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# Project Description

Cortlandt CSG LLC (Applicant) proposes to construct and operate a ground mounted fixed tilt photovoltaic (PV) community solar facility, approximately 2.3 direct current megawatts (MWdc) in capacity. The Lexington Avenue Solar Project (Project) is proposed to be located on a privately-owned parcel, located in the Town of Cortlandt, New York.

## Purpose and Need

The purpose of the proposed Project is construct and operate a PV solar array, which will generate clean, renewable, solar energy, with electricity offtake credited to residential customers, both within the Town of Cortlandt, as well as the larger Consolidated Edison Utility Territory (ConEd). The Project was conceived in response to the growing need for sustainable energy sources and the State of New York's Clean Energy Standard, requiring that 70 percent of the state's electricity come from renewable energy sources such as solar and wind by 2030.

Based on its commitment to providing renewable energy, the Applicant proposes to develop the site described below to maximize its solar energy potential. In order to best determine optimal location within the site, the following factors have been analyzed:

- Significant solar radiation (insolation)
- Site accessibility
- Avoidance of environmentally sensitive areas
- Limited tree and vegetative clearing
- Limited visibility from offsite locations

## Site Setting

The proposed Project site is located on Lexington Avenue, located in the Town of Cortlandt, NY, on an CD zoned parcel approximately 34 acres in size. The Project is bordered to the north by both developed and undeveloped properties along Dyckman Road, to the south by an existing natural gas pipeline right-of-way, to the east by Lexington Avenue, and to the west by the Baron De Hirsch Road subdivision. The elevation of the site is higher than areas to the west, south, and east, which will limit visibility from most neighboring properties.

The Project is proposed to be interconnected at an existing three-phase line running along Lexington Avenue. As part of the interconnection process, the Applicant will work with ConEd, to extend the three-phase line to the site.

## Key Components

The proposed Project will consist of the following key components:

- Solar Modules
- Solar String Inverters
- Underground Electrical Conductors
- Balance of System Equipment
- Access Roads
- Fencing

Key components are described in the following subsections.

### Solar Modules

The proposed Project will utilize approximately 5,300 solar modules. The modules are manufactured offsite and will be delivered to the site by truck in wooden crates or cardboard boxes. Each module will measure approximately 3.3 feet by 6.4 feet and will be rated at 370 watts. Solar modules will be configured into metal frames, typically 2 modules high by 12 modules wide and will be oriented to face south at a 25° tilt to maximize exposure to the sun.

The frames of solar modules will be mounted on steel posts, which would be screwed in driven between 10 and 15 feet into the ground. The posts will be made from galvanized or corrosion-resistant metal to minimize the potential for corrosion over the lifespan of the project. Approximately 10 feet of space will be maintained between each row of solar modules for operations and maintenance access.

### Solar String Inverters

The proposed Project will utilize solar string inverters, which will aggregate the electricity produced by each string of solar modules and convert the electricity from Direct Current (DC) to Alternating Current (AC). Inverters will be mounted on the ends of the rows of solar modules. Each string inverter is approximately 3.5 feet by 2 feet. Depending on the manufacturer, solar string inverters will emit noise around 70 decibels, around the equivalent of a normal conversation heard from 3 to 5 feet away.

### Underground Electrical Conductors

Underground electrical conductors will be installed in trenches at a depth in compliance with the Cortlandt Township and the National Electric Code (24 inches or greater). Conductors either will be buried in a polyvinylchloride (PVC) conduit or equivalent.

### Balance of System Equipment

Balance of System Equipment, such as an AC Combiner Box, Transformer, and/or Medium Voltage Switchgear will be installed near the solar array within the project's fence line.

Balance of System Equipment will be installed on a concrete pad and in compliance with equipment manufacturer instructions. Full details of Balance of System Equipment will be included as part of the Project's electrical design plan set submitted for ministerial permits.

### Access Roads

The site will be accessed via Lexington Avenue. The Project proposes to install a new section of access road, approximately 400 feet long and 15 feet wide. The access road will be constructed of geotextile and gravel and will terminate at the northeastern corner of the solar array with a hammerhead turnaround to accommodate vehicles.

### Fencing

The solar array and all balance of system equipment will be enclosed in an eight-foot-tall chain link fence in compliance with the National Electric Code and Cortlandt Township local solar law. The fence will have at least one vehicle access gate at the northeastern corner of the array, which will always remain locked, except during operations and maintenance activities.

## Summary of Construction Activities and Components

Site preparation will consist of clearing the existing vegetation in those areas where construction will be undertaken, grading, and establishing temporary staging areas (including stockpile and laydown areas). Once the site is prepared, the installation of racking equipment, modules, inverters, and balance of system equipment can begin.

### Clearing and Grading

Trees located within the proposed project limit of disturbance will be removed in order to accommodate construction of the array and its appurtenances, as well as to prevent shading on the array during operation. While the stumps of trees removed within the project's fence line will be grubbed, the stumps of trees cleared for shading purposes outside of the Project fence line will be left in place to keep soil stabilized. Because the solar modules will be placed approximately 3 feet above grade, any vegetation taller than 3 feet or expected to exceed 3 feet in height will be removed. Grass and groundcover may remain between rows and under the solar modules. After construction, the ground underneath the array will be reseeded with low growth grasses to promote soil stability. All cleared vegetation will either be chipped and spread on site or disposed of responsibly.

Construction equipment such as tractors, backhoes, loaders, dozers, and graders will be needed to clear trees and vegetation from the site, and to grade roads and areas where structures currently stand. While the racking equipment can tolerate some slope, minor grading of the array area may also be required to even out the terrain.

### Staging Areas

A temporary staging area will be used as a laydown area for parts and materials such as solar crates, electric cable, structural supports, and Balance of System Equipment, as well as the location for sanitary facilities and a construction trailer. The staging area will be located near the southern portion of the array. The portion of the staging area containing equipment and materials will likely be enclosed within a temporary construction fence with a lockable gate.

### Racking, Modules, and Inverters

The foundations securing the solar modules will be designed to withstand high winds and snow loads. Galvanized or corrosion-resistant steel piles will be driven into the ground between 10 and 15 feet, depending on soil conditions and depth to bedrock. Modules will be aggregated into frames and mounted on each supporting pile. Inverters will also be mounted to the side of some of the rows of modules.

### Balance of System Equipment and Wiring

Balance of System electrical equipment will be located on a concrete pad within the project's fence line. Balance of System equipment may include cabinet style equipment such as AC combiner boxes, transformers, and medium voltage switchgear, which will be anchored directly to the concrete pad, as well as smaller metering and controls equipment, which would be mounted on H-frames or other supporting structures. Structural analysis will be performed to determine the size and thickness of the concrete pad.

Low voltage wiring connecting module arrays to the inverters and the inverters to the Balance of System Equipment will be run underground in conduit. Trenching will be required to install all underground wiring. All conduit will be buried at a depth in compliance with local standards.

Medium voltage wiring will mostly run underground in a similar fashion to low voltage wiring. A portion of the medium voltage line will ultimately come above ground and strung along new distribution poles on site, ultimately terminating at a three-phase line, along Lexington Avenue by ConEd.

### Transportation and Traffic

Materials for the proposed Project (e.g., solar modules, supporting racks, foundation materials, electrical gear) will be brought to the site by truck over the course of construction. It is not expected that the additional vehicles associated with construction will have an impact of overall traffic in the Town of Cortlandt. Once construction is complete, vehicles will be on site sparingly for operations and maintenance activities.

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## Employment

A typical construction workforce for a solar facility of this size may require as many as 60 workers during the construction period, which should last between 4 and 6 months. Construction personnel will be divided between civil and electrical services and, based on the phasing of construction, it is not anticipated that all workers will be present on site at the same time. Workers will be transported to the site via construction trucks and will park in the established staging area.

## Safety and Fire Protection

With the exception of the locked gate, which will be installed in the permanent Project fencing, separate safety or fire protection systems will not be required at the site. Basic safety and fire protection equipment such as fire extinguishers, personal protective equipment, and other equipment as determined by the site's safety plan will be stored in the temporary construction trailer.

## Water Use

No water will be required for construction activities, and no water infrastructure is proposed in association with the project.

## Sewer and Solid Waste

Sewer services are not anticipated. Temporary sanitary facilities will be placed onsite during construction.