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Docket 492

Gravel Pit Solar

Partial Development and Management Plan II

Solar Arrays and Substation and Switchyard

South of Apothecaries Hall Road and north of South Windsor Town Line, in East Windsor

DRAFT Staff Report

February 3, 2022

On March 1, 2021, the Connecticut Siting Council (Council) issued a Certificate of Environmental Compatibility and Public Need (Certificate) to Gravel Pit Solar (GPS) for the construction, maintenance, and operation of an approximately 120 megawatt (MW) solar photovoltaic electric generating facility located generally to the east and west of Amtrak and Connecticut Rail Line, south of Apothecaries Hall Road, and north of the South Windsor town boundary in East Windsor, Connecticut and associated electrical interconnection. In its Decision and Order (D&O), the Council required GPS to submit a Development and Management (D&M) Plan.

On March 31, 2021, GPS submitted the first phase of its D&M Plan (Partial D&M Plan I) for the project to perform pre-construction site preparation and installation of stormwater controls including, but not limited to, site clearing and grubbing; installation of erosion and sedimentation controls; grading and earthwork; access road construction; horizontal directional drilling (HDD) under Ketch Brook and the Department of Transportation (DOT) railroad right-of-way (ROW); and pre-seeding the site in areas lacking vegetation. On May 21, 2021, the Council approved Partial D&M Plan I. Construction had not yet commenced on the work associated with Partial D&M Plan I at the time of submittal of Partial D&M Plan II.

On December 29, 2021, GPS submitted the second phase of its D&M Plan (Partial D&M Plan II) for the project to construct the solar facility (e.g. piles, racking, modules, and collection wires and cables) and construct The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) switchyard and GPS collector substation. Partial D&M Plan II also includes the re-seeding and stabilization of disturbed areas; installation of the landscaping plan; monitoring of erosion controls; and final removal of temporary stormwater controls upon final stabilization.

The project is located on an approximately 485-acre site located on portions of eight separate parcels that total approximately 738 acres. The site parcels contain sand and gravel mining operations, agricultural fields, and wooded areas. Unimproved dirt farm roads interconnect the fields at the site and provide access to public roadways. Additionally, Eversource's electrical transmission line ROW crosses the proposed site from northwest to southeast. A DOT railroad ROW extends north-south through the center of the proposed site.

The D&O requires the following information to be included in the D&M Plan:

- a) **A final site plan including, but not limited to, final facility layout, access roads, equipment pads, collector lines including crossings for Ketch Brook and Plantation Road, substation, switchyard, fence design, equipment pads, stormwater management control structures, and final site seeding;**

Site plans depicting the site design, access drives, landscape plantings, stormwater management control structures, and fence design for solar facility were included in Partial D&M Plan I. Partial D&M Plan I included the clearing of approximately 83 acres of forested areas along the edges of the site.

Subsequently, the project configuration has been modified to include more fixed tilt solar panels, and updated plans were included in Partial D&M Plan II. No additional clearing or expansion of the construction work limits are included in Partial D&M Plan II. The final solar panel configuration is as follows:

Make	Wattage	Quantity	Fixed or Tracking
LONGi	365	4,860	Tracking
LONGi	370	27,567	Tracking
Jinko	525	24,184	Fixed
Jinko	530	160,664	Fixed
Jinko	535	78,084	Fixed

Inter-row spacing of the solar panels will be approximately 9.5 feet for the fixed panels and 10.1 feet for the tracking panels.

The final inverter locations were adjusted to accommodate the updated solar panel configuration. The revised inverter configuration is expected to comply with the Department of Energy and Environmental Protection (DEEP) Noise Control Regulations.

Partial D&M Plan II maintains the same general access road layout as Partial D&M Plan I. However, additional segments were added for ingress and egress into the switchyard and substation. Minor road modifications were made to accommodate the revised inverter locations.

Partial D&M Plan I originally included a seven-foot high agricultural fence to enclose the solar array areas. Partial D&M Plan II revised the fence design to up to eight feet tall with galvanized steel, non-galvanized steel or wooded fence posts subject to commercial availability. Wooden fence posts would be utilized in areas of high visibility to retain an agricultural aesthetic when viewed from adjacent roadways.

Partial D&M Plan II includes the plans for the Plantation Road collector lines crossing which involve a double conduit bore under Plantation Road in Drawing Nos. C-3.19 and C-3.22. Partial D&M Plan I included plans for horizontal directional drilling for the collector lines route under Ketch Brook and the DOT railroad ROW.

Partial D&M Plan II also includes the final plans for the GPS Substation and Eversource Switchyard under Attachment B. The GPS Substation would be rectangular with dimensions of approximately 158 feet by 105 feet. The Eversource Switchyard also be rectangular with dimensions of approximately 162 feet by 133 feet. Both fenced yards (to be located directly south of the Eversource transmission right-of-way) will be attached and surrounded by an eight-foot tall chain link fence with barbed wire.

Partial D&M Plan I was approved with a condition that the final seed mix for under and around the solar panel areas be submitted to the Council. Partial D&M Plan II includes the final seed mix information. Specifically, areas under and around the solar panels would be planted within a seed mix containing little bluestem, creeping red fescue, purple lovegrass, Virginia wildrye, Ladino clover, and partridge pea.

- b) **Erosion and sedimentation control plan consistent with the 2002 Connecticut Guidelines for Erosion and Sediment Control including, but not limited to, temporary sediment basin details, site stabilization seeding/growing season details prior to the installation of post-driving/racking system, site stabilization measures during construction, inspection and reporting protocols, methods for periodic clearing of temporary sediment traps and swales during construction, and final cleaning of stormwater basins upon site stabilization;**

GPS included its erosion and sedimentation (E&S) control measures consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control (2002 E&S Guidelines) that reflect the updated project layout on Drawing Nos. C-5.0 through C-5.25 of Partial D&M Plan II. The substation and switchyard construction erosion and sediment control plans are included under Drawing Nos. C-5.3, C-5.4 and C-5.8.

On September 30, 2021, DEEP issued a conditional approval of the stormwater permit by email. Pursuant to Condition No. 1 of the Council's D&O, a copy of the final DEEP-issued stormwater permit is required to be submitted prior to commencement of construction.

Partial D&M Plan I contained plans for inspecting and cleaning temporary sediment traps/basins and swales as well as post-construction inspections of permanent stormwater basins.

- c) **Site construction detail/phasing plan including, but not limited to, construction laydown area, site clearing/grubbing, site grading, excess earth material disposal locations, site stabilization seeding/growing season details, soil stockpile locations, and a fuel storage/spill plan that is protective of groundwater resources;**

Partial D&M Plan II includes a laydown/staging area located directly west of the substation and switchyard.

Partial D&M Plan I included its original laydown/staging area, site/clearing grubbing, site stabilization seeding/growing season details in the attached drawings, and construction sequence information. Permanent soil stockpiling is not planned for this project and thus was not included in Partial D&M Plan I.

Partial D&M Plan I included a Spill Prevention Control and Countermeasures Plan (SPCCP). Partial D&M Plan I was approved with a condition that the site contact and emergency contact information referenced in Section 5.1 of the SPCCP, including the environmental spill response contractor be submitted to the Council. Such information will be included upon submittal of the final SPCCP.

Partial D&M Plan II includes the final seed mix information. Specifically, areas under and around the solar panels would be planted within a seed mix containing little bluestem, creeping red fescue, purple lovegrass, Virginia wildrye, Ladino clover, and partridge pea.

- d) **Final Landscape Visual Mitigation Plan including, but not limited to, landscaping and other visual screening, pollinator plantings, and gate designs;**

The final Landscape Visual Mitigation Plan (LVMP) was included in Partial D&M Plan I. There are no changes to the LVMP at this time.

- e) **Final DEEP NDDB Determination;**

The Final DEEP NDDB Determination was included in Partial D&M Plan I.

- f) **Solar module specifications that indicate the selected solar module will not contain PFAS and will not be characterized as hazardous waste through TCLP testing;**

The solar modules planned for the Project will not contain PFAS. Toxicity Characteristic Leaching Procedure (TCLP) testing has been conducted for both the LONGi and the Jinko solar panels, and the test results were included in Partial D&M Plan II. The results indicate that the concentrations of heavy metals are below U.S. Environmental Protection Agency regulatory levels.

- g) **Final structural design for solar module racking system stamped by a Professional Engineer duly licensed in the State of Connecticut;**

Partial D&M Plan II contains project drawings stamped by a Connecticut-licensed Professional Engineer. If approved, Council staff suggests that stamped racking system drawings be submitted prior to installation.

- h) **ISO-NE FCA #15 results specific to the project;**

For solar facilities that bid into ISO-NE (ISO-NE) Forward Capacity Auction (FCA), GPS estimated that ISO-NE considers roughly 40 percent of the nameplate capacity during the summer months and significantly less during winter months. Thus, for the project, GPS originally anticipated roughly 30 MW of summer capacity to participate in the FCA.

The Project was qualified and cleared an initial 1.409 MW in FCA #15¹ in February 2021 for the 2024 to 2025 Capacity Commitment Period (CCP). There is a remaining uncleared balance of 8.591 MW which will be offered into FCA #16 for the 2025 to 2026 CCP. With the recent change in ISO-NE rules to offer floor price for solar, GPS expects the remaining 8.591 MW to clear in FCA #16 in February 2022 for the 2025 to 2026 CCP. GPS will seek to qualify for additional capacity in subsequent FCAs.

- i) **Consultation with the DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins prior to site construction;**

In Partial D&M Plan I, GPS noted that it consulted with the DEEP Dam Safety Program, and a DEEP Dam Safety Permit is not required.

- j) **If land control is finalized, details of the use of the secondary access road on Apothecaries Hall Road as an alternative entrance point;**

In Partial D&M Plan I, GPS included its land control details for this secondary access in Partial D&M Plan I.

- k) **Project construction hours/days of the week; and**

Construction hours will be Monday through Friday between 7:00 a.m. and 5:00 p.m. However, GPS anticipates that weekend work and some longer hours may occur to meet critical milestones. Construction is expected to commence during winter 2022 and be completed approximately fall of 2023.

¹ In FCA #15, resources totaling 40,692 MW qualified to participate in the auction. Of this total, capacity commitments were secured for approximately 34,621 MW.

1) **Construction traffic control plan developed in consultation with the Town.**

The Traffic Management Plan developed in consultation with the Town of East Windsor, was included in Partial D&M Plan I.

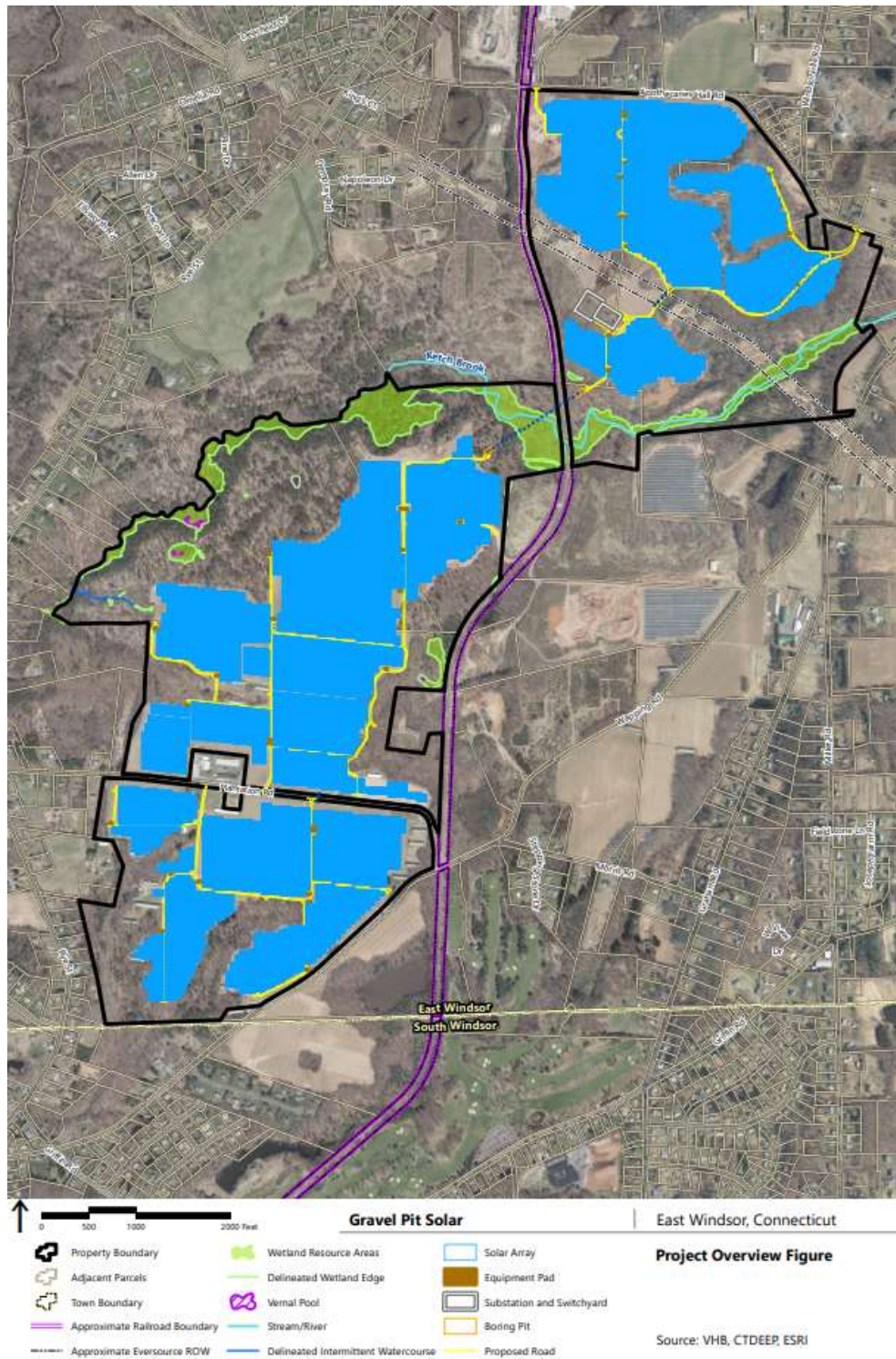
Conclusion

Partial D&M Plan II is in compliance with the Council's Decision and Order dated March 1, 2021.

If approved, staff recommends the following conditions:

1. Submission of stamped racking system drawings prior to installation; and
2. Submission of the final Spill Prevention, Control, and Countermeasure Plan.

Project Map



Substation and Switchyard Site Plan

