

**Petition by GRE GACRUX LLC for a Declaratory Ruling,  
Pursuant to Connecticut General Statutes §4-176 and  
§16-50k, for the Proposed Construction, Maintenance  
and Operation of a 16 MW AC Ground-mounted Solar  
Photovoltaic Electric Generating Facility Located on Oil  
Mill Road in Watertown, Connecticut**

**Prepared for  
The Connecticut Siting Council**

**January 23, 2020**



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## 1.0 INTRODUCTION

This is a resubmission of a Petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, operation, and maintenance of the Waterford Renewable Energy project (the Project) proposed by GRE GACRUX LLC (the Petitioner; or Greenskies) in the Town of Waterford, Connecticut. The Project includes the development of a 16 megawatt (MW) alternating current (AC) ground-mounted solar photovoltaic (PV) system on one parcel of land in the Town of Waterford, Connecticut. The project will include approximately 46,000 solar modules totaling a DC capacity in the range of 19 MW. The exact capacity will depend on the rating of the modules at the time of construction.

The Project is located within an approximately 152.23 acre property (the Project Site) located entirely within the Town of Waterford. Within the Project Site, approximately 75 acres have been identified as the location for the Project (the Project Area). There are several single-family residences located within 1,000 feet from the Project Area, located along Oil Mill Road, with the closest residences abutting the Project Area adjacent to the site entrance at Oil Mill Road. The majority of residences are farther away and have natural vegetative barriers that screen them from the Project. The Project Site itself consists of a single parcel of land owned by Rosalie Irene Maguire and Todd Carl Willis, and that parcel is located at 117 Oil Mill Road and is currently zoned Rural Residential RU120. See Figure 1 – Site Location Map and Figure 2 – Project Zoning Map.

The Project, its design and applicable studies have been developed and redeveloped to minimize natural resource impact, carefully consider stormwater management both during and after construction, and address previous feedback from the Siting Council, the Connecticut Department of Energy and Environmental Protection (“CT DEEP”), the Town of Waterford, as well as feedback received from intervenors during the first Siting Council petition involving the Project.

As a result of the incorporation of this feedback, the Project proposed in this Petition is substantially improved from the previous version. Over the past year, the developer hired a new 3rd party environmental and engineering consultant, VHB, conducted significant onsite wildlife studies to confirm no negative impact, met with CT DEEP's stormwater staff on several occasions, and modified the design and increased the sub-surface investigations to confirm the Project's modified storm water design is correct. The system size and footprint of the Project has been scaled back to remove the most sensitive and challenging areas from the array footprint.

Many changes were made to the layout and design of the Project from the original Petition dated June 19, 2018. Approximately 100 test pit investigation holes have been excavated and inspected across the Site to aid in the design of stormwater management features. Infiltration testing was performed in the locations of proposed infiltration basins, and 50% of the lowest witnessed rate at each basin location was used in the hydrologic modelling, in accordance with the 2004 Connecticut Stormwater Quality Manual. Water quality is proposed to be treated in accordance with state regulations and by use of the latest guidance provided by CT DEEP as it relates to stormwater impacts from the development of solar projects.<sup>1</sup> The loss of a Hydrologic Soil Group (HSG) class for proposed conditions was used as a conservative measure in sizing the stormwater basins. Channel protection is also provided at each stormwater basin in accordance with the 2004 Connecticut Stormwater Quality Manual by mitigating 2-year proposed peak flows to 50% of the pre-condition rates. See Figure 3A – Design Comparison

In addition to the additional work performed for stormwater management design, a new detailed construction sequence and phasing plan has been designed for the Project. The Project team has met with CTDEEP Stormwater staff on several occasions to discuss the Project and in an effort to incorporate requested modifications. An NDDB Determination Request was prepared and submitted to NDDB staff for which a

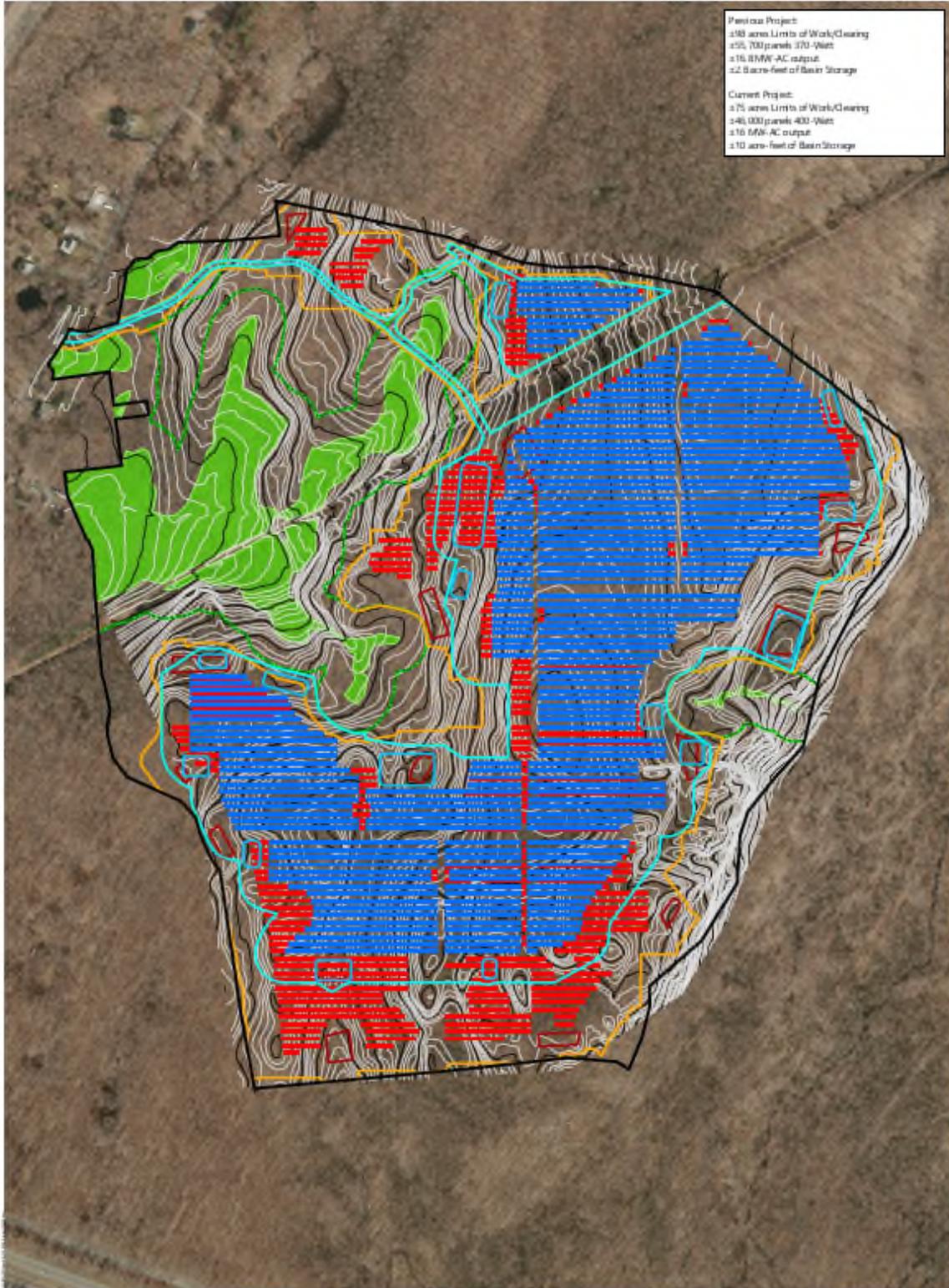
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<sup>1</sup> This guidance is often referred to as “Appendix I,” and can be found at: [https://www.ct.gov/deep/lib/deep/water\\_regulating\\_and\\_discharges/stormwater/construction/200108\\_Guidance\\_for\\_Construction\\_of\\_Solar\\_Array\\_Projects.pdf](https://www.ct.gov/deep/lib/deep/water_regulating_and_discharges/stormwater/construction/200108_Guidance_for_Construction_of_Solar_Array_Projects.pdf).

Preliminary Assessment was provided in response. Each species listed on the assessment was surveyed for at the Site, and the findings and any associated proposed conservation measures are included in a comprehensive wildlife report which was re-submitted to NDDDB for their review. These studies, discussed in detail later in section 6.9, address the concerns that were included in the letter from DEEP to the Siting Council in the original Petition, dated August 24, 2018.

Significant effort and re-design of the project was also put into addressing the feedback in the Town of Waterford's letter from the original Petition dated July 18, 2018. The design modifications include conducting approximately 100 test pit investigation holes to address stormwater concerns, additional infiltration testing, lowering the post-construction hydrologic soil group (HSG) by one class in order to be conservative when conducting infiltration calculations, and providing for channel protection for each stormwater basin. A detailed construction sequence and phasing plan was also designed for the Project, and an NDDDB Determination Request was prepared and submitted to NDDDB staff, and the response received from the staff has been addressed. The Project has also reduced the acres of disturbance involved with the Project from 98 acres to 75 acres. Finally, the Project has committed to cleaning the Project Site from recent timber harvesting activities. These updates were presented to the Town in a meeting on October 2nd, 2019 and are discussed in greater detail later in this Petition. To date, the Project has not received any comments from the Town regarding these proposed Project revisions.

The Project developer has continued to review the stormwater design of the project with CT DEEP and confirm there is a clear path for CT DEEP's approval of the Project, particularly with respect to stormwater compliance. Most recently, on December 17, 2019, representatives of the Project met with CT DEEP Stormwater Permitting personnel. The project engineer explained the project has been scaled back to mitigate potential stormwater impacts, with a reduction in system size. In addition, limits of clearing were reduced from 98 acres to 75 acres and a 100-foot wetland non-disturbance buffer was applied to the Project, as shown on the next page.



**Waterford Solar** | Waterford, Connecticut

**Design Comparison**

<ul style="list-style-type: none"> <li>— Parcel Boundary</li> <li>— Previous Panel Layout</li> <li>— Previous Limits of Work</li> <li>— Previous Stormwater Basins</li> </ul>	<ul style="list-style-type: none"> <li>— Current Panel Layout</li> <li>— Current Limits of Work</li> <li>— Current Stormwater Basins</li> </ul>	<ul style="list-style-type: none"> <li>— Wetland Resource Area</li> <li>— Delineated Wetland Edge</li> <li>— 100-Foot Upland Review Area</li> </ul>	<ul style="list-style-type: none"> <li>— 2-Foot Existing Contours</li> <li>— 10-Foot Existing Contours</li> </ul>
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The characteristics of this type of solar facility minimize the need for ground disturbance to the greatest extent feasible, avoid disruption of subsurface conditions, and allow for continued use of the Project Site as habitat for compatible species. *See* Figure 3 – Site Layout Plan.

In short, the proposed Project has been worked and re-worked to ensure all stormwater requirements are met and that the construction and operation do not create stormwater or water quality issues, that there are no negative impacts to any species of concern, and that the project design incorporates feedback from the local community as much as possible. The details surrounding these proposed Project revisions are discussed in greater detail below.

## 2.0 PETITIONER

GRE GACRUX LLC (“Greenskies”), a Connecticut limited liability company with offices at 180 Johnson Street, Middletown, CT, as Petitioner, proposes to develop, engineer, procure and construct (“EPC”) and own a Class I renewable energy resource (as defined by Section 16-1 (a) (20) of the Connecticut General Statutes). GRE GACRUX LLC is the developing Single Purpose Entity (“SPE”), while Greenskies Clean Energy, an affiliated entity and experienced Connecticut-based solar company, is the EPC partner.

Greenskies Clean Energy develops, finances, constructs, and maintains clean, renewable-energy projects in the United States. In conjunction with its affiliate, Clean Focus Yield, the company offers integrated solar and battery-storage solutions to C&I, municipal, and utility customers. From beginning to end – origination through construction and then lifetime operation – customers work with a single delivery team. Greenskies Clean Energy focuses on delivering clean energy, peak performance, and maximum energy savings. The company is an offshoot of Greenskies Renewable Energy LLC, which was founded in 2009 and has constructed and operates over 230 MW of C&I solar projects throughout the country. The power generated by the portfolio is sold under long-term contracts that are typically 20 years, and the majority of the buyers have investment-grade credit ratings.

As a vertically-integrated company, Greenskies Clean Energy manages every step of the solar development and implementation process. From project origination to design and engineering to construction and, ultimately, operation and maintenance, Greenskies Clean Energy brings years of industry knowledge and expertise at every level. Moreover, with hands-on management of on-site performance, both during construction and operation and maintenance, and sophisticated reporting processes in place, the company is able to ensure safety, quality control and optimal electrical generation throughout the life of each project.

Correspondence and communications regarding this Petition should be addressed to both of the following individuals:

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### **3.0 PROPOSED PROJECT**

The following sections provide details regarding Project Site selection; a description of the Project Site property and ownership; a description of Project features; plans for electrical interconnection; construction schedule and sequencing; operational and maintenance (O&M) information; and a decommissioning plan.

The proposed project includes the development, studies, design, construction, and operation of the solar PV energy generating facility. The PV project will interconnect with Eversource's existing power grid. The energy produced will all be sent into the grid and purchased by both Eversource and United Illuminating, Inc. The civil design for this project is completed by VHB with state licensed professional engineers.

#### **3.1 Site Selection**

The Waterford Project Site was selected by Greenskies to not only be suitable for a solar PV project but to also have minimal natural resource impacts, to not have adverse effects on quality forest land, and not diminish the quality of life of those who live in the vicinity. It is also important to select a site that allows interconnection of the generation facility to a feeder and substation of the utility company that is compatible with their grid and goal of better serving customers.

Greenskies conducted an extensive search researching both public and private land resulting in the selection of this parcel. Third party contractors are used to understand the biological, environmental, historical, and archeological impacts of solar development on selected sites. While all development has impact on the area and community it is our opinion that the social and environmental impacts of this project site are a net positive.

#### **3.2 Project Site Description**

The Waterford PV project is sited on a 152.23 acre area comprised of a single parcel in Waterford; Map #80 Lot #5497. The site is accessed from and is due east of Oil Mill

Road, and north of Interstate 95. The parcel is currently zoned Rural Residential RU120 and is bordered to the east and south by parcels located in the General Industrial I-G zone. The parcel is bisected by a 125-ft wide Connecticut Light & Power overhead electric transmission right-of-way that crosses the project site along a southwest-northeast axis. The parcel is characterized by a combination of low lying wetland areas and uplands consisting of forested hills and steep slopes. See Figure 4 – Site Aerial Map.

There are multiple independent wetlands and watercourses, and three identified vernal pools on the Project Site. However, the wetlands, watercourses and vernal pools are all avoided due to the design of the Project. In general, the topography of the land varies between low wetland and watercourse areas, and steeper hilly areas, with elevations ranging from 92 feet to 254 feet.

The subject property is located within the Southeast Coast Major Basin, the Southeast Western Complex, and Niantic River Drainage Basin. Approximately 80% of the Project Site is tributary to Oil Mill Brook, and the remaining 20% is tributary to Stony Brook along the eastern edge of the property. Both brooks ultimately discharge into the Niantic River and Long Island Sound. The Project Site is located outside of the coastal boundary according to the CT DEEP Coastal Boundary map for Waterford, CT.

Studies have been completed to understand the likelihood of historical significance on the site. More details on historical and environmental studies are provided later in the Petition.

Under existing conditions, the majority of the Project area is wooded. A timber harvest performed by the current land owner over the past couple years resulted in the cutting of approximately 45 acres of the Project's wooded area within the development limits, and a total of approximately 66 acres of the Site. Felled branches and wood chips were spread over much of the land surface as a result of the work. As part of the proposed solar project, Greenskies plans to perform an initial cleanup of the site in the areas where the timber harvest took place, as well as performing minor additional tree

clearing as required for the Project. The Project intends to clean up the wood chips and felled branches and reuse them in wood chip mulch berms around the perimeter of the Site in harmony with other proposed sediment & erosion measures. The areas cleaned in this way will be hydroseeded, with tackifier and polyacrylamide (PAM), and allowed to grow through a full growing season before any installation of solar equipment will be initiated. The intent will be to begin construction of the solar farm with a vegetated/stabilized Site as a base. This solution was arrived at, in part, as a result of feedback received during meetings with CT DEEP stormwater permitting staff.

The Town of Waterford zoning ordinances are silent with respect to the use of solar photovoltaic panels as a use in a residential zone. Also located within the RU120 zone to the west are single family residential properties along Oil Mill Road, and Interstate 395 further west. Multifamily residential property is located to the north of the project site. Directly east, and south of the project site are a combination of commercial uses located within the adjoining I-G General Industrial zone. Access to the project site is via an existing dirt road extending eastward from Oil Mill Road and located along the northwest corner of the Project Site.

Greenskies has full control of the parcel via a 20-year lease with the property owner. Greenskies can also extend the lease by an additional 15 years if needed. The land owner is in support of the Project Site being developed for the Project.

### **3.3 Project Description**

#### **3.3.1 Panel Arrays**

The photovoltaic arrays are anticipated to be comprised of 400 to 425-watt panels (depending on the state of module technology at the time of construction) arranged two-high in portrait set at an optimal angle to balance the solar yield, with the area of available areas within the property, to maximize annual energy production. The panels will be mounted on steel racking with either concrete ballast or driven posts to a depth to attain sufficient structural capacity to resist the loads from the weight of the panels, as well as environmental loads including snow, wind and seismic forces. The choice

between ballasting or driving posts will depend on the underlying ground under the panels, however, no blasting is anticipated to be conducted as a result of Site conditions. See Figure 3 – Site Layout Plan and electrical design drawings provided in Appendix A.

### **3.3.2 String Inverter Configuration**

The arrays are anticipated to be electrically orientated in direct-current strings of 18 panels, which will be combined with adjacent circuits for a total of 11 or 12 circuits into 60-to-65 kilowatt string inverters mounted throughout the array racking. The power from these inverters will be directed to various customer-owned transformer sections throughout the site, which will modify the voltage to enable the distances of the conduit runs.

### **3.3.3 Site Access and Laydown Areas**

The primary and sole site access point to the project site is proposed to be via an unpaved full-service access driveway from Oil Mill Road, which is a paved local road, at the northwestern end of the Project Site. There is currently an existing dirt road access drive extending from the east side of Oil Mill Road that provides site access.

A paved driveway apron is proposed to be constructed at the site driveway location within the right-of-way in accordance with local standards.

Approximately 14,000 LF of 15-ft wide internal gravel roads will be constructed within the Project area to provide centralized access to the proposed solar array, electrical equipment, and stormwater detention basins. To minimize site disturbance, the roadways are proposed to be constructed on prepared subgrades with a 12-inch layer of processed stone and matching existing grades to the greatest extent feasible. See Figure 3 – Site Layout Plan and Appendix A – Sheet 3.0 Layout and Materials Plan – Overall.

Laydown areas are proposed for each phase of construction. A detailed construction phasing sequence/plan has been prepared. Each site area will be protected by

construction of a sediment trap/basin that will be converted into a permanent stormwater management basin to manage post-construction stormwater runoff. Sedimentation and Erosion Control Plans have been developed in compliance with the Connecticut Guidelines for Soil Erosion and Sediment Control and with respect to the latest guidance from CT DEEP, including the guidance found in the latest iteration of Appendix I, as referenced in footnote 1.

### **3.3.4 Storm water Management**

A Stormwater Management Report has been prepared in accordance with the 2004 State of Connecticut Stormwater Quality Manual, the Minnesota Drainage Manual, along with CT DEEP Appendix I. A copy of this Report is attached as Appendix B.

As required and/or recommended, available soil mapping was reviewed and a hydrologic soil group confirmation study was performed in September 2019, along with a stormwater basin geotechnical investigation. In addition, an in-situ soil hydraulic conductivity testing was performed between February 22 and March 15, 2019. As indicated in the attached Report, pre-development drainage patterns have been maintained to the greatest extent feasible in an effort to maintain pre-development flows to existing wetland and watercourse areas.

A total of 15 stormwater management basins have been designed and are strategically located throughout the project site to mimic existing runoff collection areas that convey runoff to adjacent wetlands and watercourses. All basins have been designed at a minimum distance of 100-ft from delineated wetlands and watercourses, and in sensitive areas will discharge stormwater via a level spreader to mimic a sheet flow condition, and avoid point discharge.

A HydroCAD model, using TR-55 methodology, was developed to evaluate the existing and proposed drainage conditions of the property. The results of the analysis

demonstrate that there will not be an increase in peak stormwater runoff rates for the 2, 25, 50, and 100-year storm events.

### **3.3.5 Fencing**

A 7-foot high chain link fence is proposed to be installed around the perimeter of the solar array field to provide site security, as well as address NEC code requirements. The perimeter fencing will extend around the array and will provide a 6-inch gap between the bottom of the fence and existing ground, to allow small wildlife to traverse the site. An access gate, with locking hardware, is proposed at the primary site access drive and at key entry points to the arrays. *See Appendix A – Sheet 3.1 through 3.12 - Layout and Materials Plan.*

### **3.3.6 Construction Workspace, Clearing and Restoration**

Since the existing land use of the Project Site is primarily forested, significant clearing within the boundary of the site perimeter fence and the limits of disturbance will be required. Clearing is required to provide for construction of the arrays, detention ponds, access road grading and to reduce shading of the solar arrays. The Owner of the property has already undertaken selective clearing of the Project Site for a wood harvest. Approximately 75 acres of the Project Site will be cleared in total for the proposed Project construction.

No tree clearing will take place within 100-ft of designated inland wetlands and watercourses, with the exception of minor selective clearing in locations where the existing dirt access road will be improved.

Restoration of the Project Site within the limits of disturbance is proposed to include new low-maintenance ground cover within the solar array field and adjacent to the perimeter fencing. Establishing vegetative cover will help to stabilize the soil and reduce

stormwater runoff. Areas between the perimeter fence and the limits of clearing will receive a mix of native low-lying plants, shrubs, and groundcover.

### **3.4 Electrical Interconnection**

The photovoltaic array is being proposed to interconnect with the utility substation at the intersection of Oil Mill Road and Waterford Parkway North, which will require the creation of an electrical service for the Project Site, as well as the addition of utility runs from the substation to the site entrance, which is approximately 3400 feet along Oil Mill Road. An Interconnection Application has been submitted to Eversource, which is currently in the process of preparing a System Impact Study and Transmission Study to confirm our proposed interconnection location, as well as to provide recommendations for our proposed electrical equipment.

### **3.5 Construction Schedule and Sequencing**

Project construction is anticipated to begin in Spring 2020 pending regulatory approvals. Initial work will involve site clearing and the installation of erosion control measures, including installation of sediment basins. Installation of additional erosion control and species protection measures (if warranted) will follow. Additionally, as referenced previously, per the Project's meeting with representatives of CT DEEP, the cleared site will be seeded and left to allow growth to be established for one growing season to minimize impact to the land.

Formal construction notice to proceed is anticipated in spring 2021, with delivery of equipment likely commencing in late spring 2021. As each discrete area of installation is completed, the ground surface will be stabilized, although best management practices will remain in place until final stabilization occurs.

Final installation of array equipment is anticipated in Summer of 2021. Final site stabilization, testing, and commissioning are expected to be completed in the late Fall of 2021. Construction activities are expected to occur Monday through Saturday between the hours of 7:00 a.m. and 9:00 p.m. A draft construction schedule timeline is provided as Figure 5 – Construction Schedule.

The Construction Sequence for the Project begins by defining a weekly qualified inspector, emergency contact, and tentative schedule of all inspections, as well as holding a pre-construction meeting with representation from the general contractor, site contractor, CTDEEP, Town of Waterford, the engineer of record, and the qualified inspector. The contractor shall contact Call-Before-You-Dig and notify the Town of Waterford at least 48 hours prior to commencement of any construction activity. The first stage of construction generally includes installation of erosion controls, clearing of trees, cleanup of mulch and branches from the timber harvest, and hydroseeding of all disturbed areas within the Project limits. The Site shall then be left to vegetate through a full growing season prior to initiation of development, which includes mass earthwork and the installation of solar infrastructure. Upon achieving completion of construction and final site stabilization, the engineer of record will investigate the Site and all temporary erosion controls shall be removed.

Prior to construction, a health and safety plan will be finalized that will address not only the specific characteristics of the Project Site and the Project, but will reflect the nature of the surrounding land uses. A Storm Water Pollution Control Plan (SWPCP) will also be developed and implemented that will include regular inspection of erosion control measures to prevent sedimentation or water quality impact. The Stormwater Management Report (Appendix B) provides Erosion and Sedimentation Control Best Management Practices – Maintenance/Evaluation Checklists for Construction Practices and Long Term Practices; both are included in Appendix C.

Construction sequencing is described in detail on sheet C-5.0 in Appendix A

## **3.6 Operation and Maintenance**

Greenskies has a dedicated O&M team that currently monitors and maintains all operational assets in the Greenskies portfolio. This team will manage the efficient operation of the Waterford solar project after it is turned on and the construction is complete. A team of individuals including system analysts and field operators will monitor the system 24 hours a day, 7 days a week. The operation center utilizes Also Energy's platform for site monitoring and generation reporting, along with a custom built in-house platform designed for improved site analytics. Custom alarm management provides instantaneous notifications. System performance analytics are completed weekly to better understand the health of each asset, and find trends in under producing systems. See Appendix C – Operations & Maintenance Plan

### **3.6.1 Greenskies Field Operations**

Each O&M field team consists of a certified electrician and a solar technician. Greenskies field crews will perform two Preventative Maintenance site visits each year. Having crews structured by region allows for a quicker response time to corrective maintenance tasks. Greenskies field crews utilize the most advanced technology for PV testing and diagnostics of site issues.

Greenskies utilizes a semi-annual scheduled maintenance plan to identify and correct any issues that have or have the potential of arising on its operating assets. Reports are generated after each visit and performance data is analyzed and saved so that historical data can be used to track module performance vs. warranted output.

When a system is not producing or is under producing the Data Acquisition System will create an alarm. Once an alarm is created the production analyst will analyze the data. Subsequently, O&M trucks are dispatched to investigate and correct any issues. Greenskies O&M has a close working relationship with our major system component manufacturers, including modules, racking and electrical components/enclosures. We

are able to perform warranty work with our in house technicians. We have centrally located warehouses which store spare modules, inverters, wire and other components that can be used for on-site replacements. Automated dispatch to projects dependent on generation loss and location make the solar technicians more efficient in correcting site issues.

Greenskies will not routinely remove snow from the solar project. In extreme events snow removal is a possibility but is a last resort. Module washing is performed on both a scheduled basis as well as a corrective measure if there is a major soiling event. The monitoring platform is used as a tool at the beginning of system operation to determine a soiling baseline as well as profile that determines how often washing of the modules will be required and scheduled.

### **3.6.2 Reports**

Reports are used to track reoccurring issues. This helps Greenskies identify any design improvements that may prevent such issues in the future. Greenskies can then use this information to better understand regional trends and predict future issues. Maintenance reports are created after every maintenance visit.

## **3.7 Decommissioning**

The Project is proposed with at least a 35 year design life. At the end of the Project's useful life, all equipment, including racking systems, panels, inverters, ballast foundations, and electrical collection systems, will be removed in accordance with the Project's Decommissioning and Restoration Plan; *See Appendix D*. The Project will decommission all above-grade facilities and foundations and restore the surface to a condition similar to that as it existed at the inception of the Project, as well as repair any damage to the Project site as a result of removing the improvements. It is anticipated that the salvage value of the equipment would fully offset the cost of decommissioning and restoration.

#### 4.0 PROJECT BENEFITS

The Project will provide the state's electrical system with additional generating capacity that will meet demand using renewable energy, contribute to grid stability, and foster the redevelopment and reuse of underutilized industrial property. The Project was selected as part of the Department of Energy and Environmental Protection's Clean Energy RFP and was found to be consistent with Connecticut's 2013 Comprehensive Energy Strategy (CES). This version of the CES, along with the most recent version of the CES, sets forth clear goals for increasing the use of renewable energy as a part of the state's power generation portfolio:

*The Global Warming Solutions Act (Connecticut Public Act 08-98) sets a goal of reducing greenhouse gas emissions by 80% by 2050. Connecticut's Renewable Portfolio Standard (RPS) requires that 20% of generation serving state customers be from renewables by 2020. Meeting the 2020 RPS goal will require the development of 6,196 gigawatt-hours, or nearly 3 gigawatts of low-carbon supply – more than 25 times the amount of power generated by Class I resources (i.e., solar power, wind power, and fuel cells) within Connecticut in 2011.<sup>2</sup>*

As part of the Clean Energy RFP, Greenskies was required to demonstrate the Project's consistency with the policy goals outlined in the 2013 CES, including, but not limited to: promotion of wind, solar and other renewables and low carbon energy technologies.<sup>3</sup> The Project will provide clean, renewable solar-powered electricity that will support achieving the state's legislatively mandated obligations under the RPS, as well as its other energy policies, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practical extent."<sup>4</sup> The construction of the Project becomes even more important in light of the 2018 CES's

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<sup>2</sup> 2013 CES, at 76 (footnotes omitted).

<sup>3</sup> Clean Energy RFP, at 31.

<sup>4</sup> CGS §16a-35k.

aspirations for even greater greenhouse gas emission reductions through the promotion of grid-scale renewable energy.

Selection of this Project for a PPA under the Clean Energy RFP process affirms the Project's consistency with the state's energy plans and objectives. In addition to the direct contribution the Project will make to increase the use of renewable energy, additional reduction of greenhouse gases and criteria air emissions will be associated with the displacement of older, less efficient fossil fuel generation. *See* Section 6.3, below and Appendix E – Carbon Debt Analysis.

As reflected in the Carbon Debt Analysis presented in Appendix E, the Project provides an important contribution in the shift toward carbon-reduction strategies.

The Project anticipates using local and regional labor, as practical, for construction, and will be a source of both direct and indirect revenue contribution to the local community. Approximately 75 to 100 jobs will be created during construction and throughout various phases. Further, the operations and maintenance of the Project will be addressed by Greenskies, a Delaware business located in Middletown. In addition, the local community will benefit from a negotiated tax agreement that will provide additional revenue for the life of the Project.

## 5.0 STATE AND LOCAL INPUT AND OUTREACH

Representatives of the Project met with Waterford First Selectman Daniel Steward, Director of Public Works Brian Long, Director of Economic Development Abby Piersall and Environmental Planner Maureen Fitzgerald on April 26, 2018 to discuss the project. At that time, Project representatives discussed how the site was selected, the Project's role in the State RFP process, the preliminary design of the Project and the anticipated tax implications from the construction of the project.

Project representatives discussed the fact that the current owner of the property is harvesting the trees that are located on the property, and has been for some time. All of the town officials were already aware of the tree harvest being conducted by the site's current owner. According to the Town's officials, the owner received permitting for the harvest in January of 2018.

Project representatives also discussed the fact that this site was one of three sites in Waterford that Greenskies was prepared to submit into the state's RFP process. In developing this project, the original plan was to use the Town's landfill as the site for the solar project. Project representatives had a very detailed conversation with the Town approximately two years ago regarding this alternative. Unfortunately, because complete site control was needed due to the RFP's requirements, the Town of the Project were unable to come to terms on how such site control would be achieved in a timeframe that would allow the Project to participate in the RFP process.

After the Project team completed its discussion of the various alternatives that had been considered, the meeting concluded. At the conclusion of the April meeting, the Town's representatives asked for the following items; 1.) a site visit of the solar project located East Lyme, Connecticut that was constructed by a Greenskies company linked with Greenskies; 2.) a copy of the Project's completed engineered drawings prior to submittal to the Siting Council; and 3.) an opportunity to participate in any site walks that will take place as part of the Siting Council process.

Two of these requests have been addressed. On June 14, 2018, members of the Project team took representatives of the Town to the East Lyme project so that the Town's representatives could see a working solar facility. The construction of that site was discussed, including the steps the Project is willing to undertake to ensure that there will not be stormwater issues associated with the construction of the Waterford project. Copies of the completed drawings were also provided to the Town's representatives on June 14, 2018. The remaining issue, participation in any walks of the site during the pendency of this Petition, will obviously been addressed by the Council during the course of this Petition.

Representatives of the Project team met with representatives of the Town of Waterford on October 2, 2019 at Town Hall to discuss the modifications made to the Project since the June 19, 2018 Petition submission. It was explained that various flora and fauna surveys had been performed during the summer of 2019 with preparation of a comprehensive wildlife survey report, and that various different geotechnical surveys were performed at the Site to better understand the soils present. The Project had been reduced from approximately 98 acres of disturbance to approximately 75 acres, and water quality treatment and channel protection were incorporated into the stormwater management design.

The Project was also being revised to adhere to guidance document Draft Solar Appendix I as issued by CTDEEP, as well as to address Town recommendations such as preparation of construction details for sediment control and water quality treatment, construction phasing, and cleanup from the recent timber harvest. This was intended to be an informative, but not exhaustive, presentation of updates to the Project. To date, however, the Project has not received any comments from the Town regarding these revisions to the Project.

On December 17, 2019, representatives of the Project, including Greenskies executive and development staff, outside counsel and the Project's engineer, met with CT DEEP Stormwater Permitting/Enforcement personnel. An overview of the project's history was provided, along with current project status. This was the third meeting for the Project with CT DEEP stormwater staff since the Project's initial Petition. A prior pre-application meeting was held on August 13, 2019 and a second meeting was held on October 9, 2019. At each of these meetings, the Project's designs were modified to accommodate CT DEEP's stormwater management concerns and to have the Project be designed in accordance with Appendix I.

At these meetings, the Project team explained that the Project has been scaled back to mitigate any potential stormwater impacts, with a reduction in system size (from 20.6 MW DC/16.78 MW AC to 18.4 MW DC/16 MW AC). In addition, limits of clearing were reduced from 98 acres to 75 acres and a 100-foot wetland non-disturbance buffer has been applied to the Project's design.

During these meetings, the Project team also provided a summary of additional studies that have been completed to date, including comprehensive wildlife field surveys and boring pits, a site-specific hydrologic soil group soil survey, and stormwater geotechnical investigation involving the digging of approximately 100 test pits, all to better bring the Project into compliance with CTDEEP Draft Solar Appendix I. An overview of slope treatments, the hydrologic analysis, plans and calculations and operations and maintenance protocols were presented as well. CT DEEP personnel provided feedback on the permit process for the site with respect to stormwater, and a pre-application field visit/site walk for the CT DEEP stormwater staff is currently scheduled to take place on January 27, 2020.

As noted above in Section 4.0 Project Benefits, the current landowner locally permitted and performed a timber harvest across a significant portion of the Site. Felled branches and wood chips were spread over much of the land surface as a result of the work. As part of the proposed solar Project, Greenskies plans to perform an initial cleanup of the

Site as well as performing minor tree clearing for the Project. Currently, an aerial view of the site shows the results of this tree clearing:



It is the Project's intent to clean up the wood chips and branches and reuse them in mulch berms proposed sediment & erosion measures. These areas will be vegetated and stabilized before installation of solar equipment.

Public outreach documentation is provided in Appendix F.

## **6.0 POTENTIAL ENVIRONMENTAL EFFECTS**

### **6.1 Site and Community Setting**

The site totals approximately 152.23 acres and lies on the east side of Oil Mill Road in the westerly portion of Waterford between Interstate 395 and 95. The site is currently forested and undeveloped. A review of the USDA's soil mapping for the area indicates that the property does not contain any prime farmland.

The site has been forested since at least the 1930s<sup>5</sup>. An existing dirt road extending from Oil Mill Road provides access to the site. The parcel is bisected by a 125-ft wide Connecticut Light & Power overhead electric transmission right-of-way that crosses the project site along a southwest-northeast axis. See Figure 1 – Site Location Map and Figure 4 – Site Aerial Map.

#### **6.1.1 Existing Project Site Land Use**

The existing project site land use is a mixture of harvested and undeveloped forest with the exception of the existing 125-ft wide CL&P overhead electric transmission right-of-way that bisects the site. The project site lies within the Rural Residential RU120 zoning district. See Figure 4 – Site Aerial Map.

#### **6.1.2 Existing Surrounding Land Use**

The existing surrounding land uses consist of single-family residential properties to the west, and multifamily residential to the north, located within the Rural Residential RU120 zoning district. The I-G General Industrial zoning district abuts the site to the east and south. Existing land uses abutting the site to the east include a mix of commercial uses consisting of UPS, Dunkin Donuts, Lumber Liquidators, Seconn Fabrication, a surgery center, Waterford Gymnastics, Airgas, an animal hospital, dentist, and a Suzuki Motorsport dealer. Also located on the east side of Cross Street, is a BJ's Wholesale Club and a multiplex cinema. To the south, the site is bordered by

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<sup>5</sup> A review of 1934 aerial photography shows the site was forested at that time.

additional commercial uses located within the I-G General Industrial Zone, including Rodeway Inn, and Sonalysts Studios. See Figure 2 – Zoning Map.

## **6.2 Public Health and Safety**

The Project will meet or exceed applicable industry, national, state, and local codes and standards. All applicable health and safety requirements relevant to solar energy generating facilities will be followed during construction and operation, and the Project will not pose any safety concerns or hazards to the general public. The Project will not consume any raw materials, will not produce any by-products, and will be unstaffed during normal operating conditions.

During Project construction, construction contractors and employees will receive general and Project-specific health and safety training. Training will include review of state and local health and safety requirements; location and routes to nearby emergency care facilities; analyses of risks and procedures to mitigate any exposures; stop work triggers; and communication protocols for reporting health and safety issues. All construction workers will comply with required health and safety controls and will understand and observe the health and safety plan developed for the Project Site. Any and all unsafe conditions will be reported to the construction manager.

The Project is anticipated to have limited impact on traffic flow; however, the Project will coordinate with local authorities to minimize potential impacts of Project-related construction on existing traffic patterns and roadways. The location of the Project Site immediately proximate to major highways, including access from Interstate 95 and Interstate 395, will minimize effect on local roadways. In addition to Oil mill road, construction vehicles are anticipated to use the Interstates for access to the Project Site during the Project's construction period. Once operational, the Project will be generally unstaffed and only occasional vehicle trips to the Project Area will occur for routine maintenance activities. The Project will be secured by a 7-foot high fence, consistent with applicable codes.

The Project will be screened from much of the surrounding area due to existing development, topography, and intervening vegetation. The solar modules are designed to absorb incoming solar radiation and minimize light reflected off the panels, with only a small percentage of incidental light reflected off the surface of the panels. The panels will be tilted toward the southern sky at an approximate angle of 25 degrees. The incidental light reflected off the panels will be significantly less than light reflected off of common building materials or the surface of undisturbed water; therefore, reflected light is not anticipated to impact public health and safety.

Before Project operation commences, Greenskies will meet with local first responders to supply information on responding to emergencies at solar facilities. A tour of the Project will be provided and the clearly marked disconnect switches will be identified for use during an emergency. The system will be remotely monitored through a data acquisition system, allowing for remote shutdown of the Project in the event of a fault or other power outage event. Emergency vehicles and service equipment will be provided adequate access to the Project Area via the Project's access roads.

*See Appendix C for general traffic and safety protocols.*

## **6.3 Noise**

The Project, which is located in a residential zone (Class A) surrounded to the north and west by residential properties (Class A) and to the east and south by industrial properties (Class C), is anticipated to be a low source of noise. The ambient noise associated with the roadway traffic is considered to be greater than that generated by this Project.

### **6.3.1 Noise Level Requirements and Guidelines**

Connecticut regulations for the control of noise have been established by CT DEEP at section 22a-69 and Chapter 9.06 of the Town of Waterford Code of Ordinances contain guidance pertaining to noise that apply to the Project. The local ordinance is generally consistent with CT DEEP noise regulations. The CT DEEP noise limits, which are prescribed according to land use, are shown in Table 1.

The regulations also prescribe provisions for impulse noise, not allowing impulse noise in excess of 80 decibels (dB) (peak) during nighttime hours in any Class A zone and not allowing impulse noise in excess 100 dB (peak) at any time to any zone. A limit of 100 dB pertains to infrasonic and ultrasonic noise. Construction noise is exempt from the CT DEEP noise regulations.

**Table 1. CT DEEP Noise Limits**

Emitter	Receptor (dBA <sup>a</sup> )			
	Class C	Class B	Class A Daytime (7:00 am – 10:00 pm)	Class A Nighttime (10:00 pm – 7:00 am)
Class C – Industrial	70	66	61	51
Class B – Commercial and Retail Trade	62	62	55	45
Class A – Residential Areas and Other Sensitive Areas	62	55	55	45

<sup>a</sup> A-weighted decibels.

The Town of Waterford provides noise level standards applicable to the Project under Chapter 9.06 of the Code of Ordinances. The Town noise-level standards are consistent with those prescribed by the CT DEEP, although the definitions of daytime and nighttime are different. The Town of Waterford considers daytime to be 7:00 am to 9:00 pm for Monday through Saturday and 9:00 am to 9:00 pm for Sunday, and nighttime to

be 9:00 pm to 7:00 am for Sunday through Friday and 9:00 pm to 9:00 am for Saturday to Sunday morning.

As noted in Table 1, the Project is required to meet sound levels of 62 dBA at the nearest industrial property, 55 dBA at the nearest commercial property, levels of 55 dBA at the nearest residential property during the day (when electricity would be generated by the Project), and 45 dBA at the nearest residential property at night (when certain ancillary equipment may still be operating). The closest industrial or commercial property boundary is over 2500 feet from the Project Area, while the nearest residential properties are adjacent to the west.

### **6.3.2 Acoustic Modeling Methodology and Inputs**

A preliminary assessment of the potential noise generated by the Project has been performed, based on published sound levels from the electrical equipment being proposed. The solar inverters, with the closest being approximately 100 feet from any adjacent property limit, yield a sound pressure level of 55dBA at 3 meters. The transformers, with the closest being approximately 230 feet from the residential properties on Oil Mill Road, yield a sound pressure level of 62dBA.

### **6.3.3 Noise Prediction Model Results**

Sound pressure levels (dBA) were evaluated, and are expected to produce noise levels below 40 dBA, which is well below the criteria limits described above. Table 2 shows the projected exterior sound levels resulting at sensitive receptor locations along the property boundary lines. At the selected residential receptors the noise levels range from 34 dBA to 35 dBA, which reflect compliance with the nighttime 45 dBA standard, and sound levels that are unlikely to be perceptible within the existing setting. Therefore, noise modeling results demonstrate that the Project will operate in compliance well within the applicable noise requirements.

**Table 2. Acoustic Modeling Results Summary**

<b>Receptor Number</b>	<b>Location Description</b>	<b>Threshold Limit, dBA</b>	<b>Project Sound Level, dBA</b>
1	Northern Residential Properties	45 (night)	35
2	Eastern Industrial Properties	51 (night)	34
3	Western Residential Properties	45 (night)	34
4	Southern Industrial Properties	51 (night)	34

#### **6.4 Air Quality**

The proposed Project is a solar PV energy generating facility, and, therefore, will generate no direct air emissions during operation and will not require an air permit. As mentioned above, carbon debt analysis was completed for the electric generation the Project will produce.

The carbon debt of the Project is estimated to be 37,066.3 MT CO<sub>2</sub>eq over a period of 30 years. The Project is expected to produce 28,726.7MWh of energy in its first year of operation. Using emission factors provided by the U.S. EPA specific to the Project's eGrid region (NPCC New England), the estimated annual emissions avoided by the Project is anticipated to be 12,776.1 MT CO<sub>2</sub>eq. This reduction is equivalent to the benefit of planting 16,685 acres of forest. Based on this analysis, it would take the Project approximately 2.9 years (or nearly 35 months) to have a net improvement with respect to greenhouse gas emissions. The Project's estimated annual emissions avoidance is equivalent to GHG emissions from 2,713 passenger vehicles driven for one year and CO<sub>2</sub> emissions from 1,474 homes' energy use for one year. *See Appendix E – Carbon Debt Analysis.*

During construction, potential air emissions will include those from construction vehicles and construction activities. These air emissions will be temporary. As a result, any potential air quality effects associated with Project construction activities will be

negligible in comparison to the emissions avoided, and should not exceed thresholds requiring an air permit.

## **6.5 Scenic Values and Visibility**

The location of the Project site is removed from public view and accessibility, as can be seen by the photographs on the next two pages. The Project will be set away from nearby roads and because of the existing topography and trees that will not be altered by the Project, the solar array will have very limited visibility by the public. *See Appendix G – Site Photos* for images depicting the landscape of the area and the access road for the Project.

The Project will result in no adverse impact to the visual character of the site and surrounding area. There are three residential properties located along Oil Mill Rd. in the vicinity of the Project Site. The residence at 121 Oil Mill Rd. is located downgradient of and 1,467 feet from the nearest solar panel/edge of the array. The existing residence at 111 Oil Mill Rd is located downgradient of and 1,625 feet from the edge of the proposed project. Finally, the residence located at 109 Oil Mill Rd. is located downgradient of and 826 feet from the nearest solar panel. All three sight line areas between the residences and the nearest Project equipment consist of wooded buffer. *See Figure 6 – Figure 8* for visual impact study cross-sections. Additionally, the Project site is not located in any designated historic or scenic districts within Waterford or the state of Connecticut.

## **6.6 Historic and Archaeological Resources**

Heritage Consultants prepared a Phase IA Cultural Resources Assessment Survey for the Project Site and prepared a report for the Project in May of 2018. A copy of that report is included with this Petition as Appendix G.

As can be seen in the attached report, there are areas contained within the Project Site that were classified as “moderate/high sensitivity areas” for producing archaeological

deposits, given their relatively undisturbed nature. The remainder of the Project (approximately 75% of the acreage of the Project site) consists of areas of no/low archaeological sensitivity.

For the areas that were labeled as moderate or high potential for archaeological sensitivity, Heritage Consultants recommended conducting a Phase IB study to ascertain whether archaeological materials of significance are present at the site. Greenskies will contract Heritage Consultants to conduct the Phase 1B prior to breaking ground as is standard for this type of project.

## **6.7 Recreation and Other Surrounding Features**

The site has limited roadway frontage along Oil Mill Road and is basically a large interior lot with very little visibility to surrounding uses and public roads as a result of topography, existing vegetation and the location of inland wetland and watercourse corridors.

Existing recreational opportunities at the site are limited to private access from land owners..

## **6.8 Watercourses, Flood Plains and Wetlands**

Watercourses, flood plains and wetlands are discussed more fully in the Davison Environmental report, provided in Appendix H.

### **6.8.1 Watercourses and Flood Plains**

In general, the site abuts a segment of Oil Mill Brook, along with wetlands that drain to both a tributary of Oil Mill Brook and to Stony Brook. Both streams are tributary to the Niantic River, a tidal waterway draining to Long Island Sound. The site lies within the

coastal ecoregion, approximately 4,000 feet northeast of the Niantic River. The site lies within two watersheds with the east-southeast portions of the site draining east into Stony Brook, and the northern portions of the site draining into a tributary of Oil Mill Brook.

Per the FEMA Flood Insurance Rate Map Number 09011C0343G for New London County, Connecticut, Town of Waterford map effective date: July 18, 2011, the site resides in FEMA Flood Hazard Zone X (Unshaded). This is defined as areas of minimal flood hazard. A copy of the FEMA Flood insurance rate map is included in Appendix A for reference in the of the Davison Environmental report, provided in Appendix H.

### **6.8.2 Wetlands**

In general, two distinct designated inland wetland areas were identified on site. Wetland 1 is made of several wetland areas: the first part of the wetland is identified as the head of a small tributary of Oil Mill Brook, located at the northwest corner of the property and consists of the largest wetland area, totaling 11.56 acres. The second and third wetland areas part of Wetland 1, total 1.39 acres is located along the northwestern property line, adjacent to Oil Mill Brook. Wetland 2 is approximately 0.14 acres and is located at the center of the eastern property line. See Figure 9 – Wetlands, Vernal Pools and Rare Species.

The project design proposes to maintain a 100-foot, or further, upland buffer from the delineated wetlands and watercourses. This buffer would be free from all vegetation clearing and site grading activities. Thus, there will be no direct wetland impacts associated with the project design. In addition, the proposed stormwater management practices have been designed in accordance with the 2004 CTDEEP Stormwater Quality Manual, draft CTDEEP Solar Appendix I, and Minnesota stormwater guidelines, whereby the stormwater basins and best management practices are intended to provide appropriate water quality treatment prior to discharges to wetlands.

Short term potential impacts have been considered and mitigated through the design of appropriate soil erosion and sediment controls for the protection of the onsite natural resources.

### 6.8.3 Vernal Pool Assessment

Vernal pools were noted at three locations, referred to as Vernal Pools 1 through 3. All three pools are considered cryptic pools (i.e., non-classic), small in extent, somewhat marginal with shallow average ponding depths (i.e., less than 8 inches), and limited depth of ponding due largely to topography. Pool 2 was nearly completely dry, with only a roughly 6' x 6' area of standing water remaining. Based on these observations, this pool may not be productive in drier years. While pools 1 and 2 occur in natural depressions within larger wetland systems, Pool 3 is located on the upslope side of an existing woods road crossing, and likely was created by the installation of this road. Breeding by two vernal pool indicator species, the wood frog (*Lithobates sylvaticus*) and the spotted salamander (*Ambystoma maculatum*), was noted at pools 1 through 3. See Figure 9 – Wetlands, Vernal Pools and Rare Species.

In preparing the site development plans, protecting and preserving the existing wetlands and vernal pools were considered a priority. Avoidance of activities within the 100-foot vernal pool envelope was achieved for all pools, except for minor improvements to the existing interior woods road immediately upgradient and west of pool 3. The short term minor improvements to this existing road would include a gravel surface, with the use of appropriate soil erosion and sediment controls. This is not anticipated to adversely impact vernal pool 3.

The stormwater management measures have been developed in a manner to improve water quality reaching the wetlands and watercourses where the three pools occur. Based on the project design and siting of the solar facility, we do not anticipate long term adverse impacts to the vernal pools; including their envelopes or dispersal and migratory routes for species.

## 6.9 Wildlife and Habitat

Wildlife and habitats are described more fully in Sections 2.0 and 3.0 of the Davison Environmental Report and VHB Rare and Threatened Species Memo. The goal of the assessment completed onsite was to address all species listed in NDDB's Preliminary Assessment for the Site. These include amphibians and reptiles, breeding birds, and plants of conservation concern within the State. See Appendix I – Wildlife and Habitat Report/Memo.

### 6.9.1 Habitat Description

Onsite wetland habitats are classified as hillside groundwater slope wetlands. Hillside groundwater slope wetlands are wetlands that develop on hillsides, where groundwater discharges to the surface as springs and seeps. Throughout the upland-wetland interface visible groundwater discharge zones (i.e., seeps) are present. A key feature of these wetlands, from a water quality perspective, are the pronounced bedrock and boulder outcroppings where cold well-oxygenated groundwater discharges from fractured bedrock and glacial till.

Two upland habitat types are present, old field (managed utility ROW) and mixed hardwood forest. Old field habitat occurs solely within the Eversource ROW, and totals approximately five acres. The remainder of the site (147 acres) consists of mixed hardwood forest.

### 6.9.2 Rare, Threatened and Endangered Plants and Wildlife

The eastern ribbon snake (*Thamnophis sauritus*), was observed within Wetland 1 (along the utility ROW). See Figure 9 – Wetlands, Vernal Pools and Rare Species and Figure 10 – Aerial Habitat Map.

Based on comments from DEEP in the August 20, 2018 letter, additional studies have been completed to satisfy the request and confirm that there will be no impact to any sensitive species. Additionally, we have submitted a formal NDDB request and received CTDEEP's Preliminary Assessment response dated July 5, 2019. In that assessment letter CTDEEP noted several listed species that were identified to conduct field surveys for, and they included:

**State-listed Species Targeted for Survey**

<b>Taxonomic Group</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Connecticut Status</b>
Vascular Plant	<i>Aristida longespica</i> var. <i>geniculata</i>	Needlegrass	Special Concern
Vascular Plant	<i>Isotria medeoloides</i>	Small Whorled Pogonia	Endangered (US Threatened)
Vascular Plant	<i>Polygala nuttallii</i>	Nuttall's Milkwort	Threatened
Reptile	<i>Clemmys gutatta</i>	Spotted Turtle	Special concern
Reptile	<i>Opheodrys vernalis</i>	Smooth Green Snake	Special concern
Reptile	<i>Terrapene carolina</i>	Eastern Box Turtle	Special concern
Reptile	<i>Thamnophis sauritus</i>	Eastern Ribbon Snake*	Special concern
Bird	<i>Caprimulgus vociferus</i>	Whip-poor-will	Special concern

The Project Site was investigated through the end of spring and summer 2019 during the day and through the night to survey for the listed species. Vascular plants and reptiles were surveyed for on August 1, 2, 14, 15, 19, and October 1, 2019.

Comprehensive songbird species were surveyed on May 21st, June 14th, 2019. The Whip-poor-will (*Caprimulgus vociferous*) species were surveyed, June 24, July 16<sup>th</sup> and 17<sup>th</sup> of 2019.

The Site contains various habitats suitable for several state-listed species. However, during several days and nighttime surveys, VHB's biologist did not detect the NDDB-targeted plant and animal species identified in the table above.

## **6.10 Water Supply**

No water will be sourced on site from either a well or utility hook up. All water used for construction will be trucked in. Minimal long-term water use will be required for operations for the purpose of cleaning modules and this water will also be trucked in.

## **6.11 Stormwater**

The existing hydrology of the site consists of three major watersheds that are defined by an existing highpoint located in the southwest-central portion of the site. Runoff from the site is directed west toward a tributary of Oil Mill Brook, south toward Parkway North and Stony Brook, and east toward Stony Brook. The western drainage areas collect overland and shallow concentrated runoff and discharges into an existing tributary of Oil Mill Brook and associated wetlands at the western property line. The eastern drainage areas collect overland and shallow concentrated runoff and discharges offsite and eventually into the Stony Brook. And the southern drainage areas collect overland and shallow concentrated runoffs and discharges off-site and eventually into Stony Brook to the south. All runoff from the central, western, and northwestern portion of the site discharges to a tributary of Oil Mill Brook and all runoff from the east and southern property lines discharge to Stony Brook. All runoff is eventually conveyed into the Niantic River.

The subject property is located within the Southeast Coast Major Basin, Niantic River (Stony Brook), and Oil Mill Brook.

A total of 15 permanent stormwater management basins have been designed and are strategically located throughout the project site to mimic existing runoff collection areas that convey runoff to adjacent wetlands and watercourses. All basins have been designed at a minimum distance of 100-ft from delineated wetlands and watercourses, and in sensitive area will discharge stormwater via a level spreader to mimic a sheet flow condition, and avoid point discharge.

Post-construction stormwater runoff will be collected and conveyed to the stormwater basins via overland sheet flow, and permanent diversion ditches and swales, and natural drainage pathways. Each pond will include an outlet control structure designed to maintain peak stormwater discharge at or below predevelopment levels.

The proposed stormwater management system is designed to be in compliance with the 2002 State of Connecticut Guidelines for Soil Erosion and Sediment Control, the 2004 State of Connecticut Stormwater Quality Manual, and the latest CT DEEP guidance documentation, Solar Appendix I.

## 7.0 CONCLUSIONS

The Project clearly meets the standards set forth in CGS §16-50k(a). Specifically:

- The Project meets CT DEEP's air and water quality standards, with no material emissions associated with either construction or operation and water quality standards associated with construction and operational stormwater management a primary focus of the Project's design;
- The Project has been configured to avoid and minimize other environmental impacts by using to the greatest extent possible portions of the Project Site that have been subject to former agricultural uses; and
- While the need for formal consideration of prime farmland or forest land is not required for the Project, as it holds a contract under the CT DEEP RFP process, the Project will not alter areas of prime farmland.

Given the benefits this Project will provide to the State of Connecticut, GRE GACRUX LLC respectfully requests that the Siting Council approve this Project as currently designed.