NORTH SENECA
SOLAR PROJECT

APPENDIX 15-C
DRAINAGE REMEDIATION PLAN

ORES Permit Application No. 23-00036

Drainage Remediation Plan

North Seneca Solar Project
Towns of Waterloo and Junius, Seneca County, New York

ORES Permit Application No. 23-00036

Prepared for:

NORTH SENECA
SOLAR PROJECT

North Seneca Solar Project, LLC
www.NorthSenecaSolarProject.com

Prepared by:

Environmental Design & Research, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
www.edrdpc.com

December 2023

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1. Project Description

North Seneca Solar Project, LLC (the Applicant) proposes to construct and operate the North Seneca Solar Project, an up to 90-megawatt utility-scale solar electric generating facility in the towns of Junius and Waterloo, Seneca County, New York (the Facility). The Facility will be located on private land that is rural in nature and will encompass approximately 940 acres (Facility Site), of which approximately 390 acres will be occupied by facility infrastructure.

Proposed Facility components will include the following:

- Photovoltaic (PV) arrays
- Electrical collection system
- Inverters
- Transformers
- Access roads
- Collection substation
- POI switchyard
- Operations and Management (O&M) facility
- Perimeter fence
- Temporary laydown areas.

1.2. Plan Purpose and Goals

The Applicant has developed this Drainage Remediation Plan (Plan) to identify and describe on-site surface and subsurface water drainage features in agricultural land within the Facility Site. This Plan also establishes procedures that the Applicant and its contractors will implement to avoid, minimize, and remediate potential impacts to surface and subsurface agricultural drainage features (e.g., drain tile lines) that could result from construction of the Facility.

2.0 IDENTIFICATION OF SURFACE AND SUBSURFACE DRAINAGE FEATURES DURING SITE DESIGN

Identifying existing surface and subsurface agricultural drainage features early in the design process can help avoid, mitigate, and reduce the incidence of interference or potential damage. Wetland and stream delineations conducted at the Facility Site by Environmental Design and Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C. (EDR) identified all surface waters (ponds, ephemeral, intermittent, and perennial streams) and wetlands within and adjacent to the proposed Facility components. Maps showing locations of all federal and state regulated surface waters within the Facility Site and within 100 feet of areas to be disturbed by construction are provided in Exhibit 14 of the Section 94-c Application, and the Wetland and Stream Delineation Report (Appendix 14-A).

To aid in the avoidance or minimization of potential impacts of the Facility on subsurface drainage systems, all participating landowners hosting Facility components were requested to complete an Agricultural Landowner Survey in April 2023. The purpose of the survey was to determine how the proposed Facility would impact agricultural use of their land, including surface or sub-surface drainage systems. The survey asked participating landowners to identify the location of any known drain tiles located on their property. Locations of known or suspected drain tiles identified through the Agricultural Landowner Survey are depicted on Figure 15-5 of the 94-c application. Survey correspondence is provided in Appendix 15-A.

Updates to this Plan will be provided as the Applicant continues to secure information related to the location of drain tile systems within the site. Drain tile lines will be considered in the final Facility design, and impacts will be minimized to the extent practicable.

3.0 AVOIDANCE AND IDENTIFICATION OF SURFACE AND SUBSURFACE DRAINAGE FEATURES DURING CONSTRUCTION

Facility components have been located to avoid temporary and permanent impacts to surface waters and drainages to the maximum extent practicable. This was accomplished by utilizing data collected during wetland and stream delineations and the Agricultural Landowner Surveys to inform Facility design and reduce (and in most cases eliminate) impacts to surface waters and drainages by locating Facility components outside of these features wherever possible. Please see Exhibit 13 (Water Resources and Aquatic Ecology) and Exhibit 14 (Wetlands) for additional information on potential impacts to surface water resources. Known drain tile lines within the limits of disturbance for the Project will be depicted on the design drawings and flagged in the field prior to construction to facilitate avoidance.

4.0 IMPACTS TO SURFACE AND SUBSURFACE DRAINAGE FEATURES

4.1. Surface Drainage

Impacts to surface drainages are discussed in Exhibits 13 (Water Resources and Aquatic Ecology) and Exhibit 14 (Wetlands). As discussed in these exhibits, construction activities have the potential to result in direct or indirect impacts to surface drainages, including surface waters that drain agricultural fields.

A Stormwater Pollution Prevention Plan (SWPPP) for the Facility was prepared in accordance with New York State Standards and Specifications for Erosion and Sediment Control (NYS Standards), and the New York State Stormwater Management Design Manual (see Appendix 13-C). Implementation of best management practices outlined in the SWPPP will avoid or minimize construction-related impacts to the quality and quantity of surface water drainage to the maximum extent practicable. The SWPPP also addresses the anticipated stormwater management and green infrastructure practices (e.g., vegetative filters) that will be used to reduce the rate and volume of stormwater runoff after Facility construction has been completed. Examples of potential post-construction stormwater management practices outlined in the SWPPP include reduction in impervious cover and the use of vegetated filter strips, dry swales, and culverts.

Additional measures taken to minimize the impacts to surface water drainage in agricultural areas will include the following:

- Utilizing existing crossings and crossing drainage features at narrow or previously disturbed locations where feasible.

- The surface of access roads located outside of the Facility's security fence and constructed through agricultural fields will be level with the adjacent field surface to facilitate uninterrupted cross drainage. If a level road design is not feasible, other means of restoring or maintaining original surface drainage patterns (culverts and/or water bars) will be installed to maintain natural drainage patterns.

- When buried utilities alter the natural stratification of soil horizons and surface drainage patterns, the effects will be rectified through installation of subsurface intercept drain lines.

- Temporary erosion control practices will be installed prior to construction to limit silt migration to ditches, waterways, wetlands, and adjacent properties. Erosion and sediment control measures and a dewatering operations plan will be prepared in accordance with the current version of the New York Standards and Specifications for Erosion and Sediment Control.

4.2. Subsurface Drainage

While identification of existing drain tile systems can aid in avoiding and minimizing impacts, such impacts cannot be categorically ruled out. If broken drain tiles are visible during excavation and backfill activities, these locations will be identified with flags or stakes until evaluation of damage and permanent repairs can be completed. In addition, the location of damaged drain tile systems will be recorded using Global Positioning System technology. Damage to subsurface drain tiles during certain aspects of Facility construction (e.g., installation of PV array racking) may not be visible. This damage may not be apparent immediately following damage but may become more apparent over time. Upwelling of water during high flow periods or holes in the ground above drain tiles during low flow periods are potential indicators of potential drain tile damage. Should such areas be identified outside of where components are located, the Applicant will take steps to repair these systems, as further described in Section 5.1.

Damages to drain tile lines within PV arrays or other areas that will not be returned to agricultural use following Facility construction will be addressed during the decommissioning and restoration phase of the Facility unless such damages cause a safety or electrical hazard. If there are concerns regarding safety or electrical hazards, the associated components will be powered down and the situation corrected immediately.

5.0 RESTORATION OF SURFACE AND SUBSURFACE DRAINAGE FEATURES

5.1. Restoration to Surface Drainage Features

With respect to design, the Facility is intended to maintain existing drainage patterns and will reduce overall drainage as outlined in the SWPPP (Appendix 13-C). Existing drainage features will be avoided, to the maximum extent practicable, and stormwater management has been designed to avoid downstream impacts. All surface waters and drainage features temporarily impacted during construction will be restored to preconstruction conditions to the extent practicable. The Applicant will also consider the need to implement any corrective measures throughout the operation of the Project, including the implementation of the Decommissioning and Site Restoration Plan (Appendix 23-A) and in response to any issues identified through the complaint resolution process that will be outlined in a Complaint Management Plan to be filed during compliance phase in accordance with §900-10.2(e)(7).

5.2. Restoration/ Repairs to Subsurface Drainage Features

Agricultural land utilized for the siting of the PV arrays will be removed from production for the duration of the project. As such, the Applicant plans to repair drain tiles as described in the following subsections.

5.2.1. Drain Tile Systems Servicing Properties Owned by Participating Landowners

Respondents to the Agricultural Landowner Survey resulted in the identification of subsurface drainage infrastructure on three parcels within the Facility Site. The Applicant consulted with the New York State Department of Health (NYSDOH) and the Seneca County Soil and Water Conservation district (SWCD) to identify any mapped drainage features in the area. The NYSDOH responded on July 27, 2023, reporting no records of active groundwater supply wells and surface water supply intakes located in the towns of Junius and Waterloo. The NYSDOH also included information confirming three public water systems within 3 miles of the Project Area: Camp Bayberry (NY4914180), Junius Water District #1 (NY4930001), and Junius Water District #3 (NY4952683). No response has been received from the Seneca County SWCD to date. Construction and operation of the Facility are not anticipated to result in any potential impact to these systems, nor affect upstream or downstream drainage to neighboring participating or non-participating parcels. The Applicant will keep record of any damages to drain tile systems that are identified during construction of the Facility. Drain tile systems that service agricultural lands that will remain in production during operation of the Facility will be repaired as follows:

- If water is flowing through the damaged drain tile line to be repaired, the Applicant will consult with the landowner to repair the drain tile line. If the damaged drain tile line to be repaired is dry and temporary repairs are not necessary, permanent repairs can be completed by the Applicant (weather and soil conditions permitting) of the time said damage occurred. However, the exposed drain tile line will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile line.

- All subsurface drains subject to repair shall be repaired or replaced with materials of equal or higher quality and of equal or larger inside diameter as those which were damaged or removed.

- Commercially reasonable efforts shall be made to maintain the drain tile line to its original alignment and gradient.

- The Applicant will not be responsible for drain tile line repairs performed independently by the landowner.

Drain tile systems that service lands where Facility components will be located and are not being returned to agricultural use during Facility operation may not be replaced or repaired until the Facility is decommissioned. Once the Facility is decommissioned, any drain tile system that was damaged during construction and not repaired, will be restored to its pre-construction condition to support future agricultural production. The Applicant will be responsible for correcting or paying for the correction of the tile repairs. The Applicant will not be responsible for any drain tile repairs performed independently by the landowner.

5.2.2. Drain Tile Systems Servicing Properties Owned by Non-Participating Landowners

The Applicant is not aware of any drain tile systems that extend outside the Facility Site into non-participating parcels. If any drain tile systems with connections to non-participating parcels are impacted by the construction of the Facility, the Applicant will repair any damages as soon as reasonably practicable. The Applicant will perform repairs to these damaged drain tile systems as described in the previous subsection.

5.2.3. Post-Construction Monitoring

Any surface drainage problems resulting from construction of the Facility will be identified during post-construction restoration monitoring in accordance with the Agricultural Plan (Appendix 15-B). The Environmental Monitor will visually inspect restored agricultural areas in search of pervasive wet conditions or stunted crop growth due to seasonal saturation not previously experienced at the site and not resulting from the agricultural producer's irrigation or excessive rainfall. Identified areas will be compared to the nearest undisturbed adjacent areas on substantially equivalent terrain and under a similar crop management plan. Drainage observations will be evaluated to determine if Facility construction or restoration activities affected surface or subsurface drainage. Any drainage issues resulting from Facility construction that are affecting or likely to reduce crop productivity of the adjacent areas will be remediated through surface drainage or subsurface drainage repair, or equivalent measures, as deemed appropriate by the Environmental Monitor, the Seneca County SWCD, NYSDAM, and the landowner.

6.0 COMPLAINT RESOLUTION

The Applicant is committed to addressing landowner concerns regarding surface and subsurface drainage feature repair and maintenance throughout construction, operation, and decommissioning of the Facility.

As part of the complaint management protocol, the Applicant will publish a toll-free telephone number and will establish an email address for purposes of receiving communications from the public. The Applicant will work to address landowner questions or concerns related to drainage in timely manner, consistent with the approach described in Section 5.2.3.