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Petition No. 1600 TRITEC Americas, LLC 0.999 MW AC Solar Photovoltaic Electric Generating Facility Parcel No. 30-2-74-40 Chamberlain Highway, Berlin, Connecticut

Staff Report May 3, 2024

Introduction

On November 14, 2023, TRITEC Americas, LLC (TRITEC) submitted a notice of election to waive exclusion from the Connecticut Siting Council's (Council) jurisdiction, pursuant to Connecticut General Statutes (CGS) §16-50k(e), and a petition for a declaratory ruling pursuant to CGS §4-176 and §16-50k for the construction, operation and maintenance of a 0.999-megawatt (MW) AC solar photovoltaic electric generating facility and associated electrical interconnection located at Parcel No. 30-2-74-40 Chamberlain Highway, Berlin, Connecticut (Petition or Project).

CGS §16-50k(e) states, "Any person intending to construct a facility excluded from one or more provisions of this chapter may, to the extent permitted by law, elect to waive such exclusion by delivering notice of such waiver to the council. Such provisions shall thereafter apply to each facility identified in such notice from the date of its receipt by the council." Under CGS §16-50i(a)(3), the Council has jurisdiction over electric generating facilities utilizing renewable energy sources with a generating capacity of more than one megawatt. (Emphasis added).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, on July 16, 2023 and October 13, 2023, TRITEC notified Town of Berlin (Town) officials, City of Meriden officials¹, state officials and agencies, and abutting property owners of the notice of election to waive exclusion from Council jurisdiction and the proposed Project.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. During a regular meeting held on December 21, 2023, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than May 12, 2024, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The Council issued interrogatories to TRITEC on February 7, and March 22, 2024. TRITEC submitted responses to the Council's interrogatories on February 26 and April 5, 2024, respectively, one of which included photographic documentation of site-specific features intended to serve as a "virtual" field review of the Project site.

Municipal Consultation

On June 27, 2023, TRITEC discussed the Project with the Town Planner and Assistant Planner and at the request of the Town, held a video conference on July 31, 2023 that was attended by one abutting property owner, who expressed concerns regarding visibility and noise, and the availability of land for purchase.

¹ The City of Meriden is located within 2,500 feet of the proposed facility. The City was notified on October 13, 2023.

On November 15, 2023, the Council sent correspondence to the Town and the City of Meriden stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by December 14, 2023. No comments were received.

State Agency Comments

On November 15, 2023, pursuant to RCSA §16-50j-40, the Council sent correspondence requesting comments on the proposed Project from the following state agencies by December 14, 2023: Department of Energy and Environmental Protection (DEEP); Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO).

In response to the Council's solicitation, on December 14, 2023, CEQ submitted comments related to erosion and sedimentation controls and farmland soils.²

No other state agencies provided written comments on the Project.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies.³

Public Act 17-218

Public Act 17-218⁴ 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 DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the 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."

The proposed solar facility has a generating capacity of 0.999 MW; therefore, it is exempt from the provisions of Public Act 17-218.

Public Benefit

The Project would be a distributed energy resource facility as defined in CGS § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." The state Comprehensive Energy Strategy (CES) examines future energy needs and identifies opportunities to reduce ratepayer costs, ensure reliable energy availability, and mitigate public health and environmental impacts. CES Strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." The state Integrated Resource Plan assesses the state's future electric needs and a plan to meet those future needs, including, but not limited to, pathways to achieve a 100 percent zero carbon electric supply by 2040. Furthermore, the Governor's Executive Orders and Council on Climate Change examine existing policies

² https://portal.ct.gov/-/media/csc/3_petitions-medialibrary/petitions_medialibrary/mediapetitionnos1501-1600/pe1600/proceduralcorrespondence/pe1600_cegcommentsrecd_a.pdf

³ Corcoran v. Connecticut Siting Council, 284 Conn. 455 (2007)

⁴ Codified at Conn. Gen. Stat. §16-50k(a) and §16a-3k (2023)

and identify new strategies to combat climate change. The proposed facility will contribute to fulfilling the State's Renewable Portfolio Standard and Global Warming Solutions Act as a zero emission Class I renewable energy source.

The Project was selected as part of the Non-Residential Renewable Energy Solutions (NRES) Program and has entered into a NRES agreement with the City of Torrington for the total Project capacity.

The NRES program is a successor program to the Low Emission Renewable Energy Credit and Zero Emission Renewable Energy Credit (LREC/ZREC) and Virtual Net Metering (VNM) programs to further develop the state's Class I renewable energy objectives and to encourage the participation by customers in underserved and environmental justice communities through 20-year contracts.

After the 20-year NRES contract expires, TRITEC would examine market conditions to determine if the facility will continue to operate using other revenue mechanisms or be decommissioned.

TRITEC does not intend to participate in an ISO New England, Inc. (ISO-NE) Forward Capacity Auction.

Proposed Site

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the proposed solar electric generating facility "site." Under RCSA §16-50j-2a(29), "site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the Project "site." This includes portions of the parcel retained by the landowner and portions of the parcel the landowner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the Project "site."

TRITEC proposes to construct the solar facility on an approximate 5.6-acre site within a 26.8-acre host parcel, owned by TRITEC, identified as Parcel No. 30-2-74-40 Chamberlain Highway in Berlin. Chamberlain Highway (Route 71) abuts the host parcel to the west.

The host parcel is zoned Planned Office/Development. It consists of an agricultural field and wooded areas containing wetlands. Portions of the host parcel are used by a third party to grow hay. Land use surrounding the site consists primarily of residential and undeveloped fields and forest.

The Project site would be located in the field portion of the host parcel. The site slopes downgradient to the southeast with elevations ranging from approximately 318 to 309 feet above mean sea level. Slopes within the solar array area do not exceed 8 percent.

TRITEC selected the site due to limited environmental impact, suitability, availability, and proximity to an electrical interconnection. 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 facility⁵.

At the end of the Project's life, TRITEC will decommission the Project and restore the site to its pre-existing condition.

⁵ Corcoran v. Conn. Siting Council, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

Proposed Facility and Associated Equipment

The proposed 0.999 MW AC solar facility consists of 2,590 solar panels rated at 540 Watts. Other equipment includes eight 125-kW inverters and one 2,000 kVA transformer and switchgear. One 20-foot by 30-foot concrete pad would be installed on the west side of the array, within the fenced area and adjacent to the proposed access drive, to support electrical equipment.

The solar panels would be installed on a single-axis tracker system powered by 44 tracker motors. The tracker system would be mounted on posts driven into the ground to a depth of 9 - 12 feet. The motors are powered through a low-voltage service line extending from the electrical equipment pad.

At maximum tilt, the panels would be approximately 7.5 feet above grade at the highest point and 4 feet at the lowest point. The panel rows would be separated by an approximate 9-foot wide vegetated aisle.

Panel row wiring would extend along the racking system, protected by conduit to reduce potential damage from weather events, maintenance activities or animals. Wiring would transition to conduit and extend to the electrical equipment pads. From the transformer pad, an underground line would extend north along the proposed access drive to the electrical interconnection area adjacent to Chamberlain Highway.

The inverters would be decentralized, with each one located on a post at the end of certain panel rows, rather than installed in one central location. Four inverters would be located at the northern portion of the array, three in the central portion and one in the southern portion.

The proposed interconnection would consist of 5 new utility poles, at a height of approximately 35-40 feet above grade, with 3 poles on the utility side and 2 poles on the customer side. Eversource requires one pole for each piece of equipment (manual disconnect switch, recloser, primary meter). The interconnection would cross Chamberlain Highway to an existing circuit to the west along Butler Street.

The utility poles were initially clustered with 10-foot spacing adjacent to the equipment pad, approximately 80 feet from Chamberlain Highway. To reduce the visual effect of the clustered poles, in response to the Council's interrogatories, TRITEC submitted a revised site plan with 30 to 40-foot pole spacing, dependent on Eversource's interconnection detail.

Typically, Eversource does not pad-mount their equipment for solar projects, therefore, a pole-mounted interconnection is proposed. An underground interconnection would be more costly than an overhead interconnection design.

Eversource is conducting an interconnection study. The facility interconnection would provide energy to the Black Rock 11H electric distribution substation. Any necessary off-site upgrades to facilitate the interconnection to the substation would be detailed within the interconnection study. A review by ISO-NE is not required.

The projected capacity factor for the proposed solar facility is approximately 25.3 percent. The power output would decline over time with an anticipated annual power output loss of approximately 0.5 percent. The site is not designed to accommodate a battery storage system.

Access to the site will be via a new 12-foot wide, 400-foot long gravel drive extending from Chamberlain Highway to the equipment pads in the southern portion of the site. A DOT Encroachment Permit would be required for the proposed access drive. Any sightline improvements at the access point would be part of the permit.

A seven-foot tall chain link fence would enclose the facility. TRITEC can design the fence with a six-inch gap along the bottom to allow for small wildlife passage.

The nearest off-site residence from the proposed perimeter fence is approximately 103 feet to the south at 2537 Chamberlain Highway. The nearest property line from the perimeter fence is 40 feet to the southwest (Chamberlain Highway right-of-way). Based on a Council interrogatory, TRITEC relocated the eastern fence line, increasing the distance of the fence to the abutting property line at 76 Chamberlain Highway from 4 feet to 50 feet.

Construction of the facility would disturb approximately 5.8 acres, inclusive of the solar array, equipment pads, access drive, and electrical interconnection.

The solar array would be installed on existing grades to the extent feasible. Grading required for the access drive and installation of the tracker system would result in a net cut of 190 cubic yards of soil that would either be spread on-site or disposed of off-site.

Construction would occur over an approximately 3 to 4 month period. Typical construction hours and workdays of the week are Monday – Friday, 7:00 AM to 4:00 PM.

The estimated cost of the Project is in excess of \$3.2 million.

Public Safety

The Project would comply with the current National Electrical Code (NEC), National Electrical Safety Code, CT State Fire Prevention Code, and National Fire Protection Association codes and standards, as applicable.

The nearest federally-obligated airport is Meriden Markham Airport located approximately 4.7 miles south of the site. The FAA notice criteria tool determined notice to the FAA is not required for the solar facility. The FAA does not require a glare analysis for solar installations that are located on non-airport land. Notice to the FAA may be required if a crane is utilized at the site during construction.

The proposed facility would be remotely monitored through a 24/7 data acquisition system. If a problem with the facility is detected, system diagnostics would remotely shut down the inverters. The solar array is divided into separate electrical units by the inverters so if one section has a fault condition and shuts down, other sections can still operate.

A manual disconnect switch would be located on-site. TRITEC would provide facility operation and safety training for local emergency responders. TRITEC would also submit an Emergency Response Plan for the facility site if the Project is approved. An electrical fire at the site typically would be allowed to burn out with water use directed at areas adjacent to the fire.

The transformer would contain a nontoxic insulating oil. If the transformer reaches a low oil level, the solar facility would shut down. A shut down would be detected by the on-site monitoring system.

The seven-foot high chain link perimeter fence complies with NEC fencing requirements⁶. Town emergency response personnel would have access to the facility site via a Knox padlock on the access gate.

⁶ Section 691.4(2) of the National Electrical Code (NEC), 2020 Edition notes that, "Access to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31..." Section 110.31 notes

The proposed facility would be in compliance with DEEP Noise Control Standards. Noise modeling indicates noise from operation of the noise generating equipment at the site would be approximately 35 dBA at the nearest residential property line (76 Chamberlain Highway). Construction noise is exempt from DEEP Noise Control Standards.

The site is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone.

Blasting is not required. If bedrock is encountered, the racking posts will be installed with a rock drill.

Environmental Effects and Mitigation Measures

Air and Water Quality

The Project would not produce air emissions as a result of operation.

The site is not within a DEEP-designated Aquifer Protection Area or within a public water supply watershed.

The facility would not use or discharge water during operation.

Groundwater in the area is classified as GA, suitable for drinking without treatment. Vibration from the installation of the racking system is not expected to cause sediment releases, and thus, no disruption to well water flow or quality is expected.

TRITEC performed a wetland survey in July 2023 that identified one wetland/watercourse system (red maple swamp) within the central and northern portions of the host parcel bordered by wet meadow wetland in some areas. No vernal pools were identified on the host parcel during the survey.

Initially, the construction limit of disturbance (LOD) and perimeter fencing was approximately 60 feet and 75 feet, respectively, from the wetland. Based on a Council interrogatory, TRITEC revised the site plan increasing the distance of the LOD and perimeter fencing to 90 feet and 95 feet, respectively, from the wetland. The facility site design would comply with DEEP Stormwater Permit Appendix I.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater discharges. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices.

The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires implementation of a Stormwater Pollution Control Plan (SWPCP) to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a proposed project after construction is complete. In its

that for over 1,000 Volts, "...a wall, screen, or fence shall be used...A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more...utilizing barbed wire or equivalent."

discretion, DEEP could require an Individual Permit for discharges and hold a public hearing prior to approving or denying any General or Individual Permit (Stormwater Permit) application.

Construction of the Project would require approximately 5.8 acres of ground disturbance and thus, a DEEP-issued Stormwater Permit is required prior to commencement of construction. The Stormwater Permit and associated SWPCP incorporates Project designs consistent with the applicable *Connecticut Guidelines for Soil Erosion and Sediment Control* and the *Connecticut Stormwater Quality Manual*.

TRITEC met with the DEEP Water Permitting & Enforcement Division on October 23, 2023 to discuss the Project. DEEP did not recommend changes to the stormwater analysis prepared by TRITEC. The analysis concluded no permanent stormwater detention basin is necessary as the proposed meadow vegetation within the array area is an infiltration improvement over the existing condition as an agricultural field and site grades direct water to an existing catchment area that functions as a natural infiltration area. TRITEC has not filed an application for a Stormwater Permit to date.

To meet the requirements of the Stormwater Permit, TRITEC would install silt fencing with compost filter socks enclosing the Project area to retain sediment that may result during construction work. After construction, the solar array area will be seeded with a meadow ground cover (Fuzz & Buzz mix). Areas outside of the array will be seeded with a pollinator buffer mix.

Forests and Parks

Limited tree clearing would occur along the perimeter of the Project site and for the construction of the access drive through a wooded strip between the existing field and Chamberlain Highway. No core forest would be affected by the Project.

There are no state parks or forests within 1.0 mile of the site.

Fish, Aquaculture and Wildlife

The site is not located within a DEEP Natural Diversity Database (NDDB) buffered area or adjacent to DEEP-designated cold water habitat area.

However, in response to a NDDB review request submitted by TRITEC DEEP indicated that there are two State Special Concern species documented near the proposed Project site: eastern box turtle and Jefferson salamander "complex".

DEEP recommended protective measures during construction for the eastern box turtle including, but not limited to, conducting initial ground disturbance work between November 1- March 31 or in the alternative, establishing appropriate work procedures to reduce the potential for turtle mortality. These work procedures include exclusionary fencing, contractor training, and sweeps of the work area. In addition, once operational, DEEP recommended the avoidance of vegetative mowing from May 15 to September 15, or in the alternative, precautionary measures during mowing. TRITEC would adhere to DEEP's recommended protective measures.

The northern long-eared bat (NLEB), a federally-listed and state-listed Endangered Species occurs in Connecticut. However, there are no known occurrences of NLEB in Berlin. By letter dated April 14, 2023 the U.S. Fish and Wildlife Service determined that the Project would not likely have an adverse effect on the NLEB, and no additional action is necessary.

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Disturbed areas within the solar array would be seeded with an Ernst Fuzz and Buzz seed mix. Areas outside the solar array would be seeded with an Ernst Northeast Solar Pollinator Buffer Mix beneficial to pollinators.

The seven-foot tall chain link perimeter fence could have a six-inch gap at the bottom to allow for small animal movement.

Agriculture

The host parcel contains approximately 1.1 acres of prime farmland soil and is currently used for agricultural activities, including, but not limited to, hay farming by a third party. TRITEC would maintain existing grades as much as possible.

Agricultural activities would continue on the host parcel in areas outside the site boundaries.

TRITEC may establish an agricultural co-use of the site which may include apiaries, grazing animals, or low-lying, shade-friendly crops.

Scenic, Historic and Recreational Values

After reviewing the Phase IA Cultural Resources Assessment Survey of the site, SHPO submitted correspondence to TRITEC on February 23, 2024, requesting a Phase 1B archeological survey in the western section corner of the site due to potential archaeological deposits within 300 feet of Chamberlain Highway. The Phase IB survey would be conducted prior to the commencement of construction activities.

Forest and shrub areas along the perimeter of the site would be maintained to the extent feasible. The facility would be seasonally visible from Chamberlain Highway. An existing row of evergreen trees screens most views of the facility from the abutting property to the south.

No landscaping is proposed. A vegetated buffer exists between Chamberlain Highway and the site.

To reduce the visual effect of the five new poles adjacent to Chamberlain Highway, TRITEC proposes to increase the distance between each pole from 10 feet to 30 to 40 feet, depending on Eversource's interconnection detail.

No state designated scenic roads are proximate to the site.

The Metacomet Trail, a "blue-blazed" hiking trail maintained by the Connecticut Forest and Park Association, is located approximately 0.2 mile east of the site⁷. The trail traverses a wooded ridge but no views of the facility are anticipated.

There are no parks in the vicinity of the site.

Operations and Maintenance

The inverters have an operational life of approximately ten years and would be replaced at least once during Project operation. The tracker motors have an operational life of 30 years.

⁷ https://cfpa.maps.arcgis.com/apps/webappviewer/index.html?id=f6ce4208e0e94fabb4cbf9d6409c6e11

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A post-construction Operations and Maintenance (O&M) Plan has been developed that includes provisions for periodic inspections of physical site features and structural and electrical components.

An evaluation of the facility and performance of preventative maintenance measures would be conducted in accordance with manufacturer's specifications. The evaluation would include the electrical system/components, physical infrastructure, and site vegetation. Replacement modules would not be stored on-site.

When necessary, modules would be cleaned using non-toxic substances.

Site vegetation would be maintained by mowing/trimming. Vegetation control would be conducted in accordance with DEEP-recommended protection measures for eastern box turtles. Herbicides would be used as necessary and in accordance with applicable regulations.

Permanent exterior lighting is not proposed.

Decommissioning

The Project has an operational life of up to 30 years. At the end of the Project's useful life, it would be decommissioned by removing all equipment, including the tracking system, panels, inverters, and electrical system.

It is anticipated that the steel racking system, electrical component and wiring and solar modules would be recycled as applicable. All recyclable materials would be transported to appropriate recycling facilities. Any non-recyclable materials will be properly disposed of in accordance with applicable permits and regulations.

The transformer and interconnection equipment pads, access drive and fencing would be removed. Disturbed areas would be backfilled with soil and seeded.

The selected solar panels for the Project meet current Toxicity Characteristic Leaching Procedure (TCLP) criteria for characterization as nonhazardous waste in the event the solar panels are not recycled at the end of the Project's life.

Conclusion

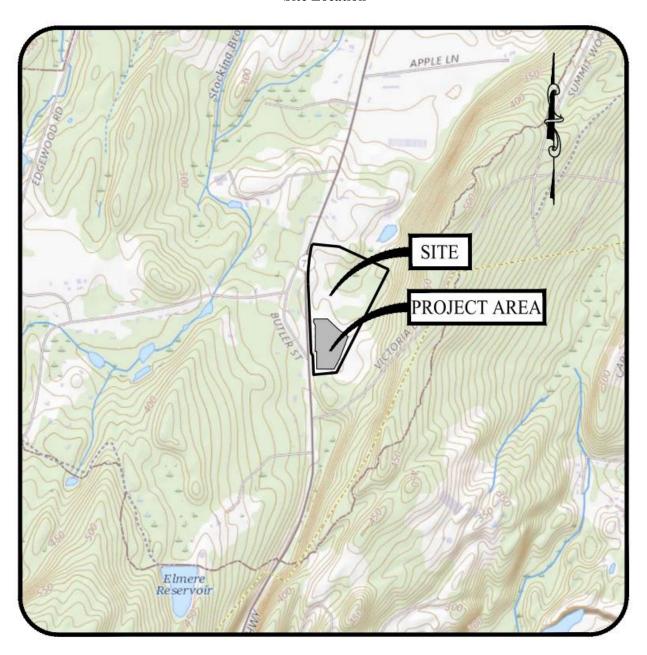
The Project is a grid-side distributed energy resource with a capacity of not more than sixty-five megawatts, meets DEEP air and water quality standards, and would not have a substantial adverse environmental effect. The proposed Project will not produce air emissions, will not utilize water to produce electricity, was designed to minimize environmental impacts, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources. Furthermore, the Project was selected under the State's NRES Program.

If approved, staff recommends inclusion of the following conditions:

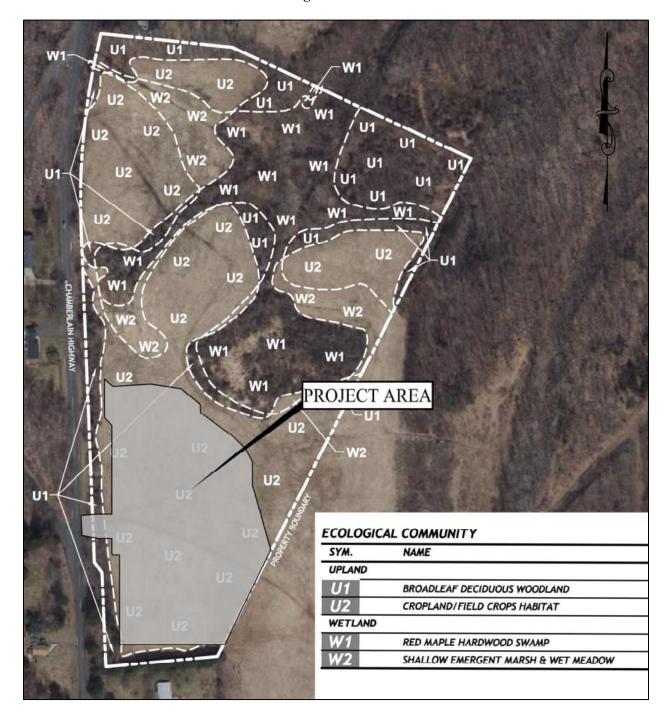
- 1. Approval of any project changes be delegated to Council staff;
- 2. Submit a copy of the DEEP Stormwater Permit prior to the commencement of construction;
- 3. Submit the final structural design for the racking system stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction;

- 4. Consult with Eversource to determine the feasibility of using pad-mounted equipment or other interconnection design to reduce the number of poles, including design costs, and submit the results to the Council prior to commencement of construction;
- 5. Submit a post-construction operational noise study and any required mitigation measures, if necessary;
- 6. Install perimeter fencing with a six-inch gap at the bottom to allow for small wildlife passage;
- 7. Comply with DEEP-recommended eastern box turtle protection/conservation measures;
- 8. Submit an agricultural co-use plan for the site, if applicable, with a document that shall indemnify and hold harmless the Council, its agents, representatives and employees from any and all losses, claims, actions, costs and expenses, judgments, subrogations, or other damages resulting from any injury to a person or to property arising out of the presence of third-parties within the fenced solar facility site;
- 9. Submit a construction Spill Prevention Control and Countermeasure Plan with contractor information and appropriate reporting forms;
- 10. Submit an Emergency Response Plan for the proposed facility with contact information prior to facility operation; and
- 11. Provide a copy of the Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training.

Site Location



Existing Conditions



Site Plan

