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March 30, 2021

**VIA ELECTRONIC MAIL**

Melanie Bachman  
Executive Director/Staff Attorney  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

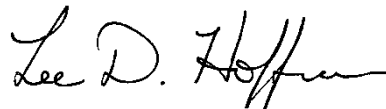
**Re: Petition No. 1424 - Southington Solar One, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 4.725-megawatt AC solar photovoltaic electric generating facility located at 1012 East Street, Southington, Connecticut, and associated electrical interconnection**

Dear Ms. Bachman:

I am writing on behalf of my client, Southington Solar One, LLC, in connection with the above-referenced Petition. With this letter, I am enclosing Responses to the March 9, 2021 Set of Interrogatories directed to Southington Solar One, LLC from the Connecticut Siting Council.

Should you have any questions concerning this submittal, please contact me at your convenience. I certify that copies of this submittal have been made to all parties on the Petition's Service List as of this date.

Sincerely,



Lee D. Hoffman

Enclosures

**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**

**March 30, 2021**

**SOUTHINGTON SOLAR ONE, LLC'S RESPONSES TO THE CONNECTICUT  
SITING COUNCIL'S MARCH 9, 2021 (SET 3) INTERROGATORIES**

The petitioner, Southington Solar One, LLC (“Southington Solar One” or “the Petitioner”), respectfully submits this response to the Connecticut Siting Council’s March 9, 2021 (Set 3) Interrogatories in the above-referenced Petition. In response to the Siting Council’s Interrogatories, Southington Solar One states as follows:

**58. Referring to Interrogatory Response 17, would livestock be allowed to graze within the designated Wildflower Pollinator Area? If so, could grazing have an adverse impact on the growth of sufficient pollinator habitat? If not, how would livestock be excluded?**

After further consideration of the expected interaction(s) between the designated Wildflower Pollinator Area and the proposed livestock grazing program for the Project (specifically, the impact(s) such grazing may have on the growth of the pollinator habitat), Southington Solar One has decided to relocate the Wildflower Pollinator Area to the eastern gas easement area that is situated between the central array and the eastern-most array. As it is now designed, the Wildflower Pollinator Area will be over one (1) acre in size and will be sown with a dedicated Wildflower Pollinator seed mix. Although the Wildflower Pollinator Area is located within the fenced-in limits of the array area, it will be excluded from the grazing plan and will remain as a dedicated Wildflower Pollinator Area. The (new) proposed location for the Wildflower Pollinator Area is depicted in Figure 1 below.

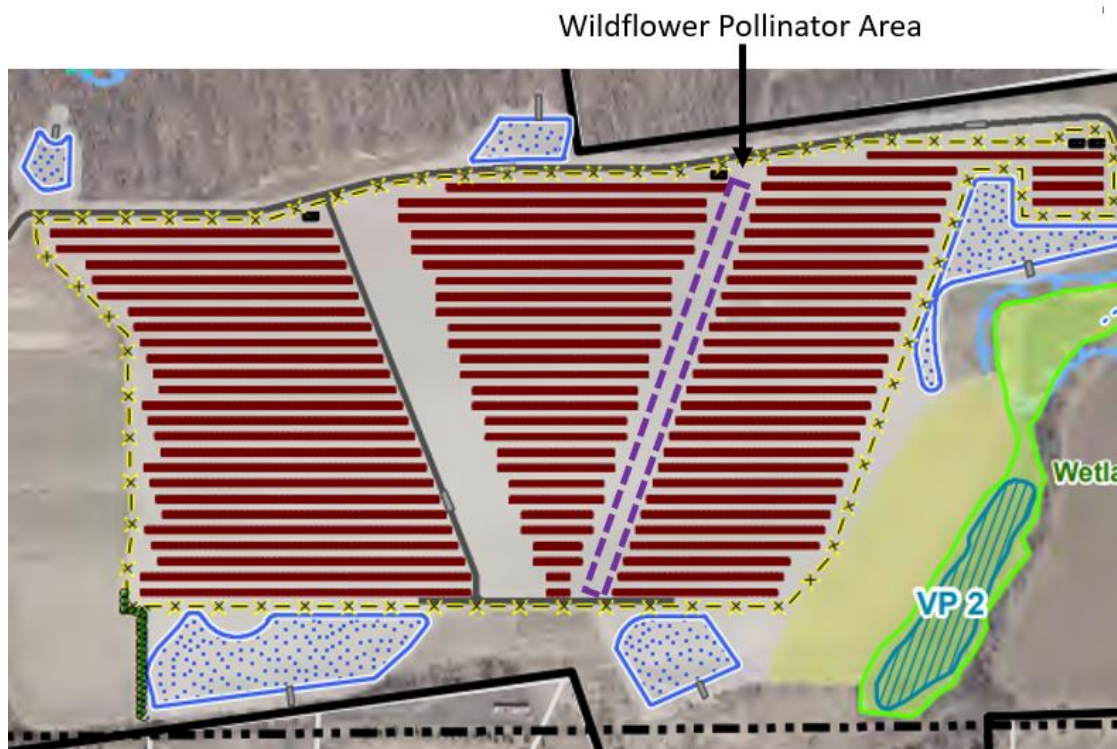


Figure 1

**59. Referring to Interrogatory response 39, what is the status of the purple milkweed translocation plan?**

Southington Solar One has completed the respective purple milkweed translocation plan (the “Translocation Plan”) for the Project. A copy of the Translocation Plan is included in the “Species Protection Measures” section (pp. 4 – 5) of the *State-Listed Plant Species Survey Purple Milkweed (Asclepias purpurascens)* report (the “Milkweed Report”), attached hereto as Exhibit A.

At the start of Project construction, Southington Solar One will incorporate and implement the Plan’s recommended measures for species protection, in accordance with the optimal transplant season for the purple milkweed.

Lastly, the Petitioner notes that, based on the recommendations that NDDDB provided in its March 9, 2020 Determination Letter (No. 202002717) for the Project, CTDEEP approval of the Translocation Plan is not required. Please refer to Petition No. 1424, Appendix C (“Environmental Assessment”), for additional information.

**60. Referring to Interrogatory response 41, what areas may include a fence design with privacy slats?**

Privacy slats will be included in the fence design for the entire western and southern fence lines.

**61. Referring to Site Plan Sheet DN-1, Planting Detail- what is the height of the junipers at planting?**

Southington Solar One expects that the height of the junipers will be between five and six feet (5' – 6') at planting.

**62. Can the landscaping along the southwestern fence line be extended northward?**

Yes, and Southington Solar One intends to extend the proposed landscaping along the southwestern fence line by an additional 100 feet to the north. As part of the proposed landscaping extension, Southington Solar One will install an additional thirty juniper trees (three (3) trees per every ten (10') feet) along the fence line.

Southington Solar One believes that the proposed landscaping extension, in conjunction with the existing vegetative buffer (that is located directly north of the cul-de-sac on Partridge Drive), will adequately address any potential visual concerns of the neighboring properties to the west and southwest of the array.

**63. Referring to Interrogatory response 53, how would site specific environmental mitigation measures be communicated to field maintenance personnel?**

The requisite site-specific environmental mitigation measures will be included in the post-construction Operations and Maintenance Plan for the Project, which will be distributed to all field maintenance personnel at the Project Site. Southington Solar One will also provide field maintenance personnel with copies of the Project's Operations and Maintenance Plan and Grazing Plan, which will contain vegetation management measures for the Project. In addition, to address "specific" items such as vegetation management within the vernal pool mitigation area, the Petitioner will install signage along the area's perimeter fence to alert the respective field maintenance personnel of any specific/special mitigation measures.

**64. Referring to Site Plan Sheet GP-1, the southern end of the vernal pool mitigation area extends to the solar field perimeter fence. Can the vernal pool mitigation area be expanded northward to the fence line up to the stormwater basin?**

Unfortunately, the referenced vernal pool mitigation area is too narrow to provide effective terrestrial habitat for species that may leave the respective vernal pools to seek upland breeding areas. That having been said, however, the Petitioner conservatively designed the current vernal pool mitigation areas to provide sufficient space for breeding habitat for potential vernal pool species, significantly improving existing conditions immediately adjacent to a productive pool.

**65. Does the Petitioner intend to consult with the DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins?**

Because none of the proposed stormwater basins impound more than three (3) acre-feet of water, the Petitioner has not consulted with the CTDEEP Dam Safety program regarding their permitting requirements.

**66. Petition p. 7 states the Petitioner engaged in regular discussions with local officials and residents about the Project. How were these discussions initiated? How was the fact sheet distributed to nearby residences? How many residents responded to the fact sheet? What were their concerns and how were their concerns addressed?**

In January of 2020, the Petitioner initiated discussions with the Town of Southington (the “Town”) regarding the proposed Project. Thereafter, the Petitioner maintained approximately monthly communications with Town officials, including members of the Southington Planning Department. As the Project plans developed, the Petitioner also attended and presented at two public meetings hosted by the Town of Southington in May of 2020. The first of these meetings was with the Town’s Conservation Commission on May 7, 2020, and the second was with the Planning and Zoning Commission on May 19, 2020.

On April 21, 2020, the Petitioner also initiated discussions with neighboring property owners by mailing them the respective Project fact sheet and introductory letters. The designated Project website was also made available to the public on April 21, 2020 (accessible at [www.verogy.com/Southington-solar-one](http://www.verogy.com/Southington-solar-one)). Shortly after the introductory letters and fact sheets were mailed to the abutters of the Project Site, the Petitioner received email correspondence from four (4) individual residents and phone calls from two (2) separate individual residents of Southington. Concerns raised by the residents included: (i) the potential visibility of the proposed Project from neighboring properties, (ii) the potential displacement of wildlife as a result of the development, and (iii) the desirability of the land use at the site (i.e., solar versus agriculture).

The Petitioner attempted to address, to the greatest extent(s) feasible, the concerns raised by the residents. By way of example, in response to aesthetic concerns, Southington Solar One included evergreen trees in the Project’s landscaping plan for additional visual screening and modified the fence design to include privacy slats along the western fence line. In addition, after hearing the concerns raised respecting the Project’s potential impact(s) to farmland, the Petitioner developed a comprehensive “co-use” plan that allows the agriculture to continue on the same acreage that will host the solar facility and produce renewable energy. One of the key components of this “co-use” plan is the proposed livestock grazing program, where sheep will be brought in by a livestock farmer or flock manager and graze the site. The Project will also feature an apiculture area to facilitate beekeeping and honey production, as well as areas to serve as a community garden.

**67. Does the Petitioner intend to allow livestock grazing in areas adjacent to residences? Were area residents notified that livestock grazing would occur at the site?**

Livestock grazing will be limited to the fenced-in array area only. The Petitioner did not directly notify the area residents of the planned sheep grazing within the array area, as the

Petitioner does not expect that such sheep grazing will pose any sort of nuisance/harm to nearby residents.

**68. If temporary electric fence is used at the site to create defined pasture areas within the solar field, what types of safety measures are in place to protect the public and emergency response personnel from electric fence shock hazards?**

As a general rule, members of the public would not be permitted to enter into the array area at-will. Although the Petitioner is unsure of the exact fence-type that will be used, if it is an electroNet electric fence, the Petitioner will establish, in concert with the sheep grazing manager, all necessary protocols with respect to the interior fencing to support the grazing program and protect the public and emergency response personnel from any electric fence shock hazard(s). As a standard, whenever the grazing program is underway and there are fences in use, the fences (if electric) will be marked with proper signage. In times of emergency, if an electroNet electric fence is in use, the method for de-energizing the fence will be clearly marked and identifiable for emergency response personnel.

**69. Would livestock manure affect water quality in downgradient wetlands/watercourses? How can such effects be mitigated?**

According to a University of Nebraska study on water quality and grazing animals (the "Study"),<sup>1</sup> areas of farmland that are grazed with animals may have better surface and groundwater quality than cropland, if the fertilizer and animal waste inputs are "low to moderate." In addition, the Study indicates that properly-managed grazed land will protect the soil surface from erosion, as compared to cropland.

The Study also states that one landscape management tool that has been found to be effective for reducing water pollution from both cropland and grazed areas in the humid eastern part of the United States is the utilization of riparian buffer systems. Many studies, conducted at different sites in the Gulf Atlantic Coastal Plain region, have evidenced that the concentrations and loads of nitrogen in surface runoff and subsurface flow are markedly reduced after their passage through a riparian buffer.

In the case of the instant Project, the sheep grazing program will be managed with the appropriate number of sheep per acre and rotated throughout the fenced Facility as to ensure areas are not over-grazed. Additionally, the fenced Facility is greater than 100 feet from any wetlands, leaving a significant riparian buffer to help filter stormwater runoff and protect the water quality that is being managed within the stormwater basins. Based on the current design of the Project, the Petitioner does not believe that the water quality will be adversely affected as a result of the grazing and as such no additional mitigation measures are required.

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<sup>1</sup> Source: Hubbard, R. K.; Newton, G. L.; and Hill, G. M., "Water Quality and the Grazing Animal" (2004). Publications from USDA-ARS/UNL Faculty. See <https://digitalcommons.unl.edu/usdaarsfacpub/274/> for more information.

**70. Referring to the Department of Agriculture letter dated February 19, 2021, item 2, community garden:**

- a. Where does the Petitioner anticipate establishing a community garden on the “site”? Please submit a map.**

The Petitioner intends to install the community garden in the northeastern-most-area of the subject lease area. Please refer to Exhibit B for a map that shows the proposed community garden area.

- b. Has the Petitioner discussed implementation or entered into any agreement related to a community garden with the Town or other organization? If so, please describe the discussions and submit any agreement.**

The Petitioner has discussed the implementation of a Community Garden with the Town of Southington Planning Department. At the time of this filing, however, there is no formal agreement between the Town and the Petitioner respecting the implementation of a Community Garden.

- c. How would public access be provided to the community garden? Would it be fenced and gated? Would parking and access for emergency vehicles be available?**

Public access would be provided via the existing access road that will be improved as part of the construction of the Project. The community garden would be enclosed by a typical garden fence and gated appropriately for community access. Parking will be available adjacent to the community garden area.

- d. Would the hours of accessibility be limited or unlimited?**

The hours of accessibility would be limited to after sunrise and before sunset (closed after sunset).

- e. Will signs be posted related to the hours of accessibility, permitted and prohibited uses, etc.?**

Yes, signs related to the hours of accessibility, permitted and prohibited uses, etc. for the community garden will be posted at the site.

- f. What measures are proposed to enforce security and deter vandalism?**

The community garden will be significantly set back from the road and surrounded by garden fencing. Due to its location, the Petitioner believes that there will be a low likelihood of vandalism. The area will also be appropriately signed to enforce security and deter vandalism. Depending on whether a need for additional protection measures develops, the Petitioner may install dummy cameras onsite to deter further trespassing.

- g. Who would be liable for any personal injury at the community garden?**

To the extent that the community garden area is subleased to the Town of Southington, and Southington manages the community garden (including

establishing policies and procedures for its use and administering the rental agreements associated with each plot), any liability (to the extent not waived as part of any rental agreement) would be subject to the insurance coverages of the Town of Southington, as subtenant. If, however, the Petitioner were to operate the Community Garden directly, and not sublease the area to the Town of Southington, the Petitioner would carry the necessary insurance coverages to protect against any liability incurred (and not waived) at the site.

**h. Who would be responsible for maintenance of the community garden? What type of maintenance is necessary and how frequently would maintenance activities occur?**

It is anticipated that traditional landscaping maintenance would be needed on a bi-monthly basis during the months of April – October so to maintain the areas in and around the community garden. Either the Petitioner, in its sole capacity, or the Petitioner and the Town of Southington will manage maintenance needed at the community garden area.

**i. Who would be responsible for responding to concerns and/or complaints related to the community garden?**

Depending on the final/formal arrangement between the Petitioner and the Town of Southington, either the Petitioner or the Town would manage the correspondence and/or complaints received regarding the Community Garden.

**j. How would the Petitioner decommission the community garden at the end of the project life?**

To the extent that the Town of Southington and the landowner cannot come to agreement with respect to extending the use/life of the community garden area, the Petitioner would remove the community garden infrastructure under the same decommissioning and removal protocols as the solar facility.

**k. Would ownership and control of the community garden area revert back to the property owner at the end of the project life?**

Yes. Unless separately agreed to by the landowner and the Town of Southington, the area operated as the community garden would revert to the control of the landowner.

**71. Has the manufacturer of the proposed solar panels conducted Toxicity Characteristic Leaching Procedure (TCLP) testing to determine if the panels would be characterized as hazardous waste at the time of disposal? Please submit the specifications that indicate the proposed solar modules would not be characterized as hazardous waste. If the project is approved, would the Petitioner consider installing solar modules that are not classified as hazardous waste through TCLP testing?**

Southington Solar One does not believe that it is appropriate to base its module selection on whether the modules pass the TCLP test. Southington Solar One notes that no other types of project the Siting Council reviews is asked questions about TCLP compliance.



Cellular antennas, fuel cell facilities, natural gas cogeneration facilities and distribution and transmission lines all may be constructed with materials that would fail the TCLP test. This make sense, since, as is discussed in greater detail below, the TCLP test is only used to determine how a particular substance should be disposed of. Thus, until the modules are to be disposed, the TCLP test does not come into play.

The reason for this is that the TCLP test is designed to simulate the reactions a waste would undergo if it were landfilled. The material is crushed into a fine powder and rainwater simulations are undertaken to simulate how the material will behave in landfill conditions and whether hazardous substances will leach from the material. See 40 CFR section 261.24. Almost any electronic equipment would therefore have the potential to fail the TCLP test, including computers, phones and television sets. Obviously, these materials can all be used safely during their useful lives, however, they must be disposed of more carefully.

Therefore, it is only when the items have reached the end of their useful life and need to be disposed of that the TCLP test comes into play. There are several reasons for this. First, the TCLP test is only for wastes, not for useful items that are still being utilized. Secondly, it is only for those items that, due to their chemical composition, may become hazardous waste when they are disposed of. Depending of the chemical composition of the item in question, the TCLP test may not even be warranted, as can be seen from an excerpt of the TCLP test itself, contained on the next page. In that excerpt, one can see that if individual chemicals are present in a waste at sufficiently low levels, “the TCLP need not be run.”

#### METHOD 1311

##### TOXICITY CHARACTERISTIC LEACHING PROCEDURE

###### 1.0 SCOPE AND APPLICATION

1.1 The TCLP is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes.

1.2 If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run.

Based on this background, it becomes clear that Southington Solar One will only need to accomplish TCLP testing if it wishes to landfill the panels and the panels contain a sufficient amount of hazardous constituents such that the TCLP test would be appropriate under section 1.2 of Method 1311.

Perhaps most importantly, the TCLP test is not an appropriate metric for the installation of solar panels. It is only a test for waste to be disposed under the requirements of RCRA. RCRA, however, provides for exemptions to what constitutes a waste, including recycled materials. Scrap metal, for example, is not subject to RCRA hazardous waste regulation

when recycled. See 40 CFR section 261.6(a)(3)(ii). Similarly, shredded circuit boards that are recycled (provided that they are stored in containers sufficient to prevent a release to the environment prior to recovery and are free of mercury switches, mercury relays and nickel-cadmium batteries and lithium batteries) are excluded from the definition of hazardous waste under RCRA. See 40 CFR section 261.4(a)(14).

Given that Southington Solar One intends to recycle the materials comprising the Project—most of which will be scrap metal—it is unlikely that the solar modules will constitute a waste, much less a hazardous waste. If, at the time of disposal, Southington Solar One wishes to landfill these panels, it will conduct any required testing at that time and ensure that such panels meet all such relevant standards.

**72. Please address the concerns outlined in the Town Planning and Zoning Commission comments dated August 27, 2020**

Southington Solar One understands and appreciates the commentary provided on behalf of the Planning and Zoning Commission (“Commission”) for the Town of Southington. When Verogy first presented the proposed Southington Solar One project to the Commission on May 19, 2020, a few of the key topics/points discussed included: (i) site selection and suitability, (ii) potential farmland impacts and farmland preservation, and (iii) the potential for co-use agricultural applications at the site. Since the Commission offered their commentary in August of 2020, the proposed Project has progressed significantly with respect to its agricultural components, and Southington Solar One is thankful for the feedback from the Commission that ultimately informed its design.

As noted in the Commission’s list of recommendations (as provided in the fourth paragraph of its letter), the proposed Project has committed to the following measures:

1. Establish a pollinator habitat area, including an apiculture area that would offer the ability of a local beekeeper to utilize the apiculture area to produce honey;
2. Employ a sheep grazing program to manage vegetation onsite and keep the acreage within the solar array in agricultural production while the Project is operational; and
3. Additional juniper trees are planned for the western boundary of the project area to serve as a visual buffer for property owners to the west and southwest of the parcel.

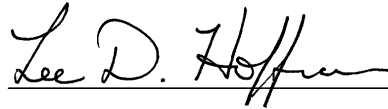
Regarding Farmland preservation, as mentioned in paragraph two of the Commission’s letter, the landowner has agreed to negotiate, in good faith, the sale of the land’s development rights to preserve approximately 60 acres (20 of which are actively farmed at this time) of the Project Site. The landowner has since applied to the Department of Agriculture’s Farmland Preservation Program for this purpose. The landowner has also agreed, in the event that the land used for the Project is ever offered for sale (in whole or in part) at any point in the future, to grant the Department of Agriculture a “Right of First Offer” on the remaining acreage not included in the initial 60-acre preservation. The potential to realize the desire of the Town of Southington to preserve this area as farmland is more likely as a result of this Project and the work done by and between the Petitioner,

the Department of Agriculture, and the landowner. This plan, as outlined in the Department of Agriculture's February 19, 2021 letter to the Siting Council, would conserve 60 acres in the near-term, and potentially another 40 acres in the future.

Also, as previously mentioned, Southington Solar One is in the process of making a Community Garden available within the lease area of the Project Site. The plan is still underway, and the Petitioner anticipates that it will have the ability to offer additional Community Garden plots to the Town of Southington, should the Town choose to explore that possibility for additional preservation.

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.

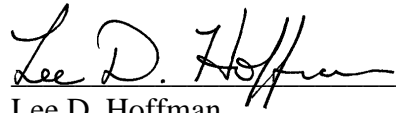
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**CERTIFICATION**

I hereby certify that on this 30<sup>th</sup> day of March, 2021, 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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\_\_\_\_\_  
Lee D. Hoffman



# State-Listed Plant Species Survey Purple Milkweed (*Asclepias purpurascens*)

Southington Solar One Project  
1012 East Street  
Southington, CT

September 22, 2020

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## Executive Summary

<u>Project:</u>	Installation of PV solar facility
<u>Location:</u>	1012 East street, Southington, Connecticut
<u>Survey Target:</u>	Purple Milkweed ( <i>Asclepias purpurascens</i> )
<u>Survey Area:</u>	± 50-acre hayfield located at 1012 East Street, Southington
<u>Survey Dates/Duration:</u>	July 8 <sup>th</sup> , 2.5 person hours; August 12 <sup>th</sup> , 2020, 4.5 person hours
<u>Survey Results:</u>	1,453 square feet of potential purple milkweed identified. No plants confirmed.

## General Site Characteristics

The survey area consists of an active ± 50-acre hayfield primarily vegetated by native species of horse nettles (*Solanum carolinense*), common milkweed (*Asclepias syriaca*), annual fleabane (*Erigeron annuus*), and common ragweed (*Ambrosia artemisiifolia*), and the introduced pasture grasses such as orchard grass (*Dactylis glomerata*), timothy (*Phleum pratense*), the invasive reed canarygrass (*Phalaris aeundinacea*), meadow fescue (*Festuca pratensis*), as well as red clover (*Trifolium pratense*), white clover (*Trifolium repens*), rabbit's foot clover (*Trifolium arvense*), English plantain (*Plantago lanceolata*), bedstraw (*Gallium mollugo*), queen anne's lace (*Daucus carota*), bladder campion (*Silene vulgaris*), white catchfly (*Silene latifolia*), mugwort (*Artemisia vulgaris*), and velvetleaf (*Abutilon theoprastris*).

The topography is slightly rolling and east-facing, ranging from approximately 206' to 190' above sea level (see photo 1 – overall habitat). The survey area is accessed via a farm road that extends westerly from East Street.

## Survey Protocol

The survey area was dictated by the Project limits as well as information provided in the Connecticut Department of Energy and Environmental Protection's (CT DEEP) Natural Diversity

Database (NDDDB) Determination Letter 202002717<sup>1</sup> dated March 9, 2020. The Determination Letter indicated the potential presence of purple milkweed (*Asclepias purpurascens*), a State-listed species of special concern.

Purple milkweed is a member of the *Apocynaceae* family, and one of 10 species in its genus found in Connecticut.<sup>2</sup>

It is distinguished from other, similar species based on the following identifying features.

- Corona horns that are shorter than or equal to the length of the corona hood;
- Purple to red-purple corolla;
- Corona hoods that lack marginal lobes, and;
- Smooth surfaced (without processes<sup>3</sup>) seed pods.<sup>4</sup>

Purple milkweed is also distinguished by blooming and setting seed infrequently, thus creating a challenge as many of the diagnostic features require flower or fruit.<sup>5</sup>

Purple milkweed prefers woodland edges and roadsides with moderate to poor quality mesic to well drained soils, although is sometimes found on the edges of wetlands. It shows some affinity for circumneutral or calcium/magnesium rich soils.<sup>6</sup>

Surveys and field work were conducted by botanists James Cowen and Aubree Keurajian on July 8<sup>th</sup> and August 12<sup>th</sup>, 2020 and comprised of slowly walking and methodically visually searching the survey area for the target species under fair weather conditions. Botanists utilized field keys, a 10X hand lens, with photographs and/or specimens collected as needed during their field survey to confirm species identification made in the field. Technical keys and a microscope were used in the office as needed to confirm field identifications.

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<sup>1</sup> CT DEEP Natural Diversity Database letter 20191268

<sup>2</sup> Dreyer G.D., C. Jones, et al. 2014. Native and Naturalized Vascular Plants of Connecticut Checklist. Connecticut Botanical Society. New Haven, CT.

<sup>3</sup> A slender, protruding feature

<sup>4</sup> Haines, Arthur, Elizabeth Farnsworth, and Gordon Morrison. New England Wildflower Society's Flora Novae Angliae: A Manual for the Identification of Native and Naturalized Higher Vascular Plants of New England. Framingham, Mass.: New England Wild Flower Society, 2011. Print.

<sup>5</sup> Farnsworth, Elizabeth, and Mario DiGregorio. New England Plant Conservation Program Conservation and Research Plan: *Asclepias purpurascens* L. Purple Milkweed. Framingham, Mass.: New England Wild Flower Society, 2001. PDF. <https://www.nativeplanttrust.org/documents/30/Asclepiaspurpurascens.pdf>

<sup>6</sup> Farnsworth, Elizabeth, and Mario DiGregorio. New England Plant Conservation Program Conservation and Research Plan: *Asclepias purpurascens* L. Purple Milkweed. Framingham, Mass.: New England Wild Flower Society, 2001. PDF. <https://www.nativeplanttrust.org/documents/30/Asclepiaspurpurascens.pdf>

Surveys were timed to capture flowering and fruiting of both purple and common milkweed. Survey efforts are summarized below in Table 1 below:

*Table 1: Survey dates, weather and effort*

Survey Date	Weather	Survey Duration (Total Person Hours)
July 8 <sup>th</sup> , 2020	Partly cloudy; temperatures in the mid-80s	2.5 person hours
August 12 <sup>th</sup> , 2020	Mostly sunny; temperatures in the upper 80s	4.5 person hours

## Survey Results

Purple milkweed was not confirmed on site, but approximately 1,453 square feet of potential purple milkweed were identified. Recent haying, seasonal drought, coupled with purple milkweed's propensity against setting seed, and known instances of hybridization between common and purple milkweed made distinguishing between common and purple milkweed difficult for non-flowering plants (photos 2-4). The majority of the milkweed present in the survey area was in flower in July and determined to be common milkweed.

Identification of common milkweed was confirmed by mature seed pods (rough with processes) in August with the remaining non-flowering plants examined for leaf characteristics and growth habit. Some non-flowering plants were growing with confirmed common milkweed that exhibited the same leaf characteristics with stems that were considered ramets of common milkweed. There were a few small colonies of plants which could potentially be purple milkweed but could not be confirmed because they were non-flowering/non-fruiting, not growing with confirmed common milkweed, and had tapering leaves which were not densely pubescent. Identifying these potential plants as purple milkweed is considered a conservative approach as they may also be variants of common milkweed or naturally occurring hybrids. These potential purple milkweed plants were marked in the field with locations collected using a Trimble GPS unit with sub-meter accuracy capability for incorporation onto project mapping as illustrated on Figure 3 - Proposed Conditions Map (prepared by All Points Technology).

## Species Protection Measures

In order to prevent impact to areas of potential purple milkweed, the following measures are recommended:



1. Avoid potential purple milkweed to the maximum extent practicable. Populations of potential milkweed that are located in proximity to the project's limit of disturbance will be protected with orange construction fencing to avoid incidental disturbance during construction activities.
2. Plants located within areas of proposed disturbance that cannot be avoided should be transplanted to the area of undisturbed hayfield that has been designated as the *Vernal Pool Mitigation Area* (see Figure 3) using the following transplant protocol:
  - a. The specific transplant recipient site will be field located by the Botanist based on the presence of well drained soils but with ample moisture, in light shade to full sun.
  - b. Transplant when dormant in late summer through late spring/early summer when new growth is emerging.
  - c. Excavate plants in sods to subsoil below rooting depth. The material removed should include soils to a depth below the taproot. Keep rhizomes intact to the maximum extent feasible.
  - d. If loose rhizomes are excavated, treat with growth hormone and plant horizontally at original depth. Taproots shall be planted vertically. Each rhizome should have at least one node.
  - e. Keep rhizomes and sods moist during transplanting.
  - f. Lightly tamp sods or rhizomes to ensure good contact with underlying soil.
  - g. Water transplants as needed.
  - h. Fertilize in spring when plants emerge with a balanced slow release fertilizer such as liquid fish fertilizer with a nutrient ratio of Nitrogen (2%), Phosphorus (3%) and Potassium (1.0%), or equivalent.

## Appendices

A: Site Photographs

B: Figure 3 – Proposed Conditions Map (prepared by All Points Technology)

C: NDDB Determination Letter

D: Summary of Qualifications

## APPENDIX A – Site Photographs

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Photo 1: View of overall survey area (milkweed shown is common).



Photo 2: Plant with smooth pods characteristic of purple milkweed and blunt leaves characteristic of common milkweed.



Photo 3: Plant with bumpy pods characteristic of common milkweed and tapered leaves characteristic of common milkweed.



Photo 4: Back of moderately tapered leaf.

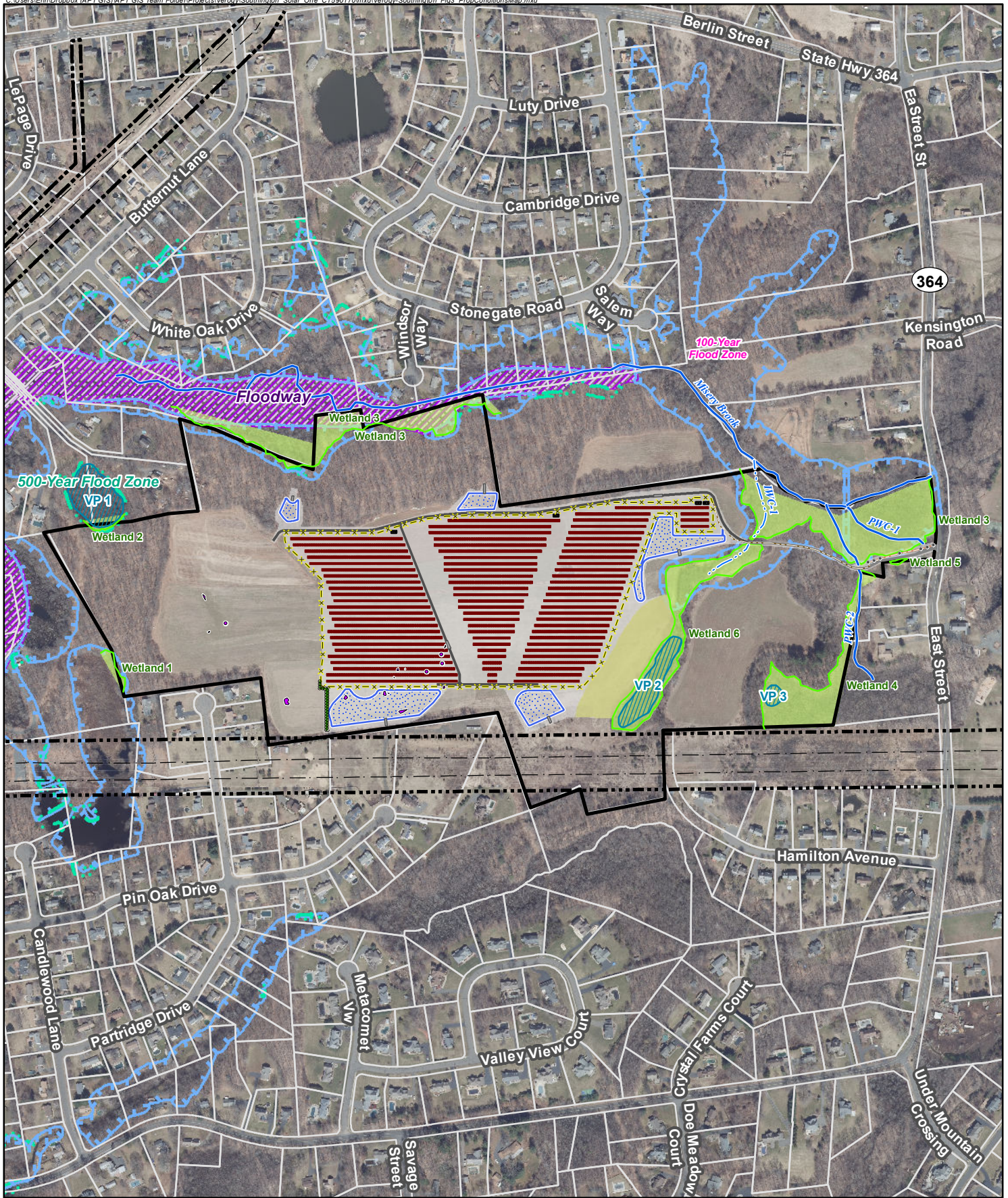


Photo 5: Possible purple milkweed in habitat with hayfield species.

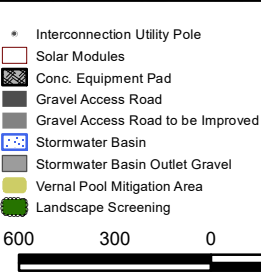
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APPENDIX B – Figure 3 – Proposed Conditions Map

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- Legend**
- Site
  - Approx. Parcel Boundary (CTDEEP)
  - Utility ROW
  - Transmission Line
  - Perennial Stream
  - Intermittent Stream
  - Delineated Wetland Boundary
  - Areas of Potential Purple Milkweed
  - Delineated Wetlands Area
  - Vernal Pool
  - 100-Year Flood Zone
  - 500-Year Flood Zone
  - Floodway
  - Limit of Disturbance
  - Treeline (Clearing Limit)
  - Perimeter Fence
  - Interconnection Path (Overhead)
  - Interconnection Path (Underground)
  - Interconnection Utility Pole
  - Solar Modules
  - Conc. Equipment Pad
  - Gravel Access Road
  - Gravel Access Road to be Improved
  - Stormwater Basin
  - Stormwater Basin Outlet Gravel
  - Vernal Pool Mitigation Area
  - Landscape Screening
- Map Notes:**  
 Base Map Source: CTECO 2019 Aerial Photograph  
 Map Scale: 1 inch = 600 feet  
 Map Date: August 2020



**Figure 3**  
**Proposed Conditions Map**  
 Proposed Solar Facility - Southington Solar One  
 1012 East Street  
 Southington, Connecticut

## APPENDIX C – NDDB Determination Letter

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March 9, 2020

Dean Gustafson  
All-Points Technology Corporation, PC  
567 Vauxhall Street Ext, Suite 311  
Waterford, CT 06385  
[dgustafson@allpointstech.com](mailto:dgustafson@allpointstech.com)

**NDDDB DETERMINATION NUMBER:** 202002717

**Project:** Installation of commercial-scale PV solar facility; SOUTHINGTON SOLAR ONE, 1012 EAST ST., SOUTHINGTON, CT

**Expiration:** March 9, 2021

I have reviewed Natural Diversity Data Base (NDDDB) maps and files regarding this project. According to our records, the following State-listed species (RCSA Sec. 26-306) are documented in the project area.

- **Spotted turtle (*Clemmys guttata*) State Special Concern**
- **Historical records of: Purple milkweed (*Asclepias purpurascens*) State Special Concern**

#### **Spotted turtle (*Clemmys guttata*) State Special Concern**

Individuals of this species are associated with wetlands and are vernal pool obligates. Over the course of a season and lifetime, individuals will travel large distances (up to 1km) over upland forest and fields between multiple wetlands. They overwinter burrowed into the mud in wetlands between Nov 1- March 15. They do not begin to reproduce until 7-10 years old and adults can live at least 30 years. This species is threatened most by any activities that reduce adult survivorship including road kills, commercial and casual collection, increased predation in areas around commercial and residential development, mortality and injury from agricultural equipment or other mechanical equipment.

Land disturbance activities that will crush active turtles or unearth/or crush hibernating turtles or nests need to consider local habitat features and apply fencing and/or time of year restrictions as appropriate. We recommend you consult with a herpetologist familiar with preferred habitats to assist you with proper techniques to ensure the best protection strategies are employed for your site.

- Land disturbance and excavation confined to the upland (greater than 10 meters from a wetland) can be done during turtle's dormant season (November 1- March 15).

If land disturbance will occur in open fields, early successional habitat, sandy open patches nearby wetland features, and sandy roads and roadsides or other potential nesting areas designated by a qualified herpetologist you will need to take precautions to prevent female turtles from entering work area and setting up nests.

- Before May 15: Early successional areas suitable for nesting need to be fenced to exclude females from entering and laying nests.

If land disturbance activity will include significant areas within and around wetlands, you will need to take precautions to avoid crushing or killing hibernating adults.

- **Do not conduct land disturbance activities within a wetland or its 100ft buffer during the turtle's dormant period (November 1- March 15).**

In general when working in the **upland between March 15- November 1:**

- Exclusionary practices will be required to prevent any turtle access into construction areas. These measures will need to be installed at the limits of disturbance as shown on the plans.
- Exclusionary fencing be at least 20 inches tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animal pass through.
- Prior to construction, all turtles occurring within fencing work area will be relocated to suitable habitat outside disturbance area. This should be performed by a qualified professional familiar with habitat requirements and behavior of the species.
- The Contractor must search the work area each morning prior to any work being done.
- All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species.
- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point. These animals are protected by law and no turtles should be relocated from the site.
- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.
- No heavy machinery or vehicles may be parked in any turtle habitat.
- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows and seasonal vernal pools.

**Purple milkweed (*Asclepias purpurascens*) State Special Concern**

Habitat: Dry soil. Roadsides, fields, borders of woods, on moist or dry soil. Blooms Jun, Jul.

Historical records for this plant are adjacent and nearby. We recommend where suitable habitat exists, you identify and protect suitable habitat and state listed species in your project area. You can benefit these species by seeking help from a plant ecologist who can create a management plan to enhance habitat where opportunities exist. A Botanist or Plant Ecologist will give you site specific management recommendations, but keep the following recommendations in mind as you manage your habitat:

- Minimize ground impact to sensitive habitat, and do not import other types of permanent fill.
- If sensitive habitats are disturbed, it is best to allow them to revegetate naturally or propagate only native vegetation.

This is determination is valid for two years.

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Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Bureau of Natural Resources and cooperating units of DEEP, independent conservation groups, and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDDB should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated in the NDDDB as it becomes available.

Please contact me if you have any questions ([shannon.kearney@ct.gov](mailto:shannon.kearney@ct.gov)). Thank you for consulting with the Natural Diversity Data Base and continuing to work with us to protect State-listed species.

Sincerely,

/s/ Shannon B. Kearney  
Wildlife Biologist

Cc: Steven Denino (Verogy, LLC)

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## APPENDIX D – Summary of Qualifications

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**Davison Environmental, LLC** provides consulting services in the areas of biological, wetland, and soil sciences. In addition to identification, description, and classification of natural resources, the firm also provides functional evaluation of wetlands and other biological systems, guidelines for mitigation of potential adverse impacts, and permit support through expert testimony and public representation. Services provided revolve around the impact of human activities on terrestrial, wetland, aquatic, and marine resources. The firm specializes in biological and wetland surveys, impact assessment, and mitigation planning.

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James Cowen

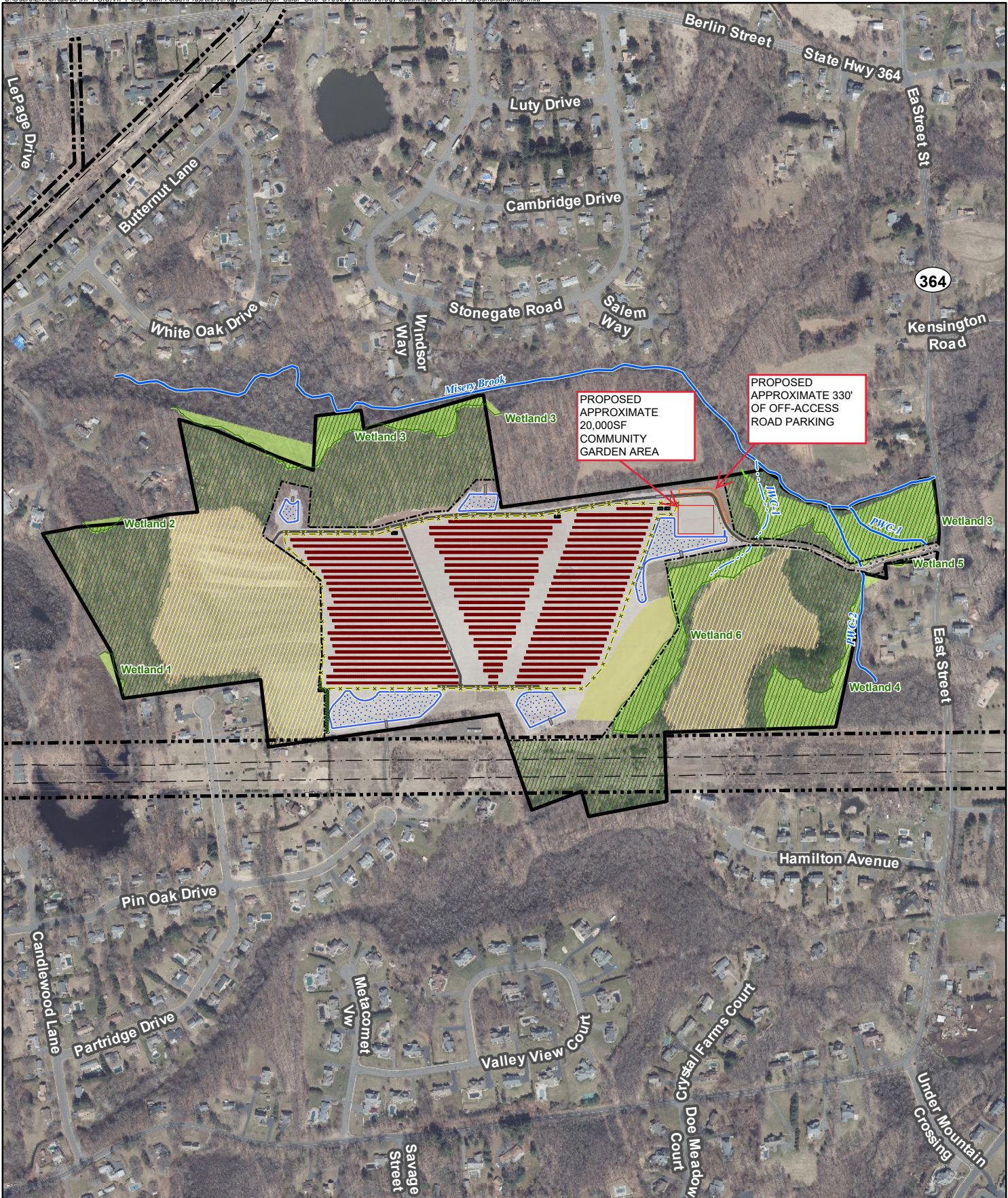
James Cowen has over 20 years of experience conducting botanical surveys in Connecticut. He is a Registered Soil Scientist, Certified Professional Wetland Scientist, and has previously served on the Board of Directors for the Connecticut Botanical Society. Mr. Cowen maintains a Connecticut Department of Energy and Environmental Protection Scientific Collector's Permit for the collection of plants. He holds a bachelor's degree in Biology and master's degree in Landscape Design.

Eric Davison

Eric Davison holds a bachelor's Degree in wildlife conservation from the University of Massachusetts. He is certified as both a Professional Wetland Scientist and Soil Scientist. Mr. Davison has experience conducting avian, amphibian and reptile surveys, evaluating and inventorying wetlands and conducting soil surveys in Connecticut. He has also experience conducted both Phase 1 and Phase 2 bog turtle assessments in Connecticut.

Aubree Keurajian

Aubree Keurajian has a bachelor's degree in the Science of Natural and Environmental Systems from Cornell University. She has worked as a Forest Ecology Field Technician at Duke and Indiana Universities, as well as a Seed Collection and Arid Land Restoration Technician at the Southern Nevada District Office of the Bureau of Land Management. Ms. Keurajian's experience includes botanical and faunal surveys and forest censuses, as well as insect identification and databasing from her time as a Collections Assistant at the Cornell University Insect Collection.



- Legend**
- Site
  - Lease Area
  - Existing Farm Field
  - Existing Woods/Wetlands
  - Utility ROW
  - Transmission Line
  - Perennial Stream
  - Intermittent Stream
  - Delineated Wetland Boundary
  - Delineated Wetlands Area
  - Limit of Disturbance
  - Treeline (Clearing Limit)
  - Perimeter Fence
  - Interconnection Path (Overhead)
  - Interconnection Path (Underground)
  - Interconnection Utility Pole
  - Solar Modules
  - Conc. Equipment Pad
  - Gravel Access Road
  - Gravel Access Road to be Improved
  - Stormwater Basin
  - Stormwater Basin Outlet Gravel
  - Vernal Pool Mitigation Area
  - Landscape Screening

**Community Garden Area:  
Proposed Conditions Map**  
Proposed Solar Facility - Southington Solar One  
1012 East Street  
Southington, Connecticut

**Southington Solar One, LLC**



**Map Notes:**  
Base Map Source: CTECO 2019 Aerial Photograph  
Map Scale: 1 inch = 600 feet  
Map Date: January 2021

