



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

November 12, 2019

TO: Parties and Intervenors

FROM: Melanie Bachman, Executive Director *MAB*

RE: **PETITION NO. 1385** – Cobb Road, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.95-megawatt AC solar photovoltaic electric generating facility on approximately 11.16 acres located at 20-1 Short Hills Road, Old Lyme, Connecticut and associated electrical interconnection.

Comments have been received from the Department of Energy and Environmental Protection, dated November 6, 2019. A copy of the comments is attached for your review.

MB/MP/lm

c: Council Members



November 6, 2019

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 1.95 MW Solar Photovoltaic Facility
Cobb Rd. LLC
Old Lyme, CT
Petition No. 1385

Dear Members of the Siting Council:

Staff of this department have reviewed the above-referenced petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction of the proposed photovoltaic generating facility off Short Hills Road in Old Lyme. This project was selected by Eversource and awarded a 15-year contract to participate in the Low Emissions Renewable Energy Credit program. The following comments are offered to the Council for your consideration.

Site Description

The site is a back lot located at 20-1 Short Hills Road in Old Lyme. An existing gravel road off Great Oaks Road will be used to access the site with no improvements required to utilize the road. The project will develop 12.72 acres out of the 120.23 acres. The parcel is primarily woodland with approximately 5 acres utilized for the Eversource Right of Way, which is maintained as dirt road with low shrub vegetation. The site has no jurisdictional wetlands within the development. There is a gentle slope from east to west, eventually leading to a perennial watercourse and associated wetlands on the western boundary line of the parcel. The development is situated in the center of the parcel, with approximately 1000 feet from the development to the property line on each side. The Right of Way is the southern boundary of the solar field.

A field walk was conducted on October 29, 2019. The location of wetland 4 was noted and is a depression in the forested area, with scattered trees and no ground vegetation. The area where the proposed four infiltration basins was noted, on relatively flat ground over 900 feet from wetland system 5.

Activities

Cobb Road LLC, the Petitioner, proposes to install fixed tilt solar photovoltaic systems composed of solar modules, inverters, access gravel roads, perimeter fencing, and stormwater management features. The project requires tree removal, grubbing, minor grading for access roads within the

site and the installation of solar panels. Stormwater infrastructure proposed for the site includes the installation of four infiltration basins with each with riprap overflow weir and level spreader.

Water Quality

The location of the site within the 120-acre parcel avoids wetlands and watercourse impacts, and eliminates water quality concerns to the unnamed stream and associated wetland system by being approximately 800- 900 feet away from the wetland (identified as wetland 5). It is typical in land use practice to consider 100 feet as the minimum buffer desired from a wetland or watercourse to site disturbance. This number could be increased depending on the slope or sensitivity of the wetland. The Petitioner provided a 100 ft. buffer to the closest wetland, identified as wetland 4, described as a forested shallow depression. This wetland is located on a gentle slope in a wooded area with little understory vegetation.

Precipitation hitting the panels will drain from them and flow toward the infiltration basins in each row, as opposed to flowing under the rows of panels, which has been typical practice. This concentrated flow between rows may cause rills and gullies to form in between rows of panels. These rows may be mowed once or twice a year, and during those times, soils will be compacted. Vegetation in each row will need to be well established and maintained regularly. DEEP recommends that the Siting Council discuss how the applicant will prevent soil erosion between rows. In addition, the applicant may need to address how runoff volume and velocity will be controlled during winter months when the ground is frozen. If the site was considered a fully impervious surface, the infiltration basins and proposed catchment areas associated with the individual drainage areas may not adequately address water quantity and quality. Precipitation from the site that has not infiltrated, would eventually flow to woodlands on the west side of the development. The Design and Management Plan could address how often the infiltration basins will be inspected and maintained, along with the possibility that rows between panels may require annual tilling and revegetation.

Construction Stormwater Management

Construction-related land disturbances of 0.5 acres or larger are regulated in Connecticut pursuant to the Connecticut Soil Erosion and Sediment Control Act under Sections 22a-325 to 22a-329, inclusive, of the Connecticut General Statutes (CGS). Construction-related land disturbances of one (1) acre or larger are also regulated under CGS Section 22a-430 and under Section 402(p) of the federal Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) program. Prior to the start of such regulated activities, authorization is required from local authorities and, for larger projects, DEEP. Construction projects involving five (5) or more acres of land disturbance require an individual NPDES discharge permit from the DEEP, or may be eligible to register for coverage under DEEP's NPDES General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit).

Based upon the problems encountered in regards to large areas of land disturbance at solar farm construction projects, DEEP has provided a guidance document dated September 2017 (attached).

The Petition recognizes the need to register for DEEP's general permit to address the stormwater discharges associated with the proposed project in Appendix D, Stormwater Management Report. The critical consideration is being able to maintain site stabilization during construction. The sequence of construction, soil, and erosion control measures will be analyzed by DEEP during the review for the General Permit. A Stormwater Pollution Control Plan will be submitted as required by the General Permit.

In the Sedimentation and Erosion Control Plan Notes, EC-3, modifications should be made to the notes that remove mention of the municipality as an entity to approve stabilization of the site since the Town of Old Lyme is not permitting this construction project. Other notes should be modified to fit this project, such as the mention of turf establishment. DEEP acknowledges that often erosion control notes are standardized to fit a variety of projects, but would like the notes to reflect the solar project.

Core Forest Assessment

An overview of the project area shows that it will develop a portion of forested land along the edge of the Right of Way. As stated in the petition, clearing for the project will remove 12 acres of forest (both interior forest and edge forest) from the overall forested area, estimated to be approximately 700 acres. The site consists of primarily deciduous forest. The forest is very open, mostly devoid of understory. Tree stands are primarily young trees with a few larger diameter trees interspersed. No wetlands or watercourses were located within the 12 acres being considered for development.

This parcel is not identified on DEEP's Habitat Impact Map, which was developed by DEEP Wildlife Division to assist DEEP in screening if a project may have a material impact on core forest. The Habitat Impact Map is not meant to indicate areas that could be considered core forest, but considers and weighs several factors including wetlands, habitat types, and species of concern, to represent areas that could be materially affected if a core forest was disturbed. The 120-acre parcel has evidence of groundwater testing for potential septic systems observed on the October site walk. A residential subdivision is currently under construction adjacent to the site. The petition states that the landowner will keep the remaining acreage after solar development untouched by further residential development. Public Act 17-218, established July 1, 2017, is an Act concerning development of core forest and agricultural land. This site is under the 2 MW threshold and does not require a letter from DEEP Forestry for the project to proceed as a Petition in front of the Siting Council. Regardless of the energy capacity of the project, the environmental impacts are reviewed by the Siting Council.

Wildlife & Habitat Assessment

The site is not within a Natural Diversity Database Area (NDDB). This database, maintained by DEEP Wildlife Division, indicates areas that may have had occurrences of one or more state listed plants or animals. Not all areas in Connecticut will be represented in the database unless previous surveys were documented. The Petitioner hired a company to conduct an avian study and wetland study prior to submitting to the Siting Council. The vernal pool in wetland 2 was noted to contain two common species: spotted salamander egg masses and wood frog egg masses, indicating breeding productivity. The vernal pool is within the man-made pond in wetland 2, which is several hundred feet to the east of the project and not within the drainage area of the site. Water runoff from the site will drain away from this area to the west side of the project.

The mid-successional forest consists of even-aged trees with little understory, which suggests a modest habitat for wildlife. The Petitioner will follow the protocol to minimize impact to wildlife within the project area during construction outlined in section 6.9.2 of the petition. These best management practices should be conveyed to the construction crew and listed on the site plan. Some practices include tree removal time of year restrictions, removing animals, whether state listed or not, out of the construction area and out of harm's way, removing silt fencing and any other restrictive barriers when site is established, and reporting any state listed species to DEEP.

The Petition states that a 6-inch gap from the ground in the 7-foot-high fencing will be included in the design to allow small animals to move throughout the project area and surrounding forest.

Decommissioning Plan

By past practice, the Siting council has required the development and submission of decommissioning plans for solar farms. Prior to decommissioning, the petitioner should consult with DEEP on any permits that may be required during land disturbance operations.

Respectfully Yours,

Linda Brunza, Environmental Analyst

cc: Commissioner Katie Dykes

Stormwater Management at Solar Farm Construction Projects September 8, 2017

Solar farms are on-the-ground installations of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity. As with other types of construction projects, the construction of solar farms can involve land clearing, grading, excavation, trenching, dewatering and similar activities that create land disturbances which potentially result in soil erosion and sediment discharges polluting wetlands, streams and other surface waters. Construction-related land disturbances of 0.5 acres or larger are regulated in Connecticut pursuant to the Connecticut Soil Erosion and Sediment Control Act under Sections 22a-325 to 22a-329, inclusive, of the Connecticut General Statutes (“CGS”). Construction-related land disturbances of one (1) acre or larger are also regulated under CGS Section 22a-430 and under Section 402(p) of the federal Clean Water Act and the National Pollutant Discharge Elimination System (“NPDES”) program. Prior to the start of such regulated activities, authorization is required from local authorities and, for larger projects, the Connecticut Department of Energy and Environmental Protection (“Department”). Construction projects involving five (5) or more acres of land disturbance require an individual NPDES discharge permit from the Department, or may be eligible to register for coverage under the Department’s NPDES General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit).

The Department has encountered repeated problems associated with solar farm construction projects covered under the general permit, from the registration process through construction activities. Although in no way an exhaustive list, the following are common problems associated with solar farm general permit registration applications and ways to address such problems:

- Applicants have been submitting registration applications that lack the requisite information or the requirements necessary for authorization under the general permit. The Department requires a complete and sufficient application when a registration application is filed, and may reject any registration application it deems to be incomplete or insufficient.
- Applicants are not adhering to the sixty (60) day/ninety (90) day time frame for Department review as required by Section 3(c) of the general permit. While the Department has on occasion shortened the review timeframe, Applicants are expected to allocate no less than the requisite time frame for the registration application review process and must plan accordingly.
- Registration applications for solar farm projects often fail to identify the project’s contractor and sub-contractors. Section 5(b)(1)(viii) of the general permit mandates that this information be included in the registration application.

- Applicants have been repackaging the Siting Council submittal, which is not acceptable. Section 3(c)(2)(D) of the general permit mandates that the application submittal include only materials required to support the Stormwater Pollution Control Plan (“SWPCP”). This information must be up-to-date and accurate. Any superfluous information delays the registration application review process.
- SWPCPs for solar farm projects are often lacking sufficient detail and information. An approvable SWPCP shall include, but not be limited to, the location of all erosion, sediment and stormwater control measures including detailed design cut sheets with supporting calculations, construction means and methods, project phasing (i.e., site planning, pre-construction, construction, and post-construction stabilization, etc.), construction sequencing and a construction schedule.
- The Applicant’s design professional must be well-versed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (“E&S Guidelines”), specifically the techniques found in Chapter 4, Large Construction Sites, the 2004 Connecticut Stormwater Quality Manual, as well as *current* best management practices (BMPs) recognized by the International Erosion Control Association (IECA), provided such BMPs are equal to or better than the E&S Guidelines.
- From the Department’s perspective, an approvable SWPCP will include methods for avoiding compaction of soils, disconnection and reduction of runoff associated with solar panel arrays, avoidance of concentration of stormwater, and other measures necessary to maintain or improve pre-construction hydrologic conditions.
- Applicants need to follow the SWPCP review checklist when preparing the SWPCP, giving specific attention to post-construction stormwater controls and the development of a detailed long-term maintenance plan to ensure that the SWPCP meets the terms and conditions of the general permit.

Subsequent to authorization for coverage under the general permit, the Registrant is responsible for ensuring compliance with all terms and conditions of the general permit and the approved SWPCP once construction has been initiated. However, for solar farm projects, Registrants often fail to comply with the terms and conditions of the general permit, including the approved SWPCP. In particular, Department staff have observed the following issues that a routine inspection protocol and proper oversight, as required under the general permit, would have prevented, including but not limited to:

- pre-construction site planning and management deficiencies (e.g., existing vegetation, scheduling, training, phasing/sequencing, tree protection, etc.)
- ineffective placement, maintenance, and/or repair of administrative/procedural, vegetative, and structural BMPs (e.g., erosion, sediment and stormwater runoff controls, good housekeeping, materials management, and training)
- lack of thorough inspections
- ineffective or untimely corrective action
- ineffective stabilization practices
- ineffective permanent post-construction controls (i.e., store, treat and direct stormwater quality and quantity to pre-construction levels)

Such issues at solar farm construction projects raise concerns, since such projects often create areas of land disruption larger than the generally accepted BMPs of five (5) acres anticipated under the general permit. As a result, any applicant seeking coverage under the general permit

for a solar farm construction project should take care to address the issues noted above. While by no means exclusive, some recommendations that should be incorporated into a SWPCP to address these issues include:

- Ensuring that only a Professional Engineer and/or Landscape Architect, as defined in Section 2 of the general permit, who meets the qualifications described in Section 5(b)(4)(A)(ii) and who has been approved in writing by the Commissioner, serve as the Commissioner's agent to inspect the site and also serve as the qualified inspector for the purposes of Section 5(b)(4) of the general permit ("authorized professional"). Such authorized professional must remain in good standing with the Connecticut Department of Consumer Protection and be technically and ethically qualified to inspect the site and be retained for the duration of the construction project until the Notice of Termination acceptable to the Commissioner has been filed as described below.
- Ensuring that the authorized professional prepare a proposed inspection checklist to assure the construction project is being conducted in compliance with the terms and conditions of the general permit, and the approved SWPCP is implemented in accordance with the general permit. The inspection checklist shall comply with Section 5(b)(4)(B)(iii) of the general permit, and include a space for the authorized professional's signature and professional stamp.
- Ensuring that the credentials for the authorized professional proposed by the Applicant and the proposed inspection checklist prepared by such authorized professional be submitted for the review and approval of the Commissioner and be included with the registration application for the general permit. No other professional may serve as the authorized professional without the prior submittal of relevant credentials and inspection checklist for the Commissioner's review and written approval.
- Ensuring that the authorized professional personally perform all pre-construction, construction, and post-construction site inspections; perform inspections at the end of any storm event whether or not such storm generates a discharge; and prepare and submit all inspection reports including the supporting inspection checklists in compliance with Sections 5(b)(4)(A) and 5(b)(4)(B) of the general permit.
- Ensuring that the authorized professional report any violations of the terms and conditions of the general permit or the SWPCP to the Commissioner's designee within two (2) hours of becoming aware of such violation, or at the start of the next business day of becoming aware of such violation outside normal business hours and shall, within five (5) days, prepare and submit a signed and stamped written report, which documents the cause of the violation, duration including dates and times, and corrective action taken or planned to prevent future occurrences.
- Ensuring that if circumstances necessitate a revision to the SWPCP, the authorized professional works with the Permittee's design professional to ensure compliance with the terms and conditions of the general permit, and any such change to the SWPCP shall be submitted for the review and written approval of the Commissioner.
- Ensure that the authorized professional reviews all stormwater monitoring reports to evaluate the effectiveness of the SWPCP and to document any adverse impacts that any stormwater controls on the construction site or discharges from the construction site may have on wetlands, streams, any other receiving waterbodies. Such evaluation shall be documented in the inspection reports and inspection checklists performed pursuant to Section 5(b)(4) of the general permit.

- Ensuring that, in the event the authorized professional identifies a violation of the terms and conditions of the general permit, the SWPCP, or otherwise identifies adverse impacts on wetlands, streams or any other receiving waterbodies, that construction activity shall immediately cease and the site stabilized until such violation or adverse impacts have been corrected.
- Ensuring that reporting and record-keeping of all inspection checklists and inspection reports comply with the requirements of Section 5(d) of the general permit, except that a copy shall also be submitted electronically to the Department within ten (10) days from the date such inspection was performed.
- Ensuring that all inspection checklists and inspection reports comply with the requirements for Certification of Documents in Section 5(i) of the general permit, including the requirement that such checklists and reports shall also be prepared, stamped and signed by the authorized professional.
- After completion of a construction project, ensuring that a Notice of Termination is filed in compliance with Section 6 of the general permit, including the requirement that such Notice of Termination be stamped and signed by the authorized professional certifying that such authorized professional has personally inspected and verified that the site has been stabilized following the first full growing season (i.e., April through October) in the year following completion of the construction project.
- Ensuring that any transfer of the registration comply with the requirements of Section 5(m) of the general permit.

These recommendations are by no means intended to be exclusive. To help address the issues noted above, the Commissioner will also be considering the posting of a performance bond or other security, in accordance with Section 22a-6(a)(7) of the Connecticut General Statutes, to assure the solar farm construction project maintains compliance with the terms and conditions of the general permit and the SWPCP.