

Agricultural Plan

Mitigation Plan for Agricultural Lands

South Ripley Solar Project

Town of Ripley, Chautauqua County, New York

Matter No. 21-00750

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1.0 INTRODUCTION

The following plan was developed by ConnectGen (the Applicant) in order to mitigate construction impacts on existing agricultural lands associated with the proposed South Ripley Solar Project (the Facility), a proposed 270 megawatt (MW) solar energy generating facility in the Town of Ripley, Chautauqua County, New York. To the maximum extent practicable, the plan will be adhered to during the following stages of the Facility's life: Construction, Post-Construction Restoration, Monitoring and Remediation, and Decommissioning, in accordance with New York State Department of Agriculture and Markets (NYSDAM) *Guidelines for Solar Energy Projects – Construction Mitigation for Agricultural Lands* (Revision 10/18/2019). These guidelines only apply to Facility areas that are subject to ground disturbance within existing agricultural lands including:

- Lands where agricultural use will continue or resume following the completion of construction (typically those lands outside of the developed Facility's security fence); and
- Lands where the proposed solar development will be returning to agricultural use upon decommissioning, (typically those lands inside of the developed Facility's security fence).

This Plan will guide the Facility's development, construction, and operation on agricultural lands; although in significant portions of the Facility Site agricultural activities will not continue once construction commences. If it is determined that there is a conflict between the content of this plan and the requirements of Facility construction and operation, the Applicant will coordinate with the NYSDAM Division of Land and Water Resources on reasonable alternatives. At the time of decommissioning, if it is determined that the site will return to agricultural production, the land will be restored to conditions suitable for such production.

2.0 ENVIRONMENTAL MONITOR

The Applicant will hire or designate an Environmental Monitor (EM) to assure compliance with this Plan during the construction, restoration, and follow-up monitoring of agricultural land on the Facility Site¹. The EM will have a confident understanding of normal agriculture practices and be able to identify how construction of the Facility may affect the Facility Site and the applicable agricultural practices. The EM will also have experience with, or understanding of, the use of a soil penetrometer for compaction testing and record keeping. The EM may serve dual inspection roles associated with other Facility permits and/or construction duties if the agricultural workload allows. The EM will provide the pertinent, site-specific agricultural information as outlined in this plan for Facility construction (and eventually decommissioning) through field review and direct contact with farm operators and the NYSDAM. The EM will maintain

¹ The Applicant understands that NYSDAM requires the opportunity to review and will approve the proposed EM based on qualifications or capacities.

regular contact with appropriate onsite Facility construction supervision and inspectors and affected farm operators throughout the construction phase. The EM will be on site whenever construction, restoration, or maintenance work requiring or involving ground disturbance is occurring on agricultural land and shall notify NYSDAM of the Facility's activity. The purpose of the agency coordination is to assure that the mitigation measures proposed in this plan are implemented to the fullest extent practicable. The Applicant intends to coordinate with NYSDAM to schedule inspections in a manner that avoids delays to construction. During inspections, NYSDAM personnel will be required to follow all Facility safety and security protocols and will be escorted by a Facility representative along with the EM. In accordance with Section 900-10.2(e)(6), the Applicant will submit an Environmental Monitoring Plan detailing the companies, qualifications, and responsibilities of the designated EM(s).

3.0 CONSTRUCTION

Before any topsoil is stripped from the Facility Site, representative soil samples will be obtained from the agricultural areas to be disturbed. The soil sampling will be collected in accordance with Cornell University's soil testing guidelines, and samples will be submitted to a laboratory for testing PH, percent organic material, cation exchange capacity, Phosphorus/Phosphate (P), and Potassium/Potash (K). The results will establish a benchmark to be measured against during post-construction restoration and at decommissioning.

Stripped topsoil will be stockpiled from work areas and kept separate from other excavated material (rock and/or sub-soil) until the completion of the Facility and final restoration. All topsoil will be stockpiled as close as is reasonably practical to the area where it was stripped/removed and will be used for restoration on that particular area. Any topsoil removed from permanently converted agricultural areas (e.g., permanent roads, etc.) will be spread in adjacent agricultural areas within the Limits of Disturbance (LOD) in a manner consistent with the Facility grading and drainage plan. Permanent topsoil stockpile areas in the field and on construction drawings will be clearly designated. The EM will be consulted regarding necessary changes or additions to the designated stockpile areas based on field conditions. Sufficient LOD (as designated on the site plan or by the EM) area will be allotted to allow adequate access to the stockpile for topsoil replacement.

- Topsoil stockpiles on agricultural areas left in place prior to October 31st will be stabilized in accordance with the Facility's Stormwater Pollution Prevention Plan (SWPPP), using Aroostook Winter Rye or equivalent at an application rate of three bushels (168 lbs.) per acre and mulched with straw mulch at a rate of two to three bales per 1000 Sq. Ft.
- Topsoil stockpiles left in place between October 31st and May 31st will be stabilized in accordance with the Facility SWPPP and mulched with straw at a rate of two to three bales per 1000 Sq. Ft. to prevent soil loss.

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. If a level road design is not feasible, all access roads will be constructed to allow a farm crossing and to restore or maintain original surface drainage patterns.

Culverts and/or waterbars will be installed to maintain or improve site specific natural drainage patterns.

Vehicles or equipment will not be allowed outside the planned LOD without the EM seeking prior approval from the landowner (and/or agricultural producer), and the Applicant pursuing permit amendments, as necessary. All vehicle and equipment traffic, parking, and material storage will be limited to the access roads and/or designated work areas and laydown/staging areas. Low ground pressure equipment² may be used outside these areas in limited instances where approved by the EM. Where repeated temporary access is necessary across portions of agricultural areas outside of the security fence, such access will require either stripping/stockpiling all topsoil linearly along the access road, or the use of timber matting to avoid soil disturbance.

Proposed permanent access will be established as soon as possible to limit temporary disturbance and avoid impact to undisturbed soils.

When open-cut trenching is proposed, topsoil will be segregated from other materials and subsequently graded on top of the any backfilled native material when closing a trench. Horizontal Directional Drilling (HDD) or equivalent installation techniques that do not disrupt the soil profile will be used wherever practicable. Any HDD drilling fluid inadvertently discharged will be removed from agricultural areas. Narrow open trenches less than 25 feet long involving a single directly buried conductor or conduit (as required) to connect short rows of solar modules within the array, will be exempt from topsoil segregation requirements.

Electric collection, communication, and transmission lines installed above ground can create long term interference with equipment operation on agricultural lands. Therefore, interconnect conductors outside of the security fence will be buried in agricultural fields wherever practicable. In those limited instances where overhead utility lines are required (including at the POI), these lines will be located outside field boundaries or along permanent access roads, wherever possible. While not anticipated, if overhead utilities must cross farmland, agricultural impacts will be minimized by using taller structures that provide longer spanning distances and poles will be located on field edges to the greatest extent practicable.

² Low ground pressure vehicles do not result in a visible rut that alters soil compaction.

All buried utilities located within the Facility's security fence will have a minimum depth of 18-inches of cover if buried in a conduit and a minimum depth of twenty-four inches of cover if directly buried (i.e., not routed in conduit).

All buried utilities located outside of the Facility's security fence will adhere to the following requirements:

- In cropland, hay fields, and improved pasture, buried electric conductors will have a minimum depth to 48-inches of cover. In areas where the depth of soil over bedrock is less than 48 inches, the electric conductors will be buried below the surface of the bedrock if friable/rippable, or as near as possible to the surface of the bedrock.
- In unimproved grazing areas or on land permanently devoted to pasture the minimum depth of cover will be 36 inches.
- Where electrical conductors are buried directly below the Facility's access road or immediately adjacent to the access road (at road edge), the minimum depth of cover will be 24 inches. Conductors will be close enough to the road edge that they will not be subject to disturbance during site restoration or future agricultural cultivation.

When buried utilities alter the natural stratification of soil horizons and natural soil drainage patterns, the effects will be rectified through installation of subsurface intercept drain lines. The Chautauqua County Soil and Water Conservation District will be consulted to determine the type of intercept drain lines necessary to prevent surface seeps and seasonally prolonged saturation of the area within or adjacent to the conductor installation zone. Subsurface drain tiles will be repaired consistent with the NYS DAM's details for *Repair of Severed Tile Line* found in the pipeline drawing A-5. All drain lines will be installed or repaired according to Natural Resources Conservation Service conservation practice standards and specifications, and will meet or exceed the AASHTO M-252 specifications. Excess concrete will not be buried or left on the surface in active agricultural areas, and concrete trucks will be washed outside of active agricultural areas. On-site disposal of any excess subsoil or rock will not be allowed in active agricultural lands. Designated spoil disposal locations will be specified in the associated construction plans. If landowner agreements, LOD boundary, or the Facility's land use approvals do not allow for on-site disposal, materials will be removed from the Facility Site.

In pasture areas, it may be necessary to construct temporary fencing (in addition to the Facility's permanent security fences) around work areas to prevent livestock access to active construction areas and areas undergoing restoration. For areas returning to pasture, temporary fencing will remain in place to exclude livestock from the restored portion of the LOD until pasture areas are appropriately revegetated. All temporary fencing will be included within the LOD and will be shown on the construction drawings. The Applicant will be responsible for maintaining the temporary fencing

until the EM determines that the vegetation in the restored area is established and able to accommodate grazing. At such time, the Applicant will be responsible for removal and disposal of the temporary fences.

4.0 POST-CONSTRUCTION RESTORATION

Post-construction restoration requirements will be applied to agricultural areas that received ground disturbance due to construction activities and will be returned to active agricultural use (typically lands outside of the developed Facility's security fence).

All construction debris in active agricultural areas including pieces of wire, bolts, and other unused metal objects will be removed and properly disposed of as soon as practicable to prevent mixing with topsoil or ingestion by grazing livestock.

Excess stripped topsoil will not be utilized for fill within the Facility Site. Any extra topsoil removed from permanently impacted areas (e.g., roads, equipment pads, etc.) will be evenly spread in adjacent agricultural areas within the Facility Site consistent with the grading plan.

All access roads outside of the security fencing will be regraded to allow for farm equipment crossing. In addition, original surface drainage patterns will be restored.

All surface or subsurface drainage structures damaged during construction will be repaired as close to preconstruction conditions as possible, unless the structures are to be removed as part of the Facility design. Any surface or subsurface drainage problems resulting from construction of the Facility will be corrected with the appropriate mitigation as determined by the EM, Chautauqua County Soil and Water Conservation District, and the landowner.

Agricultural soil restoration practices will only be conducted when favorable (workable, relatively dry) topsoil/subsoil conditions exist. Restoration will not be conducted while soils are in a wet or plastic state of consistency. Stockpiled topsoil will not be regraded, and subsoil will not be decompacted until plasticity, as determined by the Atterberg field test, is adequately reduced. No permanent Facility restoration activities will occur in agricultural areas between the months of October through May unless approved by the NYSDAM.

In all disturbed areas that will be returned to agricultural use, including timber matted areas, the EM will determine appropriate restoration activities. These activities may include decompaction, rock removal, and revegetation. Soil compaction will be tested in the affected areas and adjacent undisturbed areas using a soil penetrometer or other soil

compaction measuring device as soon as soils achieve moisture equilibrium with adjacent unaffected areas. Compaction tests will be made at regular intervals of distance throughout the affected areas, including each soil type identified within the affected areas. Soil compaction will be measured by comparing probing depths of both affected and unaffected areas. Where representative soil density of the affected area's collective depth measurements exceed 250 pounds per square inch (psi), or are more than 20% greater than the adjacent undisturbed area's mean soil density, decompaction will be required to a depth of 18 inches with a tractor mounted deep ripper or heavy-duty chisel plow. Following decompaction, all rocks four inches and larger in size that are unearthed will be removed from the soil surface.

To revegetate disturbed agricultural land, the area will be seeded with the seed mix specified by the landowner/agricultural producer or as otherwise recommended in NYSDAM's *New York State Farmland: Seeding, Fertilizing and Lime Recommendations for Gas Pipeline Right-of-Way Restoration in Farmlands* (revised 6-5-2015). Soil amendments will be applied as necessary so that restored agricultural areas' soil properties, at minimum, reasonably reflect the pre-construction soil test results or as otherwise agreed to by the involved parties to ensure continued productive agricultural use. All parties will be cognizant that areas restored after October 1st may not obtain sufficient growth to prevent erosion over the winter months. If areas are to be restored after October 1st, necessary provisions will be made to restore and/or re-seed any eroded or poorly germinated areas in the springtime to establish proper growth.

5.0 MONITORING AND REMEDIATION

Following restoration, the Applicant will conduct monitoring for two complete growing seasons following the date upon which the agricultural area achieves the establishment of the desired crop. Similar monitoring will be conducted throughout Facility operation whenever maintenance or repair activities result in soil disturbance on active agricultural land.

On site monitoring will be conducted seasonally at least three times during the growing season (spring, summer, and fall) to identify any remaining impacts directly associated with the construction of the Facility on agricultural lands proposed to remain or resume agriculture production. The Applicant will retain EM to oversee follow-up monitoring and remediation in agricultural areas, as necessary during Facility operation. Monitoring will be limited to the restored agricultural areas. Non-Facility related impacts affecting the restored area will be discussed with NYSDAM staff and considered for omission from future monitoring and remediation. The EM will record the following observations from onsite inspections:

- Topsoil thickness and trench settling – EM observations may require small hand dug holes to observe the percentage of settled topsoil in areas where the topsoil was stripped, or trenching was performed without stripping topsoil. Observations documenting inadequate depth of topsoil will require remediation by re-appropriating additional topsoil. Topsoil used for remediation will be sourced from known areas of native excess topsoil (according to records of Facility-specific excess topsoil disposal spread within the original LOD) or imported topsoil free of invasive species that is consistent with the quality of topsoil on the affected site.
- Soil compaction – Restored agricultural soils within the Facility Site that fail to revegetate or display stunted crop growth may be compacted. Soils in such areas will be tested using a soil penetrometer or other soil compaction measuring device. Compaction tests will be made at regular intervals of distance throughout the restored areas, including each soil type identified on the affected agricultural areas. Where representative soil density of the affected area exceeds the representative soil density of the unaffected areas, additional decompaction may be required. Consultation with NYSDAM and the agricultural producer(s) will be conducted prior to scheduling additional decompaction. If warranted, decompaction to a depth of 18 inches will occur with a tractor mounted deep ripper or heavy-duty chisel plow. Displaced topsoil will be restored to original depth and original contours will be re-established, where possible. Decompaction will be conducted during periods of relatively low soil moisture to ensure the desired mitigation and to prevent additional soil compaction. Stones and rocks greater than four inches that are brought to the surface as a result of deep ripping will be removed.
- Drainage – The EM will visually inspect the restored agricultural areas in search of pervasive wet conditions and/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 sub-surface drainage. Drainage issues resulting from Facility construction that are affecting or likely to reduce crop productivity of the adjacent areas will be remediated through a positive surface drainage, sub-surface drainage repair, or equivalent measures.
- Agriculture Fencing and Gates – The EM will inspect all agricultural fencing and gates (installed, altered, or repaired) within the Facility’s LOD for function and longevity. The Applicant is responsible for maintaining the integrity of associated fencing and gates throughout the operational life of the Facility.

The Applicant (or its contractor) will consolidate each applicable growing season’s observations into an annual report during the monitoring period and provide the report to the NYSDAM upon request. Annual reports will include date stamped photographs illustrating crop growth in comparison with unaffected portions of the agricultural areas.

Throughout Facility operation observations of the establishment of the desired crop and subsequent crop productivity within restored agricultural areas will be made. The areas will be evaluated by comparing productivity to that of the nearest adjacent undisturbed agricultural land of similar crop type within the same field. If a decline in crop productivity is apparent the Applicant, as well as other appropriate parties, will determine whether the decline is due to Facility-related activities. In the event Facility activities are determined to be the primary detrimental factor, the EM will notify the NYSDAM to potentially schedule a NYSDAM staff field visit. If Facility restoration is determined to be insufficient, the Applicant will develop a plan for appropriate rehabilitation measures to be implemented. NYSDAM staff will review and approve the plan prior to implementation. Additional monitoring may be required depending on the type and extent of restoration activities needed.

The Applicant is not responsible for site conditions and/or potential damages attributable to land use management conducted by the agricultural producer or others.

6.0 DECOMMISSIONING

If restoration to agricultural use is proposed when the operation of the Facility is permanently discontinued, all above ground structures (including panels, racking, signage, equipment pad, and security fencing) and underground utilities of less than 48-inches deep will be removed per the Decommissioning Plan (Appendix 23-A of the Section 94-c Application). All concrete piers, footers, or other supports will be removed to a minimum depth of 48-inches below the soil surface.

Access roads in areas planned for agricultural production post-decommissioning will be removed, unless otherwise specified by the landowner. If access is to be removed, topsoil will be returned from recorded excess native topsoil stockpiles or disposal areas created during Facility construction, if present, or topsoil free of invasive species that is consistent with the quality of topsoil on the affected site will be imported. All areas intended for agricultural production will be restored in accordance with the requirements of this plan, recommendations of the current landowner or leasing agricultural producer, and as required by the Chautauqua County Soil and Water Conservation District and NYSDAM.

Environmental monitoring and restoration requirements in accordance with the prior sections of this plan, will be followed for the decommissioning restoration. NYSDAM will be given notice before the Applicant undertakes decommissioning.