EXHIBIT G

Environmental Assessment

Environmental Assessment

Proposed 0.99 MW Solar Photovoltaic Array
250 Carter Street
Manchester, Connecticut

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1.0 INTRODUCTION

Solli Engineering (Solli) has prepared this Environmental Assessment (EA) on behalf of Tritec Americas, LLC. (the Petitioner) as an exhibit to the Connecticut Siting Council for a Petition for a Declaratory Ruling that a Certificate of Environmental Compatibility and Public Need is not required for the construction, maintenance, and operation of a 0.99-megawatt (MW) alternating current (AC) ground-mounted solar photovoltaic array (Project/Facility) to be located at 250 Carter Street in Manchester, Connecticut (Site).

2.0 PROJECT DESCRIPTION

2.1 EXISTING SITE CONDITIONS

The Project area is comprised of a 7.8± acre portion of the 41.08± acre Site. The Site is bound by residential uses to the east, west, and south, and Carter Street to the north. The Site is located within the Rural Residential (RR) zoning district in the Town of Manchester. The entire parcel is comprised of vacant land, consisting of wooded and wetland areas. An underground natural gas easement bisects the parcel from north to south on the western portion of the property.

The Project area's topography gradually slopes between 7%-9% from the east property line of the Site to the west. There are four (4) wetland areas located on the site. One (1) wetland is located in the southwest corner of the site, two (2) wetlands are located on the west side of the site and one (1) wetland bisects the north end of the site and runs somewhat parallel to Carter Street. Please refer to Section 3.2 for more details regarding existing water resources.

2.2 PROPOSED DEVELOPMENT

As designed, the proposed solar photovoltaic array will consist of approximately 2,590 TrinaSolar TSM-DEG19C20 540W modules, AC panel boards and/or switchgear, one (1) 2,000 kVA transformers, eight (8) Sungrow SG125HV 125kW inverters, and one (1) service interconnection line. The panels will be secured to a ground-mounted steel racking structure utilizing a single-axis tracking system, which allows the panels to rotate from east to west for more efficient capture of sunlight. The steel racking structure will be anchored to the ground using pile driven posts. The array of panels and the equipment will be surrounded by a 7-ft tall chain link security fence. American Holly and Eastern Red-Cedar trees will be planted along the east side of the property to provide a buffer from neighboring properties. Access to the Project will be from Carter Street via a 12-ft wide, 740± ft long gravel road. The road will extend to the south to provide access to the proposed equipment, and will generate minimal traffic, for the primary use of operation and maintenance of the photovoltaic array. The proposed utility interconnection service poles by Eversource will be located in the northeast corner of the Site, adjacent to Carter Street.

2.2.1 PUBLIC HEALTH AND SAFETY

The Project has been designed to meet all applicable local, state, national, and industrial health and safety standards related to electric power generation. The Facility will not consume any raw materials, will not produce any by-products, and will be unstaffed under normal operating conditions. No chemicals will be used during the operation of the facility.

A 7-ft tall chain link fence surrounding the development is required per the Best Management Practices for Electric and Magnetic Fields and National Electric Code. This fence would mitigate potential electric hazards. The proposed Project equipment has internal fail-safes to further mitigate the risk of electrical fires. A 26-ft wide gate is proposed at the entrance to the Project and will limit access to authorized personnel only. Town emergency response personnel will have access to the Project via a Knox padlock. The photovoltaic array will have the ability to be de-energized remotely in case of an emergency.

2.2.2 LAND USE PLAN

The solar photovoltaic array has been designed in accordance with state and federal policies and will support the State of Connecticut's energy goals by constructing a renewable energy resource with no substantial adverse environmental impact. The solar photovoltaic array will comply with the current Connecticut State Building Code and National Electric Code.

Per the *Connecticut Department of Energy & Environmental Protection* (CT DEEP) *Appendix I, Stormwater Management at Solar Array Construction Projects* (Appendix I), the solar array has been designed to maintain a 100-ft buffer between all solar panels and any wetland or watercourse as well as a 50-ft buffer from any property line located downgradient of the panels. Tree lines will be maintained to the best extent practicable to provide a visual buffer to adjoining properties.

The distance, direction, and address of the nearest property line and nearest off-site residence from the proposed 7' chain link fence, transformer pad, and access drive are shown in Table 1.

Table 1: Proposed Development Limits Table

	Distance (ft)	Direction	Address
Perimeter Fence to the Property Line	66'	East	274 Blue Ridge Drive
Perimeter Fence to Residence	213'	East	274 Blue Ridge Drive
Transformer Pad to Property Line	404'	East	262 Blue Ridge Drive
Transformer Pad to Residence	537'	East	262 Blue Ridge Drive
Access Drive to Property Line	43'	East	274 Blue Ridge Drive
Access Drive to Residence	238'	East	274 Blue Ridge Drive

Equipment

TrinaSolar TSM-DEG19C20 540W modules are solar panels consisting of a glass-cover, aluminum pane, and sealed back sheet, preventing rainwater from penetrating the panels and leaching out chemicals or substances. These solar panels have a width of 7.8 feet, a minimum height of 3 feet above grade, and a maximum height of 6 feet above grade when panels are at full tilt. The manufacturer of the solar panels, Trina Solar Co., Ltd., has conducted Toxicity Characteristic Leaching Procedure (TCLP) testing of the proposed solar panels. The solar panels are not classified as hazardous waste. For more information refer to the TCLP test results attached in Appendix E, Product Information Sheets.

Medium voltage switchgear and the 2,000 kVa transformer is proposed to be installed on the concrete pad that abuts the proposed access driveway. The proposed transformer will contain mineral oil which is not a danger to the environment. The transformer is standard and used industry-wide, including by electrical distribution companies such as Eversource. Final dimensions of the switchgear and transformer will be available when equipment is ordered.

Five (5) utility poles are proposed to be located directly adjacent to the proposed gravel road to provide interconnection to an existing utility pole on Carter Street. The standard height for utility poles is between 35 and 40 feet. The poles will be mounted with Eversource owned and operated equipment. All necessary offsite improvements to facilitate the interconnection will be completed by Eversource. Eversource Energy

does not pad-mount their equipment; therefore, pole-mounted equipment is necessary to complete the Project.

2.2.3 STORMWATER MANAGEMENT PLAN

The Project has been designed in accordance with the *2024 Connecticut Stormwater Quality Manual*; the Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit), effective December 31, 2020; and the Connecticut Department of Energy & Environmental Protection (CT DEEP) Appendix I, Stormwater Management at Solar Array Construction Projects (Appendix I). The design addresses three primary concerns: the management of peak stormwater flows, water quality volume treatment, and soil and sedimentation controls (SESC) throughout the construction period.

To safeguard water resources from potential impacts during construction, the Petitioner is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan (SWPCP), subject to review and approval by the CT DEEP Stormwater Management team. The SWPCP will include monitoring of established SESC measures that are to be installed and maintained in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control* and Appendix I.

Perimeter Soil Erosion and Sediment Controls (SESC's) include (but are not limited to) temporary silt fencing surrounding the perimeter of the development area with a reinforced double line of silt fencing along the western limit of disturbance, where the site currently pitches toward, to prevent sediment from migrating downslope. An anti-tracking pad is proposed at the construction entrance to Carter Street to prevent sediment from being tracked into Carter Street and erosion control blankets are proposed along areas of steep grading to temporarily stabilize slopes until vegetation establishes. These control measures will be installed at the start of construction, during phase one, before the site is fully grubbed and roughly graded. Phase one includes areas of both clearing and grubbing and areas of tree clearing. The main area of the proposed solar field is not proposed to be cleared, grubbed, and graded until phase two. Additionally, during phase one, silt fencing with wings is proposed internally along the western limit of phase two clearing, grubbing, and grading for extra internal protection. During phase one, the proposed stormwater basin is proposed to be graded and utilized throughout construction as a temporary sediment trap. The temporary sediment trap acts as an internal area to store sediment-laden stormwater runoff and allow for particulates to settle and stormwater to recharge into underlying soils. A Faircloth skimmer is proposed to be installed in the temporary sediment basin until the conclusion of construction to help facilitate this. These control measures have been provided to maximize protection to wetlands and watercourses. The monitoring and maintenance of all control measures are required to ensure efficacy throughout all phases of construction.

In the long-term, and if not properly mitigated, wetlands and watercourses can be indirectly adversely impacted by stormwater runoff that flows from buildings, pavement, and vegetated surfaces. The proposed project will not cause post-construction long-term adverse impacts from stormwater runoff due to the minimum increase of impervious surface and to the proposed stormwater management plan. As noted above, a stormwater basin is proposed in the western portion of the project site. This will be converted from the temporary sediment trap proposed to manage soil erosion and sedimentation during construction. The stormwater basin has been designed to provide adequate storage of the water quality volume. Stormwater flowing to the basins will follow grass-lined swales with stone check dams along the northern and western sides of the proposed solar array. The swales and the basin will allow captured stormwater to settle and gradually infiltrate into the surrounding soils. The swales and basin will also assist in reducing pollutants. The basin will outlet to the west via an outlet control structure and subsurface pipe. During larger storm events, a proposed emergency spillway will outlet stormwater allowing runoff to dissipate throughout the surrounding landscape in a manner that mirrors existing conditions. The implementation and maintenance of these BMPs will protect stormwater quality and will ensure that post-construction peak discharge rates

of stormwater runoff from the project site will be less than pre-development rates for the 2-year, 25-year, 50-year and 100-year storm events.

As indicated in the Stormwater Management Report, pre-development drainage patterns are proposed to be maintained, to the greatest extent possible, to maintain and/or reduce peak post-development flows to off-site areas. The proposed design results in the management/reduction of post-development peak runoff rates from existing conditions for the 2-year, 25-year, 50-year, and 100-year storm events. Water quality treatment will be handled within the proposed stormwater management basin in the northwest corner of the Project as well as via the seed mix proposed across the Project, which will promote a meadow-type ground cover that encourages infiltration.

With the incorporation of the protective measures outlined above, the Project is not anticipated to result in an adverse impact to water quality associated with nearby surface water bodies or downstream properties.

2.2.4 LANDSCAPE PLAN

The existing tree line provides a buffer on all sides of the Site. Additional evergreen plantings are proposed on the eastern side of the site to provide a vegetative buffer for adjacent residences.

Seed mixes for the proposed solar photovoltaic array include ERNMX-147 for final stabilization within the solar array, ERNMX-610 for areas outside of the fence line and in non-array areas, and New England Erosion Control/Restoration No Mow Mix for the stormwater basin.

3.0 ENVIRONMENTAL CONDITIONS

This section provides a summary of the Site's existing environmental conditions as well as the potential impacts on the environment from the proposed development. The results discussed in this section demonstrate that the development complies with CT DEEP air and water quality standards and will have no adverse effect on the existing environment and ecology.

3.1 AIR QUALITY

The nature of solar energy generating facilities results in a condition where no air emissions are generated during the operations of the facility. Therefore, this development will have no adverse effect on air quality and will not require a permit.

During construction, temporary mobile source emissions may occur due to the presence of construction vehicles and equipment. Any of these potential air emissions that occur during the construction of the solar photovoltaic array can be considered de minimis. These emissions will be mitigated using measures such as limited idling times of equipment, regular maintenance of all vehicles and equipment, and watering/spraying of vehicles and equipment to minimize dust and particulate releases. Additionally, all on-site and off-road equipment will meet the latest standards for diesel emissions as prescribed by the United Sates Environmental Protection Agency.

3.2 WATER RESOURCES

Wetlands and watercourses onsite were identified, field delineated and assessed by William Kenny Associates, LLC, on July 26 and July 27, 2023. United States Army Corps of Engineers (USACE) Wetland Determination Data Forms were compiled by William Kenny Associates, LLC on September 19, 2023 for wetland and watercourse areas proposed to be impacted by the development. These Wetland Determination Forms are attached in Appendix G. Four wetland and watercourse systems are present throughout the Site. The first system, which extends and flows east to west along the northern portion of the Site, is a small

stream bordered by forested wetlands. The second and third systems, which are located in the northwestern and central-western portions of the Site, are watercourses extending and flowing east to west with a bordering woodland wetland. The fourth system, which is located in the southwestern portion of the Site is a woodland wetland. These wetlands and watercourses are grouped into two habitat types, of which further detail is described below in Section 3.2.1. The proposed Project will unavoidably modify 1,100 square feet of the stream that flows through the northern portion of the property to provide access to the Facility. The stream will be piped through 40 linear feet of a 42-inch diameter high-density polyethylene pipe embedded 12 inches into the stream substrate. The Project proposes maintaining the main function and value of the stream, that being water conveyance, by piping the stream. Because this proposed disturbance will be relatively small and because stream-crossing BMPs will be implemented during construction, the proposed Project is expected to have de minimis impacts on the system. Please see Table 2 for the total acreage of wetlands impacts.

3.2.1 WETLANDS AND WATERCOURSES

Marsh Headwater Stream

The wetland and watercourse system located in the northern portion of the property consists of a semi-permanent watercourse, extending and flowing east to west, and bordering forested wetland habitat. At the time of investigation, the unnamed watercourse, which has a stream width of approximately four to six feet throughout its length, had an average water depth of approximately two inches with pooling up to six inches in some areas. The watercourse streambed consists of silt, sand, and gravel deposits. The principal source of hydrology for this wetland and watercourse system is groundwater discharge and surface water conveyed by the unnamed watercourse. The watercourse begins at a culvert just east of the property. The watercourse eventually connects to Birch Mountain Brook approximately 1,000 feet west of the Site. The habitat type of this wetland and watercourse system corresponds best with that of Marsh Headwater Stream habitat. The forested wetlands bordering the watercourse consist of vegetation similar to that found in the upland oak-maple forest habitat. The canopy is comprised primarily of red maple, with an understory comprised of primarily black birch and American elm. Native spicebush, winterberry holly, highbush blueberry, and maple leaf viburnum, as well as invasive multiflora, rose and Japanese barberry are common shrubs along the watercourse. Groundcovers within the forested areas of the wetland consist of skunk cabbage, hay-scented fern, interrupted fern, Christmas fern, sensitive fern, cinnamon fern, Canada clearweed, devils beggar tick, stickseed, jewelweed, American water pennywort, broadleaved enchanters' nightshade, and jack in the pulpit. Where the wetland crosses the utility corridor, a more diverse array of groundcover vegetation is present and includes false nettle, swamp goldenrod, sallow sedge, Alleghany monkeyflower, joe pye weed, reed canary grass, wool grass, marsh fern, arrow-leaved tearthumb and soft rush. Soils within this habitat are primarily poorly drained loams formed from dense glacial till deposits. The deposits are from red arkosic sandstones native to the Connecticut Rift Valley. The hydrogeomorphic classification of this wetland and watercourse system is "Riverine" and the USFWS National Wetland Inventory (NWI) classification for this system is Riverine, Lower Perennial, Unconsolidated Bottom, Sand, Semi-Permanently Flooded (R2UB2f). For more information refer to Figure 2, Wetlands and Watercourses Map, attached in Appendix A.

Forest Seep

The other wetland and watercourse systems at the property are wetlands on slopes within the western portion of the property. These systems are fed primarily by groundwater discharge from the adjacent hillside that has formed intermittent watercourse channels. These sloping wetlands and watercourse systems correspond best with a Forest Seep habitat. At the time of investigation, the watercourse channels within these wetlands ranged one to six feet in width. In some areas, these channels held up to one inch of water, while in other areas, they were only slightly saturated at the surface. The wetlands bordering the channels are comprised of vegetation similar to that found in the oak-maple forest with a denser shrub presence. The canopy is comprised of primarily red maple and green ash with an understory comprised primarily of black

birch trees. The ash trees are in a state of decline, and many are dead or dying. A dense shrub layer of native spicebush and invasive multiflora rose, and Japanese barberry is present along the seeps. The herbaceous layer consists of skunk cabbage, jack in the pulpit, hay-scented fern, interrupted fern, Christmas fern, cinnamon fern, sensitive fern, broadleaf enchanters' nightshade, Canada clearweed, and various sedges. Where wetlands cross the utility corridor, groundcovers are more diverse and abundant and include reed canary grass and invasive common reed. Soils within this habitat are primarily poorly drained loams formed from dense glacial till deposits. The deposits are from red arkosic sandstones native to the Connecticut Rift Valley. The hydrogeomorphic classification of these wetlands and watercourses are "Gently Sloping" and the USFWS NWI classification for these systems are Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated (PFO1E). For more information refer to Figure 2, Wetlands and Watercourses Map, attached in Appendix A.

3.2.2 WETLAND IMPACTS

Land development has the potential to cause direct and indirect impacts to inland wetlands and watercourses in the short- and long-term from activities such as vegetation clearing, soil filling, soil excavation, and/or pollution of stormwater. Approximately 1,100 square feet of unavoidable direct impact is proposed to inland wetlands and watercourses in order to construct an access drive from Carter Street to the developable portion of the property. A segment of stream is proposed to be piped to facilitate this crossing. Direct adverse impacts associated with the stream crossing will be minimized to the greatest extent practicable and the crossing will be designed in accordance with the *USACE Programmatic General Permit State of Connecticut* in regard to stream crossing BMPs. Due to the de-minimis level of impact and due to the BMPs provided during construction, the wetland and watercourse impacts associated with the stream crossing are permissible under the USACE General Permit State of Connecticut. The crossing will be accomplished by installing 40 linear feet of a 42-inch diameter high-density polyethylene pipe embedded 12 inches into the underlying streambed substrate through the narrowest segment of the wetland/stream onsite. A crossing such as this will maintain the main function of the wetland and watercourse system within the area of the proposed development, that being water conveyance. Other than work associated with this impact and work within the 100-foot buffer of this area, the remainder of site work, save for a portion of the construction of the proposed stormwater quality basin, is proposed more than 100 feet from wetlands and watercourses. In the short-term, soil erosion and sedimentation control measures are proposed with the Project to prevent adverse indirect impacts to wetlands and watercourses and in the long-term, no adverse impacts from stormwater runoff will impact the wetlands or watercourses due to the Project's minimal impervious surfaces, proposed vegetated surfaces and proposed stormwater management plan. Information regarding the proposed BMPs such as soil erosion and sediment control measures and stormwater management measures is provided in Section 2.2.3.

Table 2: Wetlands Impacts Table

Wetlands Impacts		
Direct Impacts to Wetland 1	0.03 Acres	
Direct Impacts to Wetland 2	0.00 Acres	
Direct Impacts to Wetland 3	0 Acres	
Direct Impacts to Wetland 4	0 Acres	
Direct Impacts to Upland Review Area of Wetland 1	0.50 Acres	
Direct Impacts to Upland Review Area of Wetland 2	0.00 Acres	
Direct Impacts to Upland Review Area of Wetland 3	0.15 Acres	
Direct Impacts to Upland Review Area of Wetland 2	0.00 Acres	
Limit of Disturbance to Wetland	Western Portion	Eastern Portion
Wetland 1	12 Feet	14 Feet

3.2.3 FLOODPLAIN AREAS

According to the FEMA Flood Map Service Center (MSC), flood map number *09003C0413F*, effective on September 26, 2008, the Site falls within "Zone X" as defined by FEMA. Zone X is defined as "are the areas between the limits of the one-percent-annual-chance flood (or 100-year) and the 0.2-percent-annual-chance (or 500-year) flood." This indicates that the project site is not within a regulated flood zone and requires no special considerations relative to flooding for its implementation. For more information regarding the FEMA Floodplain Boundaries refer to Figure 3, FEMA Flood Map, included in Appendix A of this environmental assessment.

3.3 WATER QUALITY

The proposed solar array facility will have no potable water uses or sanitary discharges due to the unmanned nature of the facility. The proposed development will result in an increase in impervious cover within the Project area. As such, the development includes a stormwater management plan to mitigate changes to stormwater runoff resulting from the increase in impervious cover.

3.3.1 GROUNDWATER

The CT DEEP *Water Quality Classifications Manchester, CT* map, dated October 2018, was reviewed to assess the quality of ground and surface water at the project site. The map classifies that the Site falls within an area classified with 'GA' groundwater quality. CT DEEP defines type "GA" groundwater to mean, "existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies." For more information regarding the water classifications refer to Figure 4, Water Quality Classification Map, included in Appendix A of this environmental assessment.

According to the CT DEEP Public Water Supply Map, the project site does not fall within an aquifer protection area. The nearest aquifer protection area is approximately 0.7 miles southwest of the project site. For more information refer to Figure 5, Public Supply Watershed Map, included in Appendix A of this environmental assessment.

Based on the project design, type, and use and proposed stormwater management measures, it is concluded that the project will have no adverse environmental impact on groundwater quality.

3.3.2 SURFACE WATER

The property is situated within Local Drainage Basin (4504-03). This drainage basin is part of the larger South Fork Hockanum River Subregional Drainage Basin (4504) and Hockanum River Regional Drainage Basin (45). The Hockanum River is a part of the Connecticut River Major Drainage Basin (4). According to available maps and reports, no watercourses are present onsite; however, there are several intermittent watercourses present at the property. These watercourses extend and flow from east to west. Surface water conveyed from these watercourses drain in one way or another to Birch Mountain Brook, approximately 720 feet west of the project Site. As the onsite watercourses do not appear in maps, surface water quality classifications are not assigned to these watercourses. According to the CT DEEP Streamflow Map, the offsite Birch Mountain Brook is classified as a first-order stream with 'class 1 stream flow' which means that it is a free-flowing stream. The water quality classification of the offsite Birch Mountain Brook is listed as "Class A" surface water quality. Class A surface water quality is defined as "Class A designated uses are habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture." For more information refer to Figure 4, Water Quality Classification Map, included in Appendix A.

Based upon further review of CT DEEP mapping, the Site is not located within a mapped Public Drinking Supply Watershed nor are any surface water features mapped as CT DEEP Cold Water Habitat Sites. The nearest drinking water watershed is 560 feet east of the Site. The western portion of the property does

however fall within a Service Areas of Community Public Water Systems, that being the Manchester Water Department. For more information, please refer to Figure 5, Public Supply Watershed Map, included in Appendix A.

Based on the Project's design, type, and use, as well as the proposed stormwater management measures, the Project will not have direct adverse environmental impacts on surface water quality.

3.4 HABITAT & WILDLIFE

Four habitat types - two upland and two wetland and watercourse habitats - are present at the property. The two upland habitat types are Red Oak–Sugar Maple Transition Forest habitat and Cleared Land habitat. The two wetland and watercourse habitat types are Marsh Headwater Stream and Forest Seep. The wetland and watercourse habitats are discussed in greater detail in Section 3.2.1. Wildlife species that can use the property are common species to the area. These species are further discussed in Section 3.4.3 and the acreage of proposed habitat alteration is provided in Table 3.

3.4.1 HABITAT TYPES

Red Oak-Sugar Maple Transition Forest

The majority of the Site consists of Red Oak Sugar Maple Transition Forest. According to historic aerial imagery of the Site, this property was primarily forested in 1934 and has remained forested until the present day. The southeastern portion of the property appears to have been in agricultural land in 1934 and was abandoned between 1970 and 1986. The canopy of this forest is relatively closed, with about 70 to 80 percent coverage throughout. The canopy is dominated by sugar maple, red oak, white oak, and red maple trees. Some very large specimen trees are located throughout the forest. The canopy understory is mature and consists primarily of pole to saw timber sized black birch, and includes scattered shagbark hickory, eastern white pine, pitch pine, eastern hemlock, American beech, big-tooth aspen, grey birch, and black cherry trees. In areas where canopy gaps are present, a substantial amount of fine to coarse woody debris from mature ash trees is scattered among the forest floor. In this forest habitat, shrubs are sparse, save for areas of canopy gaps; typical species within shaded portions of the site include native maple leaf viburnum and lowbush blueberry shrubs as well as native greenbrier vines, and within open areas of the canopy, invasive Japanese barberry dominates. Herbaceous ground covers are primarily hay-scented fern, Christmas fern, and Pennsylvania sedge. Other herbaceous species include Virginia creeper, white wood aster, and Canada mayflower. In the southwestern portion of the Site, the forest canopy is open, allowing for the shrub layer to thicken, and become overtaken by Japanese barberry. Additionally, in the southeastern portion of the Site, many mature trees have fallen, creating many canopy gaps that have allowed for the growth of a dense shrub layer that consists of native spicebush and invasive Japanese barberry as well as herbaceous plants such as native wood nettle, and invasive garlic mustard. Invasive oriental bittersweet vines are also prevalent within this portion of the forest and ensnare standing deadwood and remaining trees. Soils within this habitat are primarily well-drained to moderately well-drained loams formed from dense glacial till deposits. The deposits are from red arkosic sandstones native to the Connecticut Rift Valley. Approximately 22 percent (7.8 of 34.8 acres) of the Red Oak-Sugar Maple Transition Forest habitat type is proposed to be eliminated by the proposed Project. Please see Table 3 for the total acreage of habitat alteration.

Cleared Land

Bisecting the property from north to south is an underground natural gas easement. This easement is an approximately 50-foot by 2,000-foot corridor cutting through the forest. According to historic aerial imagery of the site, the tree clearing associated with this easement was completed sometime after 1934 and before 1970. Due to its nature as a utility easement, the area is maintained so that no tree canopy develops. The clear-cut corridor is vegetated with low herbaceous vegetation consisting primarily of hay-scented fern, interrupted fern, and New York fern. Mixed throughout are sole species of native huckleberry and bayberry shrubs, as well as invasive multiflora rose shrubs. Other plant species present include spreading dogbane,

poke milkweed, and deertongue. Some portions of this habitat are within wetland and watercourse areas. Within these portions, herbaceous groundcovers include species adapted to wetter environments such as native soft rush and invasive common reed. The upland soils throughout this habitat are primarily well-drained to moderately well-drained loams formed from dense glacial till deposits. The wetland soils throughout this habitat are primarily poorly drained loams formed from dense glacial till deposits. The deposits are from red arkosic sandstones native to the Connecticut Rift Valley. Cleared Land habitat is not proposed to be altered by the Project. Please see Table 3 for the total acreage of habitat alteration.

The remaining habitat types on the property are associated with wetland and watercourse systems. A Marsh Headwater Stream habitat is located in the northern portion of the property and Forest Seep habitat is located in the western portion of the property. Further detail of these habitat types is described in Section 3.2.1. Overall, only the northern wetland and watercourse system is proposed to be impacted by the Project to provide access to the site. The proposed impact is unavoidable, small in scale, and proper best management practices (BMPs) are provided during construction to minimize impacts. Further detail in regard to these impacts are described in Section 3.2.2. No other wetland and watercourse systems are proposed to be impacted by the proposed development. The total acreage of habitat alteration is provided in Table 3.

Table 3: Habitat Area Table

Habitat Type	Total Area Onsite (±Acres)	Area of Disturbance (±Acres)
Forest	34.8	7.80
Cleared Land	1.8	0.00
Marsh Headwater Stream	2.4	0.02
Forest Seep	1.7	0.00

3.4.2 CORE FOREST DETERMINATION

Per CT DEEP, "Core forests are essentially forests surrounded by other forests, and in Connecticut, it has been defined as forest features that are relatively far (more than 300 feet) from the forest-nonforest boundary. Core forests provide habitat for many species of wildlife that cannot tolerate significant disturbance. The loss of core forest cover diminishes water purification and habitat values, and could result in heavier runoff, which might lead to poorer water quality and impaired habitat." The CT DEEP 2020 Connecticut Forest Action Plan classifies Core Forests under three size-classes: Small Core Forest (SCF), Medium Core Forest (MCF) and Large Core Forest (LCF). SCF account for patches of forest that are less than 250 acres in size, MCF are forests between 250 and 500 acres, and LCF are forests greater than 500 acres.

Through review of CT DEEP's "2020 Connecticut Forest Action Plan," it was determined that an approximately 23-acre SCF is located at the subject Site. Approximately seven (7) acres of SCF at the Site are proposed to be cleared for the development of the proposed Project. For more information regarding the location of core forest relative to the Site refer to Figure 11, Core Forest Map, included in Appendix A.

3.4.3 WILDLIFE

The following section provides information regarding the wildlife either observed or have the potential to use each habitat type at the property and the effects the proposed Project will have on the type and relative abundance of each wildlife group.

The largest habitat currently on the property is the Red Oak-Sugar Maple Transition Forest. This habitat accounts for approximately 85 percent of the vegetative coverage at the property. Oak-maple forests such as this are common for this region of Connecticut and support a large amount of generalist species due to

the variety of seed and hard mast production. Primary wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species.

Large mammals expected to use the Red Oak-Sugar Maple Transition Forest habitat include white-tailed deer, eastern coyote, and red fox. These species use Red Oak-Sugar Maple Transition Forests as high-quality foraging habitat due to their large nut and seed presence and limited amounts of herbaceous browsing. It also serves as a hunting area for small mammals; however, these species mainly use this forest habitat type as a corridor to reach wetlands and/or edge habitat within or near the Site. While a portion of the Red Oak-Sugar Maple Transition Forest habitat onsite will be modified to construct the proposed Project, the habitat is proposed to be replaced with an Early Successional Meadow habitat. The modification of this habitat will provide a mosaic of habitat types across the existing landscape and provide new functions and values for large mammals onsite while removing other functions and values, such as those associated with the removal of canopy coverage over the Project area. Large mammals have the potential to be excluded from the area of proposed development and the proposed Early Successional Meadow habitat via proposed chain link fencing. This potentially removes areas for large mammals to bed down and browse herbaceous vegetation; however, while these functions will be lost, other functions will be created, such as more direct and defined corridors of access between and around the proposed development areas. Additionally, with the use of wildlife-friendly fencing (i.e. fencing that has a six-inch gap at the bottom), it is likely that the proposed Early Successional Meadow habitat will result in the same yield of small prey species for large mammals within the Project area that can be accessed inside and outside the Project area.

Small mammals expected to use the Red Oak-Sugar Maple Transition Forest habitat include Virginia opossum, eastern chipmunk, gray squirrel, raccoon, striped skunk, and various rodents. These species use Red Oak-Sugar Maple Transition Forests for areas of denning and nesting, areas of food storage, and for the highways of woody debris it provides for travel. The conversion of a portion of the existing Red Oak-Sugar Maple Transition Forest habitat onsite to Early Successional Meadow habitat should result in an increase in the diversity of small mammal populations onsite. While the removal of forest will eliminate areas of denning, nesting and food storage functions relegated to forest habitats, the creation of a mosaic of habitat types onsite due to the establishment of Early Successional Meadow habitat will allow other small mammal species more suited to field and meadows to utilize the site while keeping the majority of the habitat for woodland and forest-dwelling small mammals intact. The proposed wildlife-friendly chain link fencing around the Project area will not prevent small mammals from entering the proposed Early Successional Meadow habitat, rather it will deter large mammal predators. The Early Successional Meadow habitat will also provide new burrowing and foraging opportunities as well as overhead protection due to the physical solar panel units protecting small mammals from avian predators. As with large mammals, the highways of travel are proposed to be more directly defined by the proposed Project and the proposed Project will not disturb woody debris between development areas that small mammals can use for cover on way to wetlands and/or edge habitat.

A wide variety of avian species utilize Red Oak-Sugar Maple Transition Forest habitats. Smaller birds may be found foraging on the forest floor for insects and invertebrates. Larger birds of prey will likely be found nesting/perching in canopy trees and scanning the forest floor for small mammals. The standing woody debris also serves several species in regard to food sources and nesting habitat. Avian species identified during field investigations include the American crow, song sparrow, Carolina wren, and red winged blackbird. Additional species expected to use this habitat include the wild turkey, red-bellied woodpecker, pileated woodpecker, common grackle, and blue jay. The conversion of a portion of the existing Red Oak-Sugar Maple Transition Forest habitat onsite to Early Successional Meadow habitat should have minimal effect of avian populations. While the removal of canopy will result in a decrease in perching and nesting areas, avian species have the ability to easily utilize other areas onsite for such habitat functions, and the conversion to Early Successional Meadow habitat will create open spaces and edge habitats that give birds of prey a better view for identifying prey. Additionally, the creation of Early Successional Meadow habitat

has the potential to increase prey populations of small mammals as discussed earlier and the physical solar panel units can also provide low-covered space for ground or shrub nesting birds. Overall, removing a portion of the Red Oak-Sugar Maple Transition Forest should create a mosaic of habitat onsite that will result in an increase in the diversity of avian species.

Lastly, herpetofauna expected to use the Red Oak-Sugar Maple Transition Forest habitat include the garter snake and eastern rat snake. Herpetofauna use Red Oak-Sugar Maple Transition Forest habitat for its high elevations, canopy openings and rock formations to raise their body temperature. The conversion of a portion of the existing Red Oak-Sugar Maple Transition Forest habitat onsite to Early Successional Meadow habitat should result in an increase in the diversity of herpetofauna species onsite. The proposed wildlife-friendly chain link fence around the Project area will not prevent herpetofauna from entering the proposed Early Successional Meadow habitat; rather, it will exclude their large mammal predators. Likewise, the overhead protection from the physical solar panel units should aid in providing cover for these species from avian predators. Additionally, the higher levels of herbaceous groundcovers within the proposed Early Successional Meadow habitat will provide concealment and aid these species with hunting and capturing their prey.

The second largest habitat currently on the property is the Marsh Headwater Stream. This habitat type accounts for approximately 5.87 percent of the vegetative coverage at the property. Riverine wetland systems like this small sandy stream are common for this region of Connecticut and support a large variety of wildlife. Wildlife groups expected to use this habitat type include mammals, avian and herpetofauna species. The proposed Project will modify 1,100 square feet of the stream that flows through the Marsh Headwater Stream habitat to provide access to the Project area. The stream will be piped through 40 linear feet of a 42-inch diameter high-density polyethylene pipe embedded 12 inches into the stream substrate. The Project proposes maintaining the main function and value of the stream, that being water conveyance, by piping the stream. Because this proposed disturbance will be relatively small and because stream-crossing BMPs will be implemented during construction, the proposed Project is expected to have only de minimis impacts on the system and the species that utilize this habitat type.

Both large and small mammals primarily use this wetland system to obtain fresh drinking water and browse an abundance of herbaceous vegetation. Smaller mammals may seek protection from predators and natural elements in the outcrops lining the shore. Species such as water shrew regard the physical waterway as their main habitat and utilize the flowing water more so than the surrounding wetland system.

Avian species use this habitat for a variety of reasons. Birds of prey may perch from above, looking for small mammals, herpetofauna and aquatic species to enter the open. Songbirds often nest in the vegetation of the wetland or use the open area above the stream to hunt for aquatic insects.

Herpetofauna regard this wetland habitat as their primary habitat on the property. The northern two lined salamander and the northern dusky salamander are the two primary amphibians that utilize this habitat type as well as others expected to be onsite. These species generally do not venture far from the edges of the wetland system and locate their food sources in or around the riverine system. During winter months, most herpetofauna rely on the wetland system for survival as a place to burrow and hibernate.

Lastly, due to its shallow depth, the wetland and watercourse system is unlikely to support a viable population of aquatic species. Aquatic insects are the only noted species within the stream. The offsite Birch Mountain Brook watercourse does contain a wild trout population; however, according to the CT DEEP Connecticut Trout Stocking Map, the watercourse is not stocked. The on-site watercourses are considered cold-water watercourses. Likewise, the nearby Birch Mountain Brook is also within the same cold-water drainage basin; however, from field investigations, it does not appear that the onsite watercourses are cold water habitat.

The third largest habitat currently on the property is the natural gas pipeline corridor that is Cleared Land habitat. This habitat accounts for approximately 4.5 to 5.4 percent of the vegetative coverage at the property. Cleared Land habitat such as what is onsite is common throughout Connecticut and support generalist species that utilize human-altered environments. Wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species.

Large mammals that use Cleared Land habitat include eastern coyote and red fox which use this habitat to hunt for small mammal prey. Other large mammal species such as white-tailed deer utilize this habitat as a corridor for means of easy travel, remaining close to the wood line. The herbaceous vegetation present in the corridor (primarily ferns) are not suitable browse for large mammals.

Small mammals such as the Virginia opossum, raccoon, striped skunk, and various rodents use this corridor of Cleared Land habitat for its herbaceous cover from predators, concealment from prey and access to water. Downed woody debris present in the corridor also provide small mammals with areas for denning and seed cashing.

A variety of avian species such as the wild turkey, red tailed hawk, coopers hawk, great horned owl and other large birds use this corridor of Cleared Land habitat to hunt for insects, snakes, and small mammals, while also using this area as a flight corridor.

Lastly, herpetofauna expected to use this corridor of Cleared Land habitat include the Dekay's brown snake, eastern milk snake and eastern rat snake. Snakes use Cleared Land habitat for its dense herbaceous cover while hunting prey. Additionally, snakes sun themselves in the open canopy or burrow and cool themselves underneath the woody debris in the ferns.

As no alteration of the Cleared Land habitat is proposed, the utilization of this habitat by mammals, avian species and herpetofauna should not be altered by the proposed project.

The fourth largest habitat currently at the property is the Forest Seep habitat. This habitat accounts for approximately 4 percent of the vegetative coverage at the property. Forest Seeps are small in size and common throughout Connecticut, hosting very similar wildlife species to the upland forests around them. The seeps provide denser layers of vegetative cover and herbaceous browse as well as access to groundwater. Wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species.

Both large and small mammals such as white-tailed deer, eastern coyote, red fox, Virginia opossum, eastern chipmunk, gray squirrel, raccoon, striped skunk, and various rodents use Forest Seep habitat for its herbaceous browse, woody debris, and nuts/seeds. Woody debris in this Forest Seep habitat serve as highways of travel, areas of denning/nesting and areas of food source/storage. Additionally, Forest Seeps provide access to fresh groundwater.

Avian species such as wild turkey, red-bellied woodpecker, pileated woodpecker, American crow, tufted titmouse, common grackle, and blue jay are expected to use this habitat type. Some species may be found foraging on the forest floor for insects, invertebrates, nuts, and seeds. Birds of prey will likely be found nesting/perching in canopy trees and scanning the forest floor for small mammals. The standing woody debris also serves several species in regard to food sources and nesting habitat.

Lastly, herpetofauna expected to use the Forest Seep habitat include the northern dusky salamander, northern two lined salamander, eastern milk snake, and northern black racer. Snakes use this habitat for its

dense cover while hunting prey. Additionally, snakes can burrow and cool themselves in the moist cool soil and underneath woody debris. Salamanders use the wet soils and water of this area to burrow.

As no alteration of the Forest Seep habitat is proposed, the utilization of this habitat by mammals, avian species and herpetofauna species should not be altered by the Project.

Due to the proposed Project, the diversity and abundance of wildlife using the property including the Site is expected to increase in some areas and decrease in others. To provide access to the Project area, the proposed Project will unavoidably modify 1,100 square feet of the stream that flows east to west within the northern portion of the property and the Marsh Headwater Stream habitat associated with it. The proposed Project will also modify approximately 22 percent of the Red Oak-Sugar Maple Transition Forest habitat (approximately 7.8 acres). This includes converting the area of the Red Oak-Sugar Maple Transition Forest within the Project area to Early Successional Meadow habitat. The Cleared Land habitat and the wetlands within the western portion of the property associated with the Forested Seep habitat are not proposed to be altered by the proposed Project.

Although modification of portions of the Red Oak-Sugar Maple Transition Forest is proposed, the proposed conversion of portions of this habitat within the Project site to Early Successional Meadow habitat should result in an increase of some groups of species such as avian, herpetofauna and small mammal. Other groups of species, specifically large mammals, will have a slight or barely noticeable decrease in abundance due to their exclusion from the Early Successional Meadow habitat by the proposed wildlife-friendly chain-link fencing; however, the creation of more defined corridors of access to other forested habitats south of the site will offset the proposed slight loss of each habitat type. Other groups of species, specifically large mammals, will slightly decrease in abundance due to their exclusion from the Early Successional Meadow habitat by proposed chain-link fencing. Additionally, only de minimis impacts to the Marsh Headwater Stream habitat are proposed. Disturbance to the habitat will be relatively small and stream-crossing BMPs will be implemented during construction. The proposed stream crossing should not have lasting effects on herpetofauna or aquatic wildlife's utilization of the stream as connectivity to the remainder of the system will be maintained; however, it is important to note that the species inhabiting the property and Project area are common in the Town of Manchester and the State of Connecticut. Generalist species are tolerant of site disturbance and will find other suitable habitats if they cannot adapt to the change. As such, the Project will not have significant adverse impacts to wildlife.

3.5 RARE SPECIES

Publicly available state and federal information was reviewed to determine whether listed species and/or critical habitats are known to be present or absent on or adjacent to the Site or could potentially be present onsite. There are no state records indicating listed species that have been present onsite; however, the records indicate that listed species near the Project site may be affected by proposed Project activities. Federal records indicate that the property may potentially serve as habitat for listed species and/or as a stop for protected migratory birds. A limited onsite review of the property was completed on July 26 and July 27, 2023. Based on the results of the review of state and federal records and field investigations, and to increase the habitat value for wildlife and listed species utilizing the area, various construction and site management protection measures are proposed to be implemented prior to and during construction of the Project and that long-term habitat enhancement and management activities are proposed to be implemented post-construction.

3.5.1 NATURAL DIVERSITY DATA BASE

The CT DEEP Natural Diversity Data Base (NDDB) maintains a collection of maps that show the approximate locations in Connecticut where state endangered, threatened and special concern species and important natural communities are known to have been present in the past. The locations shown on the maps are based on information collected over the years by DEEP personnel and others. The maps are

intended to serve as a pre-screening tool for preventing potential impacts to listed species. Maps are generated for each town, and the map for the Town of Manchester is dated June 2023. To protect individuals of listed flora and fauna, their exact locations are not shown on the maps; rather, the maps show broad zones that extend over and beyond known locations of listed individuals. These zones are shown with gray line hatching and areas of critical habitat are shown with green polygons. If a Site falls within or near a hatched area, a request for determination should be filed with the CT DEEP NDDB for more accurate information and field work should occur to determine the presence or absence of these species onsite.

According to the Town of Manchester NDDB map, the subject property falls within a hatched area. As such, a filing for NDDB review request was submitted to the CT DEEP and the results of this review indicate that one state-listed species has the potential to be impacted by the proposed Project. The state-listed species is the eastern box turtle (*Terrapene carolina carolina).* For more information refer to Figure 7, Natural Diversity Data Base Map, included in Appendix A of this environmental assessment.

Eastern box turtles are listed as state "species of special concern" by the CT DEEP. Species classified as "threatened" by the CT DEEP are native species that have a naturally restricted range in habitat in the state, are at a low population level, are in such high demand by humans that its unregulated taking would be detrimental to the conservation of its population, or have been extirpated from the state. Eastern box turtles typically inhabit well-drained forest bottomlands and open deciduous forests and will utilize a variety of other early successional habitats such as field edges (and other edge habitat such as utility corridors) and thickets. They also will utilize wetland habitats such as marshes, bogs, and streams at various times during their active season. Eastern box turtles are active between April 1 and November 1; in the remaining months, they are dormant, in a state of brumation a few inches under the ground surface.

The following is a summary of measures required by the CT DEEP and to be used before, during and following construction to protect eastern box turtles that may potentially be encountered at the Site. All ground disturbance work associated with the Project must be conducted between April 1 and November 1, the eastern box turtles' active season. It is recommended mowing not occur during May 15 to September 15. If mowing is to occur during this time frame, whether pre- or post-construction, the CT DEEP recommends the following:

Pre-Construction:

- In preparing the site for development, exclusionary fencing that is at least 20 inches tall and that is secured and keyed into the ground, must be installed around the perimeter of the work area to prevent turtle access to the site. The work area includes all areas used for site access, equipment parking, material staging, material storage, and construction purposes. The entrance to the site also must be cordoned off with an exclusionary method when the site is not in use. This can be accomplished with a row of hay bales that can be moved when access to the site is needed.
- If mowing needs to occur before exclusionary fence installation within the active turtle timeframe, the mowing style, mowing height, mowing directionality, mowing speed, and the location of non-mowing areas should be as follows:
    - Mowing style: Avoid flail mower heads with guide bars that ride along the ground. Sickle bar mowers will have the least impact if mowing every one to five years. In areas with more woody vegetation, a less than one to two-inch diameter Brontosaurus-style mower will have the least impact on turtles.
    - Mowing height: The retention of mowing stubble seven to twelve inches in height will reduce mortality, reduce blade wear, and will leave important cover for animals.
    - Mowing directionality: Start mowing from the center of the field and use a back-and-forth approach, or large circular pattern to avoid concentrating fleeing animals where they may be killed or stranded. In addition, leave an unmowed 30-foot strip around the

perimeter of the field and mow this area last. Most turtles are found within these areas, and this provides time for them to react to the mowing activity and move out of the area. If the field is near a stream, start mowing the side furthest from the stream and work towards the stream. If the field is bordered by woodland, start mowing the side furthest from woodland and work towards woodland. If the field is bordered by a road, start mowing next to the road and work your way across the field.
    - Mowing speed: Mowing in low gear or at slow speeds will allow turtles to react and move out of the field.
    - Non-mowing areas: Leave an unmowed field edge in high turtle-use areas until after September 15.
- Once exclusionary fencing has been installed surrounding the work area, a qualified individual must survey the area to determine if there are any turtles within the work area. If turtles are identified, they are to be carefully moved to an area outside of the work area in a safe manner that will not harm them. If listed species of turtles are identified, the qualified individual will document and report these findings to the CT DEEP in the manner identified within the NDDB determination letter. Only when the qualified individual determines that no turtles are within the work area and that the site is secure from turtles re-entering can construction begin.
- Prior to commencing activity, a meeting is to be held with all construction personnel working within the exclusion area by the qualified individual to appraise them of the species description and their duties in regard to maintaining the security of the site. Should construction personnel encounter a turtle, the qualified individual will instruct personnel during this meeting on how to carefully remove the turtle from the site, how to document their findings and to report it to the qualified individual for reporting to the CT DEEP.

Mid-Construction:

- Prior to the start of work activity each day, the exclusionary fencing is to be inspected by construction personnel and all gaps or openings at the ground level identified should be fixed or repaired immediately to prevent turtles access to the site. If a breach is identified, work shall halt until the qualified individual surveys the site and determines no turtles are within the work area.
- All heavy machinery (active or parked) must be within the limits of the exclusionary zone or on paved surfaces. No machinery is to be parked in any turtle habitat (i.e., the area outside of the exclusionary zone).
- At the end of each work day, the exclusionary measures at the entrance to the work site must be reimplemented to prevent turtles from accessing the site. If this is not done, the exclusionary zone is considered void and a qualified individual must re-survey the site and conclude that no turtles are present within the work area before construction activity can begin again.

Post-Construction:

- After completion of the Project, exclusionary fencing shall be removed once the area is stabilized to allow for reptile and amphibian passage to resume. If cordoning off segments of the worksite to be completed in separate phases, once these areas are stable, only then may exclusionary fencing be removed. All active areas must remain exclusionary to turtles.

In addition to these measures, the CT DEEP recommends the following be implemented into the general site design for the development to increase the value of habitat for wildlife and state-listed species.

- A site management plan to promote native vegetation growth in the area under the solar panels should be created.
- Use wildlife-friendly fencing to allow wildlife movement to and from the development.
- Develop a management plan for areas of the property where development is not occurring and/or for when solar panels are decommissioned that will support state-listed species.

The NDDB Determination, dated August 16, 2023, is attached in Appendix C of this environmental assessment. This determination is valid until August 16, 2025.

3.5.2 USFWS CONSULTATION

The US Fish and Wildlife Service (USFWS) provides an online planning tool, its Information for Planning and Consultation (IPaC) system, allowing for project planners the ability to perform a regulatory review for protected species under the Endangered Species Act (ESA) that inhabit or potentially may inhabit their project sites. This resource is designed to provide a list of potential ESA-protected and/or candidate species, migratory bird species protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, critical habitats, as well as the ability to consult whether a proposed project has the potential to result in "take" of listed species. "Take" refers to any means to "harass, harm, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct to threatened and endangered species". In consulting this resource, projects can determine whether they are in compliance with the ESA and other federal acts. Solli Engineering filed on November 29, 2023, an IPaC review of the Site and received a letter report from the USFWS titled "*List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project*". The report specifies that one endangered species, one candidate species and eleven migratory bird species have the potential to be impacted by the proposed Project. The endangered species is the Northern Long Eared Bat, the candidate species is the Monarch Butterfly and the migratory birds are listed in the attached report in Appendix B.

The Northern Long Eared Bat is listed as endangered under the ESA. This species range encompasses the entirety of Connecticut. The CT DEEP has compiled a map of towns with known Northern Long Eared Bat and other bat hibernacula within the state, and no known hibernacula are located within the Town of Manchester. The nearest hibernacula according to the map is within the Town of East Granby, approximately 18 miles northwest of the Project area. For more information regarding the locations of NLEB areas of concern, refer to Figure 7, Natural Diversity Database Map, included in Appendix A of this environmental assessment. Regardless, to stay in compliance with the ESA, the IPaC Consultation Package Builder (CPB) was utilized to assess whether the Project would result in the "take" of Northern Long Eared Bats. The results of the CPB can be found in the attached report "*Technical assistance for '250 Carter Street, Manchester, CT Solar Photovoltaic Array'*" found in the attached Appendix B. The results of this report indicate that the Project is not likely to result in the unauthorized "take" of Northern Long Eared Bats and therefore does not require a permit from the USFWS.

The monarch butterfly is a candidate species for protection under the ESA. Candidate species are "species which the USFWS has sufficient information to propose as endangered or threatened under the ESA, but for which their development of a proposed listing regulation is precluded by other higher priority listing activities". As such, until they are proposed for listing, these species are not officially entitled to legal protection under the ESA, and they are not considered when making a determination as to "take".

3.6 SOILS & GEOLOGY

The Project grading is expected to generate a net export of approximately 3,500 cubic yards of material. Before any fill material is removed or used, the topsoil will be stripped and stockpiled for later seeding of disturbed areas. Any soil exposed due to construction will be treated according to the *Connecticut Guidelines for Soil Erosion and Sediment Control*.

The following soils exist onsite and in surrounding areas:

1. Ridgebury fine sandy loam, 0 to 3 percent slopes.
2. Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony.
3. Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony.
4. Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony.

For more information, refer to the map Figure 8, Prime Farmland Map, included in Appendix A of this environmental assessment.

3.6.1 PRIME FARMLAND SOILS

Solli Engineering has reviewed the listed soils in accordance with the Code of Federal Regulations ("CFR") Title 7, part 657. Prime Farmland Soils are distinguishable based on soil type. These soils are to be identified under CFR Title 7, part 657 in order to know the extent and location of the best land for producing food, feed, fiber forage and oilseed crops. Upon review, the Project contains some prime farmland. For more information, refer to the map Figure 8, Prime Farmland Map, included in Appendix A of this environmental assessment.

Because the expected use of the Project will have a finite lifespan, the Petitioner proposes to use minimally intrusive methods during construction when possible. Grading will be limited by the use of solar panel tracker systems and construction of solar panels in existing areas where grades are similar to proposed conditions. There will be some excavation and regrading that takes place on prime farmland to properly develop the Site as a whole. In areas where Prime Farmland Soils are disturbed, the developer will remove the topsoil, segregate it from underlying horizons, and stockpile and spread it throughout the Project as necessary to re-establish vegetation growth.

When the solar panel facility reaches the end of its finite lifespan, the facility will be decommissioned. Upon this development, all areas disturbed by the facility will be top dressed with native soils and reseeded with the same (or approved equivalent) pollinator blend that exists within the area of the solar panel facility. These proposed design strategies will not materially affect the prime farmland. According to Public Act No. 17-218, "for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland… the Department of Agriculture represents, in writing, to the council that such project will not materially affect the status of such land as prime farmland or the Department of Energy and Environmental Protection represents, in writing, to the council that such project will not materially affect the status of such land as core forest." The Project is a 0.99 MW AC solar photovoltaic facility; therefore, a letter to the Council of the Department of Agriculture is not necessary in this exhibit.

3.7 HISTORIC & ARCHAELOGICAL RESOURCES

Archaeological Consulting Services LLC (ACS) performed a Phase 1A cultural resources assessment survey on behalf of Solli Engineering and the Petitioner. Their report discloses that a property National Register of Historic Places does not exist within the Site. Background research indicates a low sensitivity for potential prehistoric cultural resources. The low scores in general can be attributed to very rocky soil contexts and great horizontal and vertical distances to the nearest major water source. ACS therefore recommends no further archaeological conservation efforts for the Site. For more information refer to the Phase 1A report in Appendix D, Cultural Resources.

3.8 SCENIC AND RECREATIONAL AREAS

No state road or local road will be affected physically or impaired visually by the Project. The Shenipsit Trail is a hiking trail that runs through the Site approximately 100-200 feet from the Project area; however, the Facility should not be visible from the trail due to dense forest cover and grading. The Charter Oak Greenway is a protected hiking trail located approximately one-half mile north of the property. The closest open space is located at Yules Park, approximately 1,500 feet southwest of the property. For more information regarding resources located within one mile of the Site refer to Figure 9, Scenic & Recreation Map, included in Appendix A.

3.9 LIGHTING
Exterior lighting is not planned for the Project. There may be onsite equipment that have small lights which will only be activated during maintenance.

3.10 FAA DETERMINATION
The closest federally obligated airport is Hartford-Brainard Airport located approximately 9 miles west of the Site.

Solli Engineering has submitted the required information to the Federal Aviation Administration (FAA) for review. The FAA reviewed multiple sample points to determine whether a potential hazard exists for air navigation. Upon review, the FAA issued a Determination of No Hazard to Air Navigation for all points. A glare analysis is not required at this time. For more information see Appendix F, FAA Determinations.

3.11 VISIBILITY
There will be solar trackers a maximum of 6' off finished grade within the solar panel facility. All disturbed areas will be contained within a 7' chain link fence. Trees constituting the existing tree line will be preserved and maintained to the best of the developer's ability. Neighbors in the vicinity of the subject property will not be able to view the solar panel facility due to existing tree coverage and additional vegetative buffers, which include American Holly and Eastern Red-Cedar trees, proposed on the eastern side of the Project area. For more information refer to Figure 10, Proposed Conditions Viewshed Map, included in Appendix A.

The solar panel products are designed in such a way that they are not highly reflective. Because the solar panel have tracking features, the panels will not reflect one direction for extended durations.

3.12 NOISE
The subject property is currently undeveloped. As such, the Site does not generate noise. Noise from the construction of the solar panel facility is exempted under Connecticut regulations for the control of noise. For more information refer to RCSA 22a-69-1.8(h). During construction, the increase in noise will likely lead to a subsequent elevation in ambient sound levels in the immediate vicinity of the Project. Standard construction equipment will be used for the Project, and the highest level of noise generated from this equipment - such as backhoes, bulldozers, cranes, and trucks – is expected to be approximately 88 dBA from the origin.

When construction ceases, noise from the solar panel facility will be minimal. The maximum amount of noise will be generated by inverters, during operation hours, which will emit 61 decibels measured at one meter from the inverter. The collective operational noise level of the inverters at the nearest property boundaries would be 29 decibels. This noise level meets applicable CT DEEP Noise Standards, and noise levels will effectively be reduced to zero during nighttime hours when the array is not generating electricity. For more information regarding the inverter product information refer to the specification sheets in Appendix E.

4.0 CONCLUSION

As demonstrated by the information outlined herein, the Project will have no air emissions, no significant adverse environmental impacts, and will comply with the CT DEEP air and water quality standards. The Petitioner, therefore, respectfully requests that the Council issue a declaratory ruling that the proposed Project will comply with CT DEEP air and water quality standards, will not have a substantial adverse environmental impact, and does not require the issuance of a Certificate.