

DRAFT

Petition No. 1444 CP NB Solar I, LLC and CP NB Solar II, LLC 127 Forest Road, North Branford, Connecticut

**Staff Report
May 28, 2021**

Introduction

On March 8, 2021, the Connecticut Siting Council (Council) received a petition (Petition) from CP NB Solar I, LLC and CP NB Solar II, LLC (Petitioners) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of a 1-megawatt AC solar photovoltaic electric generating facility and a 0.97-megawatt AC solar photovoltaic electric generating facility located at 127 Forest Road in North Branford, Connecticut, and associated electrical interconnection (Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40 on or about March 5, 2021, the Petitioners notified the abutting property owners and Town of North Branford (Town) officials, state officials and agencies of the proposed project.

On March 12, 2021, the Council issued an incomplete letter to the Petitioners, identifying a deficiency in compliance with CGS §16-50k(a) in that proof of service that a copy of the petition for a declaratory ruling was served on the Department of Consumer Protection, the Department of Administrative Services and the Department of Labor was not included within the petition. On March 15, 2021, the Petitioners submitted correspondence to the Council certifying notice was served on the respective state agencies. On March 15, 2021, the Council submitted correspondence to the Petitioners stating that the Petition is complete.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act (UAPA), an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. May 7, 2021 was the deadline for action on this petition under CGS §4-176(e). In response to the Coronavirus pandemic, Governor Lamont issued Executive Order No. 7, as subsequently extended, that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies thus extending the deadline for action to August 5, 2021.

The Petitioners submitted supplemental Project information on March 19 and March 30, 2021. The Council issued interrogatories to the Petitioners on April 16, 2021. On April 29, 2021 the Petitioners submitted responses to the Council's interrogatories of which one included photographic documentation of site-specific features intended to serve as a "virtual" field review of the project.

Municipal Consultation

The Petitioners began discussions with Town officials beginning in March 2020. On February 17 and 18, 2021, Petitioners held virtual Project informational sessions for abutting property owners. Seven abutters, several town officials and a representative of the North Branford Land Trust attended the informational sessions and posed general project-related questions.

On March 4, 2021, Petitioners also participated in an informational meeting before the Town's Planning & Zoning Commission. No residents attended the Town's virtual informational meeting.

On March 8, 2021, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by April 7, 2021. The Town Manager submitted comments in support of the Project to the Council on February 26, and May 20, 2021.

State Agency Comments

On March 8, 2021, the Council sent correspondence requesting comments on the proposed project from the following state agencies by April 7, 2021: Department of Energy & 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 Consumer Protection (DCP); 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, CEQ submitted comments on March 25, 2021 regarding Project visibility, eastern box turtle protection measures, prime farmland soils, and groundwater. DOAg submitted comments on April 5, 2021 regarding the Project's location on prime farmland soil.

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.¹

Public Act 17-218

Effective July 1, 2017, Public Act 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 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 land as core forest." The proposed facility has a generating capacity of 1.97 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 2018 Comprehensive Energy Strategy (2018 CES) highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, Strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." Furthermore, on September 3, 2019, Governor Lamont issued Executive Order No. 3, which calls for the complete decarbonization of the electric sector by 2040. 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.

¹ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

The Petitioner was awarded a non-extendable 15-year contract with United Illuminating under the state's Low and Zero Emissions Renewable Energy Credit Programs (LREC/ZREC Program) to sell the renewable energy credits (RECs) from the facility. The LREC/ZREC Program was developed as part of Public Act 11-80, "An Act Concerning the Establishment of the [DEEP] and Planning for Connecticut's Energy Future." The LREC/ZREC Program is not among the competitive energy procurement programs that are exempt from Public Act 17-218.²

At the end of the 15-year LREC contract period, the Petitioner would seek other revenue mechanisms for the energy produced by the facility. The Petitioner has a 25-year lease with the landowner with two optional 5 year extensions.

The proposed project would be subject to virtual net metering (VNM) agreements with the Page Farm (99%) and the Town (1%), allocated from United Illuminating under the Agricultural VNM cap. The VNM credits allocated to the Page Farm would offset the majority of the farm's electricity costs.

Most of the power produced by the Project would be generated during peak times, when demand for electricity is high, thus providing peaking capacity to reduce localized power demand.

The Petitioner does not intend to participate in the ISO-New England, Inc. (ISO-NE) Forward Capacity Auction.

Proposed Site

Pursuant to a lease agreement with the property owner, the Petitioner proposes to construct the solar facility on an approximate 10-acre site³ located on a 19.86-acre parcel located west of Forest Road (CT Route 22) in North Branford. The host parcel is used for agricultural purposes and is located within a Residential 40 (R-40) zoning district. Most of the host parcel consists of open fields except for isolated areas of woodland/scrub along the property boundaries and two wetland areas in the western portion of the parcel.

The Project would be located within an open field in the central portion of the host property.

Surrounding land use consists of agricultural land to the south, a mix of undeveloped wooded land and residential development to the north and west, and a sand/gravel and materials storage operation to the east, across Forest Road.

The abutting parcel to the west (127 Forest Road Rear) was originally part of the host property but was subdivided out due to the potential presence of solid waste and subject to an enforcement action by DEEP. The lot line alteration was approved by DEEP and revenues from the Project would be used for the assessment, remediation, removal, or mitigation of solid waste, if any, on this parcel. The proposed Project would have no effect on these activities.

² Zero emission renewable energy credit (ZREC) contracts are limited to 1 MW, and LREC contracts are limited to 2 MW. (CGS §16-244r).

³ 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 nearest off-site residence is located at 148 Forest Road, approximately 130 feet west of the solar array perimeter fence.

The Petitioner selected the site due to limited environmental impact, topography and the 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 facility.⁴

Proposed Project

The proposed 1.97 MW AC solar facility consists of two side by side solar arrays, a 1.0 MW facility composed of 3,354 390 Watt solar panels and owned by CP NB Solar I, LLC, and a 0.970 MW facility composed of 3,302 390 Watt solar panels, and owned by CP NB Solar II, LLC.

The panels would be installed on a fixed-tilt ground-mounted racking system, oriented to the south at a 20 degree angle. Other facility equipment includes 20 inverters, two pad mounted switchgear units, two transformers, and two separate interconnection meters at the point of interconnection.

The modules would be installed with a minimum ground clearance of approximately 3 feet, extending to a height of 10 feet. The aisles between the panel rows would have 13 feet of clear space. The width of the panel rows would be approximately 13 feet.

The solar panels would be installed on a racking system supported by 10 to 14-foot long galvanized steel posts driven into the ground to a depth of approximately 10.5 feet, depending on specific soil conditions. A geotechnical investigation found subsurface conditions to include very deep, well drained soils formed in loamy over sandy and gravelly outwash. No ledge was encountered.

The majority of the wiring from the panels to the inverters would be installed on the racking frames within a conduit sleeve to keep all wiring and conductors away from the ground level to avoid any interaction with animals and mowing equipment.

Two equipment pads would be installed, one measuring 10 feet by 20 feet and the other 7.5 feet by 33 feet, would be installed in the southern portion of the array to support the switchgear and transformers. The AC power output from the inverters would feed into the step-up transformer to raise the voltage to match the existing electric distribution system.

The proposed electrical interconnection would require 5 new utility poles extending from the array area to an existing distribution pole located on Forest Road. The distribution line would be upgraded to three-phase to support the Project. UI is coordinating the review of the Project with ISO-NE. An ISO-NE interconnection study is not anticipated due to the small scale of the Project.

The projected capacity factor for the Project is approximately 19.7 percent. The power output would decline over time with an anticipated annual power output loss of approximately 0.5 percent.

The proposed Project is not designed to support a microgrid or a battery storage system.

The site would be accessed from a new 20-foot wide, 330-foot long gravel drive that would extend west from Forest Road to an access gate. From the gate, a 412-foot long gravel drive would be constructed along the south side of the solar field to provide access to the electrical equipment pads. The solar field

⁴ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

would be enclosed by a seven-foot tall chain link fence with a 4 to 6 inch gap between the mesh and the ground to allow for small wildlife movement.

The proposed site mostly consists of gentle grades that drain to the northwest. Earthwork at the site is limited to excavation and grading to develop a temporary sediment basin and the access road. The project would have a balanced cut and fills. A temporary soil stockpile, surrounded by a double row of silt fence, would be placed near the temporary sediment trap and would be used to fill in the trap once construction and soil stabilization is completed.

The solar field would be seeded with Ernst Solar Farm Seed Mix, which does not include pollinator species. The Petitioners have partnered with the Town to promote the Town's Sunflower Project by distributing seed packets to the general public and by allowing sunflowers to be planted outside the solar array area.

Construction would occur over a 3 to 4 month period. Typical construction hours and work days of the week are as follows: Monday – Saturday 7:00 AM to 6:00 PM and Sunday 9:00 AM to 6:00 PM. Construction of the proposed facility, including subsequent testing and inspections, would take 120 days.

A construction laydown area would be established within portion of the agricultural field north of the proposed access road and west of Forest Road.

Public Safety

The proposed project would comply with the National Electrical Code, National Electrical Safety Code and National Fire Protection Association codes and standards, as applicable. The Petitioner has designed the system in accordance with the CT State Fire Prevention Code, Section 11.12.3 - Ground Mounted Photovoltaic System Installations.

The nearest federally-obligated airport to the site is Tweed New Haven Airport in New Haven, located 6.1 miles southwest of the proposed facility. Under Federal Aviation Administration (FAA) criteria, the Project would not be a Hazard to Air Navigation or require a FAA glare analysis.

The Facility would be remotely monitored and would have the ability to remotely de-energize in the event of a fault or other power outage event and/or emergency. Manual disconnect switches are also located on-site. The Petitioner would ensure local emergency responders receive facility operation and safety training.

The proposed facility would be in compliance with DEEP Noise Control Standards. The nearest noise producing equipment is a transformer located 32 feet from the south property line. Project-related operational noise is not expected to exceed 31.9 dB at the nearest property line. 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.

The temporary stormwater basin is an excavation basin and a Dam Safety permit is not anticipated.

A Petroleum Materials Storage and Spill Prevention Plan has been submitted to DEEP as part of the Project's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities filing.

Environmental Effects and Mitigation Measures

Historic and Recreational Resources

One property listed on the National Register of Historic Places (George Baldwin House) is located within one mile of the Site but the project would have no effect on this property. Approximately two acres of the south and southeastern portion of the site were identified as having the potential for moderate to high archaeological sensitivity. Subsequent field evaluations of these areas found no evidence of archaeological significance. The Petitioners sent the results of the historic and archeological study to SHPO for comment on March 25, 2021. SHPO submitted correspondence to the Petitioner on May 27, 2021 indicating no historic or cultural resources will be affected by the Project.

The nearest publicly accessible recreational area is Swajchuk Park located approximately one quarter of a mile to the north. The project would have no effect the park. An open space parcel abuts the site in the northwest corner of the property but the property has no recreational improvements.

Visibility

There are no Town or state scenic roads in the vicinity of the proposed project. The Project would not be visible from Swajchuk Park.

The project would be visible year-round from Forest Road and abutting properties to the east. To screen views from these areas the Petitioners would install 3 to 6-foot junipers along the east fence line and install privacy slats on the fence. At full height the junipers are expected to reach 15 feet. Additionally, Petitioners would consult with the Town regarding the planting of sunflowers on the site as part of the Town's Sunflower Project. The sunflowers would provide some site screening as they can reach heights of 12-14 feet when in bloom.

Agriculture

The subject property contains prime farmland soils according to mapping maintained by the United States Department of Agriculture (USDA) Natural Resource Conservation Service. Under PA 17-218, "prime farmland" means land that meets the criteria for prime farmland as described in 7 Code of Federal Regulations (C.F.R.) 657, as amended from time to time. 7 C.F.R. 657 defines prime farmland in relevant part as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses."

Approximately 10.1 acres of Prime Farmland Soils are within the site. With exception of the proposed stormwater basins, the Petitioner intends on using existing grades to the extent feasible to install the solar facility. After the Projects' useful life, the Facility would be decommissioned and the disturbed areas would be top dressed with native soils and reseeded.

The Project site is currently enrolled in the Connecticut Public Act 63-490 Program for agricultural land tax abatement. Once constructed, the project area would no longer be eligible for this program.

An agricultural co-use plan is not proposed for the site.

Wetlands and Watercourses

The Petitioner performed a wetland and vernal pool survey at the host property on October 2, 2020. Two forested wetlands, totaling 1.6 acres, were identified in the western portion of the host property. Development of the proposed site would maintain a minimum setback of 100 feet from the wetlands. The closest wetland is 102 feet west of the site development area.

No vernal pools were identified on the host parcel.

Wildlife

According to DEEP mapping, the site is not located within a DEEP Natural Diversity Data Base buffered area indicating the potential presence of a State-listed species, and therefore, no NDDDB site review is required. The nearest mapped NDDDB area is 0.5 mile to the east.

The northern long-eared bat (NLEB), and the Indiana bat, are both state-listed Endangered Species and federally-listed Threatened Species, and are known to occur in Connecticut. However, the nearest known NLEB and Indiana bat habitat resource is located 1.4 miles and 0.5 mile from the site, respectively and no project-related impacts to these bat species are expected. Additionally, both bat species utilize wooded areas and trees as habitat, which are not located on the site as it consists of an open field.

Forest

No core forest would be affected by the proposed Project. No tree clearing is proposed to construct the project.

Air Quality

The project would not produce air or water emissions as a result of operation. The solar project would not produce air emissions of regulated air pollutants or greenhouse gases during operation.

The Petitioner estimates that there would be an 88 percent reduction in greenhouse gas emissions from Project operation over a 20-year period when compared to the operation of a natural gas fueled electric generating facility with equivalent megawatt-hour (MWh) production.

Water Quality

The host parcel is not within a DEEP-designated Aquifer Protection Area. Although the Petitioner does not know if private wells are in the area of the site, the area is not served by a municipal water system.

The racking posts are composed of galvanized steel and would be installed within the ground so that most of the posts are below the level of oxidation, thereby mitigating effects on groundwater quality.

The facility would not use or discharge water during site operations.

The Project transformer contains a vegetable-based oil and does not require spill containment beyond its location on a concrete pad.

According to the Regional Water Authority (RWA), the site is within the watershed of the Farm River, which is diverted to RWA's Lake Saltonstall public water supply reservoir. RWA conducted a site walk with the Petitioners on March 24, 2021.

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.

A construction sequence is included on the site plans that include the establishment of erosion control measures that comply with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, construction and installation of a temporary sediment trap followed by installation of site infrastructure.

The Petitioners met with the DEEP Stormwater Division on March 15, 2021 to review the Project. There were no suggested project modifications presented at the meeting.

The Petitioner submitted a Stormwater Permit application to DEEP on April 2, 2021 (Application No. 73275). The Stormwater Permit filing includes a Spill Prevention Control and Countermeasure Plan.

Operation and Maintenance

A post-construction Operations and Maintenance Program has been established 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 annually by on-site personnel. The evaluation would include a full system electrical inspection as well as an inspection of site vegetation to identify areas of poor growth or erosion.

Replacement modules would not be stored on-site. In the event a module is damaged, the remote monitoring system would send an automated alert. Personnel would be dispatched to the site within 72 hours to investigate the problem and replace the module, if warranted.

Module cleaning and accumulated snow removal would only be conducted on an as needed basis, determined by system output. No chemicals or additives would be used during cleaning operations.

Decommissioning

Upon the end of the Projects' useful life, the Project would be decommissioned and the site restored to its original condition. In accordance with the site lease, decommissioning must be complete within 180 days.

The manufacturer of the selected solar panels has conducted Toxicity Characteristic Leaching Procedure (TCLP) testing on the panels. The TCLP test indicates the panels would not be characterized as hazardous waste at the time of disposal, under current testing criteria.

Conclusion

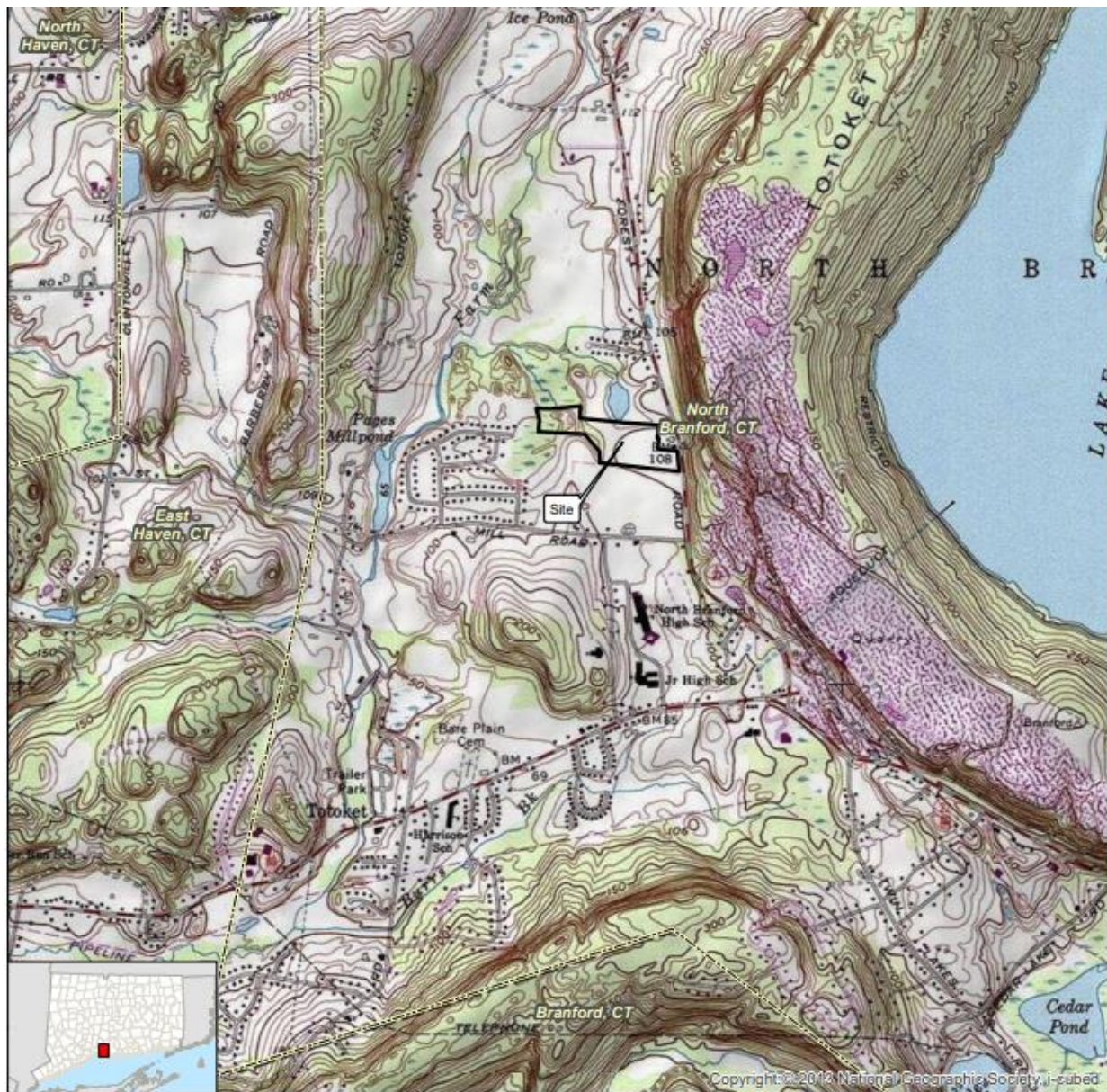
The project is a grid-side distributed resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. The proposed project will not produce air emissions, will not utilize water to produce 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 LREC/ZREC Program.

Recommendations

If approved, staff recommends the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. 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; and
3. Submit a copy of the DEEP Stormwater Permit prior to the commencement of construction.

Site Location



Legend
 Site
 Municipal Boundary

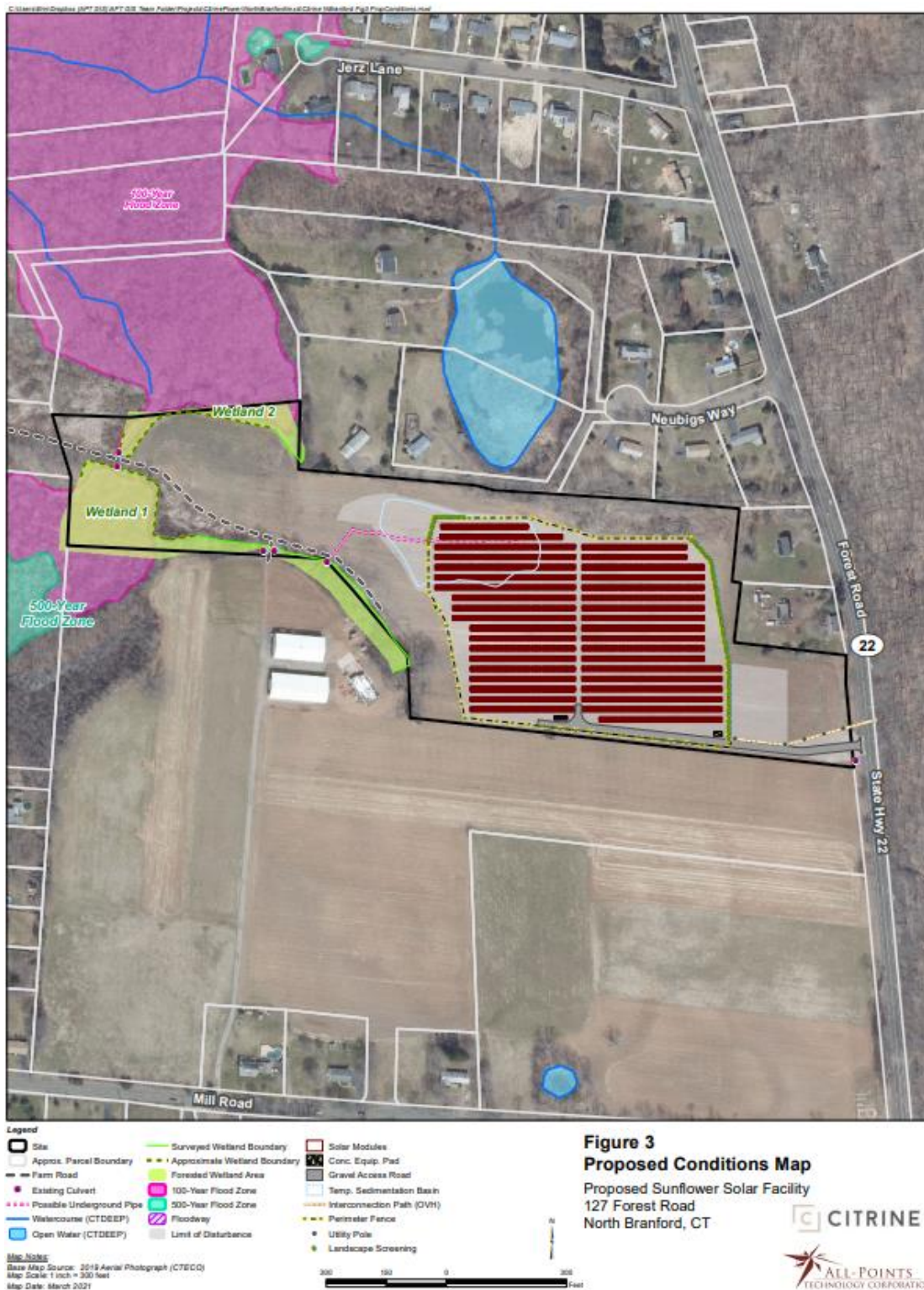
Map Notes
 Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map,
 Branford, CT (1984)
 Map Scale: 1 inch = 2,000 feet
 Map Date: February 2021



Figure 1
Site Location Map
 Proposed Sunflower Solar Facility
 127 Forest Road
 North Branford, CT



Aerial Image with Site Layout



Site Plan

