



COMMONWEALTH OF KENTUCKY
MICHAEL ADAMS, SECRETARY OF STATE

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Kentucky Secretary of State
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Division of Business Filings
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Frankfort, KY 40602
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Certificate of Authority
(Foreign Business Entity)

FBE

Pursuant to the provisions of KRS 14A and KRS 271B, 273, 274,275, 362 and 386 the undersigned hereby applies for authority to transact business in Kentucky on behalf of the entity named below and, for that purpose, submits the following statements:

- 1. The entity is a: [] profit corporation (KRS 271B) [] nonprofit corporation (KRS 273) [] professional service corporation (KRS 274)
[] business trust (KRS 386). [X] limited liability company (KRS 275) [] professional limited liability company (KRS 275)
[] limited partnership (KRS 362). [] ltd cooperative assn. (KRS) [] statutory trust
[] non-profit llc (KRS 275) [] cooperative assn. (KRS) [] unincorporated association

2. The name of the entity is Golden Solar, LLC
(The name must be identical to the name on record with the Secretary of State.)

3. The name of the entity to be used in Kentucky is (if applicable):
(Only provide if "real name" is unavailable for use; otherwise, leave blank.)

4. The state or country under whose law the entity is organized is Delaware

5. The date of organization is April 30, 2019 and the period of duration is
(if left blank, duration is considered perpetual.)

6. The mailing address of the entity's principal office is
8400 Normandale Lake Blvd., Suite 1200 Bloomington MN 55437
Street Address City State Zip Code

7. The street address of the entity's registered office in Kentucky is
306 W. Main Street, Suite 512 Frankfort KY 40601
Street Address (No P.O. Box Numbers) City State Zip Code

and the name of the registered agent at that office is National Registered Agents, Inc.

8. The names and business addresses of the entity's representatives (secretary, officers and directors, managers, trustees or general partners):

Table with 5 columns: Name, Street or P.O. Box, City, State, Zip Code. Rows include Blake E. Nixon and David Reamer.

9. If a professional service corporation, all the individual shareholders, not less than one half (1/2) of the directors, and all of the officers other than the secretary and treasurer are licensed in one or more states or territories of the United States or District of Columbia to render a professional service described in the statement of purposes of the corporation.

10. I certify that, as of the date of filing this application, the above-named entity validly exists under the laws of the jurisdiction of its formation.

11. If a limited partnership, it elects to be a limited liability limited partnership. Check the box if applicable: []

12. If a limited liability company, check box if manager-managed: [X]

13. This application will be effective upon filing, unless a delayed effective date and/or time is provided.

The effective date or the delayed effective date cannot be prior to the date the application is filed. The date and/or time is

Please indicate the Kentucky county in which your business operates:

County: Caldwell County

To complete the following, please shade the box completely.

Please indicate the size of your business:

- [X] Small (Fewer than 50 employees)
[] Large (50 or more employees)

Please indicate whether any of the following make up more than fifty percent (50%) of your business ownership:

- [] Women-Owned [] Veteran Owned [] Minority Owned

Please indicate which of the following best describes your business:

- [] Agriculture [] Mining [] Services [] Construction
[] Wholesale Trade [] Retail Trade [] Manufacturing [] Finance, Insurance, Real Estate
[] Public Administration [] Transportation, Communications, Electric, Gas, Sanitary Services
[X] Other DocuSigned by:

Signature of Authorized Representative: David Reamer, President, 2/26/2020
Signature of Registered Agent: Stephanie Hencz, Assistant Secretary, 02/26/2020

EXHIBIT B

DESCRIPTION OF PROPOSED SOLAR GENERATION FACILITY SITE

Requirements

KRS 278.706(2)(b): A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility.

Compliance

Golden Solar, LLC (Golden Solar), a wholly owned subsidiary of National Grid Renewables Development, LLC, is proposing the Golden Solar Project (Project), which will be an up to 100-megawatt (MW_{ac}) alternating current photovoltaic (PV) electricity generation facility. Project facilities will include solar panels, inverters, racking, fencing, access roads, a substation, an operations and maintenance (O&M) building and facilities, below- and above-ground electrical collection lines, up to eight weather stations (up to 15 feet tall), and temporary construction laydown yards. The Project will be located on approximately 1,870 acres in Caldwell County between the towns of Fredonia and Princeton. No street address has been established at this time for the Project; the coordinates for the location are 37.16879°N and 87.98105°W. For interconnection, Golden Solar will construct a substation to connect to the adjacent North Princeton Switching Station owned by Louisville Gas and Electric Company and Kentucky Utilities Company. The Project substation will be located within the Project boundary, and an overhead generator tie line of approximately 300 feet in length will connect it to the point of interconnection. Final design will likely result in changes to individual setbacks; however, Golden Solar commits to the minimum setbacks in Table 1 below, unless waived by a landowner. Golden Solar's final design residential structure setbacks will meet the EPA's 55 dBA daytime and 45 dBA nighttime noise guidelines. A map showing the location of residential structures, schools, and public and private parks in relation to the proposed Project boundary is presented in Exhibit I, Figure 1. A preliminary site plan and maps showing the Project structures, associated facilities, and boundaries are included in Exhibit J.

Table 1 - Minimum Setbacks from Residential Structures

Feature	Setback
Solar Panel	≥ 200 feet
Central Inverter	≥ 450 feet
Substation	≥ 1,000 feet

Design

The Project will use solar panels with tempered glass varying in size from approximately 6 to 7 feet long by 3-4 feet wide and 1 to 2 inches thick. The solar panels include heat-strengthened front glass, a rear back cover made of either heat-strengthened glass or polymer film, an aluminum exterior and rear frame, laminate encapsulation for weather protection, a semiconductor layer or silicon cells wired in series, a junction box on the rear side, and electrical lead wires to connect the module to adjacent units. To limit light reflection, solar panels are constructed of dark, light-absorbing materials with anti-reflective coatings. The solar panels can

reflect as little as two percent of the incoming sunlight depending on the angle of the sun. The solar panels will occupy most of the area inside the Project.

The solar panels will be installed on either a fixed-tilt rack system or a tracking rack system that uses galvanized steel and aluminum for the foundations and frame. Each rack will contain multiple solar panels. On the fixed-tilt or tracking rack system, the solar panels will be approximately 10 to 15 feet in height from the ground to the top of the solar panels when at a 60-degree angle. The height may vary by manufacturer and due to topography and vegetation constraints, the top of the panels could reach approximately 20 feet from the ground. Both rack systems are mounted on top of steel piers that are typically driven into the ground, without the need for excavation or concrete for the installation of the piers. Piers are typically installed at 8 to 15 feet below the ground surface, pending site-specific conditions that will be determined through geotechnical borings prior to construction. Figures 1 through 4 show the general racking equipment and dimensions of the rack systems. Figure 5 shows an example of the steel pier foundations.

Linear Axis Tracking System

A linear axis tracking rack system allows the solar panels to track the position of the sun throughout the day. The solar panels and tracking rack system are generally aligned in rows running north and south with the solar panels facing east toward the rising sun in the morning, parallel to the ground during mid-day, and then west toward the setting sun in the afternoon. The solar panels are rotated by a small motor connected to the tracking rack system to slowly track with the position of the sun throughout the day. The tracking rack system optimizes the angle of the solar panels in relation to the sun throughout the day, thereby maximizing the production of electricity and the capacity value of the Project. Figures 1 and 2 show examples of a linear axis tracking system.

Fixed-Tilt Racking System

A fixed-tilt racking system remains in a fixed position and does not rotate. The solar panels and rack system are installed in rows running east and west with the solar panels facing south for optimal sun irradiance. Figures 3 and 4 show examples of a fixed-tilt racking system.

Due to unique site constraints and ever-evolving technology, it is common for solar project developers to consider using both racking systems. The final decision on racking systems is often made at final design and can be based on several factors, such as material availability, economics, and site constraints. Golden Solar's preliminary design assumes a tracking system will be utilized; however, Golden Solar is keeping fixed-tilt racking as an option. If fixed-tilt racking were to be used, the site layout would be similar, but the rack system rows would run east to west with the solar panels facing south in a fixed position. The panel height, construction impacts, and operation activities will be similar for either racking system. In both scenarios, panels will be setback at least 200 feet from residences. If Golden Solar decides to utilize a fixed-tilt system at final design, in addition to filing the final plan set, Golden Solar will complete an updated glare study to ensure that there is not a significant increase in glare impacts to roads and neighboring residences.

Figure 1 Tracking Rack System



Figure 2 Approximate Tracking Rack System Dimensions

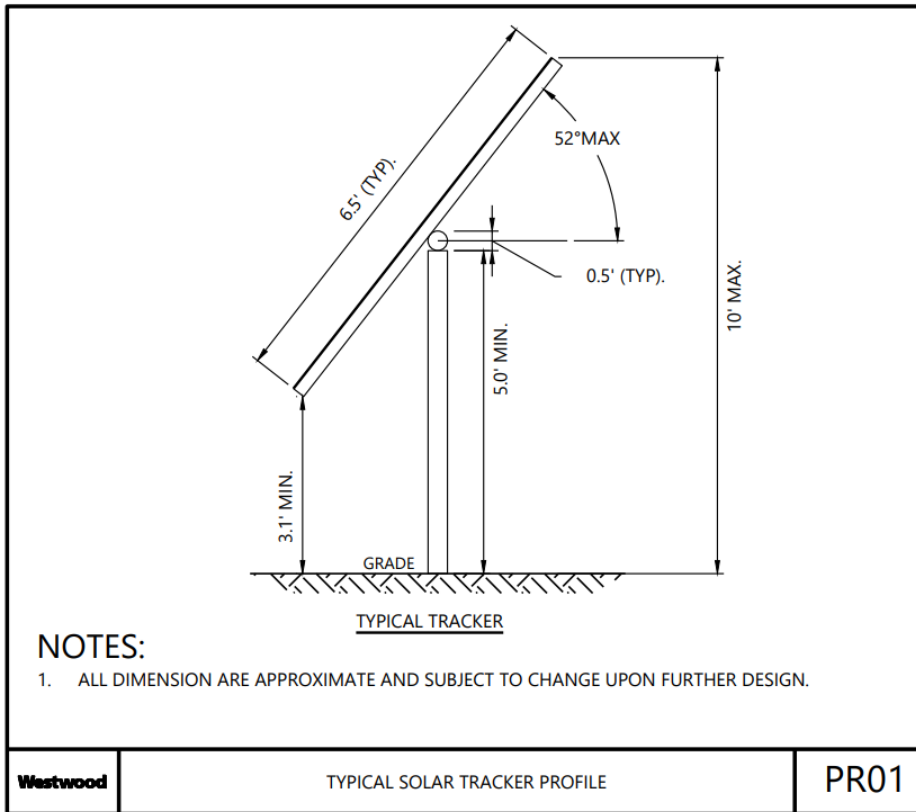


Figure 3 Fixed-Tilt Racking System



Figure 4 Approximate Fixed-Tilt Racking System Dimensions

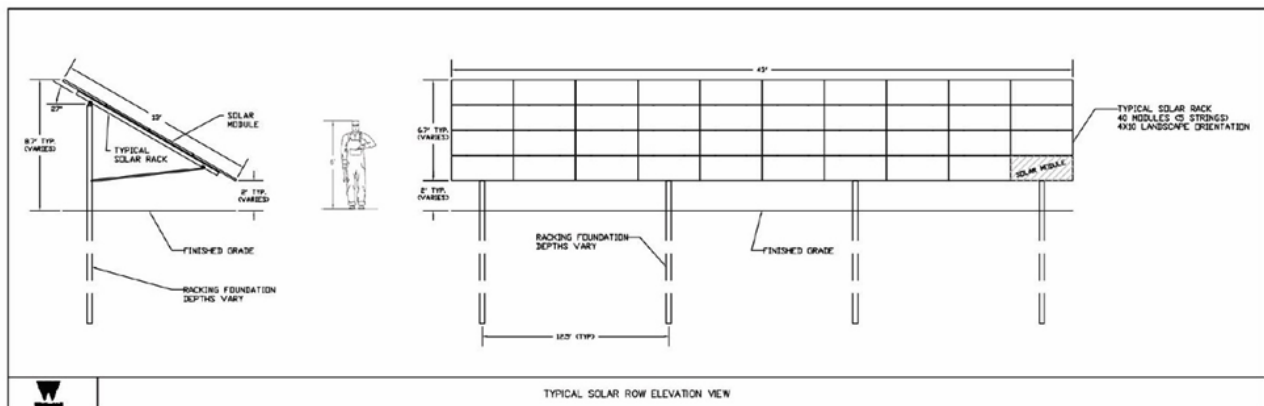


Figure 5 Standard Steel Pier Foundations



Inverters, Transformers, and Electrical Collection System

Inverters will be utilized at locations throughout the Project area and will include a transformer to which the inverters will feed electricity (Figure 6). The final number of inverters for the Project will depend on the inverter size, as well as inverter and panel availability. The Project's preliminary design proposes 27 central inverters. Skids provide the foundation for the inverter, transformer, and Supervisory Control and Data Acquisition (SCADA) system. The inverters will be placed atop a concrete slab or pier foundations and typically measure 10 feet wide by 25 feet long, with a structure height of approximately 12 feet above grade (Figure 6). Concrete foundations will be poured on-site or precast and assembled off-site.

The inverters are within the interior of the Project along access roads. Figure 6 below shows a central inverter.

Electrical wiring will connect the panels to inverters, which will convert the power from direct current (DC) to alternating current (AC). The AC will be stepped up through a transformer from the inverter output voltage to 34.5 kV and brought via the collection cables to the Project substation. The electrical collection system will be installed below- or above-ground, or a combination of both. The type of electrical system will be determined prior to construction based on technology, availability of materials, and costs. Both below-ground and above-ground collection systems are currently used at utility-scale solar projects. The preliminary design

assumes a hybrid collection system; however, each possible type of electrical collection system is described below.

Below-ground Electrical Collection System

The panels deliver DC power to the inverters through cabling that will be located in a below-ground trench (approximately 4 feet deep and 1 to 2 feet wide). Inverters convert approximately 1,500 volts of DC output of the PV panels to between 650 and 950 volts of AC. Then, a step-up transformer converts the inverter AC voltage to an intermediate voltage of 34.5kV. Below-ground AC collection systems from the central inverters to the substation will be installed in trenches or ploughed into place at a depth of at least 3 feet below grade. During all trench excavations, the topsoil and subsoil will be removed and stockpiled separately in accordance with the Agricultural Impact Mitigation Plan. Once the cables are laid in the trench, the area will be backfilled with subsoil followed by topsoil. Electrical collection technology is rapidly evolving and will be site-specific depending on geotechnical analysis, constructability, and availability of materials. Final engineering and procurement will help determine the construction method for the electrical collection system.

Figure 6 Typical Inverter and Transformer Station



Above-ground Electrical Collection System

An above-ground electrical system is being considered for the Project for several reasons, including ease of access for operations and maintenance, reduced ground disturbance, and cost considerations. If above-ground cabling is utilized, the DC collection cables will be strung under each row of panels on steel arms, and a steel cable will be attached to the piles. At the end of each row, hanging brackets will connect several racks/rows of cables to a common collection point near their assigned inverter/transformer. At the collection point, the cables will be routed below-ground at a minimum depth of at least 30 inches below grade to the inverter/transformer, where the current is converted to AC and the voltage is stepped up to 34.5 kV. A drawing of the typical structure of the hanging brackets at the end of each row is provided below in Figure 7. The electrical cables will then be routed below-ground at a minimum depth of at least 3 feet below grade to a distribution-type pole. These poles will be made of wood or steel, approximately 12-18 inches in diameter, up to 90 feet in height, and spaced approximately 200-300 feet apart. Figure 8 provides a schematic of the above-ground collection system components and configuration. The electrical cables will then be strung on poles to the Project substation. Above-ground medium voltage collection technology is rapidly evolving and, if utilized, the number of poles will be

determined based on final engineering. Cables connecting each unit of solar arrays will be directionally bored under or spanned over public roads.

Figure 7 Typical Above-Ground Collection Hanging Bracket

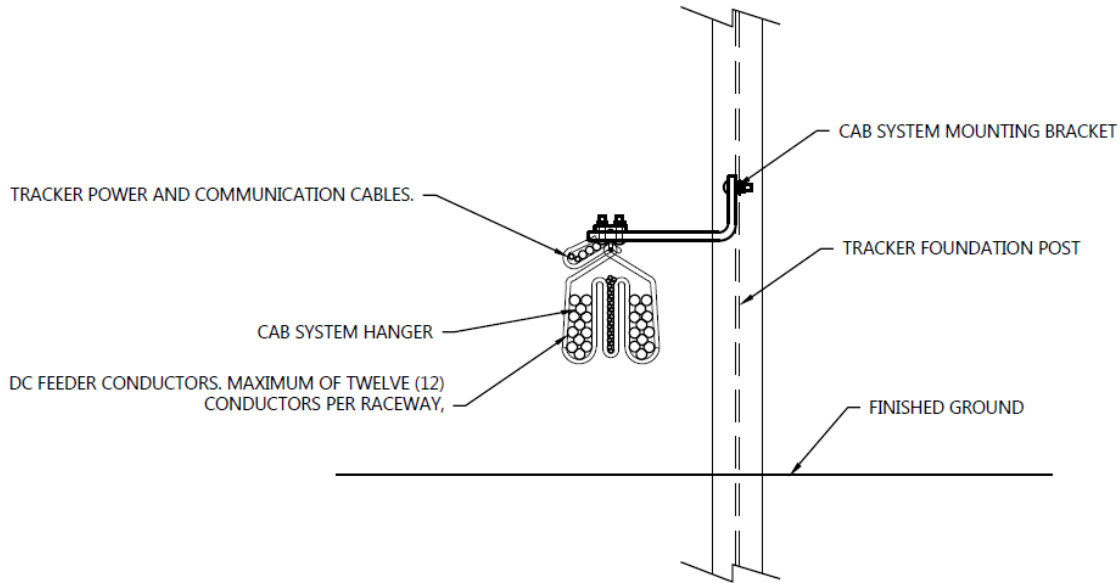
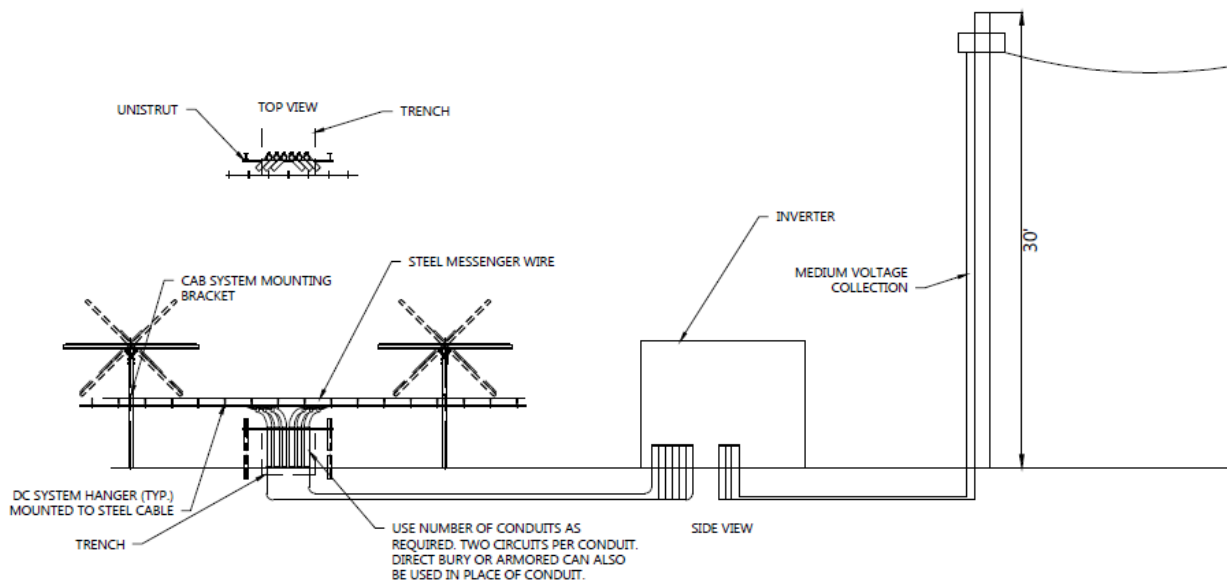


Figure 8 Typical Above-Ground Collection System Components and Configuration



Hybrid Below-ground and Above-ground Electrical Collection System

A hybrid below-ground and above-ground electrical system is also being considered for the Project for several reasons that are advantageous to the above-ground electrical system,

including ease of access for operations and maintenance, reduced ground disturbance, and cost considerations. Similar to those in the above-ground system, the DC collection cables will be strung under each row of panels on steel arms and a steel cable attached to the piles. At the end of each row, hanging brackets will connect several racks/rows of cables to a common collection point near their assigned inverter/transformer. At the collection point, the cables will be routed below-ground at a minimum depth of at least 30 inches below grade to the inverter/transformer, where the current is converted to AC and voltage is stepped up to 34.5 kV. A drawing of the typical structure of the hanging brackets at the end of each row is provided above in Figure 5. The electrical cables will then be routed below-ground at a minimum depth of at least 38 inches below grade to the Project substation. Cables connecting each unit of solar arrays will be directionally bored under public roads.

Access Roads

The Project will include approximately 7.4 miles of graveled access roads that connect the Project facilities to public roads. The final length of the access roads will depend on the equipment selected and final engineering. These access roads will be approximately 16-20 feet wide along straight portions of the roads and wider along curves and at internal road intersections (approximately 40 feet). The access points to the Project from public roads will have gates.

Golden Solar has designed access roads for effective and efficient access for O&M and for safe ingress and egress of employees, visitors, and emergency responders. Golden Solar has minimized the length of access roads for the Project. For example, access roads provide a driving route to all portions of the site and every central inverter, but not every block of solar panels has an access road along its entire perimeter. This design minimizes the amount of ground disturbance and new impervious surfaces while still providing effective and efficient site access.

Safety Features

The Project will be surrounded by a 6-foot-tall fence consisting of chain link, woven wire, or welded wire and topped by one-foot of barbed and/or smooth wire for security, per National Electrical Code Article 110. Outside the fence, vegetative buffers will be planted as screens where the solar panels and other electrical equipment are adjacent to residences. Vegetative buffers will consist of evergreen and deciduous trees and shrubs.

The Project will have security cameras and down-lit security lighting at strategic locations throughout the facility. The typical lighting pole height will be 10 feet, and lights will be operated manually by switch and motion activation.

Associated Facilities

Project Substation

The Project substation will be a 34.5/161-kV step-up substation with metering and switching gear required to connect to the existing switching station. The substation will be designed according to regional utility practices and the National Electrical Safety Code. The area within the substation will be graveled to minimize vegetation growth in the area and reduce fire risk. The substation will be fenced with a 7-foot-tall chain-link fence topped with one foot of barbed wire for security and safety purposes. At the completion of construction, the substation area will be approximately 0.7 acre.

Operations and Maintenance Building and Parking

An O&M building will provide access and storage for Project O&M equipment. Golden Solar may share the O&M building with the adjacent, approved Caldwell Solar Project. If a separate O&M building is required for the Project, Golden Solar will obtain required building permits from Caldwell County prior to construction. The O&M building is anticipated to be approximately 3,200 square feet and will contain an office for the on-site Plant Manager, a technician room, restroom, break room, locker room and shop area that will allow for the storage of equipment and tools necessary to operate and maintain the Project. This equipment will include a SCADA cabinet, spare solar panels, spare parts for the substation and equipment to operate the substation, as well as safety equipment for working with electricity. A gravel or paved parking lot will be located adjacent to the O&M building and will have at least one parking spot per employee and additional room for deliveries and visitors. A permanent laydown yard may also be located near the O&M building and parking lot.

Weather Stations

The Project will include up to eight weather stations of up to 15 feet in height (see Figure 9 below). The weather stations will be located within the Project boundary, and their final locations will be determined following final engineering. The weather stations measure meteorological variables that have an impact on the facility's performance and efficiency.

Figure 9 Weather Station



Temporary Facilities

Golden Solar will use temporary laydown yards within the Project boundary. These yards will serve as both parking areas for construction personnel and staging areas for Project components during construction. The temporary laydown yards will total approximately 15 acres across the

site. Golden Solar has not finalized locations for the temporary laydown yards at this time. The temporary laydown yards may be located in permanently unbuilt areas within the Project boundary or in areas that will eventually be filled with panels or other generation equipment.