	Conservation of Natural Areas	RR-1	0.00		0	
	Sheet Flow to Riparian Buffer/Filter Strip	RR-2	0.20	0.20	690	
	Tree Planting/Tree Pit/Tree Trench	RR-3	0.00	0.00	0	
	Disconnection of Rooftop Runoff	RR-4		0.00	0	
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rainwater Harvesting Systems	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Extensive & Intensive)	RR-10	0.00	0.00	0	
	Stream Daylighting	RR-11				
Standard SMPs w/ RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4	0.00	0.00	0	0
	Infiltration Bioretention	F-4	0.00	0.00	0	0
	Filtration Bioretention	F-5	0.00	0.00	0	0
	Bioslope	F-6	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention	P-1	0.00	0.00		0
	Wet Pond	P-2	0.00	0.00		0
	Wet Extended Detention	P-3	0.00	0.00		0
	Multiple Pond System	P-4	0.00	0.00		0
	Shallow Wetland	W-1	0.00	0.00		0
	Extended Detention Shallow Wetland	W-2	0.00	0.00		0
	Pond/Wetland System	W-3	0.00	0.00		0
	Pocket Wetland	W-4	0.00	0.00		0
	Gravel Wetland	W-5	0.00	0.00		0
	Surface Sand Filter	F-1	0.00	0.00		0
	Underground Sand Filter	F-2	0.00	0.00		0
	Perimeter Sand Filter	F-3	0.00	0.00		0
	Wet Swale	O-2	0.00	0.00		0
Alt. SMPs	Flow Based Alternative Practice	-	0.00	0.00		0
	Volume Based Alternative Practice	-				
	Totals by RR Technique	→	0.20	0.20	690	
	Totals by Standard SMP w/RRV	→	0.00	0.00	0	0
	Totals by Standard SMP	→	0.00	0.00		0
	Totals by Alternative SMP	→	0.00	0.00		0
	Totals (RR Techniques + all SMPs)	→	0.20	0.20	690	0

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

Practice		Description	Applicable	Project Specific Evaluation
RR Techniques	**Conservation of Natural Areas (RR-1)**	Retain the pre-development hydrologic and water quality characteristics of undisturbed natural areas by permanently conserving these areas on a site. Undisturbed natural areas include: forest retention areas; reforestation areas; stream and river corridors; shorelines; wetlands, vernal pools, and associated vegetated buffers; and undisturbed open space.	N/A	The project does not propose permanent conservation of these areas at this time.
	Sheet Flow to Riparian Buffer/Filter Strip (RR-2)	Undisturbed natural areas such as forested conservation areas and stream buffers or vegetated filter strips and riparian buffers can be used to treat and control stormwater runoff from some areas of a development project.	Yes	he project proposes sheet flow to grass filter strips to reduce runoff from the proposed access road and equipment pads. Calculations have been provided in the SWPPP.
	Tree Planting/Tree Pit/Tree Trench (RR-3)	Plant or conserve trees to reduce stormwater runoff, increase nutrient uptake, and provide bank stabilization. Trees can be used for applications such as landscaping, stormwater management practice areas, conservation areas and erosion and sediment control.	N/A	Tree plantings/tree pits/tree trenches are proposed on site. However, credit for these trees will not be taken toward area reduction/volume reduction in the RRv calculations.
	Disconnection of Rooftop Runoff (RR-4)	Direct runoff from rooftop areas and upland overland runoff flow to designated pervious areas to reduce runoff volumes and rates.	N/A	No buildings are proposed
	Vegetated Swale (RR-5)	The natural drainage paths, or properly designed vegetated channels, can be used instead of constructing underground storm sewers or concrete open channels to increase time of concentration, reduce the peak discharge, and provide infiltration.	N/A	Vegetated swales are proposed for the site but are too steep too account for water quality treatment.
	Rain Garden (RR-6)	Manage and treat small volumes of stormwater runoff using a conditioned planting soil bed and planting materials to filter runoff stored within a shallow depression.	N/A	Rain gardens are not feasible for use on the project site.

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

RR Techniques	**Stormwater Planter (RR-7)**	Small landscaped stormwater treatment devices that can be designed as infiltration or filtering practices. Stormwater planters use soil infiltration and biogeochemical processes to decrease stormwater quantity and improve water quality.	N/A	Stormwater planters are not feasible for use on the project site.
	Rainwater Harvesting System (RR-8)	Capture and store stormwater runoff to be used for irrigation systems or filtered and reused for non-contact activities.	N/A	Rainwater harvesting is not proposed on-site.
	Porous Pavement (RR-9)	Pervious types of pavements that provide an alternative to conventional paved surfaces, designed to infiltrate rainfall through the surface, thereby reducing stormwater runoff from a site and providing some pollutant uptake in the underlying soils.	N/A	Porous pavement is not feasible for use on the project site.
	Green Roof (RR-10)	Capture runoff by a layer of vegetation and soil installed on top of a conventional flat or sloped roof. The rooftop vegetation allows evaporation and evapotranspiration processes to reduce volume and discharge rate of runoff entering conveyance system.	N/A	Buildings are not proposed for this site.
	Stream Daylighting (RR-11)	Stream Daylight previously-culverted/piped streams to restore natural habitats, better attenuate runoff by increasing the storage size, promoting infiltration, and help reduce pollutant loads.	N/A	No stream daylighting opportunities are present on the site.
	Infiltration Trench (I-1)	An infiltration practice that stores the water quality volume in the void spaces of a gravel trench before it is infiltrated into the ground.	N/A	Infiltration trenches are not feasible for use on the project site.
	Infiltration Basin (I-2)	An infiltration practice that stores the water quality volume in a shallow depression, before it is infiltrated it into the ground.	N/A	Infiltration basins are not feasible for use on the project site.
	Dry Well (I-3)	An infiltration practice similar in design to the infiltration trench, and best suited for treatment of rooftop runoff.	N/A	Dry wells are not feasible for use on the project site.

Step 3 - Evaluation of RR Techniques and Standard SMPs with RRv Capacity

Standard SMPs with RRv Capacity	**Underground Infiltration System (I-4)**	An infiltration practice below grade that stores the water quality volume in pre-manufactured pipes, vaults or other modular structures, before it is infiltrated into the ground.	N/A	Underground infiltration systems are not feasible for use on the project site.
	Infiltration Bioretention (F-4)	A shallow depression that treats stormwater as it flows through a soil matrix, before it is infiltrated into the ground.	N/A	A filtration bioretention will be implemented, instead of an infiltration bioretention.
	Filtration Bioretention (F-5)	A shallow depression that treats stormwater as it flows through a soil matrix and is returned to the storm drain system.	N/A	An infiltration bioretention will be implemented, instead of a filtration bioretention.
	Bioslope (F-6)	Permeable engineered soil media that is installed along embankments or other slopes, designed to capture and treat stormwater runoff from adjacent paved areas.	N/A	Bioslopes are not feasible for use on the project site.
	Dry Swale (O-1)	An open drainage channel or depression explicitly designed to detain and promote the filtration of stormwater runoff into the soil media.	N/A	Dry swales are not feasible for use on the project site.

Step 4 - Calcuate Minimum RRv Required

Enter the Soils Data for the site		
Hydrologic Soil Group	Acres	S
A		55%
B	0.20	40%
C		30%
D		20%
Total Area	0.2	

Calculate the Minimum RRv		
S =	**0.40**	
Impervious =	0.20	*acres*
Precipitation	1.00	*inches*
Rv	0.95	
Minimum RRv	**0.006**	***af***
	261	cf

Sheet Flow to Grass Filter Strip (RR-3)

Design Point:	1

Enter Site Data For Drainage Area to be Reduced							
Drainage Area Number	**Contributing Area** (Acres)	**Impervious Area** (Acres)	**Percent Impervious** %	**Rv**	**WQv** (cf)	**Precipitation** (in)	**Description**
1	0.20	0.20	100	0.95	690	1.00	Sheet Flow to Grass Filter Strip

Design Criteria		
Is the riparian buffer delineated and permanently protected through establishment of a legal conservation easement?	Yes	
Is the contributing area a designated hotspot?	No	
Is a pretreatment pea gravel diaphragm proposed along the upgradient edge of the buffer?	Yes	
Is runoff entering the buffer as overland sheet flow or a flow spreader proposed upgradient of the buffer?	Yes	
Enter the total length of contributing flow path (ft)	150	
Enter the length of contributing flow path from impervious surfaces (ft)	75	
Enter the slope of contributing flow path (%)	10	
Minimum buffer length based on contriuting flow path slope (ft)	60	
Enter the slope for the first 10 ft of the buffer (%)	2	

Sizing Criteria				
		Value	Units	Notes
Enter Travel Time through Buffer	*T*	6	min	
Enter 2-yr 24-hr Rainfall Depth	*P*	2.14	inch	
Enter Overall Buffer Slope	*S*	0.08	ft/ft	
Enter Manning's Coefficient for Buffer	*n*	0.40		
Calculated Minimum Length of Buffer	*L*	32	ft	
Minimum Length of Buffer	*L*	60	ft	
Is the buffer within HSG C or D soils?		No		
Required Length of Buffer	*L*	60	ft	
Enter Provided Length of Buffer	*L*	60	ft	

Calculate Runoff Reduction		
RRv Provided	**690**	**cf**

Attachment B

Stormwater Modeling Calculations

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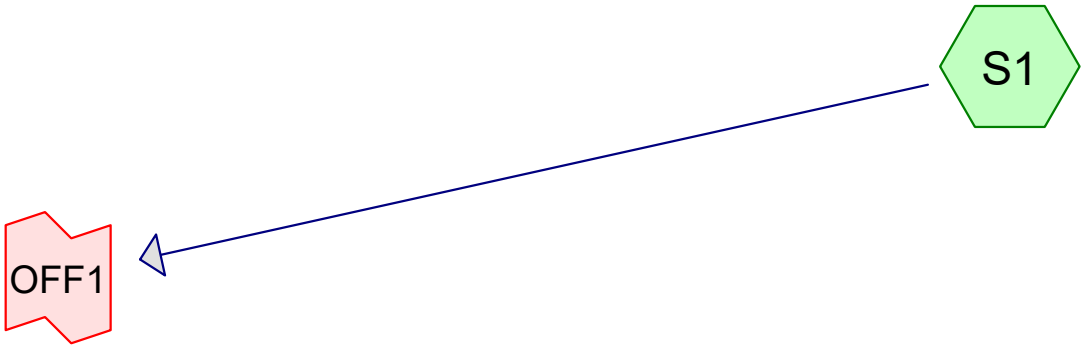


Subcat Reach Pond Link

Routing Diagram for Pre-Dev
Prepared by Environmental Design Partnership, Printed 11/17/2025
HydroCAD® 10.20-2h s/n 00476 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing

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	1.86	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.09	2
3	100-yr	Type II 24-hr		Default	24.00	1	5.25	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.658	98	Impervious (S1)
2.963	58	Meadow, non-grazed, HSG B (S1)
19.764	60	Woods, Fair, HSG B (S1)
24.385	**62**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
22.727	HSG B	S1
0.000	HSG C	
0.000	HSG D	
1.658	Other	S1
24.385		**TOTAL AREA**

Ground Covers (selected 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	0.000	1.658	1.658	Impervious	S1
0.000	2.963	0.000	0.000	0.000	2.963	Meadow, non-grazed	S1
0.000	19.764	0.000	0.000	0.000	19.764	Woods, Fair	S1
0.000	**22.727**	**0.000**	**0.000**	**1.658**	**24.385**	**TOTAL AREA**	

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=1,062,215 sf 6.80% Impervious Runoff Depth=0.06"
Flow Length=2,100' Tc=43.0 min CN=62 Runoff=0.18 cfs 0.121 af

Link OFF1: Inflow=0.18 cfs 0.121 af
Primary=0.18 cfs 0.121 af

Total Runoff Area = 24.385 ac Runoff Volume = 0.121 af Average Runoff Depth = 0.06"
93.20% Pervious = 22.727 ac 6.80% Impervious = 1.658 ac

Summary for Subcatchment S1:

Runoff = 0.18 cfs @ 13.61 hrs, Volume= 0.121 af, Depth= 0.06"
Routed to Link OFF1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.86"

	Area (sf)	CN	Description
	860,925	60	Woods, Fair, HSG B
	129,060	58	Meadow, non-grazed, HSG B
*	72,230	98	Impervious
	1,062,215	62	Weighted Average
	989,985		93.20% Pervious Area
	72,230		6.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	1,528	0.0740	1.36		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.0	2,100	Total			

Summary for Link OFF1:

Inflow Area = 24.385 ac, 6.80% Impervious, Inflow Depth = 0.06" for 1-yr event
Inflow = 0.18 cfs @ 13.61 hrs, Volume= 0.121 af
Primary = 0.18 cfs @ 13.61 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=1,062,215 sf 6.80% Impervious Runoff Depth=0.43"
Flow Length=2,100' Tc=43.0 min CN=62 Runoff=4.59 cfs 0.883 af

Link OFF1: Inflow=4.59 cfs 0.883 af
Primary=4.59 cfs 0.883 af

Total Runoff Area = 24.385 ac Runoff Volume = 0.883 af Average Runoff Depth = 0.43"
93.20% Pervious = 22.727 ac 6.80% Impervious = 1.658 ac

Summary for Subcatchment S1:

Runoff = 4.59 cfs @ 12.52 hrs, Volume= 0.883 af, Depth= 0.43"
Routed to Link OFF1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.09"

	Area (sf)	CN	Description
	860,925	60	Woods, Fair, HSG B
	129,060	58	Meadow, non-grazed, HSG B
*	72,230	98	Impervious
	1,062,215	62	Weighted Average
	989,985		93.20% Pervious Area
	72,230		6.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	1,528	0.0740	1.36		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.0	2,100	Total			

Summary for Link OFF1:

Inflow Area = 24.385 ac, 6.80% Impervious, Inflow Depth = 0.43" for 10-yr event
Inflow = 4.59 cfs @ 12.52 hrs, Volume= 0.883 af
Primary = 4.59 cfs @ 12.52 hrs, Volume= 0.883 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=1,062,215 sf 6.80% Impervious Runoff Depth=1.59"
Flow Length=2,100' Tc=43.0 min CN=62 Runoff=23.87 cfs 3.241 af

Link OFF1: Inflow=23.87 cfs 3.241 af
Primary=23.87 cfs 3.241 af

Total Runoff Area = 24.385 ac Runoff Volume = 3.241 af Average Runoff Depth = 1.59"
93.20% Pervious = 22.727 ac 6.80% Impervious = 1.658 ac

Summary for Subcatchment S1:

Runoff = 23.87 cfs @ 12.44 hrs, Volume= 3.241 af, Depth= 1.59"
Routed to Link OFF1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.25"

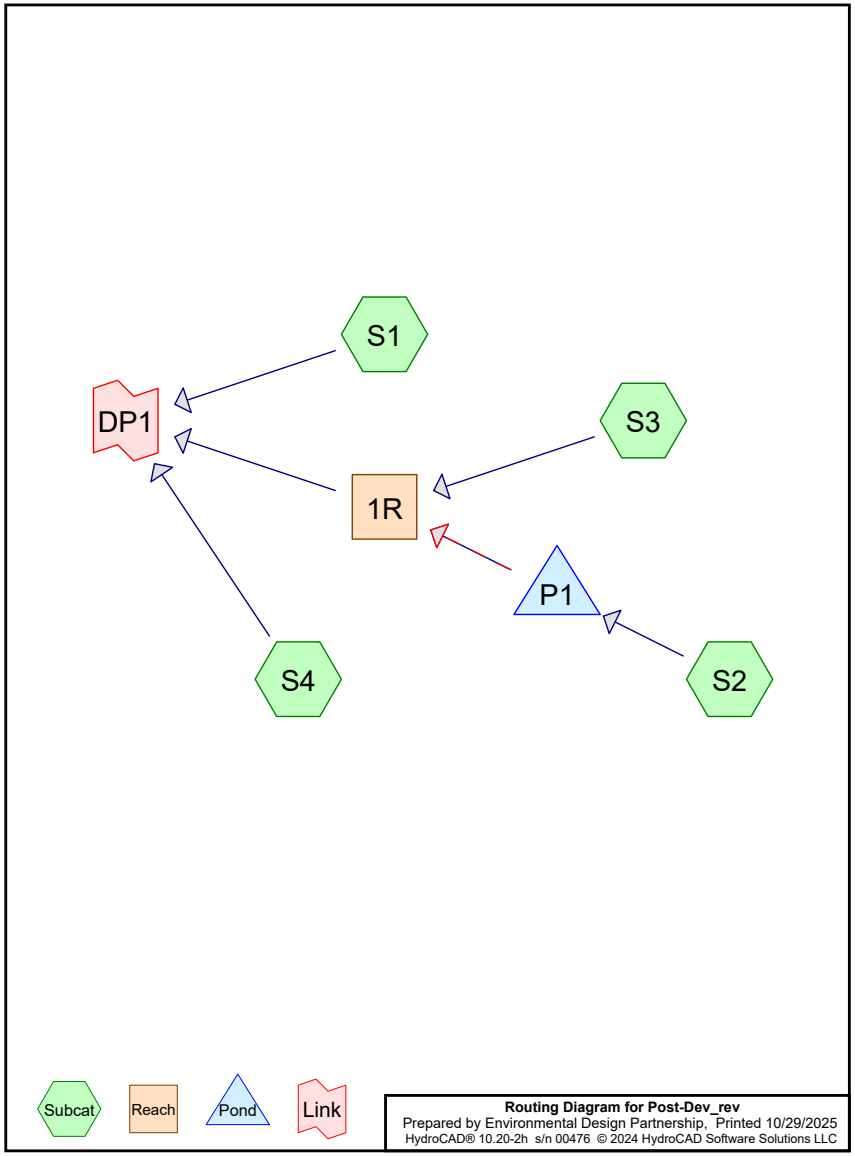
	Area (sf)	CN	Description
	860,925	60	Woods, Fair, HSG B
	129,060	58	Meadow, non-grazed, HSG B
*	72,230	98	Impervious
	1,062,215	62	Weighted Average
	989,985		93.20% Pervious Area
	72,230		6.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	1,528	0.0740	1.36		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
43.0	2,100	Total			

Summary for Link OFF1:

Inflow Area = 24.385 ac, 6.80% Impervious, Inflow Depth = 1.59" for 100-yr event
Inflow = 23.87 cfs @ 12.44 hrs, Volume= 3.241 af
Primary = 23.87 cfs @ 12.44 hrs, Volume= 3.241 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs



Rainfall Events Listing

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	1.86	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.09	2
3	100-yr	Type II 24-hr		Default	24.00	1	5.25	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.854	98	Impervious (S1, S2, S4)
20.076	58	Meadow, non-grazed, HSG B (S1, S2, S3, S4)
2.711	60	Woods, Fair, HSG B (S1, S2)
24.641	**61**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
22.787	HSG B	S1, S2, S3, S4
0.000	HSG C	
0.000	HSG D	
1.854	Other	S1, S2, S4
24.641		**TOTAL AREA**

Ground Covers (selected 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	0.000	1.854	1.854	Impervious	S1, S2, S4
0.000	20.076	0.000	0.000	0.000	20.076	Meadow, non-grazed	S1, S2, S3, S4
0.000	2.711	0.000	0.000	0.000	2.711	Woods, Fair	S1, S2
0.000	**22.787**	**0.000**	**0.000**	**1.854**	**24.641**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	P1	1,458.35	1,457.75	58.0	0.0103	0.020	0.0	12.0	0.0

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=689,153 sf 1.52% Impervious Runoff Depth=0.03"
Flow Length=2,100' Tc=37.7 min CN=59 Runoff=0.05 cfs 0.039 af

SubcatchmentS2: Runoff Area=198,234 sf 29.01% Impervious Runoff Depth=0.19"
Flow Length=1,388' Tc=12.3 min CN=70 Runoff=0.67 cfs 0.072 af

SubcatchmentS3: Runoff Area=130,495 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=763' Tc=12.3 min CN=58 Runoff=0.01 cfs 0.006 af

SubcatchmentS4: Runoff Area=55,479 sf 23.11% Impervious Runoff Depth=0.13"
Flow Length=382' Tc=10.8 min CN=67 Runoff=0.09 cfs 0.014 af

Reach 1R: Avg. Flow Depth=0.04' Max Vel=1.17 fps Inflow=0.10 cfs 0.078 af
n=0.030 L=250.0' S=0.0440 '/' Capacity=176.31 cfs Outflow=0.10 cfs 0.078 af

Pond P1: Peak Elev=1,460.93' Storage=802 cf Inflow=0.67 cfs 0.072 af
Primary=0.10 cfs 0.072 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.072 af

Link DP1: Inflow=0.16 cfs 0.131 af
Primary=0.16 cfs 0.131 af

Total Runoff Area = 24.641 ac Runoff Volume = 0.131 af Average Runoff Depth = 0.06"
92.47% Pervious = 22.787 ac 7.53% Impervious = 1.854 ac

Summary for Subcatchment S1:

Runoff = 0.05 cfs @ 15.80 hrs, Volume= 0.039 af, Depth= 0.03"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.86"

	Area (sf)	CN	Description
	608,103	58	Meadow, non-grazed, HSG B
	70,600	60	Woods, Fair, HSG B
*	10,450	98	Impervious
	689,153	59	Weighted Average
	678,703		98.48% Pervious Area
	10,450		1.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.4	1,528	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
37.7	2,100	Total			

Summary for Subcatchment S2:

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.072 af, Depth= 0.19"
Routed to Pond P1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.86"

	Area (sf)	CN	Description
	93,259	58	Meadow, non-grazed, HSG B
	47,475	60	Woods, Fair, HSG B
*	57,500	98	Impervious
	198,234	70	Weighted Average
	140,734		70.99% Pervious Area
	57,500		29.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	100	0.0800	0.63		**Sheet Flow,** Fallow n= 0.050 P2= 2.50"
1.1	121	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	528	0.0460	3.45		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.4	549	0.0590	1.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	90	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
12.3	1,388	Total			

Summary for Subcatchment S3:

Runoff = 0.01 cfs @ 17.84 hrs, Volume= 0.006 af, Depth= 0.02"
Routed to Reach 1R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.86"

Area (sf)	CN	Description
130,495	58	Meadow, non-grazed, HSG B
130,495		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
5.9	663	0.0710	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.3	763	Total			

Summary for Subcatchment S4:

Runoff = 0.09 cfs @ 12.10 hrs, Volume= 0.014 af, Depth= 0.13"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=1.86"

	Area (sf)	CN	Description
	42,656	58	Meadow, non-grazed, HSG B
*	12,823	98	Impervious
	55,479	67	Weighted Average
	42,656		76.89% Pervious Area
	12,823		23.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
1.7	190	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	72	0.0833	2.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.8	382	Total			

Summary for Reach 1R:

Inflow Area = 7.547 ac, 17.49% Impervious, Inflow Depth = 0.12" for 1-yr event
Inflow = 0.10 cfs @ 14.06 hrs, Volume= 0.078 af
Outflow = 0.10 cfs @ 14.16 hrs, Volume= 0.078 af, Atten= 0%, Lag= 5.9 min
Routed to Link DP1 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.17 fps, Min. Travel Time= 3.5 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 4.6 min

Peak Storage= 21 cf @ 14.10 hrs
Average Depth at Peak Storage= 0.04' , Surface Width= 2.24'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 176.31 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 250.0' Slope= 0.0440 '/'
Inlet Invert= 1,459.00', Outlet Invert= 1,448.00'

Summary for Pond P1:

Inflow Area = 4.551 ac, 29.01% Impervious, Inflow Depth = 0.19" for 1-yr event
Inflow = 0.67 cfs @ 12.09 hrs, Volume= 0.072 af
Outflow = 0.10 cfs @ 13.69 hrs, Volume= 0.072 af, Atten= 86%, Lag= 95.5 min
Primary = 0.10 cfs @ 13.69 hrs, Volume= 0.072 af
Routed to Reach 1R :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1R :

Routing by Stor-Ind method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Peak Elev= 1,460.93' @ 13.69 hrs Surf.Area= 1,056 sf Storage= 802 cf

Plug-Flow detention time= 107.5 min calculated for 0.072 af (100% of inflow)
Center-of-Mass det. time= 107.2 min (1,048.6 - 941.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,460.00'	13,656 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,460.00	678	115.0	0	0	678
1,461.00	1,087	143.0	874	874	1,267
1,462.00	1,582	171.0	1,327	2,201	1,984
1,463.00	2,151	197.0	1,859	4,061	2,768
1,464.00	2,807	226.0	2,472	6,532	3,766
1,465.00	3,554	259.0	3,173	9,705	5,063
1,466.00	4,360	278.0	3,950	13,656	5,918

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,465.00'	**15.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	1,458.35'	**12.0" Round Culvert** L= 58.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,458.35' / 1,457.75' S= 0.0103 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf
#3	Device 2	1,460.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,462.35'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 13.69 hrs HW=1,460.93' (Free Discharge)
└**2=Culvert** (Passes 0.10 cfs of 3.86 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.10 cfs @ 4.44 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,460.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link DP1:

Inflow Area = 24.641 ac, 7.53% Impervious, Inflow Depth = 0.06" for 1-yr event
Inflow = 0.16 cfs @ 15.19 hrs, Volume= 0.131 af
Primary = 0.16 cfs @ 15.19 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node TOTAL

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=689,153 sf 1.52% Impervious Runoff Depth=0.33"
Flow Length=2,100' Tc=37.7 min CN=59 Runoff=2.08 cfs 0.441 af

SubcatchmentS2: Runoff Area=198,234 sf 29.01% Impervious Runoff Depth=0.76"
Flow Length=1,388' Tc=12.3 min CN=70 Runoff=4.50 cfs 0.290 af

SubcatchmentS3: Runoff Area=130,495 sf 0.00% Impervious Runoff Depth=0.30"
Flow Length=763' Tc=12.3 min CN=58 Runoff=0.68 cfs 0.076 af

SubcatchmentS4: Runoff Area=55,479 sf 23.11% Impervious Runoff Depth=0.63"
Flow Length=382' Tc=10.8 min CN=67 Runoff=1.04 cfs 0.067 af

Reach 1R: Avg. Flow Depth=0.26' Max Vel=3.50 fps Inflow=2.58 cfs 0.366 af
n=0.030 L=250.0' S=0.0440 '/' Capacity=176.31 cfs Outflow=2.47 cfs 0.366 af

Pond P1: Peak Elev=1,462.69' Storage=3,414 cf Inflow=4.50 cfs 0.290 af
Primary=2.16 cfs 0.290 af Secondary=0.00 cfs 0.000 af Outflow=2.16 cfs 0.290 af

Link DP1: Inflow=4.20 cfs 0.873 af
Primary=4.20 cfs 0.873 af

Total Runoff Area = 24.641 ac Runoff Volume = 0.873 af Average Runoff Depth = 0.43"
92.47% Pervious = 22.787 ac 7.53% Impervious = 1.854 ac

Summary for Subcatchment S1:

Runoff = 2.08 cfs @ 12.47 hrs, Volume= 0.441 af, Depth= 0.33"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.09"

	Area (sf)	CN	Description
	608,103	58	Meadow, non-grazed, HSG B
	70,600	60	Woods, Fair, HSG B
*	10,450	98	Impervious
	689,153	59	Weighted Average
	678,703		98.48% Pervious Area
	10,450		1.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.4	1,528	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
37.7	2,100	Total			

Summary for Subcatchment S2:

Runoff = 4.50 cfs @ 12.06 hrs, Volume= 0.290 af, Depth= 0.76"
Routed to Pond P1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.09"

	Area (sf)	CN	Description
	93,259	58	Meadow, non-grazed, HSG B
	47,475	60	Woods, Fair, HSG B
*	57,500	98	Impervious
	198,234	70	Weighted Average
	140,734		70.99% Pervious Area
	57,500		29.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	100	0.0800	0.63		**Sheet Flow,** Fallow n= 0.050 P2= 2.50"
1.1	121	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	528	0.0460	3.45		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.4	549	0.0590	1.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	90	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
12.3	1,388	Total			

Summary for Subcatchment S3:

Runoff = 0.68 cfs @ 12.10 hrs, Volume= 0.076 af, Depth= 0.30"
Routed to Reach 1R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.09"

Area (sf)	CN	Description
130,495	58	Meadow, non-grazed, HSG B
130,495		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
5.9	663	0.0710	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.3	763	Total			

Summary for Subcatchment S4:

Runoff = 1.04 cfs @ 12.05 hrs, Volume= 0.067 af, Depth= 0.63"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.09"

	Area (sf)	CN	Description
	42,656	58	Meadow, non-grazed, HSG B
*	12,823	98	Impervious
	55,479	67	Weighted Average
	42,656		76.89% Pervious Area
	12,823		23.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
1.7	190	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	72	0.0833	2.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.8	382	Total			

Summary for Reach 1R:

Inflow Area = 7.547 ac, 17.49% Impervious, Inflow Depth = 0.58" for 10-yr event
Inflow = 2.58 cfs @ 12.21 hrs, Volume= 0.366 af
Outflow = 2.47 cfs @ 12.26 hrs, Volume= 0.366 af, Atten= 4%, Lag= 2.7 min
Routed to Link DP1 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.50 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.24 fps, Avg. Travel Time= 3.4 min

Peak Storage= 183 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.26' , Surface Width= 3.57'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 176.31 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 250.0' Slope= 0.0440 '/'
Inlet Invert= 1,459.00', Outlet Invert= 1,448.00'

Summary for Pond P1:

Inflow Area = 4.551 ac, 29.01% Impervious, Inflow Depth = 0.76" for 10-yr event
Inflow = 4.50 cfs @ 12.06 hrs, Volume= 0.290 af
Outflow = 2.16 cfs @ 12.22 hrs, Volume= 0.290 af, Atten= 52%, Lag= 9.7 min
Primary = 2.16 cfs @ 12.22 hrs, Volume= 0.290 af
Routed to Reach 1R :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1R :

Routing by Stor-Ind method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Peak Elev= 1,462.69' @ 12.22 hrs Surf.Area= 1,963 sf Storage= 3,414 cf

Plug-Flow detention time= 170.1 min calculated for 0.290 af (100% of inflow)
Center-of-Mass det. time= 170.2 min (1,051.4 - 881.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,460.00'	13,656 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,460.00	678	115.0	0	0	678
1,461.00	1,087	143.0	874	874	1,267
1,462.00	1,582	171.0	1,327	2,201	1,984
1,463.00	2,151	197.0	1,859	4,061	2,768
1,464.00	2,807	226.0	2,472	6,532	3,766
1,465.00	3,554	259.0	3,173	9,705	5,063
1,466.00	4,360	278.0	3,950	13,656	5,918

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,465.00'	**15.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	1,458.35'	**12.0" Round Culvert** L= 58.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,458.35' / 1,457.75' S= 0.0103 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf
#3	Device 2	1,460.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,462.35'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.07 cfs @ 12.22 hrs HW=1,462.67' (Free Discharge)
└**2=Culvert** (Passes 2.07 cfs of 5.18 cfs potential flow)
└**3=Orifice/Grate** (Orifice Controls 0.17 cfs @ 7.75 fps)
└**4=Orifice/Grate** (Weir Controls 1.90 cfs @ 1.86 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,460.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link DP1:

Inflow Area = 24.641 ac, 7.53% Impervious, Inflow Depth = 0.43" for 10-yr event
Inflow = 4.20 cfs @ 12.28 hrs, Volume= 0.873 af
Primary = 4.20 cfs @ 12.28 hrs, Volume= 0.873 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node TOTAL

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Time span=0.00-200.00 hrs, dt=0.05 hrs, 4001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentS1: Runoff Area=689,153 sf 1.52% Impervious Runoff Depth=1.38"
Flow Length=2,100' Tc=37.7 min CN=59 Runoff=14.05 cfs 1.817 af

SubcatchmentS2: Runoff Area=198,234 sf 29.01% Impervious Runoff Depth=2.22"
Flow Length=1,388' Tc=12.3 min CN=70 Runoff=14.17 cfs 0.843 af

SubcatchmentS3: Runoff Area=130,495 sf 0.00% Impervious Runoff Depth=1.31"
Flow Length=763' Tc=12.3 min CN=58 Runoff=5.08 cfs 0.327 af

SubcatchmentS4: Runoff Area=55,479 sf 23.11% Impervious Runoff Depth=1.98"
Flow Length=382' Tc=10.8 min CN=67 Runoff=3.68 cfs 0.210 af

Reach 1R: Avg. Flow Depth=0.55' Max Vel=5.32 fps Inflow=10.64 cfs 1.170 af
n=0.030 L=250.0' S=0.0440 '/' Capacity=176.31 cfs Outflow=10.55 cfs 1.170 af

Pond P1: Peak Elev=1,464.97' Storage=9,598 cf Inflow=14.17 cfs 0.843 af
Primary=6.35 cfs 0.843 af Secondary=0.00 cfs 0.000 af Outflow=6.35 cfs 0.843 af

Link DP1: Inflow=22.18 cfs 3.197 af
Primary=22.18 cfs 3.197 af

Total Runoff Area = 24.641 ac Runoff Volume = 3.197 af Average Runoff Depth = 1.56"
92.47% Pervious = 22.787 ac 7.53% Impervious = 1.854 ac

Summary for Subcatchment S1:

Runoff = 14.05 cfs @ 12.38 hrs, Volume= 1.817 af, Depth= 1.38"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.25"

	Area (sf)	CN	Description
	608,103	58	Meadow, non-grazed, HSG B
	70,600	60	Woods, Fair, HSG B
*	10,450	98	Impervious
	689,153	59	Weighted Average
	678,703		98.48% Pervious Area
	10,450		1.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0	100	0.1300	0.08		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.50"
3.8	354	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	118	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.4	1,528	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
37.7	2,100	Total			

Summary for Subcatchment S2:

Runoff = 14.17 cfs @ 12.05 hrs, Volume= 0.843 af, Depth= 2.22"
Routed to Pond P1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.25"

	Area (sf)	CN	Description
	93,259	58	Meadow, non-grazed, HSG B
	47,475	60	Woods, Fair, HSG B
*	57,500	98	Impervious
	198,234	70	Weighted Average
	140,734		70.99% Pervious Area
	57,500		29.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	100	0.0800	0.63		**Sheet Flow,** Fallow n= 0.050 P2= 2.50"
1.1	121	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	528	0.0460	3.45		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.4	549	0.0590	1.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.7	90	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
12.3	1,388	Total			

Summary for Subcatchment S3:

Runoff = 5.08 cfs @ 12.06 hrs, Volume= 0.327 af, Depth= 1.31"
Routed to Reach 1R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.25"

Area (sf)	CN	Description
130,495	58	Meadow, non-grazed, HSG B
130,495		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0800	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
5.9	663	0.0710	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.3	763	Total			

Summary for Subcatchment S4:

Runoff = 3.68 cfs @ 12.03 hrs, Volume= 0.210 af, Depth= 1.98"
Routed to Link DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.25"

	Area (sf)	CN	Description
	42,656	58	Meadow, non-grazed, HSG B
*	12,823	98	Impervious
	55,479	67	Weighted Average
	42,656		76.89% Pervious Area
	12,823		23.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0400	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.50"
1.7	190	0.0740	1.90		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	72	0.0833	2.02		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.8	382	Total			

Summary for Reach 1R:

Inflow Area = 7.547 ac, 17.49% Impervious, Inflow Depth = 1.86" for 100-yr event
Inflow = 10.64 cfs @ 12.08 hrs, Volume= 1.170 af
Outflow = 10.55 cfs @ 12.11 hrs, Volume= 1.170 af, Atten= 1%, Lag= 1.6 min
Routed to Link DP1 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.32 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.48 fps, Avg. Travel Time= 2.8 min

Peak Storage= 501 cf @ 12.10 hrs
Average Depth at Peak Storage= 0.55' , Surface Width= 5.30'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 176.31 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 14.00'
Length= 250.0' Slope= 0.0440 '/'
Inlet Invert= 1,459.00', Outlet Invert= 1,448.00'

Summary for Pond P1:

Inflow Area = 4.551 ac, 29.01% Impervious, Inflow Depth = 2.22" for 100-yr event
Inflow = 14.17 cfs @ 12.05 hrs, Volume= 0.843 af
Outflow = 6.35 cfs @ 12.21 hrs, Volume= 0.843 af, Atten= 55%, Lag= 9.6 min
Primary = 6.35 cfs @ 12.21 hrs, Volume= 0.843 af
Routed to Reach 1R :
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 1R :

Routing by Stor-Ind method, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

Peak Elev= 1,464.97' @ 12.21 hrs Surf.Area= 3,530 sf Storage= 9,598 cf

Plug-Flow detention time= 80.2 min calculated for 0.843 af (100% of inflow)
Center-of-Mass det. time= 80.4 min (928.0 - 847.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,460.00'	13,656 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
1,460.00	678	115.0	0	0	678
1,461.00	1,087	143.0	874	874	1,267
1,462.00	1,582	171.0	1,327	2,201	1,984
1,463.00	2,151	197.0	1,859	4,061	2,768
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1,466.00	4,360	278.0	3,950	13,656	5,918

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,465.00'	**15.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	1,458.35'	**12.0" Round Culvert** L= 58.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,458.35' / 1,457.75' S= 0.0103 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf
#3	Device 2	1,460.00'	**2.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	1,462.35'	**12.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.34 cfs @ 12.21 hrs HW=1,464.96' (Free Discharge)
└**2=Culvert** (Passes 6.34 cfs of 6.52 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.23 cfs @ 10.64 fps)
  └**4=Orifice/Grate** (Orifice Controls 6.11 cfs @ 7.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,460.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Link DP1:

Inflow Area = 24.641 ac, 7.53% Impervious, Inflow Depth = 1.56" for 100-yr event
Inflow = 22.18 cfs @ 12.33 hrs, Volume= 3.197 af
Primary = 22.18 cfs @ 12.33 hrs, Volume= 3.197 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node TOTAL

Primary outflow = Inflow, Time Span= 0.00-200.00 hrs, dt= 0.05 hrs

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

May 22, 2025

Bailey Godson
Environmental Design Partnership, LLP (EDP)
900 Route 146
Clifton Park, NY 12065

Re: USACE
Maple Ridge Renewables PV/ 5MW/ 17 acres
154 Harris Rd, Ellenburg, Clinton County, NY 12955
25PR04565

Dear Bailey Godson:

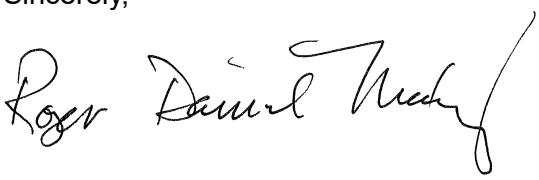
Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Josalyn Ferguson at the following email address:

Josalyn.Ferguson@parks.ny.gov

Sincerely,



R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

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

November 4, 2024

Jutta Middel
Renua Energy
242 Pleasantvale Rd
Tivoli, NY 12583

Re: Maple Ridge Renewables Solar Project
County: Clinton Town/City: Ellenburg

Dear Jutta Middel:

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.

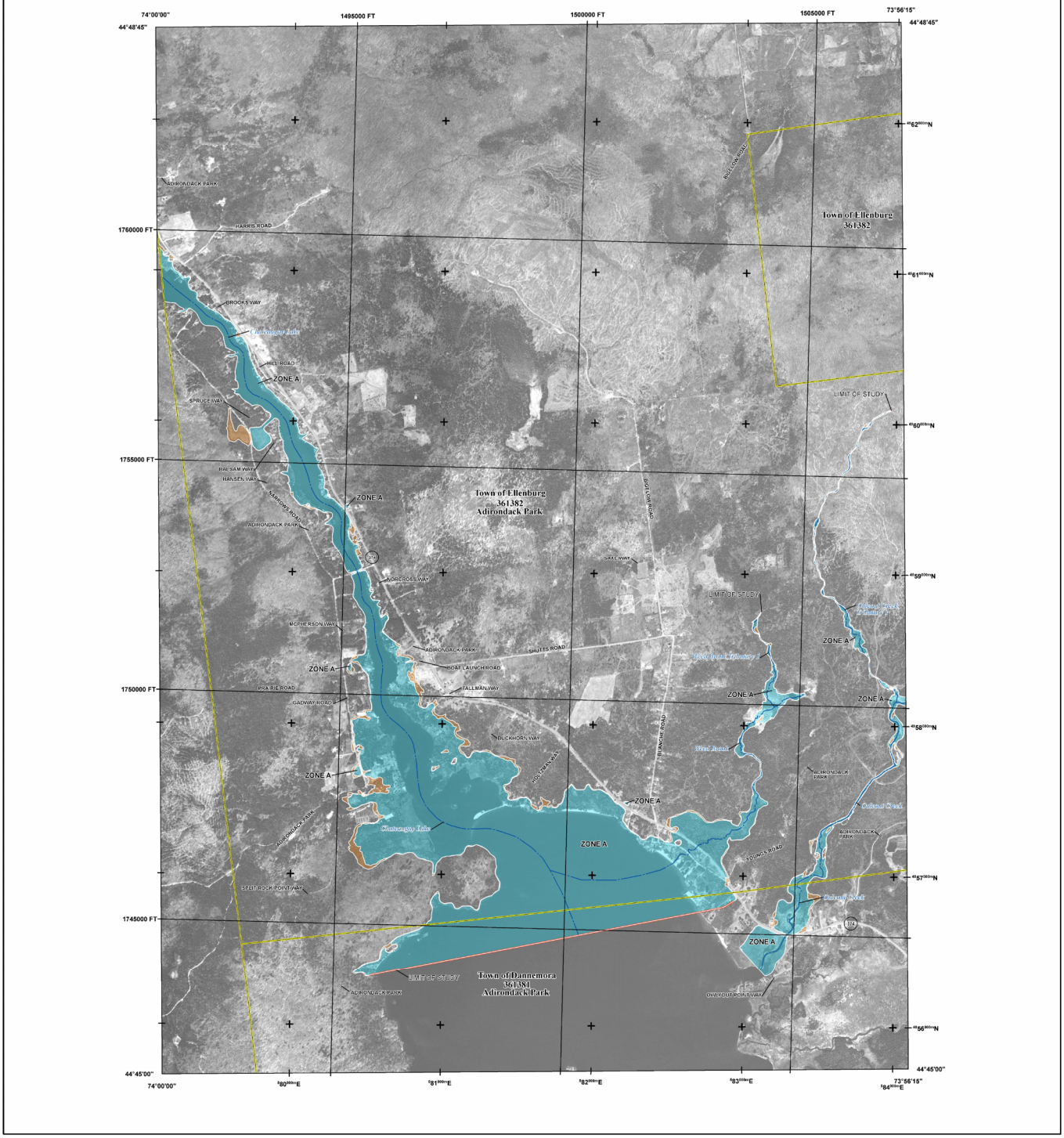
The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive 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,

Heidi Krahling
Environmental Review Specialist
New York Natural Heritage Program

556



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- (E) 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- (8) Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from the New York State GIS Office, dated 2017, and the United States Department of Agriculture, dated 2015.

SCALE

N

Map Projection:
State Plane Transverse Mercator, New York East Zone; North American Datum 1983; Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 feet

0 250 500 1,000 meters

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

CLINTON COUNTY, NEW YORK
(All Jurisdictions)

PANEL 365 OF 905

FEMA

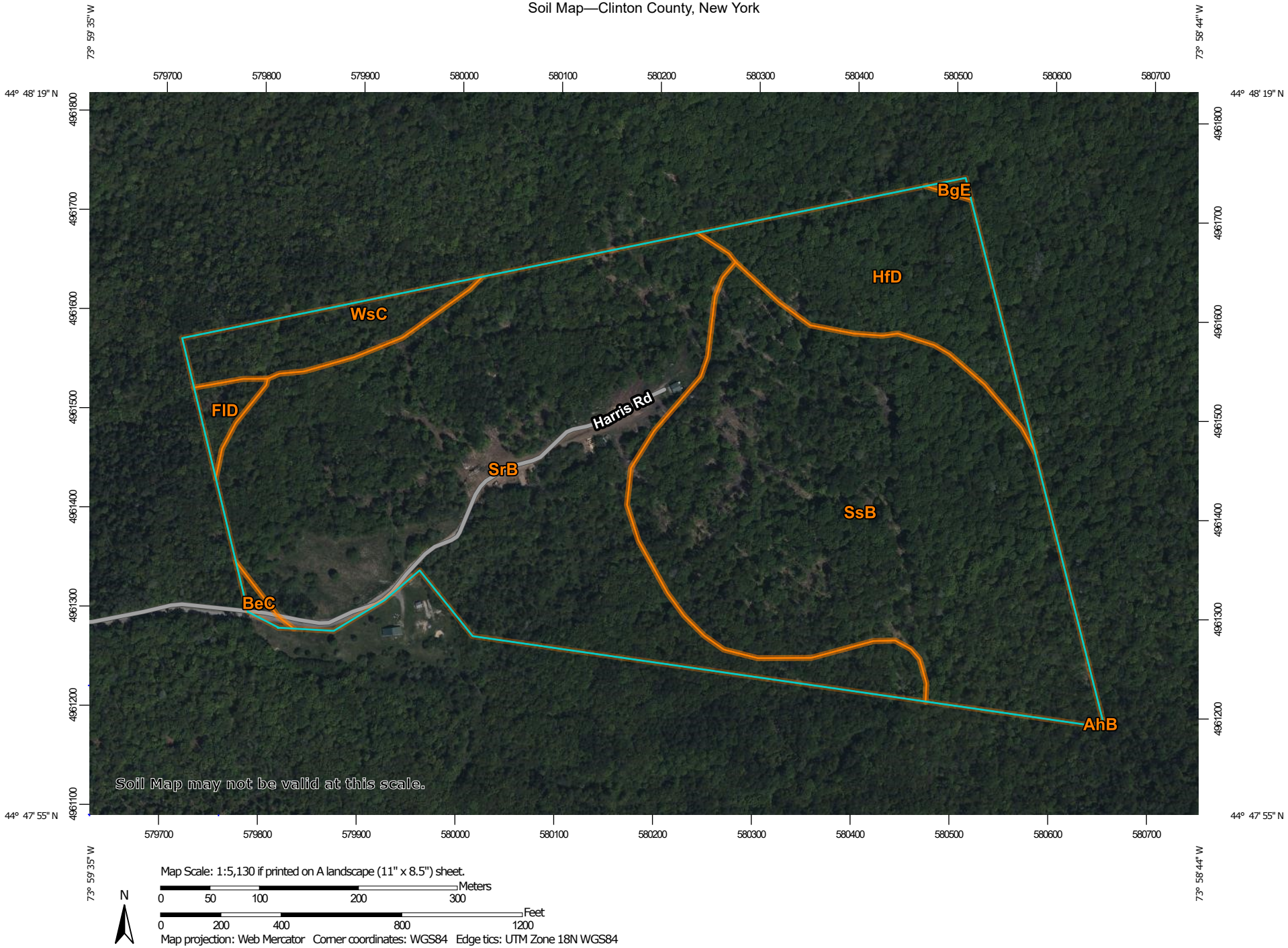
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
DANNEMORA, TOWN OF	361381	0365	E
ELLENBURG, TOWN OF	361382	0365	E

VERSION NUMBER
2.6.3.0

MAP NUMBER
36019C0365E

MAP REVISED
DECEMBER 7, 2023



Map Scale: 1:5,130 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Clinton County, New York
Survey Area Data: Version 25, 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: May 13, 2023—May 31, 2023

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
AhB	Adirondack loam, gently sloping, very bouldery	0.0	0.0%
BeC	Becket fine sandy loam, 3 to 15 percent slopes, very bouldery	0.2	0.3%
BgE	Becket-Tunbridge complex, 15 to 35 percent slopes, rocky, very bouldery	0.1	0.1%
FlD	Fernlake cobbly loamy sand, moderately steep, very bouldery	0.8	0.9%
HfD	Hermon fine sandy loam, moderately steep, very bouldery	8.8	10.4%
SrB	Skerry fine sandy loam, 3 to 8 percent slopes	38.1	44.9%
SsB	Skerry fine sandy loam, 0 to 8 percent slopes, very bouldery	33.3	39.3%
WsC	Wallace fine sand, 8 to 15 percent slopes	3.4	4.0%
Totals for Area of Interest		**84.7**	**100.0%**

SECTION 7

Completed Inspection Reports