Robinson+Cole

JONATHAN H. SCHAEFER

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
jschaefer@rc.com
Direct (860) 275-8349

Also admitted in Massachusetts and Vermont

Via Electronic Mail (siting.council@ct.gov)

June 1, 2021

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

Re: **PETITION NO. 1443 - SR North Stonington, 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 9.9-megawatt AC solar photovoltaic electric generating facility on five parcels located north and south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 in North Stonington, Connecticut, and associated electrical interconnection**

Dear Attorney Bachman:

SR North Stonington, LLC hereby submits its initial responses to the Connecticut Siting Council's (Council) Interrogatories, as well as Attachments 1 through 18, issued on May 10, 2021 in connection with the above-referenced Petition.

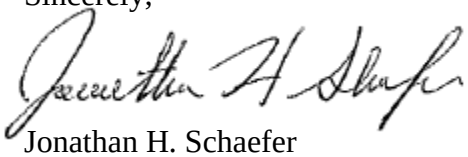
As noted in the written responses, Attachment 4, Attachment 5, and Attachment 15 are being filed as bulk exhibits. As such, only two (2) copies of these attachments are being provided in this filing.

Due to the size of Attachments 4, 5, 14, and 15 (approximately 203 MB) a link[1] to download a copy of Attachment 4, Attachment 5, Attachment 14, Parts 1 through 8, and Attachment 15 is being provided to the Council in order to access an electronic version.

[1] https://transfer.rc.com/message/7n5AsqH2ntjpSyVE0mbUtO

If you have any questions concerning this submittal, please contact me at your convenience.

Sincerely,



Jonathan H. Schaefer

Enclosures (One original and fifteen copies of Responses to Interrogatories 1 through 53 and Attachments 1-3, 6-13, 14 (Parts 1 through 8), 16-18; Two copies of Attachments 4, 5, and 15)

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
A PETITION FOR A DECLARATORY RULING, PURSUANT TO CONNECTICUT GENERAL STATUTES §4-176 AND §16-50K, FOR THE PROPOSED CONSTRUCTION, MAINTENANCE AND OPERATION OF A 9.9-MEGAWATT AC SOLAR PHOTOVOLTAIC ELECTRIC GENERATING FACILITY ON FIVE PARCELS LOCATED NORTH AND SOUTH OF PROVIDENCE NEW LONDON TURNPIKE (STATE ROUTE 184), WEST OF BOOMBRIDGE ROAD AND NORTH OF INTERSTATE 95 IN NORTH STONINGTON, CONNECTICUT, AND ASSOCIATED ELECTRICAL INTERCONNECTION	:	PETITION NO. 1443
	:	JUNE 1, 2021

RESPONSES OF SR NORTH STONINGTON, LLC
TO CONNECTICUT SITING COUNCIL INTERROGATORIES

On May 10, 2021, the Connecticut Siting Council ("Council") issued Interrogatories to SR North Stonington, LLC ("Petitioner"), relating to Petition No. 1443. Below are the Petitioner's responses to the interrogatories.

The responses below reflect the modifications the Petitioner made to the Petition Exhibit A (Preliminary Site Plan) and submitted to the Council and further described in a letter submitted this same date.

Public and Municipal Outreach

Question No. 1

Referencing page 14 of the Petition, SR North Stonington, LLC (SRNS or Petitioner) sent postcard mailers to abutting property owners during the fall of 2020 and provided formal notice to abutters on February 23, 2021. Summarize any feedback that the Petitioner received

from abutters. How were any concerns addressed?

Response

The Petitioner was contacted by two neighbors in response to the postcard mailers in the fall of 2020, but neither provide any feedback. Three abutters contacted the Petitioner after the February 23, 2021 notice of the Petition was sent to abutting property owners. Two of those abutters discussed with the Petitioner the potential of stormwater runoff and how such runoff may impact their respective properties. The third abutter requested more information from the Petitioner to further review the Project. The Petitioner promptly provided this abutter with a link to the webpage for this Petition on the Council's website.

Question No. 2

Identify any project features or changes/updates to the project that address neighborhood concerns.

Response

The Petitioner has listened to and taken into consideration neighborhood concerns it has received in writing, during a public meeting of the Town Planning and Zoning Commission, and during a Site tour with neighbors and Town representatives. The Petitioner understands that many in the neighborhood around the Site and certain municipal officials would like the Project to be located entirely on the parcels located south of the Providence-New London Turnpike (Route 184). However, due to the presence of sensitive environmental resources located on those southern parcels, especially in and around the former gravel pits, it is not possible to maintain the Project's necessary output, maintain appropriate buffers between developed areas and sensitive environmental resources, and leave the parcels to the north of Route 184 undeveloped. That said, the Petitioner took the concerns of the neighborhood and the Town seriously and undertook an

extensive redesign of the Project. As part of the Project redesign, the Petitioner sought to marry the use of new equipment and civil design techniques to reduce the overall footprint of the Project and reduce the overall number of panels on the northern parcels (north of Route 184) to the greatest extend possible. Where panels remain on the northern parcels, the Petitioner was able to reduce the limits of disturbance and tree clearing, wetland impacts, and impacts to abutting properties.

While the Petitioner had anticipated many of the concerns with its original design, it was constrained in its options to address them for several reasons, including: its contractual obligation to produce 9.9 MW of electricity under its Power Purchase Agreement (PPA) and Small-Scale Energy Request for Proposal ("RFP") award; the output of the commercially available solar modules; and topography and environmental conditions at the Site. The output from the solar modules was the only one of these variables completely within the Petitioner's control. Even prior to submitting its Petition, the Petitioner had been aggressively exploring alternative module options. In April, the Petitioner was able to secure a sufficient supply of Hanwha QCell's newest solar module – Q.Peak Duo XL-G10.3/BFG 475. These bifacial modules will provide a significantly higher wattage (output) than the module considered as part of the original Project design. As a result of the increased output per module, the Petitioner was able to meet its contractual obligation under the PPA and RFP award using fewer modules. By reducing the number of modules, the Petitioner's design team had more flexibility in the Project layout. The Petitioner used this flexibility to address what it perceived to be the most significant concerns and questions raised to date, whether by the Council, the Town, neighbors, or other state agencies.

The redesigned Project reflects: (i) a reduction in the Project's Limit of Disturbance; (ii) a reduction in tree clearing; (iii) a reduction in site grading; (iv) an increase in setbacks from important environmental resources (e.g., wetlands, vernal pools); and (v) a reduction in the number of panels located on the northern parcels, north of Route 184. The redesigned Project reflects an approximately three (3) acre decrease in the overall footprint of the Project and a two (2) acre reduction in tree clearing.

Attachment 1 is a revised Preliminary Site Layout Plan (Petition, Exhibit A (rev. 5.14.21)). Attachment 2 is a map illustrating the modifications made to the original Project design (Comparison Map (Exhibit 2)). Attachment 3 is an Overall Civil Plan (Exhibit 1) of the redesigned Project.

In addition, Attachment 4 is a revised Stormwater Pollution Control Plan (Petition, Exhibit V (rev. 1; 5.25.2021)), including a revised Site Civil Design (Petition, Exhibit V, Appendix C (rev. 5.28.21)), and Attachment 5 is revised Preliminary Drainage Report (Petition, Exhibit Z (rev. 2; 5.24.2021)). Due to their size, two hard copies of Attachment 4 and Attachment 5 are submitted in bulk to Council staff.

The Comparison Map (Exhibit 2) (Attachment 2) is broken down into sections identified as Area 1, Area 2, Area 3, and Area 4.

Area 1 – Northwest Solar Array. The Petitioner removed a significant number of solar panels from the steeper slopes in this array and removed all panels from the one-hundred foot (100') wetland buffer area. These modifications substantially reduced the amount of grading necessary in this area. As a result of the reduced size of the array, the stormwater basin was also reduced in size. The Petitioner also was able to reduce the length of the access driveway by more than fifty-one percent (51%) – from six hundred seventy-five linear feet (675') to three hundred

twenty-seven linear feet (327').With these modifications, the new Limits of Disturbance will be a minimum of fifty feet (50') from downgradient wetlands/watercourses, which will minimize impact. These modifications resulted in a reduction of the Limit of Disturbance in Area 1 by approximately three quarters (0.75) of an acre and grading was reduced by approximately fifty percent (50%) from the original Project design.

Area 2 – Northeast Solar Array. The Petitioner has removed all of the solar panels and the associated drainage basins that were located west of Wetland C-2 and north of the stream connecting Wetland B-2 and Wetland A-2. These modifications substantially reduced the amount of grading necessary in this portion of the northern parcels and removed all development activity from the one-hundred foot (100') buffer for Vernal Pool 1 and Wetland A-2. The Petitioner also removed the wetland crossing southwest of Wetland B-2; thereby reducing wetland impacts. As a result of these modifications and the reduced size of the remaining array, the stormwater basin was reconfigured and moved to the northeast away from Vernal Pool 1 and Wetland A-2. The Petitioner also was able to substantially reduce the length of the access driveway by more than seventy-one percent (71%) – from one thousand five hundred fifty linear feet (1,550') to four hundred forty-two linear feet (442') – which also reduced impacts to steeper slopes. These adjustments resulted in a significant reduction of Limit of Disturbance and tree clearing in this area. The Limit of Disturbance and tree clearing in Area 2 were each reduced by approximately five (5) acres.

For Area 1 and Area 2 combined, which are the northern parcels, tree clearing was reduced by more than forty percent (40%) and the Limits of Disturbance were reduced by more than thirty-five percent (35%). In addition, cut requirements were reduced by more than sixty-

three percent (63%) and the fill requirements were reduced by approximately ninety percent (90%).

Area 3 – Southwest Solar Array. The stormwater basin on the east side of this solar array and the Limits of Disturbance were moved out of the one-hundred foot (100') Vernal Pool Envelope for Vernal Pool E, which eliminates the potential impact on Vernal Pool E as shown in the original Project design. The redesigned Project does not involve any permanent or temporary disturbances within the one-hundred foot (100') Vernal Pool Envelope for Vernal Pool E. The Petitioner was also able to relocate a significant number of panels from the northern parcels to the southern portion of this southwest array. As a result, the stormwater basin on the south side of this solar array was reconfigured and moved to the southwest, but still remains outside the one-hundred-foot (100') buffer around the small family cemetery referenced in the Petition. With these modifications, the new Limits of Disturbance will be a minimum of fifty feet (50') buffer to downgradient wetlands/watercourses, which will minimize impact.

As a result of the relocation of panels from the northern parcels, the total Limit of Disturbance in Area 3 was increased approximately three (3) acres. This area was selected for the relocated panels because it has some of the flattest terrain on the Site and had sufficient buffers from sensitive environmental resources. As such, the relocation of the panels from the northern parcels reduced environmental impacts on the northern parcels and resulted in only minimal additional environmental impacts on southern parcels, which mostly consist of modest additional grading.

Area 4 – Southeast Solar Array. The panels on the southerly side of this array were moved north and allowed for the shifting of the stormwater basin to the north onto less steep terrain. This modification also resulted in an overall reduction in required grading in the

northeast and northwest portion of this solar array and an overall reduction in the Limit of Disturbance. This modification confirms there will be no permanent or temporary disturbances within the one-hundred foot (100') Vernal Pool Envelope for both Vernal Pool I or Vernal Pool G. Also, with this modification, the new Limits of Disturbance will be a minimum of a fifty foot (50') non-disturbance buffer upland of Wetland B/1B.

For Area 3 and Area 4 combined, which are the developed portions of the southern parcels, tree clearing increased by approximately twenty-five percent (25%) and the Limits of Disturbance increased by approximately nine percent (9%). In addition, grading cut increased by approximately fourteen percent (14%), but grading fill was reduced by more than twenty percent (20%).

For the Project, as a result of the redesign, the cut and fill requirements for the Project were reduced by more than twenty-five percent (25%) and more than sixty-eight percent (68%), respectively. In addition, the redesigned Project has reduced wetland and water course impacts by more than twenty-seven percent (27%) – from approximately 3,794 square feet to approximately 2,720 square feet.

Through the redesign efforts, the Petitioner has also ensured that the Project can comply with Appendix I – Stormwater Management at Solar Array Construction Projects of the Connecticut Department of Energy and Environmental Protection, Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity to protect the vernal pools, wetlands, and critical terrestrial habitat on the Site.

Question No. 3

Please respond to the following Town of North Stonington (Town) comments:

a) Planning and Zoning Commission and Inland Wetland Commission Chairman

comments dated March 25, 2021;

b) Town Board of Selectman comments dated March 26, 2021; and

c) additional Planning and Zoning Commission and Inland Wetland Commission comments dated April 26, 2021.

Response

a) The Petitioner's responses to the Planning and Zoning Commission and Inland Wetland Commission Chairman dated March 25, 2021 are provided below. In several instances the comments refer to local Planning and Zoning and Inland Wetland Regulations. As the Council and the Town are aware, the Project is under the exclusive jurisdiction of the Council. The Council's authority preempts and supersedes local regulations and standards.

Noise Impact and Concerns. The Petitioner engaged Urban Solution Group ("USG") to conduct the Noise Impact Assessment ("NIA") (Petition, Exhibit N). When USG conducted the NIA it assumed no significant noise reduction effects from the trees on the subject parcels. In other words, in the model used, trees are assumed to be acoustically transparent. Rather, when assessing potential noise impacts USG considers effects of ground absorption, topography, atmospheric absorption, and environmental conditions (such as humidity, temperature, wind, etc.), but excludes any excess attenuation from trees.

As for the potential for an increase in the noise impact from I-95, Route 184, and the animal boarding facility, not only do the existing trees not provide a significant noise reduction, but none of the other factors involved in determining noise impact will remain unchanged (*e.g.*, existing topography, proximity of I-95 and Route 184, receptor locations) once the Project is developed. As such, any increase in noise levels from I-95, Route 184, and/or the animal boarding facility would not be audible (*i.e.*, less than 3dB difference).

Visual Impact. The renderings submitted with the Petition were focused on views from Providence-New London Turnpike (Route 184), to the closest solar arrays to the public right of way ("PROW") (the southwesterly array). Clearing of the trees along the south side of Route 184 will make this portion of the Project Area visible from the PROW. Due to existing vegetation along the northerly side of Route 184, the northwest and northeast solar arrays, in the original Project design as well as the redesigned Project, will not be visible from the PROW. The Petitioner cannot access private property to assess visual impacts without permission of the individual owners. The original Project design included a one hundred ten foot (110') tree buffer between the Providence-New London Turnpike and the panels north of Route 184. With the redesigned Project this tree buffer has increased to one hundred and eighty (180') feet.

The Site Civil Design plans (Petition, Exhibit V, Appendix C) submitted with the Petition show the exact property lines and residential structures in relation to the panels and limits of clearing. As noted in response to Interrogatory No. 2 above, an updated Site Civil Design (Petition, Exhibit V, Appendix C (rev. 5.28.21)) has been submitted. In addition, Attachment 6 identifies the distance between the Project and the closest property lines and abutting residences. On April 6 and April 7, 2021, the Petitioner met individually with five (5) of the abutters with residences closest to the Project's Limit of Disturbance to discuss the Project, including design, construction, and operations and maintenance, and to listen to each of their property-specific concerns. Based on the redesigned Project, seven (7) homes are expected to have year around views of some portion of the ground mounted solar arrays. Petitioner has spoken with several abutters who have expressed interest in increasing the height of existing stonewalls along their existing property lines to help mitigate visual impacts and maintain the character of the area. Other concerns with fencing material are addressed in the response to Interrogatory No. 3(b)

below.

The final location of the three (3) utility poles that will be used to inter-connect the Project to the existing electric distribution system is solely determined by Eversource. The locations have not yet been identified. Based on preliminary conversations with Eversource, the poles are likely to be located within the proposed laydown yard between Providence-New London Turnpike and the MV (medium voltage) Switchgear near the southwesterly solar array.

Environmental Concerns. Contrary to the Town's comments, the Site has been extensively assessed from an environmental perspective. The spadefoot toad survey, which is underway this season, is the only remaining environmental assessment not completed. The quote the Town included in its comments was from a consultant's Phase I Environmental Site Assessment, which was only one piece of the extensive environmental assessment work conducted by the Petitioner's experienced consultant team.

As described throughout the Petition and these interrogatory responses, the Petitioner and its consultant team believe that the gravel pit area contains important environmental resources worthy of protection including complexes of varying wetland habitat types, numerous vernal pool habitats, and habitat for several state-listed species. Also, as a result of the redesigned Project, impacts associated with the solar arrays on the northern parcels have been significantly reduced, including the elimination of any encroachment into the Vernal Pool Envelope for Vernal Pool 1, one of the Site's more productive vernal pools.

In connection with the Project's Integrated Vegetation Management Plan the Petitioner consulted with American Solar Grazing Association, a 501(c)(3) nonprofit organization with a network of interested sheep farmers in Connecticut; however, the farmer for this Project has not yet been selected. The Petitioner strictly follows the guidelines of the USDA for grazing

restriction protocol. In the rare case that a herbicide is required, the product selected would target the specific weed species, and follow grazing restrictions set by USDA, which is the common practice in pasture livestock systems. The farmer selected for services at the Project will be required to develop an Animal Welfare Plan aligned with Animal Welfare Approved or Global Animal Partnership.

In regard to the Petitioner's potential use of herbicides and pesticides, see the response to Interrogatory No. 32. For information on the presence of hazardous materials in the modules, see the response to Interrogatory No. 52. For information on the Project's Spill Prevention, Control, and Countermeasure Plan (SPCC), see the response to Interrogatory No. 35.

Archaeological Assessment. An Archaeological Sensitivity Assessment ("Assessment") and Phase I Reconnaissance Survey ("RAS") were completed on the Petitioner's entire property and submitted as Petition, Exhibit P and Petition Exhibit S, respectively. The RAS includes a detailed assessment of the entire 'northern parcel' including 'Old Route 184', where the area was deemed 'sensitive', which meant that there was the potential to recover archaeological evidence of past Native American occupation/activity. Subsequent field work was conducted, and it did not recover any evidence of Native American activity in the area. The Assessment and RAS were completed in a manner that meets the standards of the Connecticut SHPO. SHPO agreed with the Assessment and RAS findings and issued a letter of concurrence (Petition, Exhibit R and Petition, Exhibit X, respectively) that the Project would not adversely affect any historic properties and the low-density scatter of common types of historic artifacts is not eligible for listing.

b) The following are the Petitioner's responses to the Town's Board of Selectman comments dated March 26, 2021. See the response in Interrogatory No. 2 and 3(a) regarding

relocation of panels to the gravel pit area.

Core Forest. UConn's Center for Land Use Education and Research's ("CLEAR") Forest Fragmentation Analysis ("FFA")[1] study, designates "core forest" as greater than 300 feet from non-forested habitat. This 300-foot zone is referred to as the "edge width" and represents sub-optimal breeding habitat for forest-interior birds due to decreased forest quality, increased levels of disturbance, and increased rates of nest predation and brood parasitism within this transitional forest edge. The FFA study identifies three categories of core forest: small (< 250 acres); medium (250-500 acres); and large (>500 acres). The absolute minimum forest patch size needed to support area-sensitive edge-intolerant species is 250 acres. This definition excludes forest areas whose habitat value is degraded by edge effects to a degree that no core forest patch exists. This definition is consistent with the criteria CT DEEP utilizes in developing its GIS screening tool. As shown in the Attachment 7 (Detailed Core Forest Map; Petition, Exhibit C (rev. 05.26.21), the Project will impact approximately two-tenths (0.20) of an acre area of forest free from edge effects (greater than three-hundred feet (300') from a forest edge). However, the total contiguous area of this forest is only thirteen and a half (13.5) acres and as such would be classified as a small core forest patch at the very small end of that scale. Considering the small size of the existing small core forest patch and existing perforations and edge effect, the Project would not likely result in a significant negative impact to core forest habitat. It should also be noted that the redesigned Project reduces tree clearing on the northern parcels by nearly fifty percent (50%) – from 19.2 acres to 10.5 acres.

Old Route 184. Prior to submitting the Petition, Public Archaeology Laboratory (PAL), on behalf of the Petitioner completed a robust Archaeological Assessment (Petition, Exhibit P) of

[1] CLEAR's FFA: http://clear.uconn.edu/projects/landscape/forestfrag/forestfrag_public%20summary.pdf.

the Site and submitted the same to the State Historic Preservation Office (SHPO) for review (Petition, Exhibit Q). SHPO concurred with the findings of the Archaeological Assessment and agreed with the additional work PAL proposed (Petition, Exhibit R). PAL then completed a robust Technical Report consistent with SHPO's instructions and submitted the same to SHPO (Petition, Exhibit S). The SHPO reviewed the Technical Report and issued a letter of concurrence finding that: 1) the Project would not affect any historic properties; 2) the low-density scatter of common types of historic artifacts is not eligible for listing on the National Register of Historic Places; and 3) no additional testing of the Site is warranted (Petition, Exhibit X). After extensive review and fieldwork by PAL, the Petitioner has no reason to believe and is not aware of any incomplete or undocumented artifacts as suggested by the Board of Selectman.

Noise. See the response to Interrogatory No. 3(a).

Fencing. The height and materials of the fence are governed by the standards of the National Electric Code Article 691.4, which requires fencing for a photovoltaic solar plant of this size. It refers to Article 110.31, which states that a fence shall be either at least seven feet (7') tall or six feet (6') tall with three or more strands of barbed wire and states: "*The type of enclosure used in a given case shall be designed and constructed according to the nature and degree of the hazard(s) associated with the installation."* The Petitioner was advised by abutters and found extensive evidence on Site through its field diligence that the 'southern parcel' has been historically trespassed (all-terrain vehicles, campfires, and illegal dumping). Even after the Petitioner installed a lock and gate closing the access to the 'southern parcel', bike tracks and new trash indicated that trespassing may still be occurring. Public welfare and safety are of the utmost importance to the Petitioner. Given the standards of the National Electric Code and historical trespassing, it is the Petitioner's opinion that the proposed fence provides the most

safety and promotion of public welfare over any alternative fencing options.

c) The following are the Petitioner's responses to the additional Planning and Zoning Commission and Inland Wetland Commission comments dated April 26, 2021.

The Petitioner is unable to speak to any comments made by Connecticut Energy Parks, LLC ("CEP") either to the Town or in its 2016 submission in response to DEEP's Request For Proposal ("RFP"). The Petitioner has no affiliation with CEP or its personnel beyond acquisition of the Project and its real estate interests in June 2018. The Petitioner will note that extensive site diligence and environmental reviews were not a part of the 2015 RFP process or evaluation prior to DEEP's award under the RFP. Thus, statements made in response to DEEP's RFP were likely made after only a preliminary evaluation of site conditions and resources.

After the project was awarded, a more comprehensive site due diligence investigation was undertaken, during which it became apparent that additional land would be needed to support the project due to the discovery of environmental constraints located on the southern parcels in and around the old gravel pit area. Because this additional land was not a part of the original RFP response and subsequent power purchase agreement (PPA) CEP filed a motion with the Public Utilities Regulatory Authority (PURA) to amend the existing PPA to add two additional parcels north of Route 184 (together referred to as "the northern parcel"). That request was approved by PURA on June 13, 2018. *See* Attachment 8. In its approval of the motion, PURA states that the approval to add the two additional parcels is to allow for more design flexibility and to minimize to the extent possible, environmental effects. As described throughout the Petition and these interrogatory responses, the Petitioner and its consultants believe that the gravel pit area contains important environmental resources worthy of protection including complexes of varying wetland habitat types, numerous vernal pool habitats, and habitat for

several state-listed species. Also, as a result of the redesigned Project, impacts associated with the solar arrays on the northern parcel have been significantly reduced, including removal of any encroachment into the Vernal Pool Envelope to one of the Site's more productive vernal pools, Vernal Pool-1.

Project Development

Question No. 4

If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)? Would U.S. Army Corps of Engineers permitting be required for any of the proposed wetland and watercourse crossings?

Response

As currently proposed, the following permits will be required for construction and operation of the Project:

a. Connecticut Department of Energy and Environmental Protection, Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity
b. United States Army Corps of Engineer New England District – Connecticut General Permits as a Self-Verification Notification Form eligible project under Federal Clean Water Act Sections 404 and 401 (401 Water Quality Certificate administered by Connecticut Department of Energy & Environmental Protection)
c. Building and Electrical Permit from Town of North Stonington
d. Municipal Road Opening Permit
e. Connecticut Department of Transportation Encroachment Permit

Question No. 5

If the power purchase agreement expires and is not renewed and the solar facility has not

reached the end of its lifespan, will the Petitioner decommission the facility or seek other revenue mechanisms for the power produced by the facility?

Response

The Petitioner has not identified potential alternatives for off-take outside of the PPA at this time. The Petitioner anticipates conducting an evaluation occurring closer to the end of the PPA.

Question No. 6

Did the Petitioner participate in ISO-NE Forward Capacity Auction #15? If so, what was the result? Does the Petitioner intend to participate in future Forward Capacity Auctions? If yes, which auction(s) and capacity commitment period(s)?

Response

No, the Petitioner did not participate in ISO-NE Forward Capacity Auction #15. Currently, there are no plans to participate in the ISO-NE Capacity Auction. The option will be evaluated at each annual auction milestone.

Proposed Site

Question No. 7

Is the site parcel, or any portion thereof, part of the Public Act 490 Program? If so, how does the municipal land use code classify the parcel(s)? How would the project affect the use classification?

Response

No.

Question No. 8

Has the State of Connecticut Department of Agriculture purchased any development

rights for the project site or any portion of the project site as part of the State Program for the Preservation of Agricultural Land?

Response

No.

Question No. 9

Is any portion of the site still currently in productive agricultural use? If so, how many acres and is it used by the property owner or is it leased to a third party?

Response

No.

Question No. 10

Provide the distance, direction and address of the nearest property line and nearest off-site residence for the portions of the project located north of Providence New London Turnpike and located south of Providence New London Turnpike.

Response

Based on the Project redesign, most of the setback distances to the nearest property lines and adjacent residences have increased significantly.

For the portions of the Project located north of Route 184 the nearest property line to the Project's Limit of Disturbance is approximately seven feet (7') to the southeast (477 Providence-New London Turnpike) and the nearest off-site residence to the Project's Limit of Disturbance is eighty-two feet (82') to the southeast (477 Providence-New London Turnpike). *See* Attachment 6.

For the portions of the Project located south of Route 184 the nearest property line to the Project's Limit of Disturbance is approximately one half foot (0.5') to the north (476

Providence-New London Turnpike) and the nearest off-site residence to the Project's Limit of Disturbance is one-hundred and four feet (104') to the north (476 Providence-New London Turnpike). *See* Attachment 6.

Energy Output

Question No. 11

Referencing page 6 of the Petition, the proposed solar panels would be 455 Watts each. Is that wattage based on the front side of the panel only?

Response

In connection with the redesigned Project, the Petitioner has recently procured a higher wattage bi-facial module, which is now 475 watts allowing for the installation of fewer panels and a reduction in the Project's Limits of Disturbance. This wattage, as with the original module, is based on the front and back sides of the panel.

Question No. 12

Referencing page 9 of the Petition, does the proposed capacity factor of about 21 percent take into account bi-facial effects for the solar panels, or is it based on the front sides of the panels only?

Response

The capacity factor of approximately twenty-one percent (21%) is for the bi-facial module, including the front and back sides. This remains the same with the new modules being used in the redesigned Project.

Question No. 13

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

Response

Yes, electrical losses have been factored into the output of the Project. The output of the redesigned Project at the point of interconnection is 9.9MWac.

Question No. 14

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

Response

The Petitioner has no plans to incorporate a battery energy storage system into the Project.

Question No. 15

Could the project be designed to serve as a microgrid?

Response

The Project was not contemplated to serve as a microgrid and would require extensive design changes to do so, including, but not limited to the inclusion of an energy storage component.

Question No. 16

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

Response

Solar facilities do not present any particular challenge for the independent system

operator for balancing loads and generation. The utility completed a distribution System Impact Study which assesses the impacts of the proposed Project on the distribution systems. The study found the Project to be compliant with all requirements detailed in the Eversource and UI Generation Interconnection Technical Requirements document. The Project will reduce active power when frequency is too far above 60Hz, if required to by the utility. Due to interconnection limitations, the Petitioner does not have underfrequency control. Because the interconnecting utility manages underfrequency events, the Petitioner is unaware of any challenges that ISO-NE may have. The interconnecting utility has indicated that the Project will manage reactive power and power factor under a set voltage schedule, which schedule has not been provided yet.

Site Components and Solar Equipment

Question No. 17

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, e.g. sheep?

Response

All exposed wiring is UV-rated USE-2 Solar Wire commonly used as solar power cable in green energy applications. The cross-linked insulation is a general purpose, chemically cross-linked polyethylene compound combining the best properties of rubber and polyethylene to provide a thermosetting material with excellent thermal, electrical and physical properties. This is secured to the hardware supporting the solar modules (racking) by UV-rated stainless-steel bundle straps at a minimum of three feet (3') above grade to protect it from small animals and damage during mowing operations. In prior projects with similar installations and site conditions, including the presence of sheep, the Petitioner has not witnessed any tampering with the wiring

installation from sheep on the project site. The Petitioner does not anticipate that the protected wiring systems will be adversely impacted by wildlife or vegetation management efforts.

Question No. 18

Provide the lengths of the proposed access drives (in linear feet) for each of the four array areas.

Response

After the recent Project redesign undertaken by the Petitioner, the access driveway lengths have been reduced by a total of 1,665 linear feet. This includes a reduction from: 2,445 to 2,252 linear feet in the southeast solar array; 2,086 to 2,070 linear feet in the southwest solar array; 675 to 327 linear feet in the northwest solar array; and 1,550 to 442 linear feet in the northeast solar array.

Question No. 19

What is the minimum aisle width at which the solar panel rows could be installed?

Response

Inter-row spacing is determined based upon constructability, maintenance, and performance considerations. Equipment must be hauled between the rows during the construction process and routine operations (*e.g.,* potentially mowing) require adequate clear space between rows. Additionally, shorter spacing between rows contributes to shading of the solar modules, in particular with the racking architecture proposed for the Project, which directly affects performance. The industry standard typically provides ten and half feet (10.5') to twelve feet (12') of clear row spacing. In an effort to increase wetland and other buffers, the Petitioner has decreased the clear space between rows to eight and half feet (8.5'), which is the shortest distance to allow for standard operations and to maintain the output required under the PPA.

Interconnection

Question No. 20

Where on the electrical interconnection route would the demarcation point (or location of change of control from the Petitioner to Eversource) be located?

Response

The point of demarcation is located on the load side of the primary meter.

Question No. 21

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

Response

No, ISO-NE is not required to review the interconnection of the Project. However, ISO-NE did review and approve the Project's Distribution System Impact Study in July 2020.

Question No. 22

Referencing page 19 of the Petition, the nearest airport is Westerly State Airport in Washington County, Rhode Island. Is this the nearest federally-obligated airport? Is a glare analysis required to comply with FAA policy?

Response

No, Westerly State Airport is not a federal-obligated airport. T. F Green International Airport in Warwick, Rhode Island is the nearest federally-obligated airport, being approximately thirty two and six tenth (32.6) miles from the Site. Utilizing the FAA Notice Criteria Tool, the Project does not exceed FAA notice criteria. Therefore, additional consultation with the FAA, including a glare analysis for the Project, is not required.

Question No. 23

Page 6 of the Petition notes that the maximum height of the solar panels above grade

would be 11 feet. Referencing Tab O of the Petition, the FAA Notice Criteria Tool utilized a structure height of 10 feet. Please clarify the discrepancy.

Response

Please see updated Notice Criteria Tool as Attachment 9.

Question No. 24

Has the Petitioner consulted with DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins?

Response

The Petitioner requested that the DEEP Dam Safety program attend the Petitioner's pre-application meeting in September 2020. However, a representative of the Dam Safety program was not in attendance. The Petitioner will consult with the DEEP Dam Safety program through its permitting process with DEEP for the Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity.

Environmental

Question No. 25

Referencing page 16 of the Petition, the Petitioner notes that there would be approximately 46 acres of tree clearing. Tab L of the Petition estimates that, in North Stonington, the average tree density is about 76 trees (six inches diameter or greater) per acre. How was the total removal of 3,397 trees computed?

Response

This was a typographical error, as the proper calculation is 3,496. However, as a result of the redesigned Project, tree clearing has been reduced from forty-six (46) acres to forty-four (44) acres reducing the number of tree to be cleared to approximately 3,344.

Question No. 26

Please respond to the March 25, 2021 comments from the Council on Environmental Quality.

Response

The Council on Environmental Quality ("CEQ") comments were grouped into six main categories. The following are the Petitioner's response to each of these categories.

Wetlands and Vernal Pools. The driveway located west of the Project's northwest solar array (north of Route 184) referenced in CEQ's comments is located on an adjacent residential parcel that is not under the control of the Petitioner and therefore is not an appropriate alternative to the proposed access to the northwest solar array.

The proposed access to the northwest solar array crosses Wetland A-2 at a narrow point in the wetland system that primarily consists of an intermittent watercourse feature. This crossing would incorporate design elements that comply with recommendations in the DEEP Inland Fisheries Division Habitat Conservation and Enhancement Program Stream Crossing Guidelines (February 26, 2008) to minimize impacts associated with a relatively small area of impact (approximately 628 sq. ft.). The Petitioner disagrees with CEQ's characterization of this crossing as "a substantial wetlands crossing" since the area is relatively small and natural stream crossing design standards will be incorporated to avoid any upstream/downstream hydraulic impacts and any aquatic organism movement through this narrow feature would be maintained with the design.

The minimum twenty-five foot (25') buffer was used as an initial design constraint, taking into consideration existing conditions, including characterization of upland review area habitats, relatively quality of wetland resources, etc. It is not uncommon for buffers to be

evaluated as having two or more sub-areas based on their primary function, or as a hierarchy to the buffer zone. The first approximately twenty-five feet (25') of upland adjacent to a wetland or watercourse are usually the most important. For example, this inner buffer zone can include stream banks that may be subject to periodic inundation and may convey and or store floodwaters. Bank vegetation provides root mass that stabilizes banks and the canopy reduces rainfall energy. This inner buffer zone also often supports an interface between aquatic and terrestrial habitat and its vegetation that provides shade to moderate water temperature fluctuations. Vegetative zones up to approximately fifty feet (50') feet serve important sources of coarse woody debris, detritus, and organic matter that serves as the base of the food chain. The first fifty feet (50') adjacent to a wetland also serves important surface water runoff treatment functions through filtration, absorption, infiltrations, and attenuation of runoff through vegetation. As the buffer zone expands beyond approximately fifty feet (50'), benefits to nearby wetlands and watercourses begin to diminish and are less focused on direct water resources protection.

For these reasons, avoiding or minimizing encroachment within twenty-five feet (25') of wetland resource areas served as an initial design constraint for the Project. The redesigned Project was sensitive to maximizing wetland buffers with a particular focus on high-functioning wetland systems and special aquatic habitats (*e.g.*, vernal pools with highly productive pools having conservation priority).

The Petitioner was successful through the Project redesign in eliminating any encroachment into the Vernal Pool Envelop ("VPE") of the highest productive vernal pools, Vernal Pool-1 and Vernal Pool-E. Please refer to the Petitioner's response to Interrogatory No. 37 for a detailed discussion of the redesigned Project's evaluation of potential vernal pool

impacts and how the Project complies with current vernal pool best management practices.

For a detailed discussion of how the redesigned Project has accommodated larger buffers to wetland resource areas that now include one-hundred foot (100') buffers from the Project's fence and fifty foot (50') buffers from limits of disturbance in many locations, please refer to the response to Interrogatory No. 2.

Wildlife. A comprehensive rare species protection plan will be developed through the Petitioner's ongoing consultation with the Department of Energy & Environmental Protection ("DEEP") Natural Diversity Data Base ("NDDB") for northern long-eared bat, red bat, ribbon snake, eastern box turtle, spotted turtle, and potentially eastern spadefoot toad. The last three of these listed species are documented to occur in the southern portion of the Site that contains the former sand and gravel pit area. This area is not proposed to be disturbed by the Project and the Petitioner intends to conserve this area, which in addition to supporting rare species also contains numerous vernal pool and wetland habitats. A protection plan will follow current best management practices recommended by DEEP NDDB for protection of these species during construction of the Project and will be similar to previous rare species protection plans that have been proposed on other Dockets and Petitions considered and approved by the Connecticut Siting Council.

Vegetation. The Petitioner will utilize integrated pest management ("IPM") techniques for the application of any herbicides or pesticides. However, the proposed vegetation management techniques for this Project – livestock grazing within the fenced arrays and mechanical for maintained vegetation around the fenced perimeter – generally do not require the application of herbicides, pesticides, or fertilizers. In the rare cases that such applications are required (*i.e.*, control of invasive plants), focused low-volume spot applications would occur and

there would be no broad applications of herbicides or pesticides. Please refer to the response to Interrogatory No. 32 for a detailed discussion of the proposed Integrated Vegetation Management Plan.

Visibility. *See* response to Interrogatory No. 3(a).

Core Forest. The Project will not have a likely adverse effect on core forest habitat. Please refer to the response to Interrogatory No. 3 for a detailed discussion on an evaluation of the Project's core forest impacts.

Stormwater. The statement in the Petitioner's Stormwater Pollution Control Plan referenced by CEQ was meant to reference 3:1 slopes over eight feet (8') in height; however, the redesigned Project does not have any such slopes. The Petitioner would also like to clarify that it does not plan to dewater wastewater within the one-hundred foot (100') buffer for wetlands and watercourses. As the Petitioner stated in other responses (*e.g.*, response to Interrogatory No. 2), the redesigned Project complies with Appendix I – Stormwater Management at Solar Array Construction Projects of the Connecticut Department of Energy and Environmental Protection's Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity

Question No. 27

Please respond to the April 6, 2021 comments from the Department of Agriculture.

Response

The following are the Petitioner's responses to the recommendations included in the Department of Agriculture's April 6, 2021 letter.

With regard to the first recommendation, the Petitioner has extensively evaluated alternative layouts. These evaluations have considered whether disturbance of prime farmland soils impacts could be avoided. The redesigned Project will impact only a small area of prime

farmland soils (approximately one half (0.5) acre). Other sensitive environmental resources (*e.g.*, wetlands, vernal pools, rare species habitats) limit the Petitioner's ability to relocate the Project in a manner that would avoid any prime farmland soils impacts. Considering the minimal area of prime farmland soils impacts associated with the redesigned Project, there will not be a significant reduction to prime farmland soils to North Stonington or the region.

With regard to the second recommendation, as part of the Project redesign the Petitioner considered the examples provided by the Department of Agriculture to lessen the Project's impacts to agricultural resources. As noted in response to Interrogatory No. 2, the redesigned Project has a reduced overall footprint as a result of a more efficient design. As part of the Project redesign, the Petitioner went to great lengths to minimize impact to sensitive resources on the Site, including wetlands, vernal pools and rare species habitat. The Petitioner has also increased buffers to these sensitive receptors as part of the redesigned Project. This includes limiting open areas around the solar arrays (*i.e.*, area between the arrays and fencing) to provide greater buffers between the developed areas and sensitive receptors and neighboring properties. As a result, limited area is available around the fenced arrays that could be used for the cultivation of crops and/or a community garden. Furthermore, establishment of cultivated land around the perimeter of the Project would in many cases require extensive clearing of mature vegetation that borders on wetlands, intermittent watercourses, and sensitive aquatic habitats (*i.e.*, vernal pools) and would be counter to the United States Department of Agriculture Natural Resources Conservation Service's national and state policy of maintaining and restoring buffers to protect water quality and wildlife habitat.

As the Petitioner as described in its Integrated Vegetation Management Plan (Petition, Exhibit M), and in its responses to these Interrogatories (i.e., Interrogatory No. 32), the Petitioner

has always planned to utilize sheep for vegetation control within the fenced arrays. As the Petitioner indicates in its response to Interrogatory No. 32, within and around the fenced arrays the Petitioner it will be utilizing a regionally appropriate and diverse seed mix in order to provide cost-effective soil stabilization, reach habitat and pollinator goals, and livestock production targets.

Question No. 28

Did the Petitioner conduct a Shade Study Analysis? Would shading present any challenges for the proposed project? If so, of the approximately 46 acres of tree clearing, approximately what acreage constitutes mitigation for shading? How were the limits of tree shading determined?

Response

Yes, the Petitioner conducted a shade analysis for the redesigned Project. Shading does have a negative impact on the output performance of the solar panels. Shading constraints were estimated at an average tree height of seventy feet (70'). The typical engineering approach for elimination of shading around a solar array is to double the average tree height and locate arrays at least that far away from the tree line. For example, with an average tree height of seventy feet (70'), the closest tree should be no less than one hundred and forty feet (140') from any of the solar arrays.

However, the redesigned Project only involves a very limited amount of tree clearing for shading mitigation purposes. The Petitioner has estimated that less than approximately five percent (5%) of the forty-four (44) acres of tree clearing for the redesigned Project is being undertaken to address shade mitigation. In order to preserve trees, reduce environmental impacts, and reduce visual impacts, the Petitioner has elected to clear significantly fewer trees than it

would normally clear in effort to maximize production.

Question No. 29

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?

Response

See Attachment 10.

Question No. 30

Referencing Tab Z of the Petition – Preliminary Drainage Assessment, Custom Soil Resource Report, pp. 9-11, the subject property has Hinckley Soils in the southeastern limits of the property. Are eastern spadefoot occurrences typically correlated with the presence of Hinckley Soils? If yes, is the percent slope of the soils (e.g. 3 to 15 and 15 to 45 percent) a factor in the likelihood of eastern spadefoot presence?

Response

The eastern spadefoot distribution in Connecticut is strongly correlated with Pleistocene glacial lake deposits. They are associated with low-lying (typically below 300 feet (91 m) in elevation) early successional and agricultural habitats, underlain by well-drained sandy and gravelly soils. In eastern Connecticut, eastern spadefoot populations are strongly correlated with Hinckley Soil deposits. The percent slope of Hinckley Soils is not a factor in the likelihood of eastern spadefoot presence.

Question No. 31

Referencing page 24 of the Petition, the Petitioner notes that, "An eastern spadefoot toad survey is scheduled for May 2021." Provide the status of such survey.

Response

This survey will take place throughout the 2021 field season. The survey will include nocturnal visual encounter surveys and radio-tracking of eastern spadefoot toads to better inform project planning to minimize any potential impacts to eastern spadefoot toads and their habitats. Surveys unassociated with the Project have been conducted in the past at control sites across the Quinebaug Valley, including two along Boombridge Road in North Stonington.

The Petitioner's consultant, Dennis Quinn, made several attempts throughout May to begin the eastern spadefoot toad survey. Mr. Quinn made several visits to the Site, however, optimal conditions survey conditions for the eastern spadefoot have not yet occurred in 2021. To date has not not observed any eastern spadefoot toads. However, he did observe at least one (1) eastern spadefoot toad at a nearby control site at the end of May. Emergence and activity of eastern spadefoot toads has been abnormal this field season due to the lack of rain and cold night-time temperatures, often falling into the mid-forties, which is well below the typical night-time temperatures for this time of year and within which eastern spadefoot toads come out to forage.

The Petitioner will update the Council on its efforts to complete the eastern spadefoot toad survey at the June 8, 2021 hearing.

Question No. 32

Page 17 of the Petition notes that sheep grazing would be used as the lead vegetative control measure. Please respond to the following regarding the proposed sheep grazing plans:

a) Is livestock grazing an integral component of the project, or can the project proceed without livestock grazing?

b) Has the Petitioner consulted with any interested sheep farmers for this project?

c) Did the Petitioner consult with the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) regarding a suitable quantity of sheep to host at the site? If yes, approximately how many sheep (in total) would be located at the site?

d) During approximately which months of the year would sheep be located at the site?

e) Would sheep be located within all five fenced solar array areas?

f) Is the specified seed mix for the solar array area specific to livestock grazing?

g) Would sheep be grazing adjacent to residences? Were area residences notified that livestock grazing would occur at the site?

h) Should noise from livestock become an issue, could the locations where sheep are located at the site be modified in the future?

i) Are any sheds or shelters necessary/proposed for the site? If so, where would they be located?

j) Would livestock manure affect water quality in any downgradient wetlands/watercourses? How would such effects be mitigated?

Response

In the Integrated Vegetation Management Plan (Petition, Exhibit M), the Petitioner stated that it plans to integrate regenerative agricultural practices into the long-term land and vegetation management strategy. The Petitioner then noted that this "consists of biological control methods

(Adaptive Multi-Paddock sheep grazing), mechanical, and chemical control measures as needed . . . ." While sheep may be used as a method of vegetative control on the Site, the Petitioner did not state that sheep will be used as the lead of vegetative control. Both biological and mechanical control methods will be employed to meet solar industry vegetation management performance specifications. Herbicides will only to be used as required by local, state, and federal regulations for control of noxious and invasive weeds. It is the Petitioner's strong preference not to use herbicides.

a) Livestock grazing is not an integral component of the Project, but does reduce the need for motorized landscaping vehicles and equipment and contributes to lowering operating expenses over the useful life of the Project while keeping land in agricultural production.

b) Yes. The Petitioner consulted with the American Solar Grazing Association, a 501(c)(3) nonprofit organization with a network of interested sheep farmers in Connecticut.

c) The Petitioner has not yet contacted the USDA-NRCS about the Project. The Petitioner has worked with USDA-NRCS at various other projects for grazing, planning, and seed selection. The Petitioner utilizes Adaptive Multi-Paddock Grazing (AMP Grazing), in which a flock is moved around the Site rapidly, mimicking the grassland-ruminant relationship. Flock size and grazing plan is based on many considerations, including: seasonal precipitation, forage quality/quantity, production goals, plant response variable, desired recovery period for vegetation/habitat goals.

d) Sheep could be located on the Site during the months of June, July, August, September, and/or October.

e) The sheep would be rotated through each array and/or subdivided array. The sheep would not spend more than three (3) days in any one particular array or subdivided array.

f) A regionally appropriate and diverse seed mix will be used to provide cost-effective soil stabilization, reach habitat and pollinator goals, and livestock production targets.

g) The Petitioner plans to utilize all four (4) array areas for sheep grazing. The postcard mailers sent to abutting property owners in 2020 included a request for a local sheep farmer partner. The Petitioner provided each abutting property owner with notice of the Petition, after which time abutting property owners could access the Petition on the Council's website. In addition, the Petitioner discussed its vegetation management plan, including sheep grazing, during a March 11, 2021 virtual public presentation to the Town Planning and Zoning Commission and with participants at a March 23, 2021 on-site community meeting and tour of the Site, which mainly consisted of Town officials and area residents. On both occasions the Petitioner received both positive feedback and interest for more information. To date, the Petitioner has not been notified by any abutters of concerns with the utilization of sheep on the Site. The Site is already abutted by two (2) canine kennels (454 Providence-New London Turnpike and 204 Boom Bridge Road).

h) Yes, the Petitioner has some flexibility in the location of the sheep on the Site. Though it should be noted that sheep are a relatively quiet species of livestock.

i) No shed or shelter is necessary or proposed.

j) No, the sheep would be rotated rapidly through the arrays. Typically spending less than three (3) days in each array. This results in manures being homogenously spread across the Site. Thus, the manure would serve to fertilize vegetation, which improves and expedites vegetation establishment leading to lower stormwater runoff and more infiltration.

Question No. 33

Are there any wells on the site or in the vicinity of the site? If so, how would the

petitioner protect the wells and/or water quality from construction impacts?

Response

There are no drinking water wells on the Project Site. Private well information for several, but not all, of the abutting properties was provided by the Ledge Light Health District. *See* Attachment 11. Also included in Attachment 12, is a table summarizing the well information provided, including the address of the abutting property where the wells are located and the depth of the well on each parcel, if available. It is not clear from the information provided whether each of the wells identified are used for the supply of residential drinking water.

The final design of the racking system has not been determined. Racking will consist of a combination of driven posts, drilled piers and/or ground screws, with maximum depths extending to approximately ten feet (10'). Subsurface conditions will dictate the specific type of support mechanism to be employed at the post locations.

Based on this data, and the separating distances from the Project to neighboring properties, the Petitioner does not anticipate construction activities will affect surrounding wells or water quality. Inserting the racking posts into these soil conditions is not expected to cause excessive vibrations beyond the Project and would therefore not represent a concern for causing sediment releases to nearby wells. Although the specific construction of these wells is unknown, it is likely that any potable drinking water wells are installed within the bedrock aquifer, not in the overburden material, at depths far exceeding the construction zone. As a result, no disruption to well water flow or water quality is anticipated and therefore no special precautions are warranted.

Question No. 34

Referencing page 15 of the Petition, the Petitioner notes that, "Some hazardous

substances are required to be used or stored on Site during construction or operation of the Project, including gasoline or diesel-powered equipment during construction activities, requiring fuel storage." Identify the proposed fuel storage location(s).

Response

Fuel will be stored in the laydown area on the south side of Route 184. This location did not change from the original Project design to the redesigned Project. The Petitioner anticipates having three (3) 500-gallon aboveground storage tanks in this location. Each tank will be double walled and use secondary containment to prevent fuel discharges with a spill kit located nearby for immediate clean up, if needed.

Question No. 35

Referencing page 16 of the Petition, a Spill Prevention, Control, and Countermeasure Plan (SPCC) would be implemented at the site. Please provide a copy of the SPCC.

Response

See Attachment 13 for a draft Spill Prevention, Control, and Countermeasure Plan ("SPCC"). The draft SPCC may be updated or refined in advance of construction based on the final layout and construction plans.

Question No. 36

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

Response

The rows of solar panels are not considered "closed systems," because there are gaps between each module (both north/south and east/west). As such, the drip edge of each solar panel will not have an impact on the Site's drainage patterns, as stormwater will flow off the panels at

multiple locations as the panels follow the contours of the existing land. For the same reason, after construction is complete and the Site is fully stabilized, channelization along the drip edge is not expected.

Question No. 37

Would the proposed project be consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices?

Response

Yes, the redesigned Project is consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices, as explained below.

In Petition Exhibit U (Wetland and Habitat Report), the Project's impacts to vernal pool habitats were evaluated using Best Development Practices ("BDP"; Calhoun and Klemens, 2002) guidance which relies on concentric circles as a management tool used to evaluate vernal pool impacts. That analysis revealed that for Vernal Pool 1 and Vernal Pool E, ("VP-1" and "VP-E"), the guidance for avoiding encroachment into the Vernal Pool Envelope ("VPE"; 0-100 feet from vernal pool edge) was not provided by the Project's original design and the extent of development exceeded twenty-five percent (25%) with the Critical Terrestrial Habitat ("CTH"; 100-750 feet from vernal pool edge) guidance. All of the other nine (9) vernal pools complied with the BDP guidance in the developed condition. It should be pointed out that the redesigned Project now avoids any disturbance to the VPE for either VP-1 or VP-E and has reduced the area of development within the CTH, although they still exceed the twenty-five percent (25%) development guidance.

It is worth noting that the BDP this is not the only vernal pool assessment methodology recognized by regulatory agencies. The US Army Corps of Engineers New England District

relies on an updated methodology developed by Calhoun titled Vernal Pool Best Management Practices ("BMPs") (January 2015).); the Connecticut Siting Council also recognizes this updated methodology. These BMPs contain some similar criteria as the BDP guidance but also allow a more flexible approach focusing on conserving more essential forested travel corridor habitats, known as "directional corridors," as opposed to the concentric circle approach used in the 2002 guidance. The directional corridor methodology focuses on conserving the network of connected habitat elements along these directional corridors that link habitats essential to vernal pool species (i.e., breeding pools, forested wetlands, forested uplands). When evaluating a project's impact to the CTH, it is important to identify and assess impacts to these more essential herpetofauna directional corridors that exist between the breeding pool, the supporting wooded terrestrial habitat (considered optimal habitat for the primarily forest dwelling vernal pool indicator species), and any wetland habitat that could serve as staging habitat during migration.

Although there will be development proposed by the redesigned Project within the CTH of VP-1, the buffer to the nearest Project activity has been expanded from approximately sixty feet (60') to approximately three hundred twenty-seven feet (327') with the northeastern solar array (*see* Attachment 2, Area 2 (north of Route 184)) being significantly reduced in size (*see* response to Interrogatory No. 2 for a detailed discussion). In addition, an approximately three hundred sixty foot (360') buffer is provided to the proposed solar array located in the northwestern portion of the Site (*see* Attachment 2, Area 1 (north of Route 184)). The principal directional corridors associated with VP-1 would occur primarily along the wetland corridor that extends north and off-site onto an adjacent parcel. This directional corridor connects to both forested wetland habitat and terrestrial forested habitat both in the northeast portion of the Site and on the adjacent parcel.

The redesigned Project considered the principal directional corridor and removed the original solar array proposed in the far northeast corner of the Site. Not only did this allow for removal of the crossing over Wetland B-2, but it also conserves the terrestrial habitat that borders on the east side of Wetland A-2 as it extends to the boundary of northern parcel. This conserved area contains optimal CTH habitat that supports forested wetland habitat that would be used during the summer and intervening/adjacent forested uplands, providing suitable habitat for both migration linking those habitats as well as optimal terrestrial hibernation habitat. Therefore, the redesigned Project would comply with the BMPs and not result in a likely adverse impact to VP-1.

For VP-E, the redesigned Project eliminated encroachment into the VPE, expanding the buffer from approximately sixty feet (60') to approximately one hundred fifty feet (150') (to limit of disturbance)/approximately 205 feet (to fence line) from the southwest solar array (*see* Attachment 2, Area 3 (south of Route 184)). An approximately four-hundred foot (400') buffer is being provided on the east side of VP-E to the solar array located in the eastern portion of the Site (*see* Attachment 2, Area 4 (south of Route 184)).

The other important design modification pertinent to VP-E is the shifting of the stormwater basin to the north. The original Project design of the basin placed it close to VP-E and the outlet from the basin was directed towards VP-E with the stormwater discharge occurring approximately fifty feet (50') away. Due to the location and proximity of this stormwater discharge, there would have been the potential for hydrology and water quality impacts to VP-E that may have resulted in an adverse effect to breeding activity and juvenile development by vernal pool indicator species. In response to these potential concerns, the Petitioner moved the basin further to the north so that the stormwater outfall from the new basin

location would be approximately two-hundred feet (200') from VP-E, allowing for sufficient travel distance and time of concentration to avoid any hydrology or water quality impacts by the time it reaches VP-E.

As part of the redesigned Project, the Petitioner considered moving the stormwater basin to the south, but that would have resulted in changes to existing drainage patterns that potentially could have had a negative effect on the hydrology of VP-E; diverting some of the watershed away from VP-E could result in shortening of the pool's hydroperiod and decrease the depth of inundation to a degree that juvenile development of vernal pool indicator species and successful metamorphosis would not occur before the pool dried up.

The primary directional corridor for VP-E is associated with Wetland E, particularly to the north where it links to optimal forested terrestrial habitat in the northeast corner of the Project (*see* Attachment 2 (north of Area 4 and south of Route 184)). This conserved area contains optimal CTH habitat that supports forested wetland habitat that would be used during the summer and intervening/adjacent forested uplands that provide suitable habitat for both migration linking those habitats as well as optimal terrestrial hibernation habitat. Therefore, the redesigned Project would comply with the BMPs and not result in a likely adverse impact to VP-E.

Question No. 38

What is the host municipality's setback regulation from wetlands?

Response

The latest available version of the Inland Wetlands and Watercourses Regulations of the Town of North Stonington (revised through March 14, 2012) define "Regulated Area" as "any inland wetland or watercourse…whether or not they appear on the official Inland Wetlands and

Watercourses Map of the Town of North Stonington, as well as land within 100 feet in a horizontal direction of any wetland or watercourse. These regulations define "Upland Review Area" as "land areas situated within 100 feet from the boundary of any inland wetland or watercourse." It should be pointed out that the 100-foot Upland Review Area is not a "setback" or "buffer" or non-disturbance area per se, but just as the term indicates – an upland review area that extends 100 feet from the boundary of a wetland or watercourse.

Question No. 39

Referencing page 28 of the Petition, the Petitioner notes that, "The Site is located within an Aquifer Protection Zone." Is the site located within a municipal aquifer protection zone? Explain.

Response

The latest available North Stonington Aquifer Protection Areas map (per North Stonington Planning and Zoning Map) (map #1839 R3; map date 9/4/2013) depicts the Site as being located within an "Aquifer Protection Zone – Town".

Question No. 40

Referencing page 7 of the Petition, the Petitioner notes that, "Panel foundations would be secured using either a driven pile technology or ground screws." Would pile-driven posts be used as the primary method with ground screws as a secondary/backup method or vice versa?

Response

The Petitioner anticipates utilizing ground screws as the primary method of panel foundation.

Question No. 41

What is the length of the posts or ground screws (as applicable), and to what depth would

they be driven into the ground? Are any impacts to groundwater quality anticipated? If so, how would the Petitioner manage and/or mitigate these impacts?

Response

The racking foundation will be utilizing a screw or post that will be installed to a depth of approximately six feet (6') to seven feet (7') below grade. The Petitioner does not anticipate groundwater quality issues associated with the use of either ground screws or posts in this manner.

Question No. 42

Where is the nearest parcel used for publicly accessible recreational purposes? Describe the visibility of the proposed project from this parcel.

Response

The closest recreational area accessible by the public is the Samuel Cote Preserve on the south side of Route 216 (Clarks Falls Road) approximately nine-tenths (0.90) of a mile from the limits of disturbance on the new design. The redesigned Project will not be visible from the Samuel Cote Preserve.

Question No. 43

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

For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site

features include, but are not limited to, as applicable:

1. wetlands, watercourses and vernal pools;
2. forest/forest edge areas;
3. agricultural soil areas;
4. sloping terrain;
5. proposed stormwater control features;
6. nearest residences;
7. site access and interior access road(s);
8. utility pads/electrical interconnection(s);
9. clearing limits/property lines;
10. mitigation areas; and
11. any other noteworthy features relative to the Project.

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

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

Response

See Attachment 14, Parts 1 through 8.

Facility Construction

Question No. 44

Referencing page 14 of the Petition, the Petitioner met with DEEP on two different dates to discuss various aspects of the project. On which date(s) did the Petitioner discuss stormwater design with DEEP? Please describe any recommendations, comments or concerns about the project provided by the Stormwater Division. What is the status of the Stormwater Permit?

Response

The Petitioner discussed stormwater design with DEEP during both meetings referenced on page 14 of the Petition. The recommendations made by DEEP during these meetings can be summarized as follows:

a) The Petitioner should utilize, as a conservative approach to design, the January 2020 Stormwater Guidance document in design calculations for stormwater runoff. DEEP is open to alternative suggestions for a design which uses a conservative approach, which may be reviewed at the Petitioner's request.

b) The Council will likely review buffer areas around wetlands and watercourses and DEEP recommends maintaining at least a one hundred-foot (100') buffer width for the more pristine areas; however, where areas are previously disturbed or shown to be of lower quality, a smaller buffer may be acceptable.

c) Erosion and sedimentation controls should be designed to fit the Site, especially in areas where steep slopes will be a concern for water quantity and velocity.

d) Consult with the U.S. Army Corps of Engineers to determine, while unlikely, if the wetlands on the Site are under federal jurisdiction.

The comments made by DEEP during these meetings can be summarized as follows:

a) Sites that are cannot comply with the Stormwater General Permit, prior to or after the amendment to Appendix I effective January 1, 2021, should be submitted to DEEP for an individual stormwater permit.
b) DEEP's timeframe for reviewing an individual permit application could be one hundred and eighty (180) days or more compared with ninety (90) days for the General Permit.
c) If there is an encroachment on a wetland or watercourse, the USACE should be contacted to see if the activity will require a permit under 404 Water Quality Certification, which will then require a permit from DEEP Land and Water Resources Division
d) A P.E. stamp is required on plans when they are being submitted to DEEP.

Question No. 45

Did the Petitioner discuss with DEEP Stormwater Division the possibility of hosting sheep at the site and any potential impacts to stormwater and the stormwater permitting process? If yes, what was the outcome?

Response

The Petitioner has not yet discussed with DEEP Stormwater Division the anticipated use of sheep as a part of its Integrated Vegetation Management Plan. The Petitioner will provide information to DEEP, as applicable, during the process of registering for the Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activity.

Question No. 46

Would the project comply with Section 2(a) of Appendix I – Stormwater Management at Solar Array Construction Projects – of the DEEP General Permit? If yes, please describe in detail how it would comply. Section 2(a) is as follows:

(2) (a) Prior to commencing construction activities, the Permittee shall ensure that the following setback and buffer shall be delineated and maintained on the site:

(i) No solar panel associated with a solar array shall be located within one-hundred (100) feet of any wetland or waters ("the 100-foot setback") that, prior to or after construction, is located downgradient of such construction activity or within fifty (50) feet of any property boundary ("the 50-foot setback") that, prior to or after construction, is located downgradient of such construction activity; and

(ii) Except as provided in section 2(a)(iii), there shall be an undisturbed buffer of at least fifty (50) feet between any construction activity at a site and any wetland or waters that, prior to or after construction, is located downgradient of such construction activity ("the 50-foot buffer"). Such buffer shall be comprised of existing dense herbaceous vegetative ground cover (e.g. not forested area). If the entirety of such buffer is not comprised of existing dense herbaceous vegetative ground cover, such buffer shall be at least one-hundred (100) feet ("the 100-foot buffer").

(iii) There shall be an undisturbed buffer of at least ten (10) feet between any construction activity at a site associated with an access road or the electrical interconnection necessary for the solar array and any wetland or waters that, prior to or after construction, is located downgradient of such construction activity ("10-foot buffer"), except if the access road or electrical interconnection passes between two wetland or waters and the undisturbed buffer cannot be achieved. Any crossing through a wetland or waters for an access road or electrical interconnection is exempt from such buffer requirement.

(b) Notwithstanding section 2(a)(ii), the 50-foot buffer or 100-foot buffer, as applicable, may be reduced, only where necessary, but by no more than fifty percent (50%), only if all of the following have been demonstrated to the satisfaction of the commissioner by approval of a Registration:

(i) Stormwater control measures for managing stormwater discharges that will enter or be received by a wetland or waters shall be designed and installed in accordance with the following conditions:

(A) a minimum sediment load reduction of ninety percent (90%) shall be achieved before such discharges enter or are received by a wetland or waters. The required sediment load reduction shall be calculated based solely on the stormwater controls used; no sediment load reduction from conditions on the site (i.e., from any remaining buffer) shall be considered when calculating the sediment load reduction from such stormwater controls. The sediment load reduction may be calculated using a range of available models that are available to facilitate this calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other equivalent independent third party model or method acceptable to the commissioner;

(B) those portions of a solar array from which stormwater discharges enter or will be received by a wetland or waters shall be deemed effective impervious cover for the purposes of calculating Stream Channel Protection in accordance with Section 7.6.1 of the Stormwater Quality Manual, even if those portions of such array are less than one (1) acre; and

(C) the buffer into which stormwater discharges shall have a slope of less than or equal to fifteen percent (15%)

Response

Yes. The redesigned Project will comply with Section 2(a) of Appendix I. As Attachment 2 demonstrates, no solar panels will be located within one hundred feet (100') of any wetland or waters and a fifty foot (50') undisturbed buffer will exist between any construction activity and any wetlands or waters that, prior to or after construction, are located downgradient of such construction activity.

Question No. 47

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

a) Will the site be graded? If so, in what areas?

b) What is the desired slope within the solar array areas?

c) Could the solar field areas be installed with minimal alteration to existing slopes?

d) If minimal alteration of slopes are proposed, can existing vegetation be maintained to provide ground cover during construction?

e) Estimate the amounts of cut and fill in cubic yards for the access road(s)

f) Estimate the amounts of cut and fill in cubic yards for solar field grading.

g) If there is excess cut, will this material be removed from the site property or deposited on the site property?

Response

a) Yes, the Site will be graded in areas where topography is greater than twenty percent (20%) or in areas that need grading due to installation of basins, ditching, and access roads. As discussed in the response to Interrogatory No. 2 above, areas where grading is needed to accommodate the construction of the redesigned Project have been significantly reduced.

b) The desired slope within the solar array areas, due to racking equipment, is less than fifteen percent (15%) for construction and maintenance purposes. As part of the Petitioner's effort to reduce disturbances and grading, the redesigned Project includes slopes up to twenty percent (20%) in some locations.

c) The redesigned Project utilizes a racking system that allows for greater slopes (i.e., up to twenty percent (20%)). As a result, the Petitioner has reduced grading of the existing slopes.

d) Where possible the Petitioner will be maintaining existing vegetation.

e) With the redesigned Project, access road grading will now involve 2,227 cubic yards (cy) of cut and 2,193 cy of fill, which is a substantial reduction from the original Project design.

f) With the redesigned Project, solar field grading will now involve 1,046 cy of cut and 690 cy of fill, which is a substantial reduction from the original Project design. The remaining earthwork on the Site is in connection with stormwater

control features.

g) Any excess cut material will be removed from the Site.

Question No. 48

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

Response

The minimum road width required for post-construction use is typically a minimum of sixteen feet (16'). This width is necessary to provide access if replacement of large equipment, involving large trucks.

Question No. 49

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

Response

Yes, a geotechnical study of the Site has been completed. *See* Attachment 15.

Maintenance/Decommissioning

Question No. 50

Provide a post-construction Operations and Maintenance Plan (O&M Plan) that includes, as applicable, site and equipment inspections/repairs; snow removal procedures; and panel washing procedures and indicate if only water would be used for panel washing.

Response

See Attachment 16.

Question No. 51

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

Response

Yes. The Petitioner anticipates that a spare quantity of approximately 0.1% of installed modules will be stored on-site in a storage container. Petitioner will endeavor to keep these storage areas out of the line of site from area roads or adjacent residential properties. The storage container will be located either in the laydown area (south of Route 184) or adjacent to the stormwater basin near the southwest corner of the southwest solar array. Damaged panels are identified from direct current health analytics performed at the Site or through annual aerial thermal imaging of the Project.

Question No. 52

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 under current regulatory criteria? Please submit the specifications that indicate the proposed solar panels would not be characterized as hazardous waste. If the project is approved, would the Petitioner consider installing solar panels that are not classified as hazardous waste through TCLP testing?

Response

A significant driver of the Petitioner's redesign of the Project was the ability to secure a newer module with higher energy output than the module referenced in the Petition. The new module is a Q.Peak Duo XL-G10.3/BFG 475 and it is bifacial. A specification sheet for the new

solar module is included in Attachment 17. The manufacturer of these modules is Hanwha QCells. Hanwha provided the Petitioner with results of a Toxicity Characteristic Leaching Procedure (Test Method USEPA 1311:1992). This TCLP report included as Attachment 18, shows results for modules that Hanwha confirmed are substantially equivalent to the Q.Peak Duo XL-G10.3/BFG 475 modules. The results show that the metals used to construct the modules are not present at levels that would be considered toxic by the USEPA.

Question No. 53

Referencing Tab D of the Petition, the Project Decommissioning Plan did not mention the stormwater management system. Provide information as to what procedures, if any, would be used to remove the stormwater management system.

Response

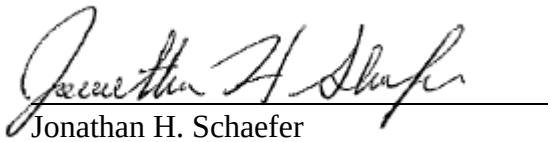
The Petitioner does not intend to modify the stormwater management system at the point of decommissioning. The stormwater management system is designed to function after any earthwork is complete and throughout the lifetime of the Project. No earthwork is expected at the time of decommissioning. The Petitioner anticipates that the stormwater management system will remain functional through the lifetime of the Project and after decommissioning.

CERTIFICATE OF SERVICE

I hereby certify that on the 1st day of June 2021, a copy of the foregoing was sent, via electronic mail, to:

Robert A. Avena
North Stonington Town Attorney
Suisman Shapiro
20 South Anguilla Road
P.O. Box 1445
Pawcatuck, CT 06379
ravena@sswbgg.com

Juliet Hodge
Planning, Development & Zoning Official
Town of North Stonington
40 Main Street
North Stonington, CT 06359
jhodge@northstoningtonct.gov



Jonathan H. Schaefer