

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

IN RE: :  
 :  
TORRINGTON SOLAR ONE, LLC AND VCP, : PETITION NO. 1407  
LLC D/B/A VEROGY PETITION FOR A :  
DECLARATORY RULING THAT A :  
CERTIFICATE OF ENVIRONMENTAL :  
COMPATIBILITY AND PUBLIC NEED IS NOT :  
REQUIRED FOR THE CONSTRUCTION, :  
OPERATION AND MAINTENANCE OF A :  
1.975 MWAC SOLAR PHOTOVOLTAIC :  
PROJECT OFF EAST PEARL ROAD IN :  
TORRINGTON, CONNECTICUT : JULY 9, 2020

RESPONSES OF TORRINGTON SOLAR ONE, LLC  
AND VCP, LLC D/B/A VEROGY TO  
CONNECTICUT SITING COUNCIL INTERROGATORIES - SET ONE

On June 22, 2020, the Connecticut Siting Council (“Council”) issued Interrogatories, Set One to Torrington Solar One, LLC and VCP, LLC d/b/a Verogy (“Verogy” or “Petitioner”), relating to Petition No. 1407. Verogy offers the following responses.

**Project Development**

Question No. 1

If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?

Response

The following permits will be required for construction and operation of the Torrington Solar One facility.

- a. Connecticut Department of Energy and Environmental Protection, General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction

Activity.

- b. City of Torrington, Building Permit.
- c. City of Torrington, Electrical Permit.
- d. Connecticut Department of Transportation, State Highway Encroachment Permit.

With the exception of the State Encroachment Permit needed for the electrical interconnection, permits will be obtained and held by Torrington Solar One, LLC.

#### Question No. 2

Referencing page 4 of the Petition, Torrington Solar One, LLC and VCP, LLC d/b/a Verogy (Petitioner) states that, “Alternatively, in the event virtual net metering capacity becomes available, energy produced by the Project may be delivered to Eversource...” As an update, what is the status of the availability of virtual net metering capacity for this project? Explain.

#### Response

The Eversource Virtual Net Metering program is currently accepting applications for the State, Municipal, and Agricultural host funding program. Funding for the program is currently capped and projects are being placed on a waitlist in the event funding is increased or projects with funding allocated cease development or construction and forfeit their allocated funding.

#### Question No. 3

Referencing page 4 of the Petition, the Petitioner notes that, “Energy produced by the Project will be sold to Eversource at market rates specified in the applicable utility tariff...” Would the Petitioner also sell its renewable energy certificates (RECs) it expects to generate with the proposed project? If so, to which public utility? If the RECs are to be sold to more than one public utility, provide the percentage to be sold to each public utility.

Response

Torrington Solar One will sell renewable energy certificates (RECs) to Eversource Energy via a 15-year fixed price Low Emission Renewable Energy Certificate (LREC) Contract that was executed in August of 2019. Any RECs that are produced in excess of the maximum annual quantity defined in the LREC Contract may be sold on the spot market.

Question No. 4

Would the Petitioner participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?

Response

Yes. Torrington Solar One will participate in the ISO-NE Forward Capacity Auction #15 in 2021 for commitment period in 2024/2025.

**Proposed Site**

Question No. 5

Referencing page 26 of the Environmental Assessment (EA) of the Petition, the Petitioner notes that, “The Project Area has been in agricultural use for much of its recorded history.” Is any portion of the Project Area currently in use for agricultural purposes? If so, is it used by the property owner or leased to a third party?

Response

No portion of the Project Area is currently in use for agricultural purposes. In prior years the Project Area was leased to a third party (Ruwet Family) for agricultural use. The agreement that gave the Ruwet Family the right to use the Property has expired and was not renewed.

Question No. 6

Section 4.2 of the Decommissioning Plan behind Tab B references the photovoltaic

equipment will be “recycled as applicable.” Generally, how would the components be recycled?

Response

Recyclable components, including glass, copper wire, steel racking, aluminum and other specific components from inverters and switchgear equipment will be transported dismantled and removed from the Property and taken to a designated recycling facility.

**Energy Output**

Question No. 7

Have electrical loss assumptions been factored in to the output of the facility? What is the output (MW AC) at the point of interconnection?

Response

Yes, electrical loss assumptions have been factored into the output of the facility. The output of the facility is 1.975 MW AC at the point of interconnection.

Question No. 8

What is the projected capacity factor (expressed as a percentage) for the proposed project? For clarity, is this capacity factor based on a ratio of AC MWh to AC MWh, or a ratio of AC MWh to DC MWh?

Response

The Project’s net capacity factor is estimated to be 21.98% (Annual AC MWh Production/ (Nameplate Capacity MW AC \* (8760 [hours in a year])).

Question No. 9

What is the efficiency of the photovoltaic module technology of the proposed project?

Response

20.2% Maximum Efficiency – Trina 390W

19.5% Maximum Efficiency – Risen 380W

Question No. 10

Is the project being designed to accommodate a potential future battery storage system? If so, please indicate the anticipated size of the system, where it may be located on the site, and the impact it may have on the PPA (if applicable).

Response

Currently, Petitioner has no plans to incorporate a battery energy storage system (“BESS”). However, it is anticipated that in the event a BESS is incorporated at the site at a later date, it will be situated on the customer side of the existing DC/AC inverters and will not disrupt the existing interconnection approval with Eversource. There is no PPA for the Project at this time, and thus any impact on the PPA is inapplicable.

Question No. 11

Would the impact of soft or hard shading reduce the energy production of the proposed project? If so, was this included in the proposed projects capacity factor?

Response

Yes, soft or hard shading would impact energy production at the facility. Shading and the other appropriate factors have been included in the production modeling assumptions for the Project.

Question No. 12

Could the project be designed to serve as a microgrid?

### Response

Torrington Solar One was not contemplated to serve as a microgrid and would require extensive design changes to do so. Microgrid functionality would require the Project to have an energy storage component, or local connected load and dispatch capabilities which are not currently included in the Project's design.

### Question No. 13

If one section of the solar array experiences electrical problems causing the section to shut down, could other sections of the system still operate and transmit power to the grid?

### Response

Yes, for example if one of the DC/AC inverters was not producing energy, other DC/AC inverters that make up the system would continue to produce energy and deliver that energy to the grid.

### Question No. 14

Do solar facilities present a challenge for the independent system operator for balancing loads and generation (to maintain the system frequency) due to the changing (but not controlled) megawatt output of a solar facility? What technology or operational protocols could be employed to mitigate any challenges?

### Response

In general, intermittent resources create a challenge for the independent service operator ("ISO") as they work to match the supply and demand of the energy markets. This challenge is driven by the relative uncertainty of production due to the availability of the intermittent resource's fuel source. For solar photovoltaic generators in particular, weather forecasts are made to anticipate the solar insolation and relative irradiance at a given time. These forecasts

help the ISO anticipate supply but are not perfect. In circumstances of unanticipated production from intermittent resources (or lack thereof), the ISO (and the market incentives it has devised) encourage production from other generators in times of scarcity and discourage production in times of abundance. The ISO can curtail or dispatch resources in circumstances where the economic incentives are insufficient to balance energy supply and demand.

Additionally, in the energy markets size and scale matter. Projects under 5 MW AC that are interconnecting to the distribution network (as opposed to the transmission network) may register with the ISO as a “settlement-only generator” or choose not to register with ISO as a “load reducer”. Due to the minimal impact these generators have on the overall grid, they are not subject to the same ISO oversight (not centrally dispatched nor monitored in real time). The Project at issue here is beneath that 5 MW AC threshold and will most likely exist as a “settlement-only generator” (such a designation is necessary to participate in the capacity markets).

The technology that can most help the ISO as they navigate the increasing presence of intermittent resources on the grid is storage. The most prevalent form of storage at this time is lithium-ion BESS. By increasing the penetration of BESS’s and increasing the ISO’s connectivity to those systems, the grid supply demand could be better balanced and the necessity for curtailment (and potential waste) mitigated.

### **Site Components and Solar Equipment**

#### Question No. 15

How many panels will each rack hold?

#### Response

Each racking table will hold either 12, 16, or 20 modules and each complete row of

modules will be made up of these racking tables.

Question No. 16

Is the wiring from the panels to the inverters installed on the racking? If wiring is external, how would it be protected from potential damage from weather exposure, vegetation maintenance, or animals?

Response

The majority of the wiring will be run on the racking itself. Where wiring is not run on the racking, it would run in conduit. All PV wire is weather proof and rated up to 194°F.

Question No. 17

Referencing Sheet SP-1 of the Petition, the aisle width between the solar panel rows (measured from panel edge to panel edge) is 16 feet. What is the minimum aisle width at which the solar panel rows could be installed?

Response

There are a few factors that we consider when determining row spacing: Tilt of the modules and their shading effects along with storm water management recommendations. The racking manufacturers would allow, but would not recommend, installing a row immediately behind one another. Despite this ability, this design is problematic for multiple reasons. This configuration would: (1) shade most of the posterior row at all times which would limit our system generation significantly; and (2) violate stormwater management recommendations which state that our inter-row spacing should not be less than a single rows width. Thus, per stormwater requirements the minimum inter-row spacing at a 30° tilt is slightly less than 12'. Despite this stormwater minimum, such a configuration would shade the array and limit needed production.



## **Interconnection**

### Question No. 18

Is the project interconnection required to be reviewed by ISO-NE?

### Response

Petitioner initially filed interconnection applications with Eversource Energy, conducted Distribution System Impact Studies through Eversource, and earlier in February of 2020, signed an interconnection agreement with Eversource. As part of the interconnection agreement executed with Eversource, Petitioner provided notice to Eversource indicating that it intends to participate in the wholesale markets. Based on the size and scale of the project, as well as other generators on the applicable distribution circuit, Petitioner and Eversource do not anticipate any additional interconnection agreement or study need be signed or performed with ISO-NE.

### Question No. 19

Referencing page 5 of the Petition, the Petitioner notes that, “Eversource will be responsible for all necessary permits/approvals (if any) for this interconnection construction.” Would demarcation point of the Petitioner’s/Eversource’s control (or responsibility for permitting) be at the proposed equipment pads or where the proposed overhead connection route reaches existing distribution on Tarringford Street? Referencing page 5 of the Petition, how tall would the four new distribution poles be?

### Response

The demarcation point, indicating the change of ownership from Eversource to Petitioner, will be the area where the distribution interconnection occurs on Tarringford Street. The new distribution poles would be 45’ tall.

Question No. 20

Referencing page 5 of the Petition, is the existing 23-kV distribution that the project would connect to three-phase or would it have to be upgraded from single-phase to three-phase?

Response

The existing 23-kV distribution that the project would connect to is an existing three-phase circuit.

Question No. 21

Could the interconnection exit the site to East Pearl Road and avoid the impacts to Wetland #1? Please include a cost and environmental impact comparison of such alternative.

Response

Verogy could relocate the point of interconnection to East Pearl Street but prefers the proposed Tarringford Street interconnection. As the Council is aware, Verogy has been working hard to limit the visual impact of the Project on our three closest neighbors to the north of East Pearl Road. Verogy has committed to several significant Project design modifications, described in Section V of the Petition to limit the impact on these neighbors. Moving the interconnection equipment and other interconnection improvements to East Pearl Road would certainly allow Verogy to avoid impacts to Wetland No. 1 but would increase the visual impact of the Project on these neighbors. The temporary and limited-permanent wetland impacts associated with the installation of four utility poles in Wetland No.1 needed for the Tarringford Street interconnection are described and have been evaluated Section 3.3.2 of the Environmental Assessment (Petition - Exhibit G). APT has determined that these impacts, along with other Project impacts overall will not result in an adverse impact to wetland resources.

Additionally, interconnecting at the East Pearl Road location would result in greater cost and complexity for purposes of interconnection. As described in the Petition, an impact study has been completed by Eversource for the Tarringford Street interconnection. A new Eversource approval and impact study would be necessary if the interconnection point were relocated. Moving the point of interconnection to East Pearl Road would also result in an additional cost of \$95,000 to \$110,000 for reconductoring the circuit infrastructure, and then an additional \$55,000 for another radial recloser. These additional costs represent a 76% increase in the Project's interconnection costs.

### **Public Safety**

#### Question No. 22

Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards?

#### Response

Yes.

#### Question No. 23

Referencing page 30 of the EA, the Petitioner notes that, "Conservatively, the Facility would be considered an Industrial noise emitter to Residential receptors. As such, it is subject to noise standards of 55 dB during the daytime and 45 dBA at night at property lines." Referencing page 31 of the EA, the Petitioner notes that, "...noise levels during Facility operation will be below 55 dBA at surrounding property lines." Please respond to the following:

- a) Would it be correct to say that the DEEP Noise Control limits for an Industrial (Class C) Emitter (Class C) to Residential (Class A) Receptor are 61 dBA during the daytime and 51 dBA at night?

- b) Would it be correct to say that the solar facility would not operate at night, and thus it would only be subject to the daytime noise limits?

Response

- a) Yes, the DEEP Noise Control limits for an Industrial (Class C) Emitter to Residential (Class A) Receptor are 61 dBA during the daytime and 51 dBA at night.
- b) Yes. The solar facility would not operate at night. However, it is possible that the solar facility's transformers and inverters could operate sporadically (at significantly reduced levels) and generate some limited amount of noise at night. Due to the location of this equipment, the significantly reduced noise levels that may occur at night would be below 51 dBA standard at surrounding property lines.

Question No. 24

Where is the nearest federally-obligated airport?

Response

Bradley International Airport, Windsor Locks, Connecticut.

Question No. 25

Referencing Appendix F of the Petition, Federal Aviation Administration (FAA) Determinations, for Crane Points 1 through 6, page 3 of the FAA determinations note that, "As a condition to this Determination this structure is to be marked/lighted in accordance with FAA Advisory circular..." Would such temporary structures (i.e. cranes) be marked/lit in accordance with FAA requirements?

Response

To the extent that temporary structures including cranes are used during construction, yes, they will be marked and lit in accordance with FAA requirements. The Petitioner does not foresee the use a crane for construction purposes.

Question No. 26

Referencing page 11 of the Petition, with regard to emergency response:

- a. How would site access be ensured for emergency responders?
- b. In the event of a brush or electrical fire, how would the Petitioner mitigate potential electric hazards that could be encountered by emergency response personnel?
- c. Could the entire facility be shut down and de-energized in the event of a fire? If so, how?

Response

- a. All City emergency response personnel will be provided access via a Knox Pad Lock.
- b. Torrington Solar One will have the ability to be de-energized remotely in the event of a brush or electrical fire.
- c. Yes, the facility can be de-energized remotely in the event of a fire.

Question No. 27

Due to the proximity to the ballfield, would any project components be susceptible to damage from sporting equipment, such as a baseball?

Response

Design considerations were made to ensure the components of the solar facility would be

a safe distance away from the ballfield. The Petitioner does not anticipate the facility to be susceptible to damage from sporting equipment.

Question No. 28

Along the recreational fields, could sporting equipment, such as a baseball, roll under the 6-inch gap at the bottom of the fence? Was consideration given to not including a 6-inch gap in this area?

Response

It certainly is possible that sporting equipment, such as a baseball, could roll under the 6-inch gap at the bottom of the fence. As discussed in the Petition, the 6-inch gap is included as part of the Project design to allow for wildlife movement through the Project Area. The Petitioner has consulted with the Project's wetland scientists and biologists at All-Points Technology Corp. ("APT") to discuss the possibility of eliminating the 6-inch gap along the west side of the Project Area. APT has determined that the elimination of the 6-inch gap along the recreation fields would not significantly impede wildlife movement through the Project Area.

**Environmental**

Question No. 29

Referencing page 9 of the Petition, please provide the fuel storage details and the Spill Prevention, Control and Countermeasures Plan.

Response

No liquid fuels are used in the operation of the Facility and none will be stored on site after construction is complete.

Petroleum product spill prevention, control and countermeasures are addressed in the Wetland and Vernal Pool Protection Plan and contained in the Environmental Notes, Section 4,

Sheet DN-2 of the Project Plans. *See* Petition, Exhibit G, Appendix A (Project Plans) and Appendix B, Wetland and Vernal Pool Protection Plan.

Question No. 30

Are there any wells on the site or in the vicinity of the site? If so, how would the Petitioner protect the wells and/or water quality from construction impacts?

Response

There are wells associated with the St. Peter's Cemetery on the project parcel. It is the petitioner's understanding that property owners to the north have wells also. There are no anticipated ground water impacts from the construction activity planned for the project. Vibrations from installation of the racking system are not expected to cause sediment releases, and no disruption to well water flow or quality is anticipated. As a result, no special precautions are warranted.

Question No. 31

What effect would runoff from the drip edge of each row of solar panels have on the site drainage patterns? Would channelization below the drip edge be expected? If not, why not?

Response

The rows of solar panels are not considered "closed systems," because there are gaps between each module (both north/south and east/west). As such, the drip edge of each solar panel will not have an impact on the Site's drainage patterns, as stormwater will flow off the panels at multiple locations as the panels follow the contours of the existing land. For the same reason, after construction is complete and the Site is fully stabilized, channelization along the drip edge is not expected.

Question No. 32

Would the proposed project be consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices? Please describe how the Habitat Enhancement Area is directly related to the vernal pool habitat.

Response

The methodology used to assess potential impacts from the proposed Facility to on-Site vernal pool habitats is consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices (BMPs). Per these BMPs, the landscape condition of the vernal pool was evaluated to determine the existing and proposed quality of the terrestrial (non-breeding) habitat. Pools with 25% or less developed areas in the critical terrestrial habitat (CTH) are identified as having high priority for maintaining this development percentage (including site clearing, grading and construction). The vernal pool assessed on the Site currently maintains less than 25% development. This vernal pool will remain consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool BMPs post-development.

The proposed Habitat Enhancement Area will be located within the CTH of the on-Site vernal pool. The 4 to 7-year mowing restriction will allow the area to revert to late old field habitat and create a soft ecotone that can provide cover and more optimal habitat for obligate vernal pool breeding species. In addition, this improved cover/habitat will provide a more suitable migratory pathway to the forest block located east of the Facility for these seasonally transient, vernal pool dependent wildlife.

Question No. 33

What is the length of the posts and to what depth would the posts be driven into the ground to provide structural stability? Are any impacts to groundwater quality anticipated? If



so, how would the Petitioner manage and/or mitigate these impacts?

Response

Verogy anticipates that posts 14' in length would be utilized, and that they would be driven into the ground to a depth of 8' to 10'. No impacts to groundwater quality are anticipated from either the installation or the ongoing presence of the posts and the Project as a whole. Thus, no management or mitigation actions are warranted.

Question No. 34

Referencing page 31 of the EA, the Petitioner notes that, “[V]egetative screening consisting of arborvitae will be installed...” How tall (initially) would the arborvitae plantings be?

Response

The arborvitae plantings will be approximately 10 feet tall at the time of planting, as depicted in Photo-simulation #1. (Exhibit G, Appendix G).

Question No. 35

Describe the visibility of the proposed project from the Tarringford Street Historic District.

Response

The Project is within the Tarringford Street Historic District and would be visible from select points within the District. As shown in Appendix G of the Environmental Assessment (Exhibit G) submitted with the Petition, year-round visibility will be experienced from residential properties and fields north of East Pearl Road within the District. Limited seasonal views could extend approximately 0.25 mile to the south and west and between 0.25 and 0.50 mile to the north; a portion of those locations are within the District.

To minimize the visual impact from views to the north and northwest, the Petitioner will install an 8-foot tall chain link fence with black vinyl covering and black privacy slats along the north and northwest fence lines, and plant 10' tall arborvitae along the north fence line and the west side of the access drive between East Pearl Road and the fence. Based on consultation with the State Historic Preservation Office (SHPO), the Petitioner will also install several rows of evergreen plantings at the western edge of the Project along Tarringford Street. The SHPO has issued a determination, dated June 29, 2020, that “the proposed undertaking will have no adverse effect to historic resources.” The SHPO’s June 29, 2020 letter is included in Attachment 1 to these responses.

Question No. 36

Describe the visibility of the proposed project from nearby residences immediately south of Gaylord Lane.

Response

As shown in the Environmental Assessment (Exhibit G) submitted with the Petition, limited seasonal views, when the leaves are off the deciduous trees, could extend to some of the houses south of Gaylord Lane, at distances greater than 1000’.

Question No. 37

Referencing page 28 of the EA, the Petitioner notes that copies of the Phase 1A and 1B Cultural Resources Assessment and Reconnaissance Survey were submitted to the State Historic Preservation Office (SHPO) for review and comment on April 30, 2020. Has the Petitioner received a response from SHPO? If yes, please provide a copy of such response.

## Response

Following an initial review of the Phase 1A and 1B reports, SHPO concurred “with the findings of the [Phase 1B] report that additional archeological investigations of the project areas are not warranted.” SHPO further determined that the proposed undertaking had “the potential to have an adverse effect upon the historic integrity of cultural resources” within the Tarringford Street Historic District and recommended exploration of alternatives to avoid permanently altering the agricultural setting and considering designs to minimize visibility. In response, the Petitioner designed a vegetative screen consisting of several rows of evergreen plantings at the western edge of the project along Tarringford Street.

A supplemental Phase 1B investigation also was undertaken, to address the area in which the interconnect line would be installed. A supplemental report was submitted to SHPO, and SHPO concurred that no additional archeological investigations are required.

The SHPO has issued a determination, dated June 29, 2020, that “the proposed undertaking will have no adverse effect to historic resources.” See Attachment 1.

## **Facility Construction**

### Question No. 38

Has the Petitioner submitted an application for a stormwater permit from DEEP? If no, when does the Petitioner plan to submit such application to DEEP?

### Response

Yes, Torrington Solar One has applied for its stormwater general permit with DEEP on June 9, 2020.

### Question No. 39

Has the Petitioner met with the DEEP Stormwater Division? If yes, when? Please

describe any recommendations, comments or concerns about the project provided by the Stormwater Division.

Response

Yes, in January of 2020 the Petitioner and their engineer (APT) met with representatives of the DEEP Stormwater division. Recommendations received were to follow the January draft guidelines for Appendix I, and no concerns were raised.

Question No. 40

With regard to earthwork required to develop the site, provide the following:

- a) Will the site be graded? If so, in what areas?
- b) What is the desired slope within the solar array areas?
- c) Could the solar field areas be installed with minimal alteration to existing slopes?
- d) If minimal alteration of slopes is proposed, can existing vegetation be maintained to provide ground cover during construction?
- e) Estimate the amounts of cut and fill in cubic yards for the access road(s).
- f) Estimate the amounts of cut and fill in cubic yards for solar field grading.
- g) If there is excess cut, will this material be removed from the site property or deposited on the site property?

Response

- a) Grading will be required at the project entrance from East Pearl Road and for installation of the three proposed water quality basins along the southern and eastern edges of the fenced area. Some minor grading may be required for installation of the concrete equipment pads and the gravel access drive. In addition, “shaping” of portions of the area previously in agricultural use may take

place.

- b) In general, the desired slope within solar arrays is 30% or less. Most of the project area contains slopes less than 5%, the exception being a small area in the northeast corner that has slopes approaching 10%.
- c) Existing slopes within the project footprint are suitable for the array and will not require alteration.
- d) Existing ground cover within the project area will be preserved to the extent possible to provide stability to the site.
- e) Approximately 245 cubic yards of material will be removed for development of the access drive entrance.
- f) No cut or fill is anticipated within the area of the solar array. Approximately 660 cubic yards of material will be excavated for creation of the three water quality basins around the site perimeter.
- g) Any material that cannot be reused on site will be removed and disposed of in accordance with applicable regulations.

Question No. 41

Would topsoil be stripped from the site prior to grading? If so, would the topsoil be spread over the disturbed areas once grading is complete? If not, how would growth of new vegetation/grasses be promoted within the graded areas if nutrient rich soils are not present?

Response

Yes, existing topsoil will be stripped from earthwork areas prior to excavation and grading and will be reused on site as top dressing for reestablishing vegetation.

Question No. 42

Referencing page 4 of the Petition, the Petitioner notes that the racking system would be attached to either pile-driven or ground screw foundations. What conditions would determine which method would be employed? How would the posts be driven/spun into the ground? In the event that ledge is encountered, what method(s) would be utilized for installation?

Response

In general, racking manufacturers utilize the geotechnical survey results and pull-out tests to assess what type of racking system, including foundation type (driven beams/drilled piers or ground screws), should be designed to ensure that the racking structure is soundly supported. Driven beams and/or drilled piers are installed using a pile driver. If refusals are encountered due to dense subsurface conditions, a ground screw option can be utilized in compact conditions. If ledge is encountered, drilling of holes backfilled with grout are utilized. *See* also Response to Question No. 44.

Question No. 43

What is the minimum road width required for post-construction use?

Response

The minimum road width for post-construction use is 12'.

Question No. 44

Has a comprehensive geotechnical study been completed for the site to determine if site conditions support the overall project design? If so, summarize the results. If not, has the Petitioner anticipated and designed the project with assumed subsurface conditions? What are these assumed conditions?

## Response

A geotechnical investigation, including borings, analysis and laboratory testing has been performed. Subsurface conditions were found to include Fill and Glacial Till. The report finds:

The proposed ground mount solar panels may be supported on driven steel pile foundations. The piles will need to be designed to resist compression, tension, and lateral loads. The pile design capacities will need to be determined based on the results of pile load testing completed at the Site. Obstructions (e.g., boulders) may require predrilling of pilot holes to accommodate pile driving, which may impact the capacity of the piles. If piles cannot penetrate the soils sufficiently, drilling of oversized holes backfilled with grout may be required. Ground screws (e.g., Krinner) may also be used to support the racking systems, but similarly we recommend predrilling a pilot hole to accommodate ground screw installation.

The results of the geotechnical study will be utilized by the selected racking manufacturer in their final design of the racking system. *See* also Response to Question No. 42.

## Question No. 45

Please submit photographic site documentation with notations linked to the site plans or a detailed aerial image that identify locations of site-specific and representative site features. The submission should include photographs of the site from public road(s) or publicly accessible area(s) as well as Site-specific locations depicting site features including, but not necessarily limited to, the following locations as applicable:

For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site features include, but are not limited to, as applicable:

1. wetlands, watercourses and vernal pools;
2. forest/forest edge areas;
3. agricultural soil areas;
4. sloping terrain;

5. proposed stormwater control features;
6. nearest residences;
7. Site access and interior access road(s);
8. utility pads/electrical interconnection(s);
9. clearing limits/property lines;
10. mitigation areas; and
11. any other noteworthy features relative to the Project.

A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site-specific and representative site features show (e.g., physical staking/flagging or other means of marking the subject area).

The submission shall be delivered electronically in a legible portable document format (PDF) with a maximum file size of <20MB. If necessary, multiple files may be submitted and clearly marked in terms of sequence.

### Response

The Remote Field Review exhibit is included as Attachment 2.

### **Maintenance Questions**

#### Question No. 46

Would the Petitioner store any replacement modules on-site in the event solar panels are damaged or are not functioning properly? If so, where? How would damaged panels be detected?



Response

No, replacement modules would not be stored on-site. Damaged panels would be detected and marked for replacement one of two ways, either remotely through alarms in the monitoring system or during routine site inspections by operations and maintenance technicians.

## ATTACHMENT 1



Department of Economic and  
Community Development

State Historic Preservation Office

June 29, 2020

Mr. David R. George  
Heritage Consultants  
PO Box 310249  
Newington, CT 06131

Subject: Cultural Resource Reconnaissance Survey Addendum  
Torrington Solar One  
Torrington Street  
Torrington, Connecticut  
ENV-20-0696

Dear Mr. George:

The State Historic Preservation Office (SHPO) has reviewed the additional information submitted in regards to the above project. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). The proposed undertaking includes the construction of a solar facility, which is to occupy an approximately 13.5 acre limit of work (LOW) within a larger 66.4 acre parcel, consisting primarily of agricultural fields. In a letter dated June 11, 2020, this office was notified that a Phase IB Cultural Resources Reconnaissance Survey of the proposed interconnect, a 720 foot long corridor along the eastern portion of Torrington Street, was conducted.

Phase IB consisted of subsurface testing of areas that would be subject to ground disturbing impacts as part of the proposed undertaking. A total of 15 of 15 planned shovel tests were excavated successfully throughout the proposed work area. One artifact, a porcelain sherd of indeterminable date and origin, was recovered from the disturbed plow zone. No other cultural material from either prehistoric or historic periods, evidence of cultural features, or soil anomalies were identified.

As a result of the additional information submitted, SHPO concurs with the findings of the report that additional archeological investigations of the project areas are not warranted.

State Historic Preservation Office

450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | DECD.org

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As mentioned in a letter from this office dated June 1, 2020, the solar facility is proposed to be installed within the boundaries of the Torrington Street Historic District (NR# 91000991), characterized as having, “a strong sense of time and place because most of its historic resources, both built and natural, remain intact” including “A number of fields remain[ing] in their traditional agricultural use...” with “steep grades, marshes, cultivated fields, and forests surviv[ing] along almost the entire length of the street.” This office recommended that “all feasible alternatives be explored to avoid permanently altering the agricultural setting, as well as considering designs that minimize the facility visually by taking advantage of existing topography, screening, layout, etc.” Since that time, revised plans have been submitted, which state that the site will not be graded, and that vegetative screening will be installed on the western portion of the solar field, facing Torrington Street.

Therefore, contingent on the above measures being undertaken, the proposed undertaking will have no adverse effect to historic resources. Should the scope of work change, this office should be contacted for additional consultation.

This office appreciates the opportunity to review and comment upon this project. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or [marena.wisniewski@ct.gov](mailto:marena.wisniewski@ct.gov).

Sincerely,

A handwritten signature in black ink that reads "Mary B. Dunne". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Mary B. Dunne  
State Historic Preservation Officer

State Historic Preservation Office

450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | [DECD.org](http://DECD.org)

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# REMOTE FIELD REVIEW



**CONNECTICUT SITING COUNCIL PETITION NO. 1407**  
**"TORRINGTON SOLAR ONE, LLC"**  
**EAST PEARL ROAD**  
**TORRINGTON, CT**

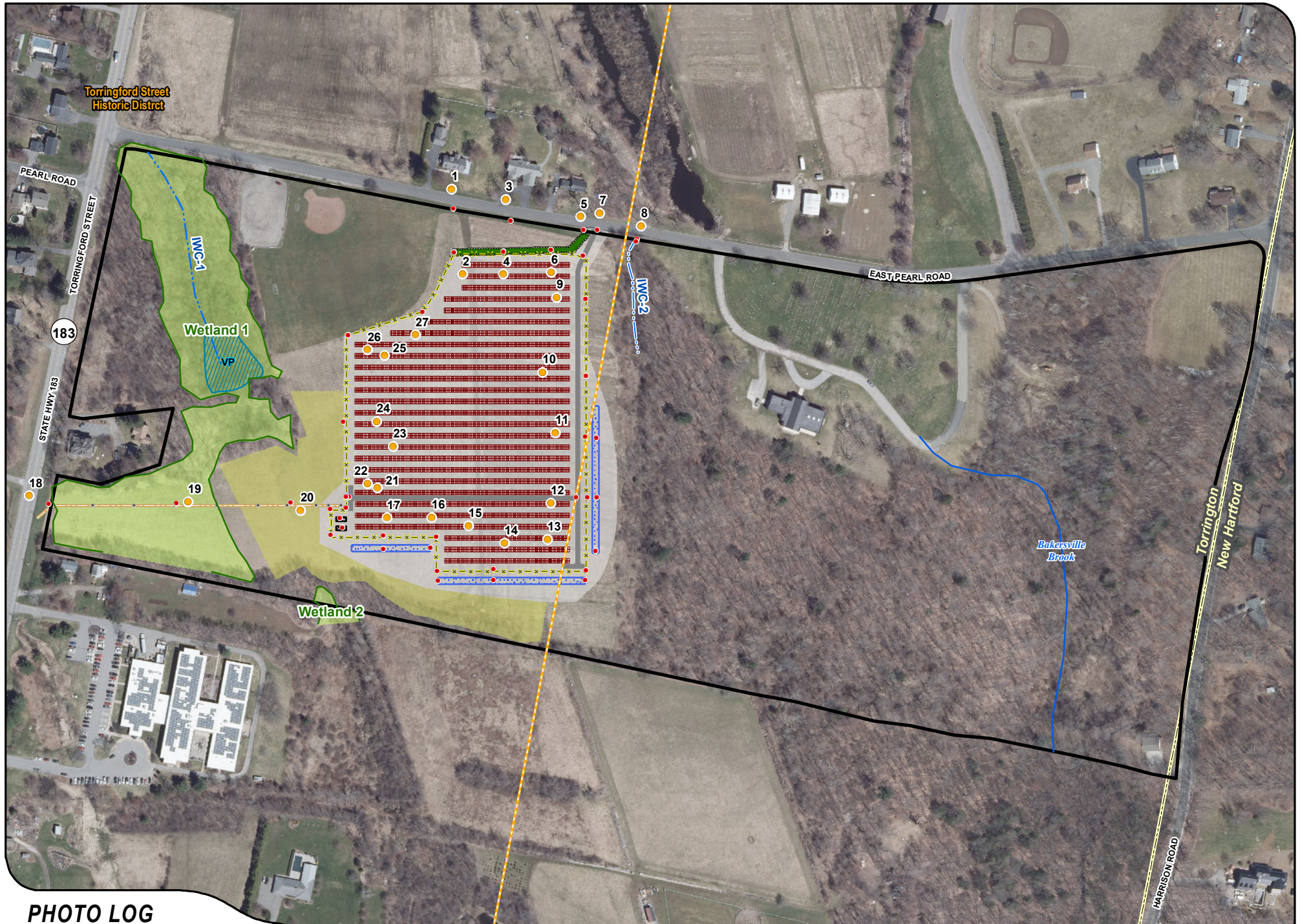
PREPARED FOR:



PREPARED BY:

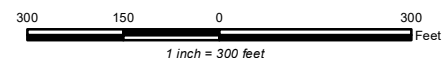
**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**  
567 Vauxhall Street Extension – Suite 311  
Waterford, CT 06385

Photographed July 2, 2020



# PHOTO LOG

- Photo Locations
- Photo Markers
- Site
- Limit of Disturbance
- Solar Modules
- Concrete Equipment Pad
- Gravel Access Road
- Stormwater Basin
- Interconnection Utility Pole
- Interconnection Path
- Perimeter Fence
- Landscape Screening (Arborvitae)
- Habitat Enhancement Area
- Historic District
- Delineated Wetland Boundary
- Delineated Wetland Area
- Vernal Pool
- Municipal Boundary
- Delineated Intermittent Watercourse
- Approx. Intermittent Watercourse
- Watercourse (CTDEEP)



Torrington Solar One, LLC



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

1

DESCRIPTION

**EAST PEARL ROAD LOOKING SOUTH**



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

2

DESCRIPTION

**LOOKING NORTH TOWARDS 111 EAST PEARL ROAD**



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

3

DESCRIPTION

**EAST PEARL ROAD LOOKING SOUTH**





PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

4

DESCRIPTION

**LOOKING NORTH TOWARDS 133 EAST PEARL ROAD**



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

5

DESCRIPTION

**EAST PEARL ROAD LOOKING SOUTH**



**PROPOSED FENCELINE**

**EXISTING**

PHOTO

6

DESCRIPTION

**LOOKING NORTH TOWARDS 153 EAST PEARL ROAD**

PHOTOGRAPHED ON 7/2/2020



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

7

DESCRIPTION

**EAST PEARL ROAD LOOKING SOUTH**



**DETAIL PHOTO OF INTERMITTENT WATER COURSE**

PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

8

DESCRIPTION

**EAST PEARL ROAD LOOKING SOUTH**



**PROPOSED FENCELINE**

**EXISTING**

PHOTO

9

DESCRIPTION

**LOOKING EAST**

PHOTOGRAPHED ON 7/2/2020



**NORTH**



**EAST**



**SOUTH**



**WEST**

PHOTOGRAPHED ON 7/2/20

PHOTO

**10**

DESCRIPTION

**FOUR CARDINAL POINTS**



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

11

DESCRIPTION

**LOOKING EAST**





PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

12

DESCRIPTION

**PROPOSED ACCESS ROAD LOOKING EAST**



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

13

DESCRIPTION

LOOKING SOUTHEAST



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

14

DESCRIPTION

**LOOKING SOUTH**



PHOTOGRAPHED ON 7/2/2020

**EXISTING**

PHOTO

15

DESCRIPTION

**LOOKING SOUTHWEST**



PHOTOGRAPHED ON 7/2/20

PHOTO

16

DESCRIPTION

FOUR CARDINAL POINTS



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

17

DESCRIPTION

**LOOKING SOUTH**



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

18

DESCRIPTION

**TORRINGFORD STREET LOOKING EAST**



**Torrington Solar One, LLC**



**PROPOSED UTILITY POLE**

**EXISTING**

PHOTO

**19**

DESCRIPTION

**LOOKING EAST**

PHOTOGRAPHED ON 7/2/2020





PHOTOGRAPHED ON 7/20/20

**EXISTING**

PHOTO

20

DESCRIPTION

LOOKING EAST



PHOTOGRAPHED ON 7/2/2020

PHOTO

21

DESCRIPTION

**FOUR CARDINAL POINTS**



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

22

DESCRIPTION

**LOOKING WEST**



PHOTOGRAPHED ON 7/2/20

PHOTO

23

DESCRIPTION

FOUR CARDINAL POINTS



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

24

DESCRIPTION

**LOOKING WEST**



PHOTOGRAPHED ON 7/2/20

PHOTO

25

DESCRIPTION

FOUR CARDINAL POINTS



**PROPOSED FENCE CORNER**

**EXISTING**

PHOTO

26

DESCRIPTION

**LOOKING NORTHWEST**

PHOTOGRAPHED ON 7/2/20



PHOTOGRAPHED ON 7/2/20

**EXISTING**

PHOTO

27

DESCRIPTION

**LOOKING NORTH**