



**Prepared for
The Connecticut Siting Council**

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1.0 Introduction

This is a Petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required for the development, construction, operation and maintenance of a project (“Project”) proposed by Greenskies Clean Energy LLC (“Greenskies” or “Petitioner”) in the Town of Goshen, Connecticut (“Goshen”), pursuant to General Statutes §§ 4-176 and 16-50k. The Project consists of the development of a 4.0-megawatt (“MW”) alternating current (“AC”) ground-mounted solar photovoltaic (“PV”) facility located at 129 Bartholomew Hill Road, Goshen, Connecticut (“Property”). See Figure 1 – Site Location Map and Figure 2 – Proposed Project Area Aerial.

Section 7(c) of Public Act 18-50, An Act Concerning Connecticut’s Energy Future, was signed into law on May 24, 2018. Section 7(a)(1)(C) of Public Act 18-50 directed the Department of Energy and Environmental Protection (“DEEP”) to initiate a proceeding, on or before September 1, 2018, to develop program requirements and tariff proposals for a statewide Shared Clean Energy Facilities (“SCEF”) program. The SCEF program seeks new or incremental Class I renewable generation projects ranging in size from 100 to 4,000 kW (AC) for a 20-year term. Eligible projects are chosen through a competitive bidding procurement process each year, for a total of 6 years. The program capacity is up to 25 MW per year. Greenskies submitted a proposal and was awarded the proposed Project through a Request for Proposal solicitation by The Connecticut Light and Power Company *d/b/a* Eversource Energy (“Eversource”) under the SCEF program.

Authorization by the Connecticut Siting Council (“Council”) via approval of this Petition would allow the Petitioner to construct the Project and assist the State of Connecticut in achieving its goal of energy conservation and sustainability. Pending approvals, the Project would commence financing, detailed engineering, procurement, and construction efforts in 2021-2022, with commercial operation planned for the entire Project in 2022.

The Project is located on one parcel within Goshen’s RA5 residential zoning district and is comprised of approximately 13.5 acres of development on a 69.1-acre parcel. See Figure 3 – Zoning Map. The Project area is currently vacant, former farmland with an existing

farm road behind a single-family residence, garage and barn occupied by the landowners. See Figure 4 – Tax Parcel Map. See Figure 5 – Site Survey and Figure 6 – Slope Map.

2.0 Petitioner

Petitioner is a limited liability company with offices at 127 Washington Avenue, North Haven, CT 06473. Greenskies develops, finances, constructs, and maintains clean, renewable-energy projects in the United States. In conjunction with its affiliate, Clean Focus Yield, Petitioner offers integrated solar and battery-storage solutions to commercial and industrial (“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 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 250 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.

Greenskies has developed, owns and will operate other large-scale ground-mount projects in Connecticut, including a 5 MW AC facility in North Haven, a 5 MW AC facility in Stonington, a 5 MW AC facility in East Lyme, a 5 MW AC facility in North Stonington, a 5 MW AC facility in East Windsor, and a < 1 MW AC system at the East Haven Landfill. Commercial clients include Target Corporation, Walmart, Inc., and Amazon. According to the Solar Energy Industry Association, Target and Walmart are the number one and two solar users at US-based facilities, and Amazon is number ten. Greenskies is the partner of choice for large corporations and owners of real estate seeking to take a company- or portfolio-wide approach to solar energy adoption, and Greenskies is consistently ranked as one of the top solar developers in the United States.

As a vertically-integrated company, Greenskies 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 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

3.1 Project Site Overview

The Project site is located on a 69.1-acre parcel at 129 Bartholomew Hill Road, Goshen, Connecticut, along the border of the Goshen-Cornwall town line. Goshen's Assessor's Office has the parcel listed as MBL – 08-012-003-00 and currently owned by Joseph W. Harnett ("Harnett") and Barbara Muchelot ("Muchelot" and collectively, "Landowners"). The Property was actively farmed up until 2019. The revenue generated from the lease with Greenskies would allow the Landowners to revive agricultural activities on the Property for a shared use of agriculture and solar to support the State's commitment to renewable energy.

Harnett and Muchelot purchased the Property in 1979. They have historically carried out agricultural activities on the Property, including the establishment of a former orchard (*e.g.*, apples, cherries, pears, apricots) in 1979 in the upper field. From the early 1980's to early 1990's, the Landowners ran a beef farming operation, using the Property for pasture and hay that was cut and stored in the barn for the steer. From the early 1990's until 2019, Harnett and Muchelot facilitated the planting and harvesting of sweet corn and produce, which was sold locally. The Landowners would like to revive agricultural activities on the Property, and the proposed Project would allow this to happen.

Due to the increasing economic challenges of farming in Connecticut, the Landowners have sought to supplement their income by selling or developing a portion of their land, the two most appealing options being residential and solar. Residential developers have expressed interest in purchasing and subdividing the Property, however the Landowners have no interest in parting with land that has a history of agricultural use. The Project would allow Harnett and Muchelot to retain ownership of the Property while generating a supplemental source of income through a long-term lease agreement with Greenskies. This arrangement would allow future generations to farm the land upon decommissioning the Project, should they so choose.

3.1.1 Surrounding Land Use

The area surrounding the Project site consists primarily of a mix of single-family residences, fields and forested land. There is forested, undeveloped land to the north, and west of the site in the Town of Cornwall (“Cornwall”). To the east and south of the Property are single family residences and farmland. In addition, the Wings Ago Airstrip is located to the east, which is a private use grass airfield. A three-phase line is located south of the Project site on Sharon Turnpike.

3.1.2 Project Site Alternatives

Greenskies selected the Project site because it was suitable for a solar PV project and would have minimal natural resource and environmental impacts. The site would not have adverse effects on quality forest land or agricultural land, and would 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 of both public and private land resulting in the selection of the Property. Greenskies uses third party consultants to understand the biological, environmental, historical, and archeological impacts of solar development on selected sites. While all development has some impact on the area and community, the social and environmental impacts of this Project site are a net positive.

In the course of selecting the Project site, Greenskies evaluated several potential sites for renewable energy projects throughout the State. Alternative sites that were of suitable size were investigated and, in each case, environmental concerns and cost considerations rendered the sites less suitable than the Project site. The cost considerations were chiefly due to either measures that would need to be taken to address wetlands or wildlife concerns or due to the costs of interconnection to distribution or transmission facilities from these other sites. As such, the Property was selected as the site that most

appropriately balanced the land required to construct the Project with the least amount of impact to wetlands, wildlife, core forest and/or prime farmland soils.

3.2 Project Description

3.2.1 Site Access

The primary and sole site access point is proposed to be via an existing, unpaved full-service access driveway from Bartholomew Hill Road, which is a paved local road, at the southern end of the Project site. There is currently an existing dirt farm road extending from behind the existing barn to the Project area to the north.

Petitioner would construct an approximately 1,957 linear foot, with a 15 foot width, internal gravel roadway within the Project area to provide centralized access to the proposed solar array, electrical equipment, and stormwater detention basin. To minimize site disturbance, Petitioner proposes the construction of the roadway on prepared subgrades with a 4-inch layer of processed aggregate over a 6-inch granular base, which would match existing grades to the greatest extent feasible. See Figure 7A – Proposed Project Layout North, Figure 7B - Site Plan South and Appendix A – Sheets LA-1 and LA-2, Site Layout and Grading Plan, and Sheet SD-2 Site Details.

3.2.2 Solar Facility Design and Layout

Petitioner anticipates that the photovoltaic array would comprise of approximately 9,792, 475-watt modules (depending on the state of module technology at the time of construction) arranged two-high in portrait set at an optimal angle (25 degrees) to balance the solar yield, located in the best available area within the Property, to maximize annual energy production. The modules would be mounted on steel racking with driven posts (or ground screws) 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.

Petitioner anticipates orienting the arrays electrically in direct current strings of 24 panels, which would be combined with adjacent circuits into thirty-two (32), 125-kilowatt string inverters, respectively. The Project would include two equipment pads, one located north-centrally and the other at the southern end of the array. Each will house a transformer, switchboard, inverters, monitoring control panel and grounding transformer, if required by Eversource.

3.2.3 Electrical Interconnection

Petitioner submitted its interconnection application to Eversource for the Project in June 2020. Petitioner provided Eversource with updated plans in Spring 2021. Eversource is currently conducting a feasibility study to determine which substation Eversource would utilize for the Project as well as to assess the requirements for extending 3-phase lines to the Project site. Eversource will also determine whether the Project would have an impact on Eversource's distribution system. The Project would tie into utility lines along Bartholomew Road. Once study results and cost estimates are available, Eversource will provide Petitioner with interconnection agreements. Petitioner would also work with Eversource to coordinate the design for point of interconnection.

3.2.4 Fencing and Site Security

Petitioner proposes a 7-foot high chain link fence to be installed around the perimeter of the solar array for site security, as well as address NEC code requirements. The perimeter fencing would extend around the array and would provide a 6-inch gap between the bottom of the fence and the existing ground to allow small wildlife to traverse the site. Petitioner proposes one access gate, with locking hardware, at the primary site access drive at the southern end of the north-south gravel road. See Appendix A-1 – Drawings LA-1 & LA-2 - Site Layout and Grading Plans.

3.3 Stormwater Management

Petitioner prepared a Stormwater Management Report in accordance with the 2004 State of Connecticut Stormwater Quality Manual and DEEP's *Guidance Regarding Solar Arrays*. A copy of this Report is attached as Appendix B.

Petitioner also reviewed available soil mapping and prepared a hydrologic soil group confirmation study in April 2021. Petitioner performed a stormwater basin geotechnical investigation and in-situ soil percolation testing in June 2021. As indicated in the attached Stormwater Report, Petitioner designed the Project essentially to maintain predevelopment drainage patterns in an effort to preserve pre-development flows to existing offsite areas and wetland/watercourse areas. Petitioner also designed the Project strategically to locate one stormwater management basin with supporting swales to maintain existing drainage patterns.

Petitioner will work with both the Council and DEEP to ensure that the Project meets all applicable stormwater permitting requirements. As part of this compliance, Petitioner applied for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities from DEEP ("General Permit"). Petitioner has already begun outreach to DEEP's stormwater unit. Due to COVID-19 restrictions, a pre-application meeting was held remotely on April 27, 2021. Petitioner plans to submit to DEEP the General Permit registration package in the coming weeks. A pre-construction site visit will be scheduled after the application is processed and reviewed.

3.4 Construction Schedule and Phasing

Project construction is anticipated to begin in Spring 2022 pending regulatory approvals. The SCEF agreement in-service date is December 31, 2023. Initial work will include site preparation activities such as installation of related erosion and sedimentation control measures. Official notice to proceed for construction is anticipated in late Fall-early Winter 2021. The ground surface would be stabilized upon completion of each area of installation; best management practices ("BMPs") for stormwater management would

stay in place until final construction is completed and all stabilization has occurred. Petitioner anticipates that site preparation and site work would begin in Spring 2022. Final installation of all solar facility equipment is expected in late Fall-early Winter 2022-2023, along with interconnection, testing, commissioning, and final site stabilization. Petitioner anticipates the following expected/tentative construction schedule: Monday through Friday between 7:30 AM. and 5:30 PM. If weekend hours are required, then Petitioner would implement a modified schedule of 9:00 AM to 5:30 PM. A construction schedule is provided in Figure 8.

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, DEEP, Goshen, the engineer of record, and the qualified inspector. Upon achieving completion of construction and final site stabilization, the engineer of record would investigate the site and all temporary erosion controls would be removed.

Prior to construction, a health and safety plan is typically finalized by the contractor and includes specific characteristics of the Project site and the Project, taking into account the nature of the surrounding land uses. The Project civil engineer would also develop and implement a Storm Water Pollution Control Plan (SWPCP) 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 B. Construction sequencing is described in detail on sheet LD – Legend & Notes, in Appendix A-1.

3.5 Operation and Maintenance

Greenskies has a dedicated Operation and Management (O&M) team that currently monitors and maintains all operational assets in the Greenskies portfolio. This team would manage the efficient operation of the Project after construction is completed and it

is energized. A team of individuals including system analysts and field operators would 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 Decommissioning

Decommissioning consists of physical removal of all facility components, such as solar arrays, equipment (*e.g.*, batteries, inverters, and transformers), structures, security barriers and fencing, facility signage and transmission lines from the site. The process of removing structures involves evaluating and categorizing all components and materials into categories of recondition and reuse, salvage, recycling and disposal. The Project consists of numerous materials that can be recycled, including steel, aluminum, glass, copper and plastics. See Appendix D – Draft Decommissioning Plan

Decommissioning would also include restoration of the site, which comprises removal of above-ground structures; grading, to the extent necessary; restoration of topsoil (if needed); and seeding. Greenskies would stabilize and re-vegetate the site either to allow for the site to be returned to agricultural use or as necessary to minimize erosion if the site is to remain fallow. Petitioner would seed any areas disturbed during the decommissioning phase with a drought-tolerant grass seed mix appropriate for the area, unless such areas are being immediately redeveloped for other uses.

The cost of decommissioning a solar array more than 21 years into the future cannot be known with high precision. The baseline estimated costs for decommissioning activities are based on the New York State Guidebook Decommissioning Solar Systems published in 2019 by the New York State Energy Research and Development Authority (NYSERDA). A key assumption is that the fencing, electrical cabinetry, solar racking, solar modules, wiring, and all other equipment is recyclable and that there will be regional, state and/or

local recycling facilities at the time of decommissioning. Therefore, the primary cost of decommissioning is the labor associated with dismantling and loading the equipment to be transported for disposal.

However, given the cost of components today, and the salvage value associated with such components today, one can provide an educated estimate as to the cost of salvage. For purposes of the Project, this means that the cost of decommissioning the solar arrays would be offset by the salvage value of the solar panels and components (*i.e.*, glass, metal, copper). See cost estimates provided in Appendix D – Draft Decommissioning Plan.

Petitioner would begin decommissioning of the Project within 180 days of the end of the Project's operational life. Greenskies would notify the Council and appropriate municipal officials of the proposed date of discontinued operations and would provide plans for removal. In the event of major damage, Greenskies would initiate repairs within 30 days of the damage, or as soon as practicable thereafter.

4.0 Project Benefits and Needs

4.1 Project Benefits

The Project would further the State's energy policy, codified at General Statutes § 16a-35k, which declares the need to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent.” The Project would also assist the State in meeting its mandated obligations under the Renewable Portfolio Standard. As noted in the introduction, the Project was selected as part of Eversource's SCEF program, which is consistent with Connecticut's 2013 Comprehensive Energy Strategy (“CES”). The CES, as amended, 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.

Connecticut's RPS has only increased since the 2013 CES. The construction of the Project becomes even more important in light of the 2018 CES' aspirations for even greater greenhouse gas emission reductions through the promotion of grid-scale renewable energy, as evidenced by Governor Lamont's issuance of Executive Order No. 3, which calls for the complete decarbonization of the electric generation sector by 2040. In addition to the direct contribution the Project would make to increase the use of renewable energy, additional reduction of greenhouse gases and criteria air emissions would be associated with the displacement of older, less efficient fossil fuel generation.

The SCEF program is intended to serve various types of electric customers, including: low and moderate income (“LMI”) residents, small businesses, state or municipal entities, and commercial users. Importantly, the SCEF program serves residential customers, other than LMI residents, who either rent or do not have control of their property’s roof, or reside on their property but can demonstrate they are unable to install solar panels on their roof with documentation from a rooftop installer. Eligible subscribers receive a credit on their monthly bill based on their average monthly usage for twenty years. Enrollment is through Eversource.

The Petitioner anticipates using local and regional labor, as practical, for construction, and would be a source of both direct and indirect revenue contribution to the local community. During construction, the Project would create jobs including direct, indirect, and induced. From a municipal perspective, the proposed Project would result in no impact to Goshen’s services such as education/schools, highway maintenance, water and/or wastewater.

Aside from helping the State to meet its energy policy goals, including long-term environmental benefits of renewable energy generation, the proposed Project would have additional environmental benefits. Petitioner would seed the solar array area with a pollinator friendly and native seed mix, which would improve soil health over the life of the Project and allow for long-term agricultural or conservation use of the land as deemed appropriate by the Landowners. The Project would also implement other agricultural co-use activities such as grape cultivation, bee-keeping, shade-tolerant crop cultivation and haying. There are numerous studies and reports that the development of solar PV can improve the habitat of a site for native species of wildlife.

4.2 Project Needs

Connecticut has committed to develop its renewable energy market and mitigate the negative environmental impacts associated with traditional electric power generation. In so doing, it has set aggressive targets to reduce greenhouse gas (“GHG”) emissions and to increase the deployment of Class I renewable energy.

The Global Warming Solutions Act (“GWSA”), for example, requires the State to reduce its total GHG emissions to 10 percent below 1990 levels by 2020, to 45 percent below 2001 levels by 2030, and to 80 percent below 2001 levels by 2050. Further, in April, 2019, Governor Lamont signed an executive order directing state office buildings and vehicle fleets to become greener and more energy efficient. This initiative calls for state operations to achieve a 70 percent reduction in GHG emissions from 2016 levels by 2040 and net zero GHG emissions by 2050.

Additionally, RPS policies require utilities to purchase an increasing percentage of electric power from Class I renewable energy sources. Under current law, utilities must obtain at least 21 percent of their retail loads from Class I renewable energy sources by January 1, 2020, and 40 percent by January 1, 2030. These levels of required renewable energy sourcing will likely increase in the ensuing years if the recommendations of Governor Lamont’s Energy Policy Committee are followed. That Committee recommends revising the Class I RPS goals to 35 percent by 2025, 50 percent by 2030, 80 percent by 2040 and 100 percent by 2050.

These policies significantly increase demand for new, zero-emitting renewable energy sources in the State. Development of the Project would not only help satisfy this demand, but would assist the State in meeting the GWSA requirements and the RPS goals.

5.0 State and Local Outreach/Input

Petitioner has engaged in robust State and community outreach.

In March 2021, Greenskies reached out to Christopher Martin, Director of Forestry at the DEEP Forestry Division, to request a review of the Project and a determination on potential impact to “Core Forest.” On March 30, 2021, the DEEP Forestry Division issued a letter finding no material impact to “Core Forest” the Council. See Appendix E-1.

On April 1, 2021, Petitioner communicated with Stephen Anderson from the Department of Agriculture (“Department”) to discuss the potential impact that the proposed Project would have on prime farmland soils. Greenskies prepared site information outlined in the Department’s Solar Energy Project Considerations, revised on January 16, 2020, and provided the Department with five letters in response to ongoing comments and questions. On April 27, 2021, Greenskies participated in a conference with the Department to review the Project. On June 3, 2021, the Department provided the Council with a letter concluding that the Project will not materially affect the status of Project land as prime farmland in part because of Greenskies’ commitment to make available various agricultural activities on the site. See Appendix E-1.

On behalf of Petitioner, SLR International Corporation (“SLR”) submitted a Natural Diversity Database (“NDDB”) review request to DEEP in late January 2021, and received a determination (#202101269) on February 26, 2021, indicating no anticipated impacts to State-listed species by proposed Project activities. SLR also submitted a project review request to the United States Fish and Wildlife Service and received a response April 13, 2021. The Northern Long-eared bat was identified as a potential threatened species in the area. However, no critical habitats within the Project area were identified. See Appendix L.

On April 27, 2021, Petitioner, along with project civil engineer, Michael Gagnon of SLR, and Jesse Langer of Updike, Kelly and Spellacy, P.C (outside counsel) participated in a pre-application meeting with DEEP Stormwater permitting staff via DEEP’s electronic

permitting application system. The Dam Safety group determined the stormwater basin is a Class AA dam. According to the Dam Safety group, the Project does not require a Dam Safety permit because there is negligible hazard downstream; however, Class AA dams still need to be registered with Dam Safety. Petitioner would file the form provided by the Dam Safety Group at the appropriate time. The participants also discussed the General Permit, as discussed in Part 3.3. above, which will run in parallel with the Council's review and decision on this Petition.

On June 3, 2021, Petitioner and SLR met with Goshen's First Selectman, Bob Valentine, and Goshen's Land Use Official/Inland Wetlands & Zoning Enforcement Officer, Martin Conner, to introduce the Project. Since the Project site abuts the Cornwall-Goshen town line, on June 3, 2021, Greenskies and SLR also met with Cornwall's Zoning Officer, Karen Nelson, to review the site plans and give a brief overview of the Project. On June 17, 2021, Greenskies followed up with Karen Nelson to schedule another meeting and, possibly, the Northwest Conservation District based in Torrington, Connecticut. Greenskies requested dates that would work and are waiting to hear back.

Petitioner also coordinated with the Federal Aviation Administration ("FAA") by using the Notice Criteria Tool to screen the site and by filing a Notice of Proposed Construction or Alteration – Off Airport with the FAA. Greenskies also followed up with the Connecticut Airport Authority ("CAA"). See Appendix E-2 and Section 6.5.2, below.

In addition, on June 4, 2021, Petitioner sent letters to Project site abutters in both Goshen and Cornwall providing an overview of the proposed Project. In lieu of a public gathering, Greenskies provided contact information to all recipients and offered to speak directly with neighbors over the phone, via email or in person, either one-on-one or in small groups to answer questions about the Project. Greenskies spoke with five neighbors, met with two of them, emailed another, and will continue to offer an open line of communication with neighbors. The meeting with the two closest abutting residential neighbors (directly east and west of the site entrance) occurred on June 23, 2021. Petitioner reviewed the draft plans with them and shared relevant mapping. See Appendix E-1– Public Outreach Documentation.

As required by §16-50j-40(a) Regulations of Connecticut State Agencies, Petitioner provided notice of its intent to file this Petition to: (a) the Landowners; (b) appropriate adjacent property owners; and (c) the municipal officials and government agencies listed in Appendix E-3. Petitioner sent notice of its intent to file to municipal officials and abutters in both Goshen and Cornwall. See Appendix A-3.

6.0 Potential Environmental Effects/Impacts

6.1 Site/Community Setting and Scenic Character and Values

The Project site consists of approximately 13.5 acres of a 69.1-acre parcel located in the northwestern section of Goshen on the Cornwall town line. The site and surrounding area consist of wooded parcels, farmed fields and homes, with much of the now developed areas previously used as farm fields. The Landowners have owned and actively engaged in agricultural activities on the Property and at the Project site from 1979 to 2019. With the revenue earned from the lease with Greenskies, the Landowners would revive and facilitate various agricultural activities east and south of the Project site, as well as within a portion of the array area.

To maintain the agricultural character of the area, Greenskies has committed to incorporate several agricultural co-uses within and outside of the Project site. See Section 6.6.3, below. Greenskies would use a pollinator friendly seed mix throughout the site, which will support native pollinators and lay the groundwork for the apiary. See Figure 9 – Sample Soil Array Seed Mix Photos.

6.2 Public Health and Safety

The proposed Project is not expected to impact the public health or create safety issues. The proposed Project would meet or exceed all local, state, national and industry health and safety standards and requirements. During construction and post-construction operations and maintenance, workers and personnel would follow all health and safety standards applicable to solar energy generating facilities.

A site-specific construction health and safety plan is typically developed prior to initiation of any on-site Project-related tasks. During the construction phase of development, all contractors, sub-contractors and personnel will be appropriately trained and briefed on any potential site health and safety issues. There will be a designated construction manager or representative present during construction, and such individual will be responsible for overseeing/implementing site construction plans and protocols.

Construction traffic relative to the site would include standard construction trucks, small earth moving equipment, and all terrain forklift equipment. Vehicle trips would be relative to scheduled deliveries of the major materials such as solar racking, solar panels, electrical equipment to serve the solar site, and fencing materials to be installed around the perimeter of the solar arrays. Construction activity and associated traffic would take place generally within the hours of 7:30 AM to 5:30 PM daily Monday through Fridays.

In addition, the selected panels and comparable models are UL1703 certified. The UL 1703 Standard for Flat-Plate Photovoltaic Modules and Panels is the industry standard for safety and performance. It is not only the gold standard for safety in the United States, it is the basis for the IEC 61730 document, which is the international safety standard. To receive this certification, a comprehensive testing protocol is implemented for components and materials in everything from the frame and junction box to the connectors and wiring. Such testing includes temperature, corrosivity, degradation and breakdown during normal operating conditions, as well as testing for exposure to rain and water.

Greenskies confirmed through the module manufacturer, Canadian Solar, that the selected modules and/or comparable products do not contain Per/Poly Fluoro-Alkyl (PFAS) or its derivatives. Such chemicals are not used in the manufacture of any Canadian Solar modules or the selected module type. In addition, and according to Canadian Solar, selenium, cadmium, arsenic or heavy metals (other than small amounts of lead in solder) are not contained within the selected or comparable modules. See memo

in Appendix F. Lead is present in soldering paste, typically used to connect cells together within the panel.

Environmental items considered “chemicals” that might be used on the site would include polyvinyl chloride (“PVC”) glue for use with electrical conduit installations and carbon-based fuels for vehicles and equipment. Petitioner anticipates that there would be less than one gallon of PVC glues and less than 25 gallons of fuel stored on-site. Petitioner would keep all flammable liquids in code compliant cabinets and containers. Petitioner also would keep spill kits in all vehicles and equipment on-site. Petitioner would monitor chemical usage daily to ensure compliance with all applicable requirements. No risk of release to the environment is anticipated.

6.3 Noise

6.3.1 Noise Level Guidelines and Regulatory Requirements

Potential Project-related noise is regulated by General Statutes § 22a-69 and the attendant regulations developed and enforced by DEEP, § 22a-69-1 *et seq.* (“Noise Regulations”). The Noise zone standards are as follows:

Table - CT DEEP Noise Limits

Emitter	Receptor (dBA ^a)			
	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

Because the Property and adjacent parcels are all classified as residential areas, any noise generated by the proposed Project, a Class C emitter, must be at or below 61 dBA at the nearest residential property line during the day (when the Project would be generating electricity), and below 51 dBA at night (when some accessory equipment might still be in operation). Regs., Conn. State Agencies § 22a-69-3.5. Construction noise is exempt from the Noise Regulations. Regs., Conn. State Agencies § 22a-69-1.8(g).

6.3.2 Proposed Project-generated Noise

Due to the nature of the use, facility design, required equipment and distance from potential noise receptors, the proposed Project is expected to have no adverse noise-related impact on the surrounding area. Existing uses around the perimeter of the Project site include: forested, conservation land and single-family residential development.

Based on information provided by specified equipment manufacturers, the selected inverters for the proposed Project typically generate 55 dBA at a distance of 1.0 meter or 3.3 +/- feet, as noted in the inverter specification sheet provided in Appendix F. The selected transformers produce about 65 – 70 dBA at 3 +/- meters or about 9.8 feet. All other selected system equipment typically generates the same or lower levels of noise.

The nearest residence, besides the Landowners, is located at 121 Bartholomew Hill Road, south of the Project area. The closest equipment location/pad is approximately 525 feet from the southern Project parcel property line and approximately 595 feet from the referenced residence. The next nearest residence is located at 147 Bartholomew Hill Road. The closest equipment location/pad is approximately 265 feet from the eastern Project parcel property line, approximately 685 feet from the residence and approximately 620 feet from the garage.

Since sound dissipates with distance, Petitioner does not anticipate that any Project-generated noise would be detectable by potential residential receptors. Sound propagation on a site depends on several factors, including ground cover, terrain, and the presence of existing vegetation/trees and intervening objects (*e.g.*, fences, structures).

Assuming a relatively hard and flat ground cover (such as pavement, packed dirt, or water), sound from stationary sources generally reduces six (6) dBA per doubling of distance. Assuming flat ground with a softer ground cover (*e.g.*, grass), sound reduces approximately 7.5 dBA per doubling of distance.

As noted above, the equipment proposed at the nearest pad will typically generate 65 – 70 dBA at a distance of three (3) meters (or 9.8 feet). The closest equipment pad to the nearest residential property line (121 Bartholomew Hill Road) is 500 feet. In accordance with the general formula presented above, that equipment is expected to generate 62.5+/- dBA at 20 feet; 55+/- dBA at 40 feet; 47.5+/- dBA at 80 feet; and, 40+/- dBA at 160 feet. Using the inverse square law and calculator to estimate sound levels, this translates to approximately 19.5 dB at a distance of 500 feet. Noise emanating from Project equipment would, in essence, not be detectable at any property line. Intervening cover will consist of soft vegetation/meadow and a stretch of gravel access road; there will also be intervening and existing mature trees between the source and property lines—thereby further mitigating noise effects. Accordingly, the Project would comply with DEEP's Noise Regulations regardless of the classification of emitters and receptors.

6.4 Air Quality

Because the Project is a solar energy generating facility, it would not generate any air emissions during operation and, therefore, an air permit would not be required. Temporary, potential, construction-related mobile source emissions would include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered *de minimis*. Such emissions would be mitigated using available measures including limiting idling times of equipment; proper maintenance of all vehicles and equipment and watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment would meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency (USEPA) and, with the above mitigation measures, reduce exhaust emissions.

6.5 Project Visibility Assessment

6.5.1 General Visibility/Views

Petitioner anticipates that the location of the proposed Project in the rear of the Property, coupled with the design of the proposed solar energy facility, would significantly limit, if not eliminate, any potential views from any public viewsheds or private properties. Although compliance with local zoning is not required, as a baseline exercise, Petitioner reviewed the local zoning ordinance. Residential zone bulk requirements for the Residential-Agricultural 5 (RA-5) district include: minimum lot size of 5 acres and minimum road frontage of 300 ft.

The setback requirements for this zoning district are 50 feet for the front and rear yards and 30 feet for the side yards. Setbacks provided in the Project area include a front yard of 525 +/- ft., a west side yard 88 +/- ft., an east side yard of 252 +/- ft. and a rear yard of 150 +/- ft. Other bulk requirements are met.

As shown in Figure 2 – Proposed Project Aerial Map, Petitioner would maintain a 150-250 +/- foot wooded buffer along the eastern side of the Project area, as well as the existing tree line/buffer running east-west, separating the residence and outbuildings of the Project parcel from the Project area. Because the properties north and west of the Project area are densely wooded, Petitioner does not anticipate any views of the Project from these locations. A Project Photo log is provided in Appendix G.

The residence located at 121 Bartholomew Hill Road, to the southwest of the proposed Project is approximately 47 feet from the edge of the property line and 628 feet from the nearest solar module. As noted on Figure 2, there is an intervening wooded/forested buffer and topography slopes upward to the proposed Project area. Petitioner does not anticipate views of the Project from this residence as a result of these existing conditions.

The garage and farm utility shed located at 161A Bartholomew Hill Road to the east of the Project area are approximately 266 to 295 feet from the edge of the property line and 571 to 604 feet from the nearest solar module. The residence on the nonabutting parcel

located at 161 Bartholomew Hill Road, to the southeast of the proposed Project is approximately 394 feet from the edge of the property line and 680 feet from the nearest solar module. Because the existing wooded buffer would remain in place and obscure the Project, Petitioner does not anticipate any views from these locations.

The residence located at 147 Bartholomew Hill Road, to the southeast of the proposed Project is approximately 190 feet from the edge of the property line and 697 feet from the nearest solar module. Petitioner does not anticipate any views of the Project from this location since Petitioner would maintain the wooded buffer along the eastern property line, along with the intervening tree line running east-west across the Project parcel, south of the Project area.

6.5.2 FAA/CAA Review and Potential Glare

Petitioner used the FAA Notice Criteria Tool to screen the site to see if the Project triggers the FAA Notice Criteria. The result of the initial screening on March 5, 2021, indicated that the Project would not require additional notice with the FAA. Despite the result, and due to the private grass air strip east of the Project site, on March 23, 2021, Greenskies filed a Notice of Proposed Construction or Alteration – Off Airport with the FAA. On June 23, 2021, Greenskies received from the FAA a Determination of No Hazard to Air Navigation. See Appendix E-2. Greenskies then followed up with Robert Bruno, Director of Planning, Engineering and Environmental Services for the Connecticut Airport Authority (“CAA”). Mr. Bruno suggested that Greenskies conduct a glare analysis to determine whether any aircraft approaches to the strip would be affected by the Project. Greenskies is coordinating with the CAA.

The Wings Ago Airstrip, a private use grass strip/airfield, is located on the parcel to the east at 161A Bartholomew Hill Rd. The distance from the edge of the proposed Project area to the airstrip is approximately 405 +/- feet. There is a 150 - 250 +/- foot wooded buffer between the proposed Project and the Wings Ago Airstrip, with mature vegetation reaching approximately 50 - 70 feet tall and at varying densities. The airstrip is located another 115 +/- feet east of the tree line.

On behalf of Petitioner, ARM Group prepared a glare analysis using ForgeSolar modeling software. ARM Group ran the analysis using the default settings for 2-mile flight paths to FAA regulated facilities. ARM then performed an analysis to account for site specific conditions such as physical obstructions between reflectors and receptors, including buildings, tree cover and geographic obstructions. The existing wooded area between the proposed Project and the airstrip was considered in the analysis. ARM performed a graphical line of sight study of the panel to incoming air traffic utilizing AutoCAD.

The Project was divided into two array areas – North Side and South Side. Results for the North Side array indicate 0 minutes of “Green” glare and 0 minutes of “Yellow” glare throughout the year.

Results for the South Side array indicate 0 minutes of “Green” glare throughout the year and 5,343 minutes of “Yellow” glare between the hours of 4:30 PM to 6:00 PM late-April through late-August. ARM performed additional analysis and, based on the average landing speeds (75-105 miles per hour) of single engine private planes, this exposure to glare would be for approximately 6 to 8 seconds from approximately 800 feet from the southern edge of the airfield landing strip. The graphical line of sight study of the panels confirmed the findings of the glare studies. It is important to note that a segment of the potential glare event for the approach would be shielded by existing trees. ARM concluded that planes approaching from the south during limited times may experience a glare from the solar development for a brief period during the landing approach.¹ ARM also opined that the risk of afterimage inducing glare from the Project for those brief time periods would be low.

6.6 Environmental Site Assessment/Conditions

A site investigation by a Licensed Environmental Professional (LEP) from SLR investigated the Project area for potential signs of recognized environmental conditions,

¹ Petitioner did not have the hours of operation and frequency of use for the airstrip at the time of the analysis.

including contamination on April 6, 2021. SLR performed a Phase I Environmental Site Assessment (“ESA”) and prepared a report summarizing the findings, dated May 2021. Due to historic farming operations, SLR concluded that there is potential for pesticides, herbicides and/or fungicides to exist in the soils within the cultivated areas of the Property, including the proposed Project area. No other areas of concern were noted. As part of its BMPs, Petitioner would engage in dust suppression and incorporate anti-tracking pads during construction. A copy of the Phase I ESA report is included in Appendix H.

6.7 Site Soils and Geology

6.7.1 Existing Site Soils and Geology

In accordance with the DEEP’s publication, Guidance Regarding Solar Arrays, on April 6, 2021, soil scientists from SLR completed a field investigation to confirm the National Resource Conservation Services (“NRCS”) mapped soil series and verify the hydrologic soil group within the proposed Project area. Prior to the field investigation, the soil types within the site were obtained from the DEEP’s Geographic Information System (GIS) Open Data Website for the Soil Survey Geographic (SSURGO) database for the State of Connecticut. This data set is a digital soil survey and generally is the most detailed level of soil geographic data developed by the NRCS. A copy of the NRCS mapped soils is included in Appendix I.

Based on the NRCS data, the soil types for the Project area include the Brice-Millsite Complex and Schroon fine sandy loam. The NRCS soils descriptions define the Brice series as a very deep, well-drained soil on outwash terraces formed in sandy and loamy dunes, and the Schroon series as a very deep, moderately well drained soil formed in loamy till on uplands. Both soil series area designated by NRCS as “B” hydrologic soil groups. In general, the soil encountered within the test pits was consistent with the NRCS mapping and official soils descriptions. See Figure 10 – NRCS Soils Map.

According to the Bedrock Geologic Map of Connecticut (1985), the geological formation

underlying the Site is the Manhattan Schist. This formation is described as dark-gray-to-silvery, rusty-weathering, coarse-grained schistose gneiss.

6.7.2 Preservation of Prime Agricultural Soils

The site is currently undeveloped farmland. A review of the NRCS soil mapping for the area indicates that approximately 20.5 acres of the 69.1 acre Property is prime farmland soil. The Project area would encompass only 4.1 acres of prime farmland soil or just 20 percent of the total prime farmland soil on the Property.

As noted above in Section 5.0, on January 30, 2021, Greenskies met with the Department to discuss the potential impact that the proposed Project would have on the small percentage of prime farmland soil located within the Project area. Greenskies prepared site information outlined in the Department's Solar Energy Project Considerations, revised on January 16, 2020. Greenskies corresponded with the Department on multiple occasions, from early April, 2021 through June 3, 2021, which culminated in a letter from the Department to the Council stating that the Project will not materially affect the status of Project land as prime farmland at the site. See Figure 11 – Prime Farmland Soils Map.

6.7.3 Agricultural Dual-Use

Greenskies endeavored to maximize the potential agricultural co-use of the Project in light of the natural constraints imposed by the Property. The approval of the Project would enable the Landowners to revive agricultural activities on the Property, through the revenue generated by the long-term lease with Greenskies. Greenskies proposes the following co-use agricultural activities within the Project area or on the Property:

- Wine grapes would be cultivated along the perimeter of the Project area's eastern side, outside of the fence-line, which would amount to approximately 0.2 acres. The Landowners would manage the grape cultivation for sale locally.
- Petitioner would retain a third party to establish an apiary in the southern field outside the perimeter fence. The apiary is expected to produce up to 750 pounds

or 62.5 gallons of honey annually, which would be sold by the Landowners and Petitioner.

- Cole crops (*e.g.*, broccoli, brussels sprouts or cabbage) or other crops suitable for the soil, once tested, would be cultivated by the Landowners on approximately 1.0 acres under a portion of the array.
- Haying activities would continue between the proposed perimeter fence and the wetlands along the eastern boundary of the Project area, which comprises about 2.7 acres.
- Pollinator habitat would be cultivated throughout the array area to aid in the stabilization and improvement of soil quality over time for future agricultural use; this area is estimated to be 12.7 acres.

Petitioner would make these co-use activities available to the Landowners over the life of the Project, and the Landowners have conveyed a sincere interest in revitalizing agricultural activities on the Property. See Appendix E-1 and Figure 12 - Agricultural Use Map. This dual-use proposal promotes the State's renewable energy policy as well as allows for the revival of agricultural activities on the Property and otherwise preserves the long-term viability of the small percentage of existent prime farmland soils within the fenced portions of the Project area.

6.8 Historic and Archaeological Resources

Petitioner prepared a Phase 1A Cultural Resources Assessment Survey for the site, dated April 2021. The results of the survey indicate that the Project site is characterized mostly by gently sloping topography and well drained soils that are typically correlated with prehistoric and historical use and occupation. The area containing the proposed solar facility was determined to retain a moderate sensitivity for containing intact cultural deposits. It was recommended that Petitioner perform a Phase IB cultural reconnaissance survey prior to construction.

Petitioner performed a Phase 1B Cultural Resources Reconnaissance Survey in May 2021. A total of 225 planned shovel tests and 33 delineation shovel tests were excavated throughout the Project area, resulting in the identification of a single archaeological locus. This was designated as Locus 1 and yielded 17 chert flakes, 1 chert biface fragment, 1 piece

of quartz shatter, 1 quartz secondary thinning flake, and 4 quartzite secondary thinning flakes from the disturbed Ap-Horizon (plow zone) between 0 to 40 centimeters (0 to 15.7 inches) below surface. No cultural features or soil anomalies were associated with the lithic debris, and the recovered cultural materials could not be assigned to particular prehistoric time period or cultural affiliation. Locus 1 was assessed as not significant applying the National Register of Historic Places criteria for evaluation. No impacts to significant cultural resources are expected by the construction of the Project, and no additional archaeological examination of the Project area is recommended prior to construction. The reports were shared with State Historic Preservation Office (“SHPO”) who reviewed them and issued a letter, dated June 17, 2021. SHPO concurred with the findings of the reports and concluded that no additional archaeological investigation of the Project area was warranted. Copies of the Phase 1A and Phase 1B reports and SHPO concurrence letter are included in Appendix J.

6.9 Wetlands and Watercourses

6.9.1 Wetlands Delineation and Methodology

On December 14, 2020, SLR registered soil scientists visited the Project site to determine the presence or absence of wetlands and/or watercourses, to demarcate (flag) the boundaries of wetlands and watercourses identified, and to identify onsite soil types within 37 acres of the total 69-acre parcel.

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (*e.g.*, a pond). Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property’s soils, test pits and/or borings (maximum depth of 2 feet) were completed at this site. A copy of this report is included in Appendix K.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus; B) the

presence of standing or flowing water for a duration longer than a particular storm incident; and C) the presence of hydrophytic vegetation.

Wetland boundaries were demarcated (flagged) with pink surveyor's tape (hung from vegetation) or small flags (on wire stakes) that are generally spaced at a maximum of every 30 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags.

SLR conducted site evaluations on April 8 and May 26, 2021, to evaluate portions of the wetlands for indicators of vernal pool activity. The wetland systems on the Property consist of long linear drainage corridors and thus generally do not contain the requisite hydrology to support vernal pool breeding and development. However, there are areas within which water ponds due to impoundment or excavation. SLR employed direct observation techniques as well as dip nets to evaluate aquatic biota within these wetland environments containing standing surface water.

6.9.2 Existing Wetlands and Watercourses

In summary, three forested slope wetland systems and several intermittent watercourses were delineated along the eastern and western boundaries of the study area totaling 7.32 acres. The study area is located at the top of a small watershed that drains to Tyler Lake and the Marshepaug River within the Housatonic River regional basin. See Figure 13 – Wetlands Delineation Map.

Wetland 1 (3.30 acres) extends from the northeastern portion of the Property to a drainage pipe along the southeastern portion of the Property. In the center of the wetland, a ditch, which is considered an intermittent watercourse, exists.

Downslope of Wetlands 1 and 3, Wetland 2 (3.19 acres) extends from the center of the Property to Bartholomew Hill Road. Within this wetland are two intermittent watercourses flowing southwards toward the road. The main watercourse is approximately 2 feet wide and flows southeast 3,700 linear feet before draining off site.

Wetland 3 (0.83 acres) is located along the western portion of the Property, southeast of an agricultural field. Several intermittent watercourses originate from this wetland and off site to the west. The main watercourse flows 75 linear feet southwest before draining off site. A functional evaluation of the onsite forested wetlands is summarized in the report contained in Appendix K.

The closest water or wetland feature to the Project area to which stormwater runoff discharges is Tyler Pond, approximately 2,000 feet away to the south/southeast, and the Marshepaug River within the Housatonic River regional basin. The incorporation of a stormwater management system in the site plan design will mitigate peak flow increases and treat water quality of runoff to protect this resource.

6.9.3 Vernal Pools

SLR completed a seasonal study for vernal pool activity in Spring 2021. Three vernal pool areas were observed within the forested areas west and south of the existing fields. The vernal pool areas support wetland obligate amphibians, specifically the wood frog (*Lithobates sylvaticus*). One pool contained spotted salamander (*Ambystoma maculatum*) egg masses. Three breeding areas were observed, two within wetland 2 - vernal pool a and b – and one within wetland 3 - vernal pool c. See Figure 13 and Appendix K.

Proposed activities demonstrate limited potential to affect vernal pool habitat on the Property. Petitioner does not propose any work within the vernal pool depression or within the vernal pool envelope. Petitioner would maintain the hydrology to the wetland system both in terms of water quality and quantity. Proposed activities adjacent to the vernal pool are limited as well. Petitioner would convert approximately 2.23 acres of forest edge around the perimeter of the fields to open field to support the solar array, which is not anticipated to affect vernal pool functionality. Petitioner would not disturb the forest surrounding the pools, which will maintain the directional buffer of vernal pool

obligate amphibians from uplands to wetlands. The maintenance of these corridors would support the metapopulation of amphibian species within these systems.

In summary, due to the scope and position of the proposed activities, the installation and utilization of a solar facility on the subject property would not adversely affect vernal pool habitat. Petitioner would maintain the hydrology to the wetland and avoid any adverse effects to preferred overwintering habitat. Thus, existing population dynamics within the wetland system will be maintained.

6.10 Wildlife and Habitat

6.10.1 Rare, Threatened and Endangered Plants and Wildlife

On January 28, 2021, Petitioner completed a Request for Natural Diversity Data Base (NDDDB) State Listed Species Review and submitted it to DEEP's Wildlife Division for review. In return, on February 26, 2021, DEEP's Wildlife Division issued a determination that no impacts to State-listed species are anticipated as a result of installation of the proposed Project. The following site design recommendations were provided:

- Create a site management plan to promote active vegetation growth in the area under the solar panels. Restoring active vegetation that will attract pollinators and avoid the need for constant mowing;
- Provide habitat for wildlife and allow for connectivity for wildlife movement. Some specific actions are included below.
 - American Kestrel (State Listed Special Concern) nest nearby to this development. Habitat for this bird consists of open grassy or shrubby areas with short vegetation and natural tree cavities or nest boxes for nesting. This bird returns to breed in March - July. This bird is limited by habitat in Connecticut. This species can benefit from active nest box monitoring and management to decrease competition by starlings. Availability of early successional habitat benefits this species during the post fledgling period and during migration.
 - Use wildlife-friendly fencing to allow movement through the solar development.

To meet the recommendation specified in bullet one, above, Petitioner would work with SLR's natural resource group on the installation of American Kestrel nesting boxes at

appropriate locations on the proposed Project site. In addition, Petitioner would reach out to organizations with expertise in conservation of this species for guidance (*e.g.*, The American Kestrel Partnership project and/or the local chapter of the Audubon Society).

The Northern Long-eared bat was also identified as a potential threatened species in the area. However, no critical habitats were identified within the Project area. A copy of this correspondence is included in Appendix K. See Figure 14 – NDDB Areas Map.

6.10.2 Core Forest

The total area of mapped Forestland Habitat on the Property is 43.3 ac. and 0.2 ac. along the edge/fringe of the mapped areas are within the Project area. Petitioner submitted a Project review request to the DEEP Division of Forestry, along with a map showing the Project parcel and development areas/limit of disturbance. Based on the mapping, there is no mapped “Core Forest” on the Project site. The DEEP Bureau of Natural Resources determined that the proposed Project will not materially affect the status of such Site as core forest. See Figure 15 – Core Forest/Forestland Habitat Map and letter from DEEP to the Council dated March 30, 2021, provided in Appendix E-1.

6.11 Water Supply

No water would be sourced on site from either a well or utility hook up. All water used for construction would be trucked in. Minimal long-term water use would be required for operations for the purpose of cleaning modules. Petitioner would transport this water to the site via truck.

According to Goshen mapping, the Project site is not located within an Aquifer Protection Area (APA) or Groundwater Protection Overlay District (GPOD); see Figure 16 – Aquifer Protection Areas Map. Groundwater beneath the entire Project site is not designated through DEEP’s ground water classifications for drinking water; see Figure 17 – Goshen Water Resources.

6.12 Stormwater Management

6.12.1 Existing Conditions

The existing conditions of the Project site include a mix of open agricultural field and wooded area. A large open field of approximately 9.5-acres is located in the northwest portion of the Property, and a long, narrow 8-acre field exists along the eastern portion of the Property. Approximately 45 acres of the site consists of wooded land, primarily located in the southwestern portion of the Property and along the parcel boundaries.

There is a high point located at the northwesterly corner of the parcel. Stormwater runoff from a small portion of the northwesterly area of the site drains to the north. There is a small ridgeline located along the edges of the fields in the central portion of the site. The western side of the Property drains to a wetland area west of the site (Wetland 2). The central and eastern portions of the site generally drain south towards Bartholomew Hill Road. The site is divided into drainage areas based on site survey and Light Detection and Ranging (LIDAR) data from Geographic Information System (GIS) topographic mapping as shown in the Appendix. See Appendix B – Stormwater Report.

On April 6, 2021, SLR completed a field investigation to confirm the NRCS mapped soils series and verify the hydrologic soil group within the proposed Project area. The investigation included the completion of seven test pits to a depth of 24-inches within the Project area. Two test pits were completed within the mapped Schroon soil series and the remaining five test pits were completed within the mapped Brice soil series. Both soil series area designated by NRCS as “B” hydrologic soil groups. Based on the test pits the mapped hydrologic group of “B” is consistent with the results of the field investigation. In general, the soil encountered within the Brice mapped soil group were more well drained with no indications of active water table within the upper 24-inches or compaction due to agricultural practices. Based on the field investigation in the mapped Schooner soil series, the hydrologic group is more consistent with “C”.

For the purposes of the stormwater assessment, the soils were assigned curve numbers between hydrologic soil group “B” and hydrologic soil group “C” for proposed conditions

within the mapped Brice soil series and between group “C” and group “D” in the mapped Schooner soil series in accordance with recent DEEP policies regarding solar projects. DEEP require the hydrologic soil group be reduced by one half step to account for soil compaction due to construction activity.

Six deep hole test pits were dug throughout the site on June 3, 2021. Two of the test pits, were dug in the vicinity of the proposed stormwater management basin prior to construction to observe soil and groundwater conditions and determine suitability of the stormwater management location. One test pit was dug to a depth of 5 feet at the west end of the proposed basin and no groundwater was observed. Another was also dug to a depth of 5 feet at the east end of the basin and groundwater was observed 4 feet below the surface.

6.12.2 Proposed Conditions

A hydrologic analysis was conducted to analyze pre-development and post-development peak-flow rates from the Project site. To analyze the peak rates of runoff from the site, three analysis points were chosen as shown on the existing and proposed drainage area maps. Runoff analysis points are chosen based on drainage patterns that drain toward similar points for existing and proposed conditions. Watershed areas encompassing the Project site were used to determine the peak-flow rates based on the topography and drainage patterns to develop the existing conditions hydrology model. Similar drainage areas were used for the proposed conditions model and were modified to reflect the proposed land cover, grading, and the stormwater management system. The total drainage area is similar under both existing and proposed conditions.

Petitioner would generally maintain the existing site topography, with some isolated grading in areas of tree clearing, construction of two grass swales, and construction of the stormwater management basin. Proposed stormwater management improvements are designed to prevent an increase in the post development flows to off-site areas. Proposed stormwater BMPs utilize nonstructural practices, including natural stormwater conveyances and the disconnection of impervious runoff from the PV solar panels.

Runoff from the elevated PV solar arrays would drain directly onto the grass below where it can soak into and filter over the grassed area. Peak flow is attenuated by a stormwater management basin located at the southerly end of the main section of the site. The basin is located to intercept runoff from the larger northern section of the solar facility. Overall, peak flows for the site under post-development conditions are reduced for the 10-, 25-, 50-, and 100-year events. The hydrologic analysis shows a slight increase in peak flow for the 2-year storm event. No new connected impervious area is proposed with this Project. Peak-flow attenuation and stormwater quality enhancements would be improved with the construction of the stormwater management basin. See Appendix B – Stormwater Report.

7.0 Conclusions

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

- The Project meets 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 is a primary focus of the Project's design;
- The Project is configured to avoid any substantial environmental effects by utilizing land which was subject to former agricultural uses;
- The Project would not alter areas of core forest; and
- Petitioner has coordinated extensively with Department of Agriculture to promote agricultural co-uses, with the Department concluding that the Project would not materially affect the status of Project land as prime farmland.

In addition, the Project would not be visible from any public view sheds or from surrounding properties, nor will there be any impacts from noise.

This Project, which was selected as part of the SCEF program, provides a multitude of benefits, most notably furtherance of the State's energy policy to increase the amount of renewable energy sources in Connecticut and diversify the State's energy portfolio. Given the benefits this Project would provide to the State of Connecticut, Greenskies respectfully requests that the Council approve this Project as currently designed and issue a declaratory ruling that a Certificate is not required.