

Three Corners Solar Project

MDEP Site Location of Development Act Permit Application

SECTION 1: PROJECT DESCRIPTION

1.0 PROJECT DESCRIPTION

Three Corners Solar, LLC (Applicant), a wholly owned subsidiary of Longroad Energy Holdings, LLC (Longroad), proposes to construct the Three Corners Solar Project (Project), a utility scale solar energy facility in Unity Township (Unity Twp) and the Towns of Clinton and Benton, Maine (Figure 1-1). The proposed Project solar arrays, and supporting infrastructure (electrical equipment, collection substation and operations and maintenance [O&M] building), are located north of Route 139 (Unity Road). The photovoltaic (PV) panels will have a rated capacity of approximately 110 megawatts alternating current (MWac). Power from the Project will be transmitted to the existing Central Maine Power (CMP) Albion Road substation in Benton, located southwest of the Project, via the construction of an approximately 5.2 mile long 115-kilovolt (kV) generator lead line (Genlead).

The Project area primarily consists of mixed (coniferous and deciduous) forest predominantly managed for commercial timber production. Small portions of the Project area adjacent to Palmer Road in Unity Twp consist of agricultural land. The Project PV arrays will be constructed on unnamed rises north of Unity Road. Topography within the array areas generally consist of elevations between 170 and 275 feet (ft) above sea level. Topography along the proposed transmission line includes gentle to moderate slopes with elevations between 130 and 275 ft above sea level.

The Project is designed to use PV panels mounted on a tracking system to maximize solar energy production throughout the year. Modules will be mounted on steel frames supported by ground screws or pilings. In compliance with applicable codes and standards, the frames will be capable of withstanding wind speeds of up to 100 miles per hour. The panels will stand up to approximately 7 ft from the ground at their highest point. Based on the 110-MWac capacity, the Project is expected to generate enough clean electricity to power the equivalent of approximately 30,000 Maine homes.

As described in greater detail below, other Project infrastructure will include upgraded existing and new access roads, up to 39 paired central inverters/transformers mounted on skids, a series of overhead and underground 34.5-kV electrical collector lines (Collector) connecting to a new collection substation west of Bessey Lane and south of an existing CMP distribution line, and a new O&M building located between the collection substation and Unity Road. A 7-ft-tall perimeter fence will surround the segments of solar arrays, totaling approximately 681 acres. The total disturbed area associated with the arrays is approximately 855 acres and the total disturbed area for the Genlead is approximately 71 acres. Detailed civil site plans for the solar array area, Collector, collection substation, and O&M building are provided in Exhibit 1-1. Genlead site plans are provided in Exhibit 1-2.

A substantial road network, primarily consisting of gravel logging roads, currently exists within the Project area and will be utilized to the extent practicable to minimize Project impacts. Approximately 6.7 miles of new or upgraded Project access roads are proposed to provide construction and maintenance access to the Project arrays. Access roads will range between 24-ft-wide primary roads and 16-ft-wide as roads reach the periphery of the network and anticipated vehicle use decreases. To allow continued access to several outparcels previously accessed via Bessey Lane, the Applicant is constructing 1.7 miles of 12-ft-wide access roads.

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The solar power generated from the Project will be transmitted through a series of Collector lines, the majority of the which will run underground in trenches adjacent to the Project access roads or interior to proposed solar arrays, with approximately 1.3 miles of above-ground Collector line proposed between the eastern and central array areas. Power from the Collector will be transmitted to the proposed collection substation to “step up” the voltage from 34.5-kV to 115-kV and transmit it to the CMP Albion Road substation via an approximately 5.2-mile-long 115-kV Genlead. The approximate cleared rights-of-ways (ROW) width for the overhead Collector and Genlead are each 100 ft. The Albion substation has sufficient capacity to accept power from the Project without substantial upgrades.

As part of the site layout and permitting process, the Applicant has completed studies of the natural resources and wildlife in the Project area. As currently designed, the Project will result in approximately 19.16 acres of wetland impacts, of which approximately 18.63 acres will be indirect impacts associated with vegetation clearing and approximately 0.53 acres will be direct impacts associated with access road crossings, grading within the arrays, and overhead Collector/Genlead poles. No permanent or temporary in-stream impacts are anticipated as a result of the Project. Project-associated wetland impacts are summarized in Table 1-1 below and impacts to natural resources are further discussed in Section 7.

Table 1-1. Summary of Wetland Impacts

Project Area	Component	Wetland Impacts		
		Permanent Fill/Grading (acres)	Temporary Fill (mats, acres)	Vegetation Clearing (acres)
Solar Arrays	PV Panels	0.14	0	2.89
	Access Roads	0.39	0	0.19
	Collector	<0.01	0.07	1.31
Genlead	Right-of-Way Access, Poles, Clearing	<0.01	1.32	14.24
TOTAL		0.53	1.39	18.63

Natural resource impacts proposed require approval from the Maine Department of Environmental Protection (MDEP) pursuant to the Natural Resources Protection Act (NRPA) and a 401 Water Quality Certification. An Individual NRPA permit application has been filed separately from this application to address the proposed wetland, stream, and Significant Wildlife Habitat (SWH) impacts. The Project occurs within SWH including mapped Inland Waterfowl and Wading Bird Habitat (IWWH) and significant vernal pool (SVP) habitat. This permit application is being submitted to satisfy the Site Location of Development Act (Site Law) and the Maine Construction General Permit.

1.1 CONSTRUCTION PLAN

The Applicant’s owners have extensive experience constructing solar energy facilities, with numerous projects currently in operation (see Section 4 for more detail). The Applicant is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and best management practices (BMPs).

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Clearing for construction is projected to commence in August 2022, with the goal of Project completion set for February 2024. The sequence of Project construction will generally adhere to the timeline detailed below (Table 1-2), although adjustments may be necessary to accommodate seasonality and weather conditions.

Prior to initiating earthwork activities, resource areas will be flagged and/or fenced for protection and erosion and sediment control measures will be installed in accordance with regulatory requirements and BMPs. The array area with forested cover will be cleared of trees, stumping and grubbing where necessary, and earthwork to upgrade and build the access roads will commence. The Genlead and overhead Collector ROWs will be cleared of trees without stumping or grubbing except where necessary for access. The array areas will be accessed via existing and upgraded access roads (Bessey Lane and Palmer Road) originating from Unity Road. Once site preparation is completed, the Collector, Genlead, and solar racking systems will be installed. Panel racking will be installed using ground screws or pilings. Panels and ancillary equipment will be delivered to the site and temporarily staged within construction laydown areas identified on the civil site plans provided in Exhibit 1-1.

Substation and O&M building construction will likely occur concurrently with other work on site. The substation and O&M sites will be prepared to provide sub-grade or final-grade for foundation construction. Once foundations are constructed, structural steel will be installed to support the substation. Other control buildings, as needed, within the fenced substation yard will either be constructed on site or pre-fabricated and delivered. If necessary, the substation will be energized for back feeding the site collection system and the solar arrays for final testing and commissioning. Final site restoration activities are anticipated during the spring of 2024.

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Table 1-2. Estimated Construction Activity Timeline

Three Corners Solar Schedule	2022					2023												2024						
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	
Mobilization / Layout & Staking	█	█																						
Site Clearing (PV Array & Substation)	█	█	█	█																				
Civil & Structural (PV Array)	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█					█	█			
Electrical (Plant)								█	█	█	█	█	█	█	█	█	█	█			█	█		
Substation								█	█	█	█	█									█	█		
Site Clearing (Transmission Line)				█	█	█		█	█												█	█		
Transmission Line					█	█	█	█	█	█	█	█									█	█		
Trial Ops & Testing & Commissioning																█	█	█	█					
Energize Facility													█											
In-Service Date																								
						WINTER	THAW											WINTER	THAW					

Note: Green Cells indicate active work periods; black cells indicate spring thaw periods; and the red cell indicates Project commissioning.

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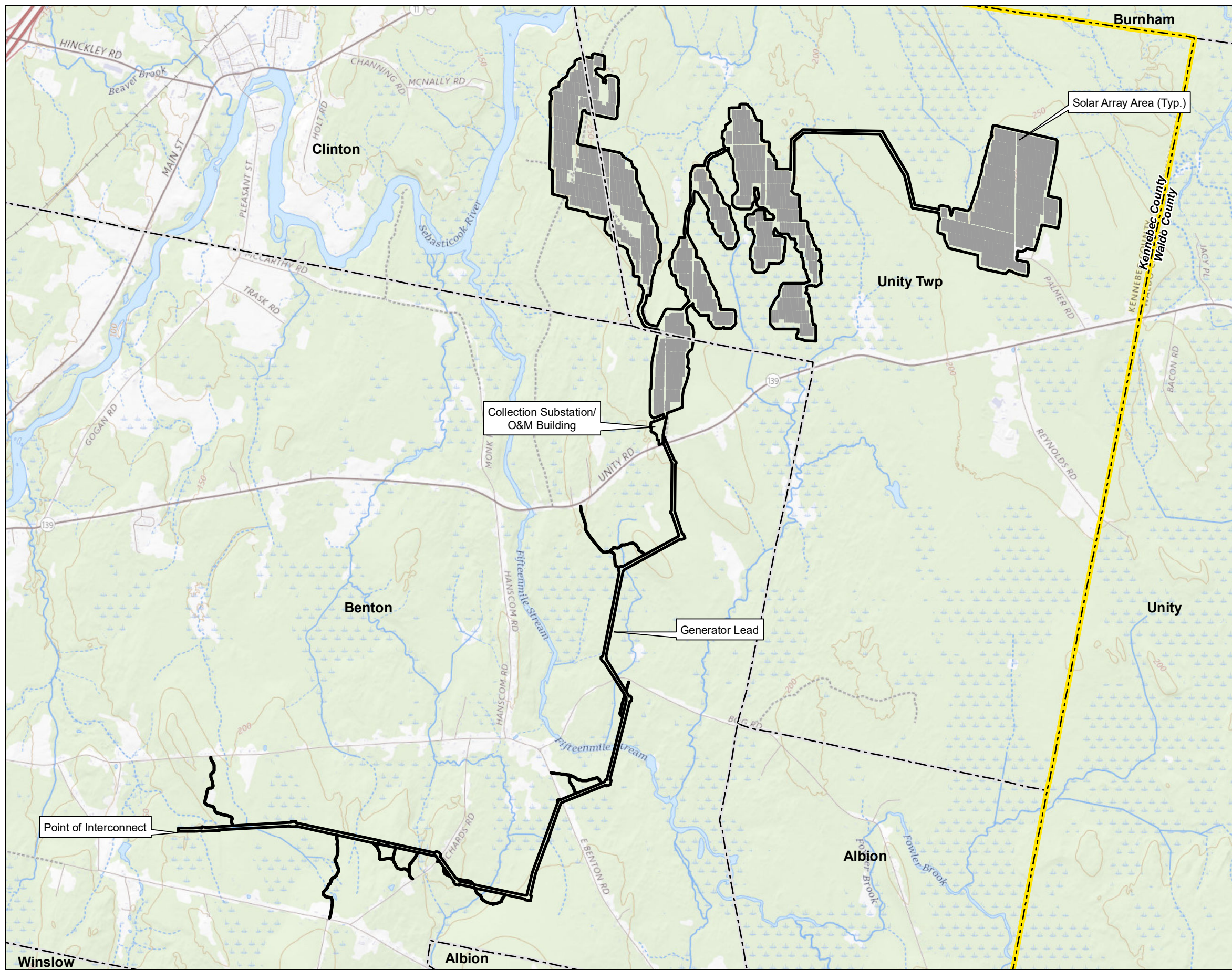
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Figure 1-1

USGS Location Map

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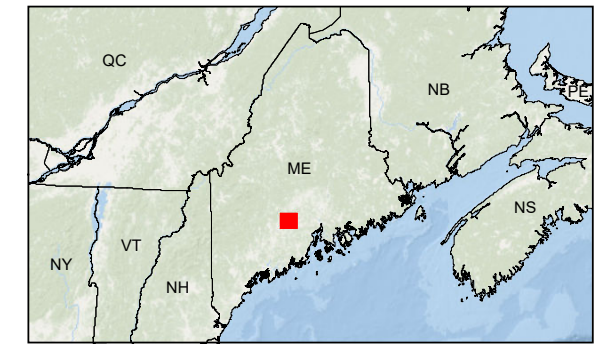


- Legend**
- Solar
 - Project
 - Municipal Boundary
 - County Boundary



0 3,000 Feet
 (At original document size of 11x17)
 1:36,000

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 19N
 2. Background: The USGS National Map



Project Location
 Benton, Clinton, Unity Twp, Maine

Prepared by HT on 2022-01-06
 TR Review by GC on 2022-01-07
 IR Review by EB on 2022-01-10

Client/Project
 Three Corners Solar Project

195601453

Figure No.
1-1
Title
Project Location Map

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Exhibit 1-1

Civil Site Plans: Solar Array Areas, Collector, Collection
Substation, and O&M Building

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Exhibit 1-2

Civil Site Plans: Genlead