



EAST POINT ENERGY CENTER

Case No. 17-F-0599

1001.11 Exhibit 11

Preliminary Design Drawings

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Appendices

Appendix 11-1.	Preliminary Design Drawings
Appendix 11-2.	Landscaping Plan

Exhibit 11: Preliminary Design Drawings

This Exhibit will track the requirements of proposed Stipulation 11, dated August 20, 2019, and therefore, the requirements of 16 NYCRR § 1001.11.

This Exhibit contains Preliminary Design Drawings and supporting documentation which were developed under the direction of a licensed Professional Engineer in the State of New York. The plans were prepared using AutoCAD Civil 3D design software and are generally presented at a scale of 1 inch=50 feet, with the exception of those intended to provide an overview of the Project Area. The drawings are labeled appropriately as “Preliminary – Not for Construction.”

11(a) Site Plan

The Preliminary Design Drawings include a Site Plan for the Project, which depicts the following Project Components:

- (1) Solar panel arrays, mounting features, and inverters;
- (2) Access roads and parking areas (included as part of designated laydown areas);
- (3) Proposed grading, which includes locations for grading for permanent contours for final grading (no temporary grading is proposed);
- (4) Underground electric cable collection lines (number of circuits per route is indicated on the Civil Details drawings);
- (5) Approximate Limits of Disturbance (LOD) for all Project Components;
- (6) Vegetative clearing limits;
- (7) Indication of off-site permanent ROW and road crossings for collection line installations;
- (8) Outline of collection substation and interconnection switchyard, including access roads, setbacks, and fence lines;
- (9) Proposed locations of collection lines crossings of streams, waterbodies, roads, and other relevant natural resource features; as well as proposed locations of trenchless methods of installation, including the approximate laydown areas, workspace, and trenchless installation details;
- (10) Laydown, staging, and equipment storage areas, including designated parking areas;
- (11) Access areas for operational maintenance (access roads are to be used for parking during operation by maintenance technicians). There are no proposed O&M facilities,

- water supplies, or septic systems associated with the Project. Only the substation and switchyard control houses will require electricity (see 11(f) below);
- (12) Fencing and gates, including clearing associated with fencing;
 - (13) Property lines and zoning setbacks;
 - (14) Existing utility equipment locations and easement limits of those existing locations, including electric transmission and distribution lines;
 - (15) Site security features, including 8.5-foot chain link perimeter fencing, and
 - (16) Proposed planted screening locations are depicted in Appendix 11-2.

The “Overall Project Plan” included as part of the Preliminary Design Drawings depicts the proposed locations of the solar arrays, access roads, collection lines, collection substation, laydown and staging areas, and other features as outlined above. The detailed Site Plan and Grading & Drainage Plan drawings (1”=50’) show the proposed locations of Project Components relative to mapped streams and wetlands. Soil types and bedrock are depicted on Figures 21-2 and 21-3 in Exhibit 21 relative to Project Components. The Project Area lies outside the 0.2% annual chance floodplain (Zone X).

As solar technology is rapidly advancing, it is not possible to determine the exact module type that will be utilized for a project with a commercial operation date of 2021. However, the Applicant intends to utilize a module similar to the Jinko Solar Eagle 72HM G2 380-400 Watt Mono Perc Diamond Cell. A specification sheet for this module has been included in Appendix 2-1. These solar panels will be installed on racking or fixed tilt systems with minimal ground disturbance via driven posts. The only foundations proposed for the Project will be concrete for select components of the collection substation and the switchyard.

11(b) Construction Operations Plan

Specific details relating to construction and operation elements of the Project, such as laydown, preparation, and parking areas, are included in the Preliminary Design Drawings. Material staging areas, construction equipment and worker parking areas (all included as part of designated laydown areas), and points of ingress and egress are shown on Drawings C-003 through C-027. Areas of excavation (for purposes of site grading) and conceptual soil storage areas are indicated on the Grading & Drainage Plan drawings. Final details relating to Project construction, including final locations of construction trailers/offices and concrete batch plant locations, as necessary, are not certain at this time as an EPC Contractor has not yet been selected for the Project;

however, these features will be located entirely within the currently indicated material staging and laydown areas for the Project.

11(c) Grading and Erosion Control Plan

Soils information, site grading (including conceptual locations for stockpile areas), stormwater management, and erosion control measures are shown for the Project on the Grading & Drainage Plan and Post-Development Drainage Plan drawings. These plans depict existing and proposed topography at 2-foot contour intervals. Existing topography was derived from a LiDAR survey contracted by the Applicant and completed in May 2019. Soil types and boundaries were obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey database for Schoharie County, NY. Please refer to Exhibit 21 for more detailed geotechnical information including boring reports, depths to bedrock, earthwork volume calculations, etc. Exhibit 21 also references a copy of the Final Geotechnical Report prepared by Terracon, which is also included as Appendix 21-1.

General areas of cut and fill are indicated on both the grading and profile views. Topsoil will be segregated from common fill (subsoils) and an agricultural monitor will be on-site during construction to oversee topsoil separation, as necessary. Additionally, the Applicant will comply with the NYSDAM Guidelines for Agricultural Mitigation for Solar Energy Projects, revised in April of 2018, to the maximum extent practicable for requirements specific to construction, restoration, monitoring, and decommissioning. Thus, topsoil anticipated to be stripped will be stripped, graded, replaced, and revegetated to further minimize impacts to agricultural areas. No retaining walls will be necessary during construction.

The stormwater management features shown on the Grading & Drainage Plan drawings are conceptual. Preliminary Stormwater Management Practice (SMP) sizing calculations have been performed. Final design will be submitted with the Final Stormwater Pollution Prevention Plan (SWPPP) as part of the Compliance Filing. The preliminary design conforms to the requirements of the New York State Stormwater Management Design Manual (2015). The erosion & sediment control measures shown on these plans have been designed in conformance with the New York State Standards and Specifications for Erosion and Sediment Control (2016). No stormwater impacts are anticipated to occur as a result of the Project and construction activities will comply with the requirements of the New York State Pollution Discharges Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-015-002, or that in effect at time of construction).

11(d) Landscaping Plan

Landscape Screening Plan drawings have been prepared to depict proposed landscaping (see Appendix 11-2). An overall landscape screening plan indicates the location of proposed vegetative screening in relation to Project Components and adjacent sensitive receptors, as well as potential snow removal areas. A Landscape Screening Plan Typical Notes and Details drawing has been prepared to provide general planting notes, details on plantings and to identify and quantify the types of tree and shrub species that are proposed. Additionally, a seed mix for the grass type to be planted within the solar array is included in this drawing. Finally, Landscape Screening Plan Screening Scenarios drawings have been prepared to illustrate the two different types of landscape screenings that are being proposed.

The limits of clearing existing trees are shown on the Site Plan and Grading & Drainage Plan drawings. Clearing is kept to the minimum needed for construction and to prevent shading.

11(e) Lighting Plan

Lighting is only proposed at the Project interconnection facilities and is only for security, safety and maintenance purposes; no lighting is proposed within the solar arrays. Details regarding the Project's Lighting Plan are included in Appendix 11-1, Preliminary Design Drawings. This includes details regarding lighting for the collection substation and switchyard. Manually-operated security lighting is proposed at the collection substation and switchyard. This plan was developed to minimize fugitive light while meeting lighting standards established by the National Electric Safety Code (NESC). The collection substation and switchyard will normally be unoccupied. At the perimeter of the interconnection facilities, lighting will be turned on manually by a switch. In work areas, lighting will be activated manually turned on by a switch. Lighting will be installed facing downward to minimize potential impacts to the surrounding public. Lighting has been designed to provide a 2.4 foot-candle average, to eliminate unnecessary light trespass beyond the collection substation and switchyard, and will be equipment or pole structure mounted. During unoccupied periods, lighting will not be illuminated. All lighting for the Project will be full cut off fixtures with no drop-down optical elements.

11(f) Architectural Drawings

There are no habitable buildings proposed as part of the Project. The Preliminary Design Drawings include architectural drawings consisting of elevations and cross-sections of the collection substation and POI switchyard interconnection equipment, as well as fencing and

relevant site security features. These drawings identify the arrangement of the previously noted features, as well as exterior elevations of identified Components. Specifically, the architectural drawings identify the length, width, height, material of construction, color and finish of relevant components, and the type of fencing to be installed around Project Components. Additionally, a floor plan and interior lighting plan for the proposed collection substation and switchyard control rooms have been included. As noted above, the control rooms are not habitable structures.

11(g) Design Detail Drawings of Underground and Overhead Facilities

The Preliminary Design Drawings and various appendices of this Application contain typical design details associated with the Project, including the proposed depth and level of cover for buried collection lines and overhead interconnection facilities indicating height above grade, descriptions and preliminary specifications of all major Components, as well as architectural drawings of solar panel configurations, perimeter fencing options, access road gates and identification signs, including references to any local design requirements or standards that may be applicable.

(1) Collection lines for the Project will be installed underground. The Preliminary Design Drawings include the following components regarding underground installations:

- i. Plan and sections for all proposed layout schemes;
- ii. Depth and level of cover;
- iii. Separation requirements between 1-2 AC circuits;
- iv. Clearing width limits for construction and operation of the Project;
- v. Limits of disturbance;
- vi. Required (and existing), permanent ROW owned by the NYSDOT.

(2) The only overhead line proposed for the Project is the approximately 400-foot transmission line connecting the collection substation to the POI switchyard. The Preliminary Design Drawings include the following components regarding aboveground installations:

- i. Elevation plans for overhead transmission line, including height above grade;
- ii. Structure layout;
- iii. Clearing width limits for construction and operation of the Project;
- iv. Permanent, existing, ROW width;

- v. Average span length;
- vi. Structure separation requirements (for installations containing more than one pole, etc.) for all single and multiple-circuit layouts.

(3) The solar arrays will be fastened to posts driven into the ground. Typical details of the post installation have been provided on drawing C-104.

(4) A circuit map indicating overhead and underground installations, and 1-2 required (AC) circuits proposed per collection line run is included on Sheets C-003 through C-027.

(5) A typical collector trench and typical details associated with trenchless installations and designated areas for staging, construction machinery arrangements, and bore pits are identified on the Preliminary Design Drawings. Final arrangements of these details will be determined in the Compliance Filings; and,

(6) Technical data sheets associated with solar panels representative of those to be used for the Project have been provided in Appendices 2-1 and 2-2.

11(h) Interconnection Facilities

For the interconnection facilities, the plans and drawings required by subsections (a)–(g) have been included in Appendix 11-1 of the Application, as well as a profile of the centerline of the overhead interconnection line at an exaggerated vertical scale.

11(i) Engineering Code, Standards, and Guidelines

Below is a detailed list of engineering codes, standards, guidelines, and practices that the Applicant intends to conform to during the planning, designing, construction, and operation of the Project:

- American National Standards Institute (ANSI)
- Institute of Electrical and Electronics Engineers (IEEE)
- Insulated Cable Engineers Association (ICEA)
- American Society of Mechanical Engineers (ASME)
- National Electric Code (NEC)
- National Electrical Safety Code (NESC)
- National Electric Manufacturers Association (NEMA)

- National Fire Protection Association (NFPA)
- Uniform Building Code (UBC)
- United Laboratories (UL)
- American Iron and Steel Institute
- American Institute of Steel Construction
- International Building Code (IBC) 2006
- AASHTO Standard for Aggregates
- ASCE 7-10 Minimum Design Loads for Buildings and Other Structures
- Federal OSHA 1910.269

11(j) Wetland Boundaries

Wetlands identified within the Project Area are referred to as “delineated wetlands.” The boundaries of delineated wetlands were recorded with a Trimble Geo 7000 XH GPS unit with reported sub-meter accuracy. See Section 22(i)(1) and Appendix 22-4 for a detailed description of how these delineated wetlands were identified within the Project Area.

Wetlands were estimated within 500 feet of the limits of disturbance on parcels the Applicant does not have control over. These wetlands identified outside the Project Area are referred to as “predicted wetlands”. See Section 22(i)(2) for a detailed description of how these predicted wetlands were interpolated.

The Preliminary Site Plan Drawings depict both delineated wetlands and predicted wetlands. See Figure 22-3 depicting both delineated wetlands and predicted wetlands within the Project Area and subsequent 500-foot area from the limits of disturbance. Shapefiles provided to NYSDEC with the Application include delineated wetlands and predicted wetlands.

11(k) Site Plan Drawings

As referenced above, the Preliminary Site Plan Drawings depict all Facility Components; proposed grade changes and conceptual locations for stockpile areas; the limits of ground disturbance and vegetative clearing; and all field-delineated wetlands, predicted wetland boundaries and 100-foot adjacent areas located within 500 feet of all areas to be disturbed by construction.