

# **Vegetation Maintenance Plan**

Three Corners Solar Project  
34.5-Kilovolt Overhead Collector, 115-Kilovolt Generator Lead, and  
Solar Array Area  
Kennebec County, Maine

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Figure 1. Typical ROW Vegetation Maintenance

## 1.0 INTRODUCTION

Three Corners Solar LLC (the Applicant) has prepared this Vegetation Maintenance Plan (VMP) as a stand-alone document containing restrictive maintenance requirements for natural resources along the approximately 1.3 miles of overhead 34.5-kilovolt (kV) collector line (Collector) and 5.2 miles of overhead 115-kV generator lead line (Genlead) for the Three Corners Solar Project (Project). The majority of the Collector for the Project runs underground along Project roads. There is one 1.3-mile-long overhead segment of the Collector between the eastern and central solar array areas. The Genlead begins at the Project collection substation north of Route 139 and ends at the existing Central Maine Power Albion Road substation. The requirements set forth in this VMP, as proposed by the Applicant and incorporated into state permits for the Project, apply to routine maintenance along the rights-of-way (ROWs) and solar array area and are not intended to apply to emergency maintenance and repair actions. Throughout this document, references to the Collector ROWs refer only to the above-ground segments of the Collector.

Throughout construction, numerous construction techniques and mitigation measures and restrictions will be implemented to minimize potential adverse effects on natural resources. The goal of the VMP is to supply the Applicant's maintenance personnel and contractors with a single, cohesive set of vegetation maintenance specifications for the collector line ROWs.

The resources subject to restrictive maintenance requirements include:

- Wetlands (Collector, Genlead, and solar array area);
- Streams (Genlead);
- Inland Waterfowl and Wading Bird (Genlead);
- Significant Vernal Pools (Genlead and solar array area);
- Deer Wintering Areas (Collector, Genlead, and solar area area);
- Eastern Ribbon Snake Best Management Practice Areas (Genlead and solar area area); and
- Potential Historic Sites (solar array area).

In locations where individual restrictions or procedures overlap or multiple restrictions apply, the more stringent restrictions and all applicable procedures will be followed by the Applicant's maintenance personnel and contractors.

## 2.0 TYPICAL ROW VEGETATION MAINTENANCE PROCEDURES

Routine vegetation maintenance of the Collector and Genlead is required to 1) maintain the integrity and functionality of the lines, 2) maintain access in case of emergency repairs, and 3) facilitate safety inspections. The objective of the Applicant's ROW management will be to control large, woody vegetative growth to ensure the integrity and safe operation of the Collector and Genlead lines. This will be accomplished by practicing Integrated Vegetation Management, which uses a combination of hand-cutting and selective herbicide applications. Mechanical mowing may be used in unusual circumstances to regain control of vegetation should the typical procedures be insufficient.

To minimize negative environmental impacts, vegetation will remain in place to the extent practicable. The removal of large trees will be done during initial ROW preparation prior to construction of the new Collector and Genlead lines. Follow-up maintenance activities during operation of the line require only the selective removal of "capable species" and dead or "danger trees." Capable species are defined as those plant species that are capable of growing tall enough to enter the required clearance space between conductors and vegetation. Sound industry practice requires that a minimum separation be maintained between vegetation and the conductors. Due to the sag of electric transmission lines between the poles,

which varies with the distance between poles, tension on the wire, electrical load, air temperature, and other variable conditions, the appropriate clearance is typically achieved by removing all capable species and topping other vegetation exceeding 8 to 10 feet tall.

Once the vegetation in an area is brought under control (usually 3 to 4 years following construction), these practices will generally be carried out on 4-year or 5-year maintenance cycles depending on growth, weather, geographic location, and corridor width. Significant branches that overhang the ROWs and dead or damaged trees outside of the ROWs that could contact the power lines or come within 15 feet (Collector) or 20 feet (Genlead) of a conductor (“danger trees”) may be removed as soon as they are identified. Figure 1 illustrates the results of typical vegetation clearing and maintenance to provide safe operation of the Collector and Genlead lines.

The following procedures will be implemented during all vegetation maintenance activities to ensure protection of sensitive natural resources.

- All resources and their buffers will be flagged or located with a Global Positioning System prior to maintenance operations.
- All areas of significant soil disturbance will be stabilized and reseeded immediately following completion of maintenance activities in the area.
- Equipment access through wetlands or over waterbodies will be avoided to the extent practicable by utilizing existing public or private access roads, with landowner approval where required.
- Construction mats or equivalent for equipment support will be used if saturated soils are present.
- Rutting or significant damage to wetland or waterbody bank vegetation, if any, will be repaired immediately following completion of maintenance activities in the area.

## 2.1 MECHANICAL TECHNIQUES

During routine vegetation maintenance after construction, the mechanical means of maintaining the height of vegetation on the ROWs consists primarily of hand-cutting, with limited use of motorized equipment in areas that are directly accessible from public or private access roads.

The procedure will be to cut all capable species and any dead or danger trees at ground level except in waterbody buffer zones. All large vegetation cut during routine maintenance will be removed, chipped, or flailed on-site or otherwise handled in accordance with the Maine Slash Law.

## 2.2 USE OF HERBICIDES

The Applicant’s herbicide application program is consistent with most New England utilities and will be used in conjunction with the mechanical methods of vegetation maintenance. Herbicide application will consist of directional spraying on targeted species along the ROWs with a low-volume foliar application. In addition, herbicides may be applied to cut stumps and surfaces of larger trees. The direct application to individual plant species, as opposed to a broadcast application, will control only the targeted woody vegetation while leaving low-growing plant communities consisting of grasses, forbs, and shrubs to thrive. Selective herbicides will also be used, where practical, to minimize the impacts to non-target species. Aerial applications will not be performed. Only herbicides that are registered with and approved by the U.S. Environmental Protection Agency (EPA-approved) and the Maine Board of Pesticides Control (BPC) will be used.

Typically, the ROWs will receive herbicide treatment the year following construction and then again 2 to 3 years later to gain control of vegetation growth. When control is achieved, treatment occurs on the standard 4-year to 5-year cycles or as needed. By utilizing selective herbicides and application methods, the ROW will eventually become a dense, low-growing plant community and will help prevent woody

vegetation from being established. Therefore, fewer woody species will require treatment in future applications.

The following procedures will be implemented during vegetation maintenance activities utilizing herbicides.

- Herbicides will be used in strict accordance with the manufacturer's EPA-approved labeling and will not be applied directly to water or areas where surface water is present.
- Herbicides will not be applied, mixed, transferred, or stored within the designated buffers (identified in Section 1.0 above) or applied by broadcast application within 25 feet of wetlands with visible surface water or wetlands dominated by emergent or aquatic plants.
- Herbicides will only be applied, mixed, transferred, or stored near vernal pool basins or streams in accordance with Maine BPC regulations.
- Herbicides will not be applied, mixed, transferred, or stored within 100 feet of any known well or spring or within 100 feet of a home or other human dwelling. Prior to performing herbicide applications, the Project area ROWs will be reviewed to make sure no new well, springs, homes, or other dwellings are present along the ROWs.
- Herbicides will not be applied, mixed, transferred, or stored within 250 feet of a residence listed on the BPC's Pesticide Notification Registry. Consistent with BPC guidelines, prior to any herbicide applications along the ROWs, the herbicide application contractor will check the latest Pesticide Notification Registry for residences or landowners that may be listed. Note that no landowners within or adjacent to the Project area are listed on the 2013 Pesticide Notification Registry.
- Herbicides with a low potential for mobility and low persistence in the environment will be utilized in sensitive areas such as wetlands.
- Herbicides will not be applied to any area when it is raining or when wind speed exceeds 15 miles per hour as measured on-site at the time of application.
- The foreman of every crew using herbicides will be licensed by the Maine BPC and will remain in eye contact and within earshot of all persons on his/her crew applying herbicides. At least one individual from any company applying herbicides for the Applicant must also hold a Commercial Master License issued by the BPC and must be in Maine during any application. Application of pesticides will be in accordance with applicable regulations promulgated under the Maine Pesticides Control Act, including those regulations to minimize drift, to maintain setbacks from sensitive areas during application, and to maintain setbacks from surface waters during the storing/mixing/loading of herbicides.
- The chemicals are typically mixed in a truck-mounted tank that stays on the access roads. The application is done by personnel with backpacks who travel along the ROW by foot or by all-terrain vehicle and spot-treat target species.
- Each target tree is sprayed just enough to wet the foliage while avoiding dripping or run-off.

As mentioned previously, application of herbicides is prohibited within designated buffers (identified in Section 1.0 above) and within 25 feet of wetlands that have water present at the surface. The location of all streams and wetlands crossed by the Collector and Genlead will be shown on final construction drawings. The presence of water on the surface will be determined prior to herbicide use in any wetland. Tables identifying the locations of other resources where herbicide application is prohibited are provided in the following sections. Crew leaders will confirm that all resources and buffers are located and properly delineated on the ground for clear identification by the applicators.

### **3.0 GENLEAD AND COLLECTOR ROW VEGETATION MAINTENANCE WITHIN STANDARD WATERBODY BUFFERS**

A minimum 25-foot buffer, as measured from the top of bank on each side, will be established for all waterbodies crossed by the Genlead. The buffer distance on either side of Fifteenmile Stream will be 100 feet. None of the streams are located with mapped Atlantic salmon (*Salmo salar*) critical habitat. No waterbodies are crossed by the Collector. Special procedures and restricted activities will apply within these waterbody buffers during construction and follow-up vegetation maintenance. Vegetation maintenance within waterbody buffers is typically conducted on a 3-year or 4-year cycle, depending on growth and vegetation. This section describes the restrictions related to vegetation cutting and maintenance that will apply within all standard waterbody buffers. The location of all waterbodies crossed by the Genlead also will be shown on the As-Built Plans.

It is important to note that the vegetation maintenance procedures and restrictions that apply to typical ROW maintenance (Section 2.0) also apply within the standard waterbody buffers. The applicable procedures and restrictions include the BPC restrictions, restoring and stabilizing disturbed soils, disposition of slash in accordance with the Maine Slash Law, ROW access, the restrictions on waterbody crossings by equipment within the ROW, and the use of construction mats, low ground pressure equipment, and/or other procedures related to work in wetlands.

#### **3.1 ADDITIONAL VEGETATION MAINTENANCE RESTRICTIONS WITHIN STANDARD WATERBODY BUFFERS**

The following additional restrictions apply to vegetation maintenance within standard waterbody buffers (25 feet for streams, 75 feet for Significant Vernal Pools, 100 feet for Fifteenmile Stream).

- Prior to line construction and during vegetation maintenance after construction, only capable species vegetation greater than 8 to 10 feet will be removed. No other vegetation, other than dead or danger trees, will be removed.
- Under most terrain conditions, removal of capable species and dead or danger trees will be accomplished by hand-cutting or by traveling into the buffer zone with low ground pressure tree harvesting equipment, and mats as necessary.
- No herbicides will be used, stored, mixed, or transferred between containers within the buffer areas.
- No refueling or maintenance of equipment, including chain saws, will occur within the buffer areas.
- No accumulation of slash will be left within 50 feet of the edge of any waterbody.

The additional restrictions on vegetation maintenance within waterbody buffers will allow taller vegetation to provide additional shading of streams and reduce the warming effect of direct sunlight (insulation). Low ground cover will also remain to filter sediment in surface runoff. In addition, vegetated buffers adjacent to vernal pool maintains critical habitat that amphibian species utilize outside of the breeding season. As a result, the buffers will continue to function in a similar manner as they did before construction. The restrictions are also intended to minimize ground disturbance and ensure that herbicides and petroleum products are not able to reach the waterbody via surface runoff or groundwater transport.

### **4.0 GENLEAD ROW VEGETATION MAINTENANCE WITHIN DESIGNATED INLAND WATERFOWL AND WADING BIRD HABITAT**

The proposed Genlead crosses a mapped Inland Waterfowl and Wading Bird Habitat (IWWH; #204095) in one location. This crossing is located south of Route 139 in Benton and this IWWH area will be shown on the As-Built Plans.

The following restrictions will apply to vegetation maintenance within the mapped IWWH:

- Only those trees capable of growing to a height within 20 feet of a conductor within the next 3 to 4 years will be topped or removed. No other vegetation other than dead or danger trees will be removed.
- Tree topping is the preferred method of vegetation maintenance unless topping will leave insufficient vegetation to sustain the tree.
- Existing dead or dying trees of capable species shall be topped at a height to provide nesting habitat (snags) for waterfowl, provided the snags do not present a safety hazard for operation of the line.
- No herbicides will be allowed within the mapped IWWH.

In addition to other applicable maintenance requirements, vegetation maintenance activity using motorized equipment (i.e., all-terrain vehicles) within moderate and high value IWWH will be prohibited between April 1 and August 15 each year to minimize the potential disruption of avian breeding and nesting activity, unless in an emergency with approval from Maine Department of Environmental Protection (MDEP) and Maine Department of Inland Fisheries and Wildlife. Hand-cutting without the use of mechanized equipment (e.g., mechanized brush saws or chain saws) is allowed.

## **5.0 GENLEAD ROW VEGETATION MAINTENANCE AT SIGNIFICANT VERNAL POOL LOCATIONS**

Vernal pool surveys for the Genlead were conducted during the springs of 2019, 2020, and 2022. Vernal pool locations will be shown on the As-Built Plans. One Significant Vernal Pool was identified within 250 feet of the proposed Genlead ROW. Complete survey results can be seen in Section 7.0 of the MDEP Site Location of Development Act (Site Law) permit application.

Vegetation maintenance within 75 feet of all Significant Vernal Pools will consist of cutting all capable species and topping other vegetation that may interfere with the 20-foot clearance between conductors and vegetation within the next 3 to 4 years. Removal will be by hand-cutting only, with limited use of motorized equipment in areas that are directly accessible from public or private access roads or from the middle access way established during initial clearing. The use of mechanized equipment will not be allowed within the vernal pool depression. No herbicide use will be allowed within 75 feet of the pool basins.

Between March 15 and June 15, no vegetation maintenance using tracked or wheeled equipment will be performed within the 250-foot critical habitat of Significant Vernal Pools. Maintenance will be performed using hand tools only. No vegetation maintenance will occur within 75 feet of any significant vernal pool depression during this time period.

The Genlead will span one Significant Vernal Pool, SAD-VP-3. To minimize impacts to the pool basin and surrounding 250-foot critical habitat buffer, significantly increased pole heights will be used and the Significant Vernal Pool and associated habitats will remain. The estimated maximum tree height to be maintained within the 75-foot buffer of SAD-VP-3 is approximately 45 feet, as depicted on the Genlead plans (Section 1.0, Exhibit 1-2 of the Site Law permit application). Trees within the 75-foot buffer of SAD-VP-3 will be maintained as necessary by hand-cutting only to top vegetation that may interfere with the 20-foot clearance between conductors and vegetation.

## **6.0 GENLEAD AND COLLECTOR ROW VEGETATION MAINTENANCE WITHIN MAPPED DEER WINTERING AREAS**

The Genlead ROW intersects one moderate or high value Deer Wintering Area (DWA), DWA #023322 in Benton, at two locations. In these areas, the proposed Genlead ROW has the potential to remove

contiguous softwood shelter and/or fragment existing or potential travel corridors through the DWA. The Applicant has identified further vegetative maintenance restrictions that will minimize impacts to the mapped DWA to the maximum extent allowed by ISO-NE standards. DWA locations will be shown on the As-Built Plans.

The following restrictions apply to vegetation maintenance within mapped DWAs:

- Only those trees capable of growing to a height within 20 feet of a conductor within the next 3 to 4 years will be topped or removed. No other vegetation other than dead or danger trees will be removed.
- Tree topping is the preferred method of vegetation maintenance unless the tree is dead or dying or unless topping will leave insufficient vegetation to sustain the tree.
- Within 50 feet on either side of each pole location in the DWA, focus will be given to retain coniferous species that will provide travel corridors across the cleared ROW. Deciduous, capable species will be selectively harvested, and coniferous species will be allowed to grow to the maximum allowable height as provided in the ISO-NE standards.
- No herbicides will be allowed within the mapped DWA.

## **7.0 GENLEAD ROW VEGETATION MAINTENANCE WITHIN EASTERN RIBBON SNAKE BMP AREAS**

The eastern ribbon snake is a slender, medium-sized (up to 3 feet in length), long-tailed semi-aquatic snake typically found near wetlands. The species is active between the spring and fall, typically April 15 through October 15. Although no eastern ribbon snakes (*Thamnophis sauritus*) were observed within the Project area, ten eastern ribbon snakes were observed in vicinity of the Project during the May 2022 field surveys. The Genlead ROW intersects several areas adjacent to wetlands with observed occurrences of eastern ribbon snake. As such, the Applicant has identified eastern ribbon snake BMP areas within 250 feet of wetland habitats with confirmed eastern ribbon snake occurrences and/or suitable habitat. The Applicant has identified further vegetative maintenance restrictions that will minimize impacts to eastern ribbon snakes. Eastern ribbon snake BMP areas will be shown on the As-Built Plans.

The following restrictions apply to vegetation maintenance within eastern ribbon snake BMP areas:

- Conduct vegetation maintenance during the inactive period (October 16 to April 14) and by hand to the extent possible. Mowing is allowed between November 1 and April 14.
- No use of herbicides for vegetation management.

## **8.0 MAINTENANCE PROCEDURES FOR SOLAR ARRAYS AND ASSOCIATED SHADE MANAGEMENT AREAS**

The following describes vegetation maintenance procedures after construction for areas within the fenced solar array area and shade management areas.

### **8.1 SOLAR ARRAY AREA – GENERAL VEGETATION MAINTENANCE**

The array area will be maintained in a low growth habitat within the fence line and as scrub shrub in the shade management areas outside the fence line. The following apply to both areas:

- No herbicides will be allowed within Significant Vernal Pool buffers, eastern ribbon snake BMP areas, or mapped DWA. Significant Vernal Pool buffers, eastern ribbon snake BMP areas, and



mapped DWA will be shown on the As-Built Plans.

- Between March 15 and June 15, no vegetation maintenance using tracked or wheeled equipment will be performed within the 250-foot critical habitat of Significant Vernal Pools. Maintenance will be performed using hand tools only. No vegetation maintenance will occur within 75 feet of any Significant Vernal Pool depression during this time period.

## 8.2 SOLAR ARRAY AREA – MEADOW BUFFER MAINTENANCE

Stormwater buffers for the fenced solar array area will consist of a meadow buffer underneath and throughout the fenced panel areas to provide for stormwater treatment. The meadow buffer shall be inspected for evidence of erosion resulting from panel drip. These conditions shall be corrected through soil reinforcements, if observed. Ground cover within the array area shall be mowed no more than twice per year.

Vegetation maintenance that is within eastern ribbon snake BMP areas and within the fenced array will be conducted between April 15 and October 15.

## 8.3 SOLAR ARRAY AREA – SHADE MANAGEMENT AREA MAINTENANCE

Shade management areas include Project areas outside the solar array fence line and cleared wetlands located within the solar array fence line that will not be impacted by solar array grading/installation. Maintenance inspections will occur twice each year and growth of trees or other vegetation that is shading the arrays will be trimmed as needed to address any shading of the panels. Only removal of shading vegetation is anticipated within the shade management areas following initial clearing. Vegetation maintenance within delineated wetlands will adhere to the practices described above in Section 8.0.

To minimize solar panel shading, selective cutting procedures (i.e., selective cutting of deciduous species) are not proposed within shade management areas that intersect Significant Vernal Pool buffers, moderate or high value DWA, or eastern ribbon snake BMP areas. Vegetation maintenance in shade management areas within eastern ribbon snake BMP areas will be conducted between October 16 and April 14 to avoid the snake active season. Mowing is allowed between November 1 and April 14.

## 8.4 SOLAR ARRAY AREA – HISTORIC SITES

Three post contact historic archaeological sites were identified within the solar array area in Clinton. The following restrictions will apply to vegetation clearing within 82 feet of these sites. These sites (Sites F-1, F-2, and SW-9) may be eligible for listing on the National Register of Historic Places and could also contribute archaeological data significant to the potential Dickey Road Archaeological Historic District. Historic site locations will be shown on the As-Built Plans.

- Removal of vegetation will be by hand-cutting or reach-in techniques.
- An archaeological monitor with stop work authority will be present when construction occurs within 82 feet (25 meters) of these sites.
- Permanent fencing will be maintained around these resources while the Project is in operation.

## 9.0 SYSTEM FOR LOCATING/MARKING RESTRICTED AREAS

The Applicant will maintain a database of the sensitive areas and buffers listed above and located along the proposed ROWs and solar array areas. The database will include the locations and types of sensitive areas along the lines and their locations relative to the nearest numbered structure, road or array block. All structures along the Collector and Genlead ROWs will be numbered at the time of construction. The

structure numbers and array blocks will be included on the As-Built Plan and Profile drawings.

To aid in identifying restricted areas, buffers and restricted habitats may be located and demarcated in the field using brightly colored flagging or signage prior to the initiation of maintenance activities along the ROWs. Alternatively, use of spatial data and global positioning equipment may be suitable to provide accurate location of resources and associated buffers during maintenance activities. If desired, maintenance personnel may permanently demarcate restricted habitats to aid in long-term maintenance activities. In some instances, signage may be attached to structures to facilitate identification of the sensitive resources. Maintenance contractors working on the ROWs will be given this VMP prior to receiving the required environmental training. Use of the VMP in conjunction with the As-Built Plan and Profile drawings will enable maintenance contractors to locate and mark restricted areas in the field.

## **10.0 TRAINING OF MAINTENANCE PERSONNEL**

This section summarizes the environmental training that will be required for personnel with maintenance responsibilities on the Collector and Genlead ROWs and within the solar array areas.

### **10.1 PERSONNEL AND SCHEDULE**

The Applicant's personnel and contractors who will be participating in vegetation maintenance activities on the ROWs will receive appropriate environmental training before being allowed access to the ROWs. The level of training will be commensurate with the type of duties of the personnel. The training will be given prior to the start of maintenance activities. Replacement or new employees that did not receive the initial training will receive similar training prior to performing any maintenance activities on the ROWs.

### **10.2 CONTENT OF TRAINING SESSIONS**

Prior to receiving maintenance training, each participant will be required to review this VMP. The training session will consist of a review of all protected resources and restricted areas, the respective maintenance requirements and restrictions for each, and a review of how restricted areas and resources can be located in the field (relative to the nearest numbered structure). Training will include familiarization with the contents of this VMP, as well as basic causes and preventive and remedial measures for contamination, erosion, and sedimentation of water resources. Training will also include a review of safety, clean-up, monitoring, and reporting requirements.

## **FIGURES**

