

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

**Petition of Southington Solar One, LLC for Declaratory Ruling, Pursuant to Conn. Gen. Stat. §§4-176 and 16-50k, for the Proposed Construction, Maintenance and Operation of a 4.725-megawatt AC solar photovoltaic electric generating facility located at 1012 East Street, Southington, Connecticut, and associated electrical interconnection.**

**Petition No. 1424**

**September 22, 2020**

**SOUTHINGTON SOLAR ONE, LLC'S RESPONSES TO THE CONNECTICUT  
SITING COUNCIL'S FIRST AND SECOND SETS OF INTERROGATORIES**

The petitioner, Southington Solar One, LLC (“Southington Solar One” or “the Petitioner”), respectfully submits this response to the Connecticut Siting Council’s September 1, 2020 First Set of Interrogatories and the Connecticut Siting Council’s September 3, 2020 Second Set of Interrogatories in the above-referenced Petition. In response to the Siting Council’s Interrogatories, Southington Solar One states as follows:

**Project Development**

- 1. If the project is approved, identify all permits necessary for construction and operation, and indicate which entity will hold the permit(s).**

The following permits are anticipated to be required for construction and operation of the Southington Solar One facility. The Petitioner will obtain and hold the permits:

- a. Connecticut Department of Energy and Environmental Protection, General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity.
- b. Town of Southington, Building Permit.
- c. Town of Southington, Electrical Permit.

- 2. Referencing page 5 of the Petition, Southington Solar One, LLC 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? Would the project be viable based on the market-based tariff if virtual net metering is not available?**

Southington Solar One, LLC objects to this Interrogatory to the extent that it is beyond the scope for a Petition for Declaratory Ruling pursuant to Connecticut General Statutes §4-176 and §16-50k. Subject to the foregoing objection, Southington Solar One, LLC states that 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. However, it should be noted that the project is still viable based on the market-based tariff if virtual net metering is not available.

3. **Referencing page 5 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.**

Southington Solar One, LLC objects to this Interrogatory to the extent that it is beyond the scope for a Petition for Declaratory Ruling pursuant to Connecticut General Statutes §4-176 and §16-50k. Subject to the foregoing objection, Southington Solar One states that it will sell renewable energy certificates (RECs) to The Connecticut Light & Power Company, d/b/a/ 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.

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

Yes. Southington Solar One intends to participate in the ISO-NE Forward Capacity Market. At this time, the intention is to participate in the ISO-NE Forward Capacity Auction #15 in 2021 for commitment period in 2024/2025.

### **Energy Output**

5. **Have electrical loss assumptions been factored into the output of the facility? What is the output (MW AC) at the point of interconnection?**

Yes, electrical loss assumptions have been factored into the output of the facility. The output of the facility is 4.725 MW AC at the point of interconnection.

6. **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?**

The Project's net capacity factor is estimated to be 22.12 percent (%) (Annual AC MWh Production/ (Nameplate Capacity MW AC \* (8760 [hours in a year]))).

7. **Is the project being designed to accommodate a potential future battery storage system? If so, please indicate the anticipated size of the system and where it may be located on the site.**

Currently, Petitioner has no plans to incorporate a battery energy storage system ("BESS"). However, in the event a BESS is incorporated at the site at a later date, it is anticipated that 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 a BESS for the Project at this time; therefore, it is not possible to estimate the anticipated size of any such system.

8. **Would the impact of soft or hard shading reduce the energy production of the proposed project? If so, was this included in the proposed project's capacity factor? What are the expected losses year to year and at what point would panel cleaning be necessary?**

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. The expressed degradation year-to-year was modeled at 0.5 percent (%) annually. Panel cleaning is not currently anticipated at any point during the operation of the proposed Project.

9. **Does the design of the Project, including the method of interconnection, allow it to serve as a microgrid?**

Southington Solar One was not contemplated to serve as a microgrid, nor is the current interconnection design suitable to do so. Having the Project serve as a microgrid would require extensive design changes. 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.

10. **Referring to petition p. 15:**
- a. **what "infrastructure upgrades" are proposed that will improve reliability of the electrical grid?**
  - b. **how will reduction in energy demand during peak usage decrease energy costs for ratepayers statewide?**

- a. **what "infrastructure upgrades" are proposed that will improve reliability of the electrical grid?**

The Southington Solar One Project, like all distributed generation of its class, works with the interconnecting electric distribution company (Eversource) to make necessary upgrades to the distribution network to permit the Project's interconnection. All upgrades made to the distribution network are at Southington Solar One's expense. Upgrades vary on an asset-by-asset basis, and can include, among other things, three-phase line upgrades, tree and other impediment clearing,

and new utility pole installation. Specifically, the Southington Solar One Project will complete a three-phase line extension to the 4C17 Distribution Circuit located on East Street. This line upgrade includes installing a new 556 TW conductor, and any isolation devices necessary, to the 4C17 Distribution Circuit on East Street. This work would have been performed under an Eversource capital project (CD01031) but it is now being performed by Southington Solar One.

Beyond the specific physical upgrades made by the Southington Solar One Project, or any other similarly situated distributed generation asset, these projects reduce the overall load (demand) for electricity on the applicable interconnecting circuit. Such reduction in demand mitigates the overall risk of outages caused by a sudden influx of demand overloading the transmission network, equipment failure elsewhere in the network, or centrally located generator malfunction.

**b. how will reduction in energy demand during peak usage decrease energy costs for ratepayers statewide?**

Reducing demand for electricity at peak times reduces the wholesale cost of electricity. The wholesale electricity cost is a significant component of the ratepayer's utility bill. The ISO-NE energy market works to procure electricity at the most cost-effective rate possible, and reduction in demand during peak times means that incremental (and often times more expensive) production does not need to be utilized, therefore, reducing the wholesale electricity price.

Due to access to solar insolation, solar photovoltaic distributed facilities produce energy consistently during peak times in the summer months. This reduction in demand caused by the presence of distributed solar assets has been shown to reduce the wholesale electricity prices in New England as a whole, and in Connecticut specifically. See <https://suncommon.com/wp-content/uploads/2018/08/Wholesale-Cost-Savings-of-Distributed-Solar-New-England-SunCommon.pdf>.

In addition to the quantifiable savings caused by demand reduction, the presence of distributed generation reduces strain and congestion on the distribution network, as well as the interlinked transmission grid. This reduces wear and tear on existing utility equipment and decreases the need to build incremental utility infrastructure. Ratepayers save by avoiding these additional utility hard costs.

**11. 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?**

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

12. **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 such challenges?**

Southington Solar One, LLC objects to this Interrogatory to the extent that it is beyond the scope for a Petition for Declaratory Ruling pursuant to Connecticut General Statutes §4-176 and §16-50k. Subject to the foregoing objection, Southington Solar One states that in general, the Petitioner believes that intermittent resources create a minor challenge for the independent service operator (“ISO”) as the ISO works 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, however, they 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 it navigates the increasing presence of intermittent resources on the grid is storage. At this time, the most prevalent form of storage is lithium-ion BESS. By increasing the penetration of BESSs 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) is mitigated.

### **Proposed Site**

13. **In the lease agreement with the landowner, are there any provisions related to site restoration at the end of the project’s useful life? If so, please provide such provisions.**

Yes, Section 12.1 (“Condition of Premises”) of the Lease Agreement addresses site restoration. Section 12.1 of the Lease is reproduced in its entirety on the next page.

ARTICLE XII.

Termination and Surrender

Section 12.1 - Condition of Premises. Upon expiration or other termination of this Lease the Solar Array and any improvements constructed on, over, or under the Leased Premises by Tenant shall be removed by Tenant and the Leased Premises shall be restored to substantially the same condition as prior to the commencement of this Lease, excluding normal wear and tear. All trade fixtures and signs, whether by law deemed to be a part of the realty or not, installed by the Tenant at any time or anyone claiming under the Tenant, shall remain the property of the Tenant or persons claiming under the Tenant and may be removed by the Tenant or anyone claiming under the Tenant at any time or times during the Lease Term. In the event this Lease terminates due to the expiration of the then applicable Lease Term, Tenant shall be afforded the term of thirty (30) days after such termination, as such time may be extended if Tenant is diligently pursuing the removal of the Solar Array, but not to exceed ninety (90) days, to remove all of its personal property, trade fixtures and signs for the Leased Premises including the Solar Array (which is deemed to be personal property) and Tenant shall pay the then existing Base Rent, calculated on a per diem basis, for any time period Tenant is removing personal property, trade fixtures, the Solar Array and/or signs..

Section 12.2 - Holding Over. If the Tenant remains on the Leased Premises beyond the

14. **The “Project Area” delineation lines in Petition Tabs A and E do not match. Please provide an aerial image of project infrastructure that also includes the Petitioner’s leased limits of control.**

Please refer to pages 7 and 8 of the Lease Amendment, included as Exhibit A, for the requested description and image, which includes Petitioner’s leased limits of control.

15. **Clarify the size of the “Project Area” (31, 33.7 and 37.45 acre values were provided). Does the “Project Area” include the Wildflower Pollinator Area and Vernal Pool Mitigation Area?**

The “Project Area” is 37.45 acres and includes the proposed Wildflower Pollinator Area and Vernal Pool Mitigation Area.

16. **Are any portions of the “Project Area” under lease by another party? If yes, please explain.**

No. There are no portions of the “Project Area” that are under lease by another party. Please reference the Petitioner’s response to Interrogatory No. 14 above, including the attached Exhibit A, which identifies the Project Area within the leased limits of control.

17. **Please indicate the location of the Wildflower Pollinator Area on diagram. What is the size of the pollinator area?**

A Wildflower Pollinator Area was originally proposed by the Petitioner in the southwestern portion of the Project Area. This area has now been relocated after meeting with the tenant farmer on the property in June. The reasoning for relocation was to allow for continued and future agricultural use of this location. The relocated Wildflower Pollinator Area is in the south-central portion of the fenced in array area. This habitat area will be over 1 acre in size and sown with a dedicated Wildflower Pollinator seed mix. The habitat area is delineated as the trapezoidal area depicted in Figure 1 below.

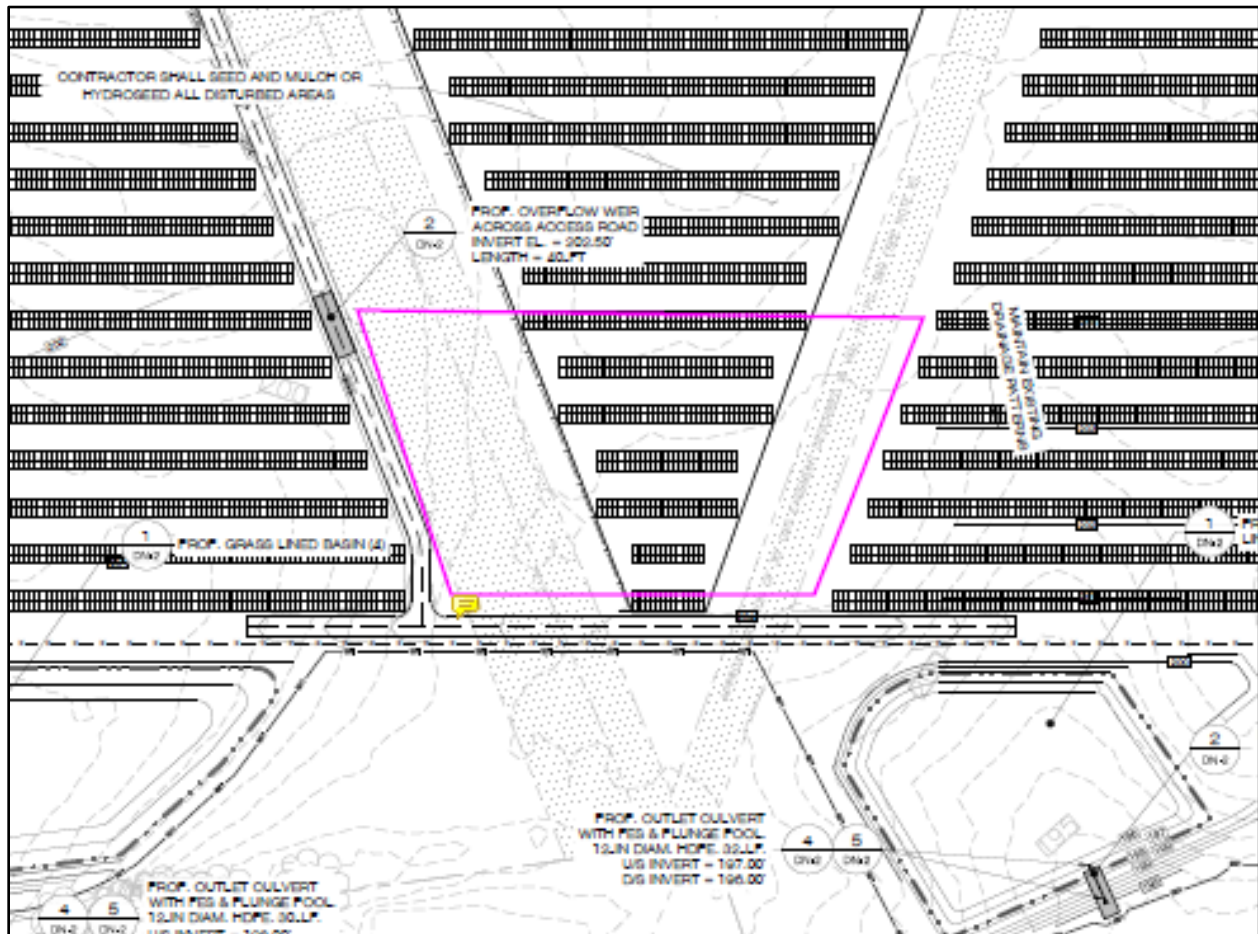


Figure 1: Location of Wildflower Pollinator Area

18. Petition pp. 21-22 states sheep may be allowed to graze at the site- please provide the following:
  - a. Where on the site will the sheep be allowed to graze? If outside the solar field fence, will additional livestock fencing be necessary on the site property?
  - b. Have there been other solar projects in CT where sheep have been allowed to graze within the array area? Is there a potential of damage to the panels/wiring from grazing?
  - c. Would the specified seed mix for the solar array areas be altered to provide adequate forage?
  - d. Is a shed/shelter necessary/proposed for the site property? If so, where would it be located?

**e. Will the sheep be leased/owned by a local farmer?**

**a. Where on the site will the sheep be allowed to graze? If outside the solar field fence, will additional livestock fencing be necessary on the site property?**

Sheep will be allowed to graze within the interior of the solar field fence. No additional livestock fencing is currently anticipated for the grazing program.

**b. Have there been other solar projects in CT where sheep have been allowed to graze within the array area? Is there a potential of damage to the panels/wiring from grazing?**

The Petitioner is unaware of any specific projects in Connecticut where sheep are currently actively grazing solar sites; however, the Petitioner is aware that such grazing has been proposed by other projects. In addition, the Petitioner will be working with Agrovoltaic Solutions to handle its solar grazing requirements. Agrovoltaic Solutions is currently actively grazing solar projects of similar size and scale in New York and is aware of active grazing sites in Massachusetts and Rhode Island as well. The potential for damage caused by the grazing is minimized with a 36-inch leading edge of the modules, as sheep are not likely to jump and damage modules. Additionally, string wiring and module connections on the back sides of the modules have been optimized through the racking design to accommodate the bi-facial modules. Therefore, wiring and connections on the backsides of modules are not expected to pose a hazard to sheep or technicians.

**c. Would the specified seed mix for the solar array areas be altered to provide adequate forage?**

Yes; the Petitioner, with guidance from Agrovoltaic Solutions, will adjust the originally proposed seed mixes in order to provide good forage for the sheep, protection against runoff, and allowance for the sun/shade mix that solar provides.

**d. Is a shed/shelter necessary/proposed for the site property? If so, where would it be located?**

No, a shed/shelter is not necessary for the proposed site. Sheep often seek shelter beneath the solar modules on hot days and in the rain.

**e. Will the sheep be leased/owned by a local farmer?**

Yes, the sheep will be owned by a local farmer. Currently, the contemplated grazers include either Agrovoltaic Solutions (New York, <https://www.agrivoltaicsolutions.com/>), or Hidden Mountain Farm (Massachusetts, <https://berkshiregrown.org/member/hidden-mountain-farm/>)

**19. Is fencing allowed across the two easements within the solar field area?**



All proposed work within the gas easements will be reviewed and approved by Algonquin Gas. Algonquin Gas' design guidance allows fence crossings with alignments generally perpendicular to the easement. Fence posts across the easement will be set in concrete footings to limit the depth of work below grade.

20. **Can the solar field fencing across the western easement be modified to include fencing that extends parallel to the easement line so that the easement area can be used for either meadow- pollinator habitat/corridor for large animal species or for the continued of the production of hay?**

The Petitioner intends on following the design guidance set forth by the relevant easement holder, Algonquin Gas. The current design calls for the fencing to cross perpendicular to the easement, rather than run parallel. The Petitioner intends to use this area as a meadow habitat for the sheep that will graze within the array fence.

21. **Referring to Petition p. 24, does the 1.2 acres of tree clearing include the two stormwater basins on the north side of the project site?**

Yes, the clearing area includes the tree removal needed for installation of the two (2) northern basins.

22. **Referring to Petition p. 25, will excess material be generated from the excavation of the northern stormwater basin(s)? If so, where will excess material be disposed of?**

The earthwork/grading plan was developed to keep all material on site; as such, no export of material is required or expected.

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

23. **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?**

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 weatherproof and rated up to 194°F.

24. **Clarify the number of panels proposed for the project – p. 11 and Site plan EC-1 have different values.**

Site Plan EC-1 is correct; the Petitioner proposes 18,434 panels in total for the Project.

25. **Would the panels be mounted in a portrait or landscape fashion? How many panels can each rack hold?**

The panels would be mounted in portrait fashion, and each racking table will hold either twelve (12), sixteen (16), or twenty (20) modules. Each complete row of modules will be comprised of these racking tables.

26. **The petition site plans show a solar array aisle width of 17.8 feet. Why is this width necessary? Can the aisle width be reduced to minimize the Project footprint?**

The inter-row spacing of 17.1 feet was determined by considering the site-specific inter-row shading, or the shade cast on a posterior row of modules by the row anterior. The Petitioner will be installing bi-facial solar modules. Because the modules will be bi-facial, the racking design, including the inter-row spacing, was optimized to increase the capacity factor of the proposed solar facility. The spacing was determined to minimize any shading effect and help increase overall generation of the facility. If the inter-row spacing is reduced, anterior rows will cast shade on posterior rows and decrease facility production. In order to maintain the production in such event, additional panels would need to be added.

27. **Can 400 watt or larger panels be used at the site to reduce the overall project footprint?**

The Petitioner originally designed the proposed facility with only 380- and 390-watt panels. However, the Petitioner was able to secure larger 400-watt panels and was able to re-design accordingly and reduce the footprint of the array. More specifically, in Site Plan OP-1, the Petitioner proposed using 13,910 400-watt panels, which accounts for approximately 75 percent (%) of the total panel count for the facility.

### **Interconnection**

28. **Referencing page 7 of the Petition, would Eversource be responsible for any interconnection work or necessary permits/approvals? If so, would the demarcation point of the Petitioner's/Eversource's control (or responsibility for permitting) be at the proposed equipment pads or at another location?**

Yes, Eversource will be responsible for interconnection work on the existing access road near East Street. The demarcation point, or point of change of ownership, will be approximately 300 feet into the parcel on the existing access road.

29. **At what voltage will the project interconnect to on Eversource's distribution system?**

The Project will interconnect at 13.8kV.

30. **Clarify the number of new utility poles that would be installed for Project interconnection. (14 and 7 were identified in project documents)**

The total number of utility poles that will be added to the site for purposes of the interconnection of the facility is seven (7). There will be one (1) new pole added at the street, then six (6) poles that span down the existing access road.

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

The Petitioner initially filed interconnection applications with Eversource, conducted Distribution System Impact Studies through Eversource, and earlier in February of 2020, signed interconnection agreements with Eversource. As part of the interconnection agreement executed with Eversource, the Petitioner provided Eversource with notice that Southington Solar One intends to participate in the wholesale markets. Based on the size and scale of the Project, as well as the size/scale of other generators on the applicable distribution circuit, the Petitioner and Eversource do not anticipate that any additional interconnection agreement(s) or study(ies) will need be signed or performed with ISO-NE.

**Public Safety**

**32. Referring to Petition p. 18, has there been any discussion with the local fire marshal regarding compliance with the CT State Fire Prevention Code, Ground Mounted Photovoltaic System Installations in regards to site design clearance requirements for access to and around the perimeter of the solar array?**

Yes, the Petitioner has contacted the Fire Marshal for the Town of Southington. The Petitioner has designed the system in accordance with Section 11.12.3 of the CT State Fire Prevention Code.

**33. Referring to Petition p. 18:**

- a. Would outreach and/or training be conducted for local emergency responders in the event of a fire or other emergency at the site?**
  - 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?**
- a. Would outreach and/or training be conducted for local emergency responders in the event of a fire or other emergency at the site?**

The Petitioner is prepared to provide assistance and/or training in the event that such assistance or training is requested by local 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?**

In the event of a fire, the Petitioner would notify local emergency response personnel and de-energize the system remotely, so as to mitigate any potential electric hazards to emergency response personnel.

**c. Could the entire facility be shut down and de-energized in the event of a fire? If so, how?**

Yes, the facility can be de-energized remotely in the event of a fire. The Petitioner will be able to access the SCADA system that can tell the recloser to close the remotely operable breaker so that the system can be de-energized.

**34. Are there any drinking water wells on the site or in the vicinity of the site? If so, how would the Petitioner ensure wells and/or water quality are not impacted from construction activities?**

There are no wells located at the Project parcel. However, it should be noted that the parcel is located in an Aquifer Protection Area (APA). While there are no anticipated groundwater impacts from the construction activity planned for the Project, as a conservative measure, the Petitioner intends to adhere to those rules and regulations promulgated by the CTDEEP and the Connecticut Department of Public Health, including the General Construction Best Management Practices for Sites within a Public Drinking Water Supply Area, which can be found at:

[https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking\\_water/pdf/BMPFactSheetpdf.pdf](https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking_water/pdf/BMPFactSheetpdf.pdf).

In accordance therewith, the Petitioner intends to incorporate several protective features which will ensure that water quality is not impacted from construction activities. These features include, but are not limited to, the following:

- The development of an emergency response plan that delineates the actions to be taken for the containment of accidental fuel or chemical spills or the failure of temporary erosion and sedimentation controls that may occur during construction;
- Spill response equipment will be available on-site at all times along with personnel trained in the proper use of such equipment;
- A designated area for auto parking, vehicle refueling, and routine equipment maintenance. The designated area will be of sufficient distance away from exposed surfaces or storm drains;
- No onsite fuel storage; and,
- No hazardous materials will be stored onsite.

**35. 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?**

The Petitioner anticipates that the posts will be approximately fourteen (14) feet in length and will be driven roughly eight (8) feet into the ground. 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.

**36. Referring to Petition p. 49, please clarify the name and distance to the nearest federally-obligated airport.**

The Meriden Markham Airport is the nearest federally obligated airport at approximately 5.5 miles from the proposed Solar Facility.

### Environmental

37. **Referring to Petition p. 22, is the Vernal Pool Mitigation Area (VPMA) proposed for VP-01 or VP-02? What is the size of the VPMA? The VPMA is proposed for VP-02 not VP-01 as stated on Petition p.222.**

The VPMA totals 2.57 ac, located directly adjacent west of VP-02.

38. **Referring to Petition p. 39, why would the portion of the Critical Terrestrial Habitat (CTH) within the array area be considered developed if post-construction vegetation is similar to pre-existing conditions? Can any type of CTH habitat enhancement be used in a portion of the array area such as logs or thick layers of leaf litter?**

For purposes of the vernal pool analysis, the Critical Terrestrial Habitat (CTH) within the array areas is conservatively considered “developed” in the post-construction condition, based on the assumption that management of a solar facility precludes the potential for these areas to revert to high quality scrub/shrub and/or forested terrestrial habitat for vernal pool dependent herpetofauna. The Petitioner recognizes that this is a conservative approach, particularly given the existing and historical use of the Site as an active hay field that is mechanically managed on a routine basis, thereby stunting any potential conversion to higher quality terrestrial habitat (i.e., allowing it to revert to a scrub/shrub or forested condition). It is unlikely that vernal pool dependent herpetofauna are currently (or, in the future will be) using open field areas in a significant capacity, since they are considered suboptimal terrestrial habitat.

In order to maintain vegetation and permanently stabilize soils within and around the arrays, typical habitat enhancement measures (such as adding logs or thick layers of leaf litter) are not feasible and would not improve overstory conditions. Implementation of potential enhancement measures within the array areas would result in a *de minimis* improvement to the habitat quality with respect to herpetofauna utilization. Without an overstory of woody vegetation for protection (among other functions), it is unlikely that vernal pool dependent species would use the open field habitat provided within the array area for extended periods of time. Therefore, due to logistical maintenance issues and the inability of the array areas to support functionally important terrestrial habitat, no habitat enhancement measures are proposed. However, logs will be added to the proposed Vernal Pool Mitigation Area to provide microhabitat and cover for herpetofauna to further enhance the mitigation area.

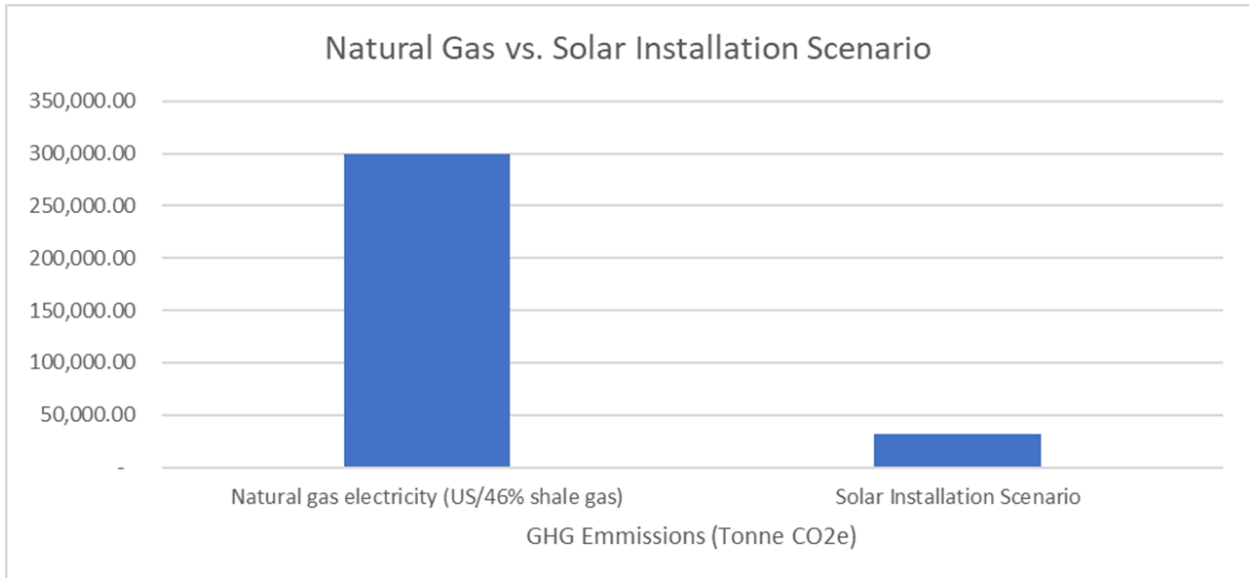
39. **What is the status of the Purple Milkweed survey? If the survey identified it on site, how will Project impacts be mitigated?**

The field survey for purple milkweed (*Asclepias purpurascens*) was performed on July 8 and August 12, 2020, respectively, within and adjacent to the Project Area. However, as a result of the hayfield being cut earlier in the summer in combination with abnormally dry-to moderate - draught conditions, the suspected occurrences of purple milkweed were not conclusively identified during the survey(s), since the plants did not produce flowers this season. The most reliable way to discern purple milkweed from common milkweed is by inspecting their flowers. The other complicating factor is milkweed does not always flower each year. Milkweed plants suspected as being purple milkweed were identified in the southwestern portion of the Project Area within the solar facility and the southwest stormwater basin. The Petitioner, in consultation with the botanist who surveyed the Project Area, has decided to take a conservative approach and assume that all of the milkweed located within the Project's limits of disturbance are purple milkweed. The Petitioner has agreed to translocate these plants to the Vernal Pool Management Area. The details of the purple milkweed translocation are currently being developed for submission to the CTDEEP for its review and concurrence. CTDEEP's response to this translocation plan will be forwarded to the Connecticut Siting Council upon its receipt.

40. **The Greenhouse Gas (GHG) Assessment in Appendix M of Council Petition No. 1352 compared the life cycle GHG emissions from a solar project to a scenario where the solar project is avoided, and an equivalent amount of natural gas-fired electric generation operated for the estimated life of the solar facility. For the proposed project, how would the net GHG emissions (or reduction) over the life of the solar facility and carbon debt payback be affected under this natural gas-fired generation versus proposed solar generation scenario?**

Using the methods and general assumptions provided in Appendix M of Council Petition No. 1352 as a foundation, and applying those principles proportionally to the Project, the Petitioner anticipates that there would be an 89 percent (%) reduction in GHG emissions by pursuing solar rather than natural gas.

Specifically, over 20 years Southington Solar One estimates that the instant solar Project will generate 174,731 MWh of electricity, while emitting approximately 32,151 tonnes of CO<sub>2</sub>e. To achieve the equivalent MWh production over 20 years as the Project, a natural gas generator would emit an estimated 299,155 tonnes of CO<sub>2</sub>e. *See* Figure 2 on the next page.



*Figure 2: Greenhouse Gas Emissions over 20-years for Natural Gas Scenario vs. Solar Scenario per 174,731 MWh*

For additional detail as to the equivalencies used to arrive at the above conclusions, please see Exhibit B attached hereto.

41. **Referring to Petition Tab A p. 2 – in addition to landscaping, what other visual mitigation techniques will be employed?**

Other visual mitigation techniques include, but are not limited to, modifying the fence design to include features, such as privacy slats, in specific locations.

42. **Referring to the fence detail on Sheet DN-1, revise the specification to include a minimum 6-inch gap between the fence fabric and ground level to allow for small wildlife movement through the site, as specified on Petition p. 30.**

The Project has been informed that for sheep grazing, the fence should be placed flush with the ground. Accordingly, the Petitioner wishes to revise the Project’s fence specifications to allow for this to occur.

43. **Referring to Petition p. 27, does Table 3 only refer to Prime Farmland Soils? Are Farmland Soils of Statewide Importance present in areas on the site that are currently used for agriculture? If so, indicate acreage currently in use and acreage that would be available for post-construction use if not encumbered by stormwater basins or habitat enhancement areas.**

Regarding the Council’s first inquiry - yes, Table 3 (Petition, p. 27) only refers to Prime Farmland Soils.

Farmland Soils of Statewide Importance are present in the areas that are currently being used for agriculture, totaling approximately 20.9 acres. Upon completion of Project

construction, approximately 12.6 acres of Farmland Soils of Statewide Importance will remain unencumbered on site.

44. **Has the Petitioner had any meetings with the Department of Energy and Environmental Protection (DEEP) Stormwater Division regarding the Stormwater design? If so, when and with whom? Were any recommendations incorporated into the Petition site plans prior to filing with the Council?**

Yes, the Petitioner and its civil engineer met with Neal Williams and Chris Stone of the CTDEEP Stormwater Division for purposes of a pre-permit submission meeting in January of 2020. The only recommendations made by the CTDEEP staff during said meeting were to utilize the current version of the CTDEEP guidance document, "Appendix I," which Petitioner has done in its submittal. The recommendations taken from that meeting were incorporated into the Petition's Site Plans prior to filing with the Council.

45. **The Site Plans show 5 stormwater basins. The Stormwater report specifies 4 basins. Please clarify.**

Five (5) stormwater basins are proposed for the Project.

46. **Referring to Petition pp. 48-49, what nearby noise receptors are referred to and what would be the calculated noise levels at these receptors?**

Appendix C, p. 43, of the Petition notes that the closest property line relative to the nearest inverter/transformer is approximately 575 feet to the north and is identified as 38 Windsor Way by the Town of Southington. This parcel is zoned Residential (R-40) and is currently developed with a single-family home. Sound from the proposed transformers is listed as 68 dB measured from one (1) foot away. Using the Inverse Square Law, the approximate noise level at this location is anticipated to be 12.8 dB.

### **Facility Construction**

47. **Would the concrete be pre-cast or poured on site for the proposed electrical equipment concrete pads? What other concrete components are proposed at the site? Where and by what method would cement trucks be cleaned at the site?**

The concrete is expected to be poured onsite for the proposed electrical equipment pads. If any of the foundation posts encounter refusal during post-driving construction, those posts may require a drilled pier concrete foundation. A concrete washout area will be provided onsite within the vicinity of the access area for the trucks to be cleaned onsite with a hose and water.

48. **Referring to Petition p. 14, Phasing.**

- a) **Phase 2 #3 states *Install remaining electrical conduit.* Where was conduit installed prior to this step? Please clarify.**



- b) **Does Phase 2 #6 also include the establishment of the Wildflower Pollinator Area and Vernal Pool Mitigation Area? If not, at what point would these be established?**
- c) **The heading states the project will be constructed in 6 months. The Site Plans indicate 3-4 months. Please clarify.**
- d) **If work begins in October, how will the Phase 1 basins and swales be stabilized?**
- e) **If work begins in October, how will the seeding in Phase 2 be accomplished? What other methods/materials will be used for winter stabilization?**
- f) **How does Project timing comply with the DEEP recommended spotted turtle construction restrictions?**

**a. Phase 2 #3 states *Install remaining electrical conduit*. Where was conduit installed prior to this step? Please clarify.**

It is expected that the conduits to the equipment pads will be installed prior to this step; therefore, "remaining conduits" refers to the distribution wiring throughout the array terminating at the equipment pads.

**b. Does Phase 2 #6 also include the establishment of the Wildflower Pollinator Area and Vernal Pool Mitigation Area? If not, at what point would these be established?**

Yes, Phase 2 #6 includes the establishment of the Wildflower Pollinator Area and Vernal Pool Mitigation Area.

**c. The heading states the project will be constructed in 6 months. The Site Plans indicate 3-4 months. Please clarify.**

The three-to-four (3-4)-month timeline defines civil construction and installation activities, while the six (6)-month timeline defines the "entire" timeline—meaning, from site activation and mobilization through permission to operate and demobilization.

**d. If work begins in October, how will the Phase 1 basins and swales be stabilized?**

The basins and swales will be stabilized with erosion control blankets.

**e. If work begins in October, how will the seeding in Phase 2 be accomplished? What other methods/materials will be used for winter stabilization?**

Seeding would not be completed until the next available seeding window. Other than the earthwork required for the construction of the Project's stormwater basins, the existing ground cover will remain during construction and provide stabilization. Any disturbed areas that are not anticipated can be temporarily stabilized per the *Erosion Control Guidelines*.

**f. How does Project timing comply with the DEEP recommended spotted turtle construction restrictions?**

The Project will be installing isolation barriers that consist of Silt Fence and will adhere to the proposed Turtle Protection Measures that are noted on EN-1 of the Site Plans (Appendix C of the Petition).

49. **The Site Plans show the outlet and emergency overflow of Stormwater Basin 4 discharging towards an abutting property. What is the distance from the outlet structure end points to the property lines? What are the grades after the point of discharge? Will basin discharge flow onto abutting properties? Is it possible to elongate this basin to the east, thereby creating a wider buffer to the southern property line?**

The proposed culvert outlet from Stormwater Basin 4 is approximately twenty (20) feet from the property line. The terrain decreases in elevation in a southerly direction from the proposed outlet. As the detention basins were designed to satisfy the requirements of *Appendix I* (i.e., a drop in Hydrologic Soil Group), flows are not anticipated to be erosive or excessive as compared to existing site conditions. Rather, discharges would flow onto the abutting property (as they do under existing conditions). While it is possible to revise the shape of this basin, that would not change its discharge point significantly (meaning, flows presently travel through this low spot and would continue to do so, regardless of the distance from the parcel boundary).

50. **Are any of the five stormwater basins designed to be pond type detention basins? Indicate which basins and the anticipated hydro period.**

All of the stormwater basins are intended to be dry basins. Any intermittent ponding within the basins that may result from a storm event will drain, and shortly thereafter, infiltrate through the existing sandy soils.

51. **What are the typical construction hours and work days of the week? Are these hours/days consistent with Town ordinances?**

Typical construction hours and workdays of the week are as follows:

Monday – Friday: 7:00 AM to 4:00 PM;  
Saturday (if needed): 9:00 AM to 4:00 PM;  
Sunday (if needed): 11:00 AM to 4:00 PM.

These workdays and hours are consistent with Town of Southington Ordinances.

52. **Has a comprehensive geotechnical study been completed for the site to determine if site conditions support the overall Project design (e.g. solar array, roads, stormwater basins)? If so, summarize the results. If not, has the Petitioner anticipated and**

**designed the Project with assumed subsurface conditions? What are these assumed conditions?**

A Geotechnical study was conducted at the Project Site. The findings below the surface were identified as Fill and Kame-Plain Deposits (Sand, Sandy Silt, Silt).

These subsurface conditions help verify the design specifications that went into some of the Civil details for the Project, including the storm water basins, access roads, and other erosion control measures. Ultimately, the geotechnical investigation report for the Project confirmed the racking design detail of driven pile foundations. The subsurface conditions were found to be suitable for the driven pile installation method.

### **Maintenance Questions**

53. **Provide a post-construction Operations and Maintenance Plan that includes provisions for vegetation management within and outside the fenced areas including mowing/vegetation management restrictions related to listed-species, wildlife enhancement areas, and agricultural activities, inspection/corrective action protocols for site equipment, stormwater features, and landscaping, and invasive species management within the VPMA.**

The Resource Protection Plan included within Appendix C, *Environmental Assessment*, of the Petition provides details concerning protection measures proposed for wetlands, vernal pools, aquifers, and one state listed species, the spotted turtle, identified in the vicinity of the Project. Further, the Petitioner is in consultation with CTDEEP to review and concur with a protection and relocation strategy for an additional state listed species, the purple milkweed. These protection measures satisfy the requirements of the CTDEEP Wildlife Division, in accordance with its Natural Diversity Data Base (NDDDB) determination. Vegetation management shall not be conducted within the Vernal Pool Management Area. Should vegetation management require the use of mowing outside of the VPMA, and is to occur during the active Spotted Turtle season (March 15<sup>th</sup> to November 1<sup>st</sup>), vegetation shall be mowed to no lower than seven (7) inches above the ground surface to minimize potential harm/injury to turtles. The Petitioner also notes that flail type mowers (with guide bars that ride along the ground) will not be used for mowing during the active turtle season.

54. **Would the installed solar panels require regular cleaning or other, similar, maintenance? If so, describe cleaning procedures including substances used. Would this maintenance activity have any impacts to water quality?**

The installed solar panels are not anticipated to require regular cleaning. No cleaning materials are anticipated to be used, nor are impacts to water quality expected.

55. **How will sediment be removed and transported from stormwater features? Where would removed sediment be disposed of?**

Sediment will likely be removed and transported from the stormwater features via a skid-steer loader. The sediment can be spread and stabilized within upland areas onsite or disposed of offsite, in accordance with applicable laws and regulations.

56. **Would the petitioner store any replacement modules on-site in the event solar panels are damaged or are not functioning properly? If so, where?**

No, the Petitioner does not anticipate the need to store any replacement modules on the site.

57. **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.

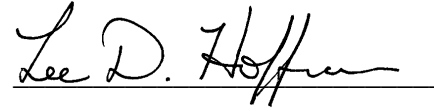
**A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site-specific and representative site features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

The twenty-nine (29) photos that comprise this photolog can be accessed at the following website for review:

<https://pullcom.sharefile.com/share/view/d695943f036c4b76>

Respectfully Submitted,

Southington Solar One, LLC

A handwritten signature in black ink that reads "Lee D. Hoffman". The signature is written in a cursive style and is positioned above a horizontal line.

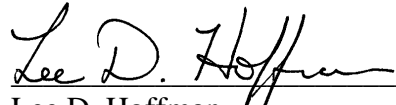
By:

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Its Attorneys

CERTIFICATION

I hereby certify that on this 17<sup>th</sup> day of September, 2020, the foregoing was delivered by electronic mail, in accordance with § 16-50j-12 of the Regulations of Connecticut State Agencies, to the following parties and intervenors of record:

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