

PETITION NO. 1410 - Greenskies Clean Energy, 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 3.0-megawatt AC solar photovoltaic electric generating facility on two parcels at the Elmridge Golf Course located to the east and west of North Anguilla Road at the intersection with Elmridge Road, Stonington, Connecticut, and associated electrical interconnection. }

Connecticut

Siting

Council

February 11, 2021

Opinion

Introduction

On June 4, 2020 Greenskies Clean Energy, LLC (GCE or Petitioner) submitted a petition to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §16-50k and §4-176, for a declaratory ruling for the construction, maintenance, and operation of a 3.0-megawatt AC solar photovoltaic electric generating facility on two parcels at the Elmridge Golf Course located to the east and west of North Anguilla Road at the intersection with Elmridge Road, Stonington, Connecticut, and associated electrical interconnection (Project).

Jurisdiction

As it applies to this petition, CGS §16-50k states in relevant part, “...the Council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling... (B) the construction or location... of any grid-side distributed resources project... with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection and the Council does not find a substantial adverse environmental effect...” The project is a “grid-side distributed resources” facility, as defined in CGS §16-1(a)(37), and has a capacity of approximately 3.0 MW.

Effective July 1, 2017, PA 17-218 requires, for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by the Department of Energy and Environmental Protection (DEEP) in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the Department of Agriculture (DOAg) represents, in writing, to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such project will not materially affect the status of such land as core forest. PA 17-218 also requires that the Council not find a substantial adverse environmental effect in its exercise of jurisdiction over facilities eligible to be approved by declaratory ruling under CGS §16-50k. There are no exemptions from this provision of PA 17-218.

By letter dated April 27, 2020, DEEP’s Bureau of Natural Resources determined the proposed solar facility would not have a material impact on the status of core forest. By letter dated June 2, 2020, DOAg determined the proposed solar facility would not have a material impact on the status of prime farmland.

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state. PA 17-218 does not confer the Council’s exclusive jurisdiction upon DOAg or DEEP nor does it permit DOAg or DEEP to impose any enforceable conditions on the construction, maintenance and operation of solar photovoltaic electric generating facilities under the exclusive jurisdiction of the Council.

Public Benefit

Pursuant to CGS §16-50p, a public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity. PA 05-1, An Act Concerning Energy Independence, portions of which were codified in CGS §16-50k, established a rebuttable presumption that there is a public benefit for electric generating facilities selected in RFPs. The Project was awarded three zero emission renewable energy credit (ZREC) contracts through a competitive RFP.

Energy produced by the project would be sold to Eversource via a non-firm tariff. GCE entered into three 15-year purchase contracts with Eversource for the ZRECs.

Proposed Project

Pursuant to a lease agreement with the property owner, GCE proposes to construct the solar facility on a site located within the approximate 250-acre Elmridge Golf Course property off Elmridge Road in Stonington. The golf course is comprised of 3 parcels and currently has 27 golf holes in operation. The golf course would be downsized to 18 operational holes upon completion of the Project.

Approximately 9,600 fixed tilt solar panels, rated at approximately 395 Watts direct current (DC), would be installed at the site. The solar panels would be installed on a steel post-racking system with the posts driven into the ground to an approximate depth of 9 feet. If bedrock is encountered, ground screw anchors or ballasts would be used to support racking posts. The solar array rows (panel edge to panel edge) would be spaced 13 feet apart. Once installed, the horizontal width of the panel row would measure 11.9 feet.

The solar array areas would be enclosed by a 7-foot high chain link fence, designed so that the fence would have a six-inch gap at the bottom for small wildlife passage. The overall height of the fence with the wildlife gap would be 7.5 feet above grade. Approximately 5,000 linear feet of fencing is proposed for the Project.

The proposed site consists of two distinct Project areas, the East Project area and West Project area.

East Project Area

The East Project area is located on approximately 10 acres of an 87.5 acre parcel zoned Rural Residential. It is bound by open space to the east, North Anguilla Road to the west, residential use to the south, and Elmridge Road to the north.

The solar array area would occupy one golf hole and fairway buffer areas. The site consists of landscaped lawn, some treed areas, paved golf cart paths, and sand traps with mostly gentle slopes except for the western side where slopes range from 9 to 15 percent.

Access to the site would utilize an existing golf course driveway and parking lot off Elmridge Road. From the parking lot, a new 15-foot wide, 70-foot long gravel access drive would extend west to the solar field area. From the solar field access gate, an approximate 1,180-foot long, 15-foot wide, gravel drive would extend along the east side of the solar field, within the solar field fence line.

Approximately 6,400 solar panels would be installed in the East Project area. Two concrete electric service pads supporting a transformer, an AC combiner and low voltage data acquisition system and telemetry

equipment would also be installed within the array area. Approximately 2.8 acres would be disturbed to develop the site.

The nearest property boundary to the East Project area perimeter fence is approximately 180 feet to the south at 5 Woodland Court and 6 Woodland Court.

West Project Area

The West Project area is located on approximately 5 acres of a 26 acre parcel, zoned Greenbelt Residential. It contains 3 operational golf holes that would be abandoned upon completion of the project. The parcel has gentle grades and is bound by residential lots to the north, North Anguilla Road to the east, open space and a residential lot to the south and Interstate 95 to the west.

Access to the site would be from an approximate 640-foot long, 15-foot wide gravel access drive extending west from North Anguilla Road.

The solar array would be constructed on a portion of the three golf holes and would consist of approximately 3,200 solar panels and one concrete electrical equipment pad, enclosed by a perimeter fence. Approximately 3.8 acres would be disturbed to develop the site.

The nearest property boundary to the West Project area perimeter fence is approximately 65 feet to the northeast at 139 North Anguilla Road.

Electrical Interconnection

The Project would interconnect to Eversource's existing distribution system on Elmridge Road and North Anguilla Road. Each interconnection would be conducted in accordance Eversource's requirements and would require 5 new utility poles to interconnect the East Project Area and 3 new utility poles to interconnect the West Project Area.

Project Alternatives

GCE submitted several sites, including the proposed site, into the ZREC auction administered by Eversource. Other sites that were submitted into the auction but were not selected include locations in the Towns of East Windsor, Lebanon, Haddam, Mystic, and Monroe. For the proposed site, an alternative site layout was examined that included a 2 MW footprint on the west side of the property and 1 MW footprint on the east side; however, due to insufficient buffers to nearby wetlands, this layout was not pursued.

Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.¹

Public Safety

The proposed project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC), and any applicable National Fire Protection Association (NFPA) codes. The Project has been designed to comply with the Connecticut Fire Safety Code and has been reviewed by the Town Fire Marshal and Town Civil Engineer. The site access roads and turnarounds were designed in accordance with Town specifications and meet emergency access requirements.

¹ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

The Project would be remotely monitored and feature remote shutdown capabilities. The solar facility would have a protection system to shut the facility down in the event of internal or external disturbances (e.g. faults) as well as during power outage events.

Prior to operation, GCE would meet with first responders from the Town to provide an orientation to the project and information regarding emergency response measures at the project site.

GCE would consult with the Town regarding construction traffic flow patterns prior to the commencement of construction activities.

The proposed project is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone. The project would not require a Federal Aviation Administration glare analysis.

Noise generated during facility operations would comply with the DEEP Noise Control Standards. Noise resulting from proposed project construction is exempt from the DEEP Noise Control Standards. To address concerns regarding the potential for golf balls striking the solar panels and making noise, the Council recommends GCE consult with the landowner regarding fairway orientation during the golf course re-design to reduce the potential for golf ball strikes.

The proposed stormwater basin associated with the West Project Area qualifies as a dam with a hazard classification of “AA”, indicating it has a negligible hazard potential. Once the stormwater dam is constructed, GCE must submit a dam registration form to the DEEP Dam Safety Division.

The Project has an anticipated life of 25 years. Decommissioning of the project would include solar facility infrastructure removal and site restoration. Components would be disposed of or recycled in accordance with existing statutory or regulatory requirements. Excavated areas will be backfilled and disturbed areas seeded.

The proposed solar panels are not considered hazardous material for waste disposal purposes based on the results of a Toxicity Characteristic Leaching Procedure (TCLP) test. During the TCLP test, the panels are crushed and pulverized to determine if any hazardous substances above regulatory thresholds would leach out.

The panels specified for the project do not contain per- and polyfluoroalkyl substances (PFAS).

Given that solar panel technology and manufacturing processes are continually changing, and the selected solar panel model may not be available at the time of procurement, the Council will order GCE to utilize solar panels that are characterized as non-hazardous through TCLP testing and that do not contain PFAS.

Environmental

Historic and Archaeological Resources

No historic or archeological sites listed on the National Register of Historic Places occur at the site property. Field surveys of the site found no areas with archaeological significance eligible for listing on the National Register of Historic Places. No additional site surveys or investigations were recommended by the State Historic Preservation Office.

Visibility

Visibility of the East Project Area from off-site locations would mainly occur from the Elmridge Road area to the north and from developed residential properties abutting the golf course to the south. Visibility of the Project from Elmridge Road would be minimized by the presence of two existing wooded buffers; one along the road and one along one of the fairways between the road and project site. To further screen views from the Elmridge Road area, GCE proposes to install evergreens along the north and northwest side of the perimeter fence.

Views of the East Project area would occur from several residences that abut the golf course, primarily along the cul de sac at Woodland Court directly to the south and the cul de sac at Fairway Court to the southeast. Although there is a band of mature trees along the property boundary, there is little under story to sufficiently screen views of the facility. The nearest residential property line to the East Project area fence line is approximately 180 feet to the south at both 5 and 6 Woodland Court. The property at 5 Fairway Court is approximately 380 feet southeast of the Project area fence line. All of these properties would have year-round views of the facility.

The solar panels would extend approximately 8-to 9 feet above grade. GCE developed a landscape plan to screen the facility when viewed from ground level from the south and southeast. The plan includes a shrub hedge with mixed, native evergreen and deciduous plantings, maintained to a height of 10-15 feet. Additionally, GCE would install green slats on the perimeter fence to further screen views into the solar field. GCE could move the south fence line and associated landscaping 10 feet to the north to increase the distance to the abutting properties.

In order to enhance the proposed landscape plan and to receive input from the abutting property owners on Woodland Court and Fairway Court, GCE committed to consult with the abutters to discuss additional screening such as plantings or fencing along the property line, additional plantings along the south property line if the fence was relocated 10 feet to the north to create a more staggered planting scheme, and plantings along the east fence line. Although the Council does not have jurisdiction or authority to order site screening beyond the boundaries of the proposed site, including portions of the golf course parcel that are not proposed for solar project development, the Council recommends GCE consult with the abutters regarding additional screening.

Visibility of the West Project area would occur from North Anguilla Road and from several residential properties to the north through intervening vegetation. GCE would install evergreens along the road to screen views. No landscaping is proposed along the north fence line.

Agriculture

Although both project areas are within areas mapped as prime farmland soils, the subsequent development and operation of the golf course extensively disturbed these soils so that they no longer exhibit prime farmland soil characteristics. DOAg reviewed the project and determined that the proposed solar facility would not have a material impact on the status of prime farmland at the site. GCE intends to seed the site with pollinator species and install pollinator nesting boxes to promote pollinator species.

Forest and Parks

Development of the Project would require the clearing of 0.7 acres of edge forest and some stands of evergreens in fairway buffer areas to develop the East Project Area. No tree clearing is proposed for the West Project area. DEEP reviewed the project and determined that the proposed facility would not have a material impact on the status of core forest.

No state parks or forests are located adjacent to the site.

Wildlife

On November 8, 2019, DEEP issued a preliminary Natural Diversity Database (NDDB) assessment for the Project confirming that two state listed species have been recorded in the area of the site property: the eastern spadefoot toad and the nine-spotted lady beetle.

GCE conducted habitat studies for these species and submitted the results to DEEP for review. DEEP responded on April 24, 2020 with recommendations to reduce potential impacts to the nine-spotted lady beetle. No protective measures were recommended for the eastern spadefoot toad as suitable habitat was not found within the project area. GCE would adhere to DEEP's recommended protection measures for the beetle.

Anguilla Brook, a Class A watercourse that supports wild brook trout, is approximately 280 feet west of the West Project Area. No state-listed fish or aquatic species were identified in the NDDB project determination as occurring on or in the area of the site. DEEP Fisheries Biologists are routinely involved in pre-application consultations with regulatory staff and applicants as well as involved in permit application reviews, in order to identify potential fisheries issues, and to work with applicants to mitigate any effects, including those to listed species.

Air Quality

During operation, the proposed project would not produce air emissions of regulated air pollutants or greenhouse gases. Thus, no air permit would be required. The proposed project would meet DEEP air quality standards.

Water Quality

The project site is located outside of any DEEP-designated Aquifer Protection Area. The West Project Area is located within a Town-designated Groundwater Protection Overlay District (GPOD), established to protect groundwater in the area of Anguilla Brook as it serves as an emergency drinking water supply. To prevent any impacts to groundwater resources, GCE would follow Best Management Practices during construction, operation and maintenance of the Project, including, but not limited to, fuel spill prevention and control and specific practices for the use of products. The Town did not provide GCE with any specific procedures or practices to follow for work within the GPOD.

Installation of the project is not expected to have any effect on any nearby water wells. Excavation would be limited to the stormwater basin and blasting for post driving is not anticipated.

Wetlands and Watercourses

The Inland Wetland and Watercourses Act (IWWA) strikes a balance between economic activities and wetlands preservation. The impact of a proposed activity on the wetlands and watercourses that may come from outside the physical boundaries of the wetlands or watercourses is a major consideration. Defined upland review areas, such as 100 feet, provide a trigger for reviewing whether a regulated activity is likely to affect wetlands and watercourses. Under CGS §22a-41(d), regulatory agencies shall not deny or condition an application for a regulated activity in an area outside wetlands or watercourses on the basis of an impact or effect on aquatic, plant, or animal life *unless such activity will likely impact or affect the physical characteristics of such wetlands or watercourses.*

Five wetlands, totaling 12.9 acres, were delineated in proximity to the two Project areas, most of which are forested drainage corridors that eventually drain to Anguilla Brook. No vernal pools were identified proximate to the work areas. No wetlands or watercourses would be directly impacted by the proposed project.

Undisturbed vegetative buffers provide protection to stream resources by filtering pollutants in runoff and protecting water quality and temperature. According to the *2004 Connecticut Stormwater Quality Manual*, as a general rule, a minimum 100-foot buffer of undisturbed upland along a wetland boundary or on either side of a watercourse is recommended to protect water quality. GCE would maintain a minimum 100-foot no disturbance upland buffer around the on-site wetlands.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete. A DEEP-issued Stormwater Permit is required prior to commencement of construction.

All aspects of Project construction phasing, erosion and sedimentation control methods, and temporary and permanent stormwater control features are reviewed and approved by DEEP as part of the Stormwater Permit registration. No site construction activities can occur until the Stormwater Permit is issued. The Stormwater Permit includes a Stormwater Pollution Control Plan (SWPCP) that requires appropriate construction phasing and the establishment of erosion control features in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and the *2004 Connecticut Stormwater Quality Manual*. DEEP has the authority to enforce Project compliance with its Individual or General Permit and the SWPCP.

Based on a stormwater analysis of the site that is required for the DEEP Stormwater Permit, GCE proposes to install a single stormwater basin in each project area. Each basin, designed as a dry detention basin, would have a single outfall consisting of a concrete weir structure that discharges through a V-notch onto a riprap energy dissipator/level spreader.

The proposed stormwater basins are located in areas where stormwater naturally concentrates based on site topography. The basins would provide peak-flow attenuation due to land cover changes associated with the project. The Project, as designed based on the stormwater analysis, directs most, but not all, of the

overland stormwater flows from the solar field areas into the stormwater basins. The project areas that do not drain to a stormwater basin would continue to follow pre-existing drainage patterns.

Post-construction stormwater falling from the panels would drain across the vegetated solar field areas, infiltrating into the soil. Post-construction water quality treatment would be provided by the stormwater detention basins and the undisturbed vegetated buffers that would remain between the stormwater detention basins and on-site wetlands.

For the East Project area, GCE incorporated crushed stone level spreaders/energy below each down gradient panel edge for slopes greater than 5 percent. The energy dissipators would include a subsurface 8-inch wide, 6-inch deep trench filled with crushed stone to reduce the potential for drip edge erosion and to promote infiltration. Although the trenches in some areas are aligned parallel to the ground slope, rather than perpendicular as shown in Appendix I, runoff from the contributing solar panel surface area would generate enough water that would lead to channelization.

GCE met with the DEEP Stormwater Program on May 27, 2020 for a pre-application meeting. DEEP recommended that site grading and disturbed area stabilization be completed prior to the construction of the racking system. As part of the construction phasing plan, the stormwater basins would be constructed prior to mass earthwork activities.

To ensure proper site stabilization and grass seedling establishment prior to construction, the Council will order GCE to allow for vegetative site stabilization before the commencement of the site construction phase.

Some of the post-construction design elements to mitigate potential effects of the project include, but are not limited to, establishing a minimum 100-foot buffer from site construction areas to wetlands, locating stormwater basin discharge points a minimum of 100-feet from wetlands, use of energy dissipators at each stormwater outlet to reduce the discharge flow velocity and to spread the runoff from storm events, and the installation of energy dissipators below the drip edge of panels located on steeper slopes. Short term, temporary impacts to water resources from construction activities would be avoided or minimized with specific erosion and sedimentation controls that would be installed and maintained in accordance with the DEEP-issued Stormwater Permit, *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and the *2004 Connecticut Stormwater Quality Manual*. The Council finds the project design will meet DEEP water quality standards as long as the Petitioner obtains a DEEP-issued Stormwater Permit, which requires site-specific Project design elements for stormwater management, as well as inspections and reports, to protect water resources.²

Conclusion

Based on the record in this proceeding, the Council finds that there would not be a substantial adverse environmental effect associated with the construction, maintenance and operation of an approximately 3.0 MW solar photovoltaic electric generating facility and an associated electrical interconnection located at the Elmridge Golf Course in Stonington, Connecticut.

In accordance with CGS §22a-19, the Council finds that the proposal would not cause unreasonable pollution, impairment or destruction of the public trust in the air, water or other natural resources of the

² It is within the statutory authority of the Council to approve a facility subject to specific conditions, including subsequent compliance with DEEP standards and regulations. (*FairwindCT, Inc. v. Conn. Siting Council*, 313 Conn. 669, 687 (2014)).

state. The Council has considered all feasible alternatives and finds that the proposal represents the best alternative consistent with the reasonable requirements of the public health, safety and welfare.

The proposed project is a grid-side distributed resources project with a capacity of less than 65 MW under CGS §16-50k, it was selected under the state's Zero Renewable Energy Credit Program, it is consistent with the state's energy policy under CGS §16a-35k, and the proposed project would meet all applicable U.S. Environmental Protection Agency and DEEP Air and Water Quality Standards. Therefore, the Council will issue a declaratory ruling for the proposed project.