EXHIBIT H

Environmental Assessment

SOLLI ENGINEERING

Environmental Assessment

Proposed 4.97 MW Solar Photovoltaic Array
0 Riggs Street
Oxford, Connecticut

Prepared For
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1.0 INTRODUCTION

Solli Engineering (Solli) has prepared this Environmental Assessment (EA) on behalf of Tritec Americas, LLC, (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 4.97 megawatt (MW) alternating current (AC) ground-mounted solar photovoltaic array (Project/Facility) to be located 0 Riggs Street in Oxford, Connecticut (Site).

2.0 PROJECT DESCRIPTION

2.1 EXISTING SITE CONDITIONS

The Project area is comprised of a 29.95± acre portion of the 59.2± acre Site. The Site is bound by Riggs Street and residential uses to the east, Seymour Southbury Road (Route 67) and residential uses to the west, residential uses to the north, and residential uses and public land owned by the Town of Oxford to the south. The Site is located in the Residential A (RESA) zoning district in the Town of Oxford. The entire parcel is composed of vacant land, consisting of wooded and wetland areas with two (2) streams, an unnamed stream and Jacks Brook, that flow from north to south through the property and divide the Site into three (3) main Project areas.

The east Project area's topography has a ridge line that splits the area. Slopes from the ridgeline to the east range from 10%-50% and drains into Riggs Street. Slopes from the ridgeline to the west range from 10%-50%. The central Project area's topography slopes between 5%-50% from the north property line of the site to the south. The west Project area's topography slopes between 3%-30% from the north property line to the south. The wetlands that are onsite are associated with two (2) streams that flow through the site. Please refer to Section 3.2 for more details regarding existing water resources.

2.2 PROPOSED DEVELOPMENT

The proposed solar photovoltaic array will consist of approximately 11,970 TrinaSolar TSM-DEG19C20 540W modules, AC panel boards and/or switchgear, forty (40) Sungrow SG125HV 125kW inverters, three (3) 2,000 kVA transformers, and one service interconnection line. The total project is broken up into three (3) solar arrays which will consist of ground-mounted, single-axis tracking systems. One accessway from Riggs Street is proposed onsite to provide access to the eastern and central array. This access drive is proposed to cross over Jack's Brook to access the central array. 20'-4" wide x 4'-6" high x 27' long open bottom aluminum box culvert is proposed to span Jacks Brook. One accessway from Seymour Southbury Road (Route 67) is proposed onsite to provide access to the western array. Access from Riggs Street will be provided via a 12-ft wide, 1,500± ft long gravel road, while access from Seymour Southbury Road (Route 67) will be provided via a 12-ft wide, 695± ft long gravel road. The gravel road from Riggs Street will extend to the north and west, while the gravel road from Seymour Southbury Road (Route 67) will extend to the east. The gravel roads will 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 southwest corner of the Site adjacent to Seymour Southbury Road (Route 67).

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. 26-ft wide gates are proposed at the three (3) entrances to the systems 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	15'	Southeast	486 Oxford Road
Perimeter Fence to Residence	173'	Southwest	502 Oxford Road
Transformer Pad to Property Line	80'	East	Riggs Street
Transformer Pad to Residence	347'	East	3 Chauncey Drive
Access Drive to Property Line	25'	Southeast	486 Oxford Road
Access Drive to Residence	163'	Southeast	82 Riggs Street
Project Area to Nearest Town Line	9240'	East	Beacon Falls

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 Data Sheets.

Medium voltage switchgear and the 2,000 kVa transformers are proposed to be installed on the concrete pads that are located within each system in the Project area. The proposed transformers will contain mineral

oil which is not a danger to the environment. The transformers are 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.

Six (6) utility poles are proposed to be located directly adjacent to the proposed gravel road to provide interconnection to an existing utility pole on Seymour Southbury Road (Route 67). An additional two (2) poles are proposed to facilitate the internal utility crossing over the on-site wetland corridor. 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.

2.23 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 and a reinforced double line of silt fencing surround environmentally sensitive areas in order to prevent sediment from migrating downslope to inland wetlands and watercourses or from migrating offsite. An anti-tracking pad is proposed at the construction entrances along Riggs Street and Route 67 to prevent sediment from being traced into the roadways. Following the establishment of the anti-tracking pads, at the start of phase one, the stream crossing and access drive will be installed. Phase One includes the establishment of the above-mentioned silt fencing as well as the establishment of parking, storage, and soil stockpiles areas. Additionally, during Phase One, the site will be cleared and grubbed for the installation of sediment traps and grass swales and erosion control matting will be placed on all slopes greater than 3:1. The project proposes the installation of five (5) temporary sediment traps that will be converted to stormwater basins post construction. The sediment traps will act as an internal area to store sediment-laden stormwater runoff and allow for particulate to settle and stormwater to recharge into underlaying soils. Faircloth skimmers are proposed to be installed in the temporary sediment basins until the conclusion of the construction to help facilitate this. As outlined in Phase Two of the plan, throughout construction, denuded areas that will be inactive for 14 days or more will be seeded and mulched. 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 because the project only includes a small number of impervious surfaces and as a result of implementation of the proposed stormwater management plan. As noted above, five (5) stormwater basins are proposed

throughout the project site, converted from the temporary sediment traps proposed to manage soil erosion and sedimentation during construction. The stormwater basins have been designed to provide adequate storage of the water quality volume generated from impervious surfaces. Stormwater flowing to the basins will follow grass-lined swales with stone check dams running parallel to the proposed solar arrays. The swales and the basins will allow captured stormwater to settle and gradually infiltrate into the surrounding soils. The swales and basins will also allow for pollutants to be removed when the stormwater flows through the swales and basins vegetation, stems, leaves, and roots. The basins will outlet to their surrounding uplands via an outlet control structure and subsurface pipe. During larger storm events proposed emergency spillway will allow water to dissipate throughout the surrounding landscape. 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 will be less than the pre-development rates for the 2-year, 5-year, 10-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.

2.24 LANDSCAPE PLAN

The existing tree line all sides of the Site. As such, no additional evergreen plantings are proposed on Site to provide a vegetative buffer.

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 States Environmental Protection Agency.

3.2 WATER RESOURCES

Wetlands and watercourses onsite were field delineated by Soil Science and Environmental Services Inc. around 2014 as referenced on the survey *Perimeter Survey Prepared For The William L. Ives Revocable Trust Riggs Street Oxford, Connecticut* dated January 7, 2014. On September 15, 2023, William Kenny Associates LLC visited the property and collected water, plant, and soil data at the proposed crossing location and compiled United States Army Corps of Engineers (USACE) Wetland Determination Data Forms. These Wetland Determination Data Sheets are attached as Appendix G. Two wetland and watercourse systems are present on the property. The first is a semi-permanent Rocky Headwater Stream (Jacks Brook) and associated woodland wetlands located in the eastern portion of the property. The second is a semi-permanent Marsh Headwater Stream and associated woodland wetlands located in the western portion of the property. 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 3,700 square feet of Jacks Brook in the central southern portion of the property to provide access to one of the project sites. Jacks Brook will be piped through 27 linear feet of a 20.33-foot-wide by 4.5-foot-high open bottom aluminum culvert with aluminum wing walls. 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. Please see Table 2, Wetlands Impact Table, for the total acreage of habitat alteration.

3.2.1 WETLANDS AND WATERCOURSES

Rocky Headwater Stream (Jacks Brook) (W1)

This wetland and watercourse system, which extends and flows north to south in the eastern portion of the property, consists of a semi-permanent watercourse, Jacks Brook, with a bordering woodland wetland. The principal source of hydrology for this wetland and watercourse system is surface water conveyed by Jacks Brook from the approximate 1,000-acre upstream watershed as well as surface and groundwater discharge from the adjacent hills. Jacks Brook originates from a swamp approximately three (3) miles north of the property and eventually connects to Riggs Street Brook in the very southeastern portion of the property. At the time of investigation, Jacks Brook, which has a channel width that varies from six (6) to twenty (20) feet, had a water depth of approximately three (3) to four (4) inches and a streambed consisting of sand deposits, moss-covered cobbles, boulders, and bedrock. The woodland wetland bordering the brook has a canopy consisting primarily of pole to saw timber sized red maple trees and an understory of yellow birch, American hornbeam, and green ash trees. The woodland wetland shrub strata are dominated by native spicebush, witch hazel, winterberry, elderberry, and invasive multiflora rose and Japanese barberry. Groundcovers within the woodland wetland consist primarily of native skunk cabbage, cinnamon fern, white wood aster, green false hellebore, jack-in-the-pulpit, false nettle, goldenrod, various sedges, and invasive reed canary grass. Soils within the system consist of poorly drained sandy loams formed from lodgment glacial till. The hydrogeomorphic classification of this wetland and watercourse system is “Riverine” and the USFWS National Wetlands Inventory (NWI) classification for this system is Riverine, Upper Perennial, Unconsolidated Bottom, Cobble-Gravel, Semi-Permanently Flooded (R3UB1f). The USFWS NWI map is attached as Figure 2, Wetlands & Watercourses Map, included in Appendix A of this environmental assessment.

Marsh Headwater Stream (W2)

This wetland and watercourse system, which extends and flows north to south in the western portion of the property, consists of a semi-permanent unnamed watercourse bordering woodland wetlands. The principal

source of hydrology for this wetland and watercourse system is surface water conveyed by the unnamed watercourse from the approximate 1,000-acre upstream watershed as well as surface and groundwater discharge from the adjacent hills. The watercourse originates from a swamp approximately one mile northwest of the property and eventually connects to Little River, 0.2 miles south of the property. This western watercourse flows at a slower rate than Jacks Brook. At the time of investigation, the unnamed watercourse, which has a channel width that varies from approximately six (6) to ten (10) feet, had a water depth of approximately three (3) inches with pooling up to five (5) inches. The watercourse has a streambed consisting of sand and silt deposits, moss-covered cobbles, and boulders. The woodland wetland bordering the watercourse consists of the same vegetation as that of the eastern woodland wetland associated with Jacks Brook. The canopy of the wetland is primarily comprised of red maple and tulip poplar trees with an understory of green ash and yellow birch trees. Native spicebush, witch hazel, elderberry, and highbush blueberry shrubs as well as invasive multiflora rose and Japanese barberry shrubs are present within the wetland and along the watercourse. Groundcovers consist of skunk cabbage, cinnamon fern, white wood aster, water parsnip, green false hellebore, marsh violet, jack-in-the-pulpit, jewelweed, swamp dewberry, and various sedge species. Soils within the system consist of poorly drained sandy loams formed from lodgment and ablation glacial till. The hydrogeomorphic classification of this wetland and watercourse system is "Riverine" and the USFWS NWI classification for this system is Riverine, Lower Perennial, Unconsolidated Bottom, Mud, Semi-Permanently Flooded (R2UB3f). The USFWS NWI map is attached as Figure 2, Wetlands & Watercourses Map, included in Appendix A of this environmental assessment.

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 3,700 square feet of unavoidable direct impact is proposed to inland wetlands and watercourses to construct an access drive from Riggs Street to a developable portion of the property and to connect electrical lines from the westernmost solar field to the central solar field. To facilitate the access drive crossing, a short segment of Jacks Brook is proposed to be piped. The unnamed marsh headwater stream was initially considered as an alternative location to access the central solar field; however, this plan was rejected due to steep slopes in the area being unsuitable for developing an access road. Direct adverse impacts associated with the crossing of Jacks Brook will be minimized to the greatest extent practicable and the crossing will be designed in accordance with the stream crossing BMP's of the *USACE Programmatic General Permit State of Connecticut*. Due to the de-minimis level of impact and due to the proposed BMPs, 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 27 linear feet of a 20.33-foot-wide by 4.5-foot-high open bottom aluminum box culvert. 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. Within 50 feet of the wetlands, the only site work proposed is the direct wetland impacts described above. Outside the 50-foot wetland buffer but within the local (Town of Oxford) 100-foot upland review area, additional improvements are proposed. These proposed improvements are limited to two utility poles near the western wetland to make above ground electrical connections across the stream, small segments of chain link fencing, and portions of two stormwater basins. 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 3.3.3.

Table 2: Wetlands Impacts Table

Wetlands Impacts	
Direct Impacts to Wetland 1	0.08 Acres
Direct Impacts to Wetland 2	0 Acres
Direct Impacts to 50' Upland Review Area of Wetland 1	0.31 Acres
Direct Impacts to 100' Upland Review Area of Wetland 1	1.32 Acres
Direct Impacts to 50' Upland Review Area of Wetland 2	0.04 Acres
Direct Impacts to 100' Upland Review Area of Wetland 2	0.22 Acres
Limit of Disturbance to Wetland 1	0 Feet
Limit of Disturbance to Wetland 2	56 Feet*

*Tree clearing may move Limit of Disturbance closer to Wetland 2.

3.2.3 FLOODPLAIN AREAS

According to the FEMA Flood Map Service Center (MSC), flood map number 09009C0234H, effective on December 17, 2010, the majority of the Project area and all portions of the solar arrays (with the exception of the access road) fall 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 solar arrays are not within a regulated flood zone. Construction of an access roadway over Jacks Brook will require work within Zone AE, a zone located within the Special Flood Hazard Area (SFHA) and subject to inundation by the one-percent-annual-chance flood. 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 Oxford, 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 2.4 miles southeast of the project site.

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. Information regarding stormwater management BMPs is provided in Section 3.3.3.

3.3.2 SURFACE WATER

The property is situated within the Little River (6920-00) and the Jacks Brook (6920-03) Local Drainage Basins. These drainage basins are both part of the larger Little River Subregional Drainage Basin (6920) and the Naugatuck River Regional Drainage Basin (69). Ultimately, all water drains to the Housatonic River

Major Drainage Basin (6). Both Jacks Brook and the unnamed western stream are characterized by the CT DEEP as a first order streams with "class 1 stream flow", which means that they are free flowing streams. The water quality of Jacks Brook and the unnamed western stream are 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.". The CT DEEP *Water Quality Classifications Oxford, CT* map is attached as Figure 4, Water Quality Classification Map, included in Appendix A of this environmental assessment.

According to the CT DEEP Public Water Supply Map the property does not fall within a drinking water watershed. For more information refer to Figure 5, Public Supply Watershed Map, included in Appendix A of this environmental assessment. The nearest drinking water watershed is approximately 4.7 miles southeast of the property. The southwestern corner of the property includes a portion of the Heritage Water Company Community Public Water System. Approximately 4.95 acres of the service area is present on the property; however, with property erosion and sediment control and stormwater BMPs in place during construction and post-development, the proposed minimal alteration of the service area will likely have no adverse effects. Based on the overall project design and the type, and use and proposed stormwater management measures, it is concluded that the project will have no direct adverse environmental impact on surface water quality. Information regarding stormwater management BMPs is provided in Section 3.3.3.

3.4 HABITAT & WILDLIFE

The approximate 59.2-acre undeveloped property is located at Riggs Street (MBL: 27-15-7) in Oxford Connecticut. Riggs Street borders the undeveloped property to the east and the paper road, Larkey Road, borders to the west. The surrounding land use consists of predominately wooded residential properties. Bordering to the south is Oxford Town Hall and Oxford Centralized School. Five habitat types are present at the property. The three upland habitat types are Beech-Maple Mesic Forest, Chestnut Oak Forest, and Successional Old Field. The two watercourse habitats are a Rocky Headwater Stream (Jacks Brook) and a Marsh Headwater Stream. The wetland watercourse habitats are discussed in greater detail in Sections 3.2.1. A list of vegetation identified onsite is attached as Appendix H. 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, Habitat Area Table.

3.4.1 HABITAT TYPES

Successional Old Field (U1)

A Successional Old Field is present in the northeastern portion of the property. The Successional Old Field was abandoned at different stages during its agricultural uses, as such, it is comprised of various strata. Dominant saplings include sugar maple, pin oak and dead/dying red cedar. The shrub stratum primarily consists of invasive autumn olive and multiflora rose as well as native raspberry. Invasive grape and oriental bittersweet vines entangle a majority of the shrub stratum. Herbaceous groundcovers dominate the area and include native deer tongue, common wrinkle leaved goldenrod, wild onion, and clasping Venus' looking glass as well as nonnative large hop clover, tower mustard, white campion, common mullein, and narrow-leaved bittercress. The Successional Old Field is valuable edge habitat from the primarily monocultured Beech-Maple Mesic Forest that surrounds it. This unique edge habitat can be utilized by non-forest-specific species. Soils throughout this habitat are primarily well drained fine sandy loams formed in lodgment glacial till. A majority of the Successional Old Field is proposed to be converted to Grassland habitat with the proposed project. The proposed Grassland will be primarily comprised of graminoids and forbs, and upkeep is proposed to limit shrub and tree growth within the habitat. Please see Table 3 for the total average of habitat alteration.

Chestnut Oak Forest (U2)

A Chestnut Oak Forest is located atop a plateau in the northern-central portion of the property. The canopy is comprised of pole to saw timber sized chestnut oak, red oak, and white oak trees. The understory of this forest is sparse compared to the Beech Maple Mesic Forest; however intermittent shrubs consist of low bush blueberry, maple leaf viburnum and mountain laurel shrubs. Groundcovers primarily consist of Pennsylvania sedge and Canada mayflower. A moderate number of woody debris is present in the form of standing deadwood and downed coarse woody material. Soils are primarily well drained sandy loams formed from glacial till. A majority of the Chestnut Oak Forest is proposed to be converted to Grassland habitat with the proposed project. Please see Table 3 for the total acreage of habitat alteration.

Beech-Maple Mesic Forest (U3)

The majority of the property consists of Beech-Maple Mesic Forest. According to historic aerial imagery of the property, this forest has been present since at least 1934. Evidence of selective cutting is apparent in 1951 and 1970 aerial photos. The forest canopy is dominated by pole-to-saw timber sized red maple and sugar maple as well as red oak trees, while the understory of the forest is dominated by American beech and black birch saplings. Shagbark hickory and yellow birch trees are also common. The shrub stratum primarily consists of witch-hazel and maple leaf viburnum shrubs. Herbaceous ground covers primarily include hay-scented fern, Canada mayflower, and white wood aster as well as Pennsylvania sedge, Virginia creeper, and Christmas fern. Some greenbrier vines are present and entangle the shrub stratum. A moderate number of woody debris is present in the form of standing deadwood and downed coarse woody material. Soils throughout the habitat are primarily well drained to moderately well drained sandy loams forming in lodgment and ablation glacial till. A moderate amount of the northeastern, central, and eastern portions of the Beech-Maple Mesic Forest are proposed to be converted to Grassland habitat with the proposed project. Please see Table 3 for the total acreage of habitat alteration.

Remaining habitat types on the property are wetland and watercourse systems. A Rocky Headwater Stream extends and flows north to south in the eastern portion of the property and is bordered by forested wetlands. A Marsh Headwater Stream extends and flows north to south in the western portion of the property and is bordered by forested wetlands. Further details of these habitat types are described below in Section 3.4.3. Overall, the wetlands and watercourses are not proposed to be negatively 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)
Successional Old Field	5.00	4.20
Chestnut Oak Forest	6.59	6.00
Beech-Maple Mesic Forest	43.78	19.70
Wetland	3.80	0.08

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 194-acre SCF is located at the subject Site. Approximately 21 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 of this environmental assessment.

3.4.3 WILDLIFE

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

The largest habitat currently on the property is the Beech-Maple Mesic Forest. This habitat type accounts for approximately 74 percent of vegetative cover at the project site. Beech-Maple Mesic Forests are common in this region of Connecticut and support a large amount of generalist species. Wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species. A list of wildlife identified or having the potential to be found onsite is attached as Appendix H.

Large mammals expected to use the Beech-Maple Mesic Forest habitat include white-tailed deer, eastern coyote, and red fox. These species use Beech-Maple Mesic Forests as high-quality foraging habitat due to their large nut and seed presence and limited amounts of herbaceous browse. It also serves as hunting areas for small mammals; however, these species mainly use this forest habitat type as a corridor in order to reach wetlands, watercourses and/or edge habitats within or near the project site. While a portion of the Beech-Maple Mesic Forest habitat on site will be modified to construct the proposed project, the habitat is proposed to be replaced with a Grassland 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 Grassland habitat via the 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 gained, 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 Grassland habitat will result in the same yield of small prey species that can be accessed inside and outside the project area.

Small mammals expected to use the Beech-Maple Mesic Forest habitat include Virginia opossum, eastern chipmunk, gray squirrel, raccoon, striped skunk, and various rodents. These species use Beech-Maple Mesic Forests for areas of denning and nesting, areas of food storage and for the woody debris it provides along highways of travel. The conversion of a portion of the existing Beech-Maple Mesic Forest habitat onsite to Grassland 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 Grassland 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 site will allow small mammals to enter the proposed Grassland habitat and will deter their large mammal predators. The Grassland 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.

A wide variety of avian species utilize Beech-Maple Mesic Forest habitat. Smaller birds may be found foraging on the forest floor for insects and invertebrates. Birds of prey will likely be found nesting/perching in canopy trees and searching the adjacent watercourses for small aquatic species or scanning the forest floor for small mammals. The standing woody debris also serves several species regarding food sources and nesting habitat. Avian species identified during field investigations include the American crow, Red-bellied woodpecker, tufted titmouse, black-capped chickadee, scarlet tanager, veery, and song sparrow. Additional species expected to use this habitat include the wild turkey, blue jay, downy woodpecker, yellow-throated vireo, and American goldfinch. The conversion of a portion of the existing Beech-Maple Mesic Forest habitat onsite to Grassland habitat should have minimal effect on 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 Grassland habitat will create open spaces and edge habitats that give birds of prey a better view for identifying prey. Additionally, the creation of Grassland 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 Beech-Maple Mesic Forest habitat should create a mosaic of habitat onsite that will result in an increase in the diversity of avian species.

Lastly, herpetofauna such as the garter snake and eastern rat snake use Beech-Maple Mesic Forest habitat for its high elevations, canopy openings, and rock formations in order to raise their body temperature. The conversion of a portion of the existing Beech-Maple Mesic Forest habitat onsite to Grassland habitat should result in an increase in the diversity of herpetofauna species onsite. The proposed wildlife-friendly chain link fence around the project site will allow herpetofauna to enter the proposed Grassland habitat and 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 Grassland habitat will provide concealment and aid these species with hunting and capturing their prey.

The second largest habitat type on the property is the Chestnut Oak Forest. This habitat type accounts for approximately 11 percent of vegetative cover at the project site. Chestnut Oak Forests are somewhat common in this region of Connecticut and support a large amount of generalist species. Wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species. A list of wildlife identified onsite is attached as Appendix H.

Large mammals expected to use the Chestnut Oak Forest habitat are similar to those that utilize Beech-Maple Mesic Forests and for the same purposes as that of Beech-Maple Mesic Forests. The conversion of a portion of the existing Chestnut Oak Forest to Grassland will result in more direct and defined corridors of access between and around the proposed development areas will aid with travel while the proposed Grassland habitat will result in the same or higher yield of small prey species that can be accessed inside and outside the project area.

Small mammals expected to use the Chestnut Oak Forest habitat are similar to those that utilize Beech-Maple Mesic Forests and for the same purposes as that of Beech-Maple Mesic Forests. The conversion of a portion of the existing Chestnut Oak Forest to Grassland should result in an increase in the diversity of small mammal populations onsite. The establishment of Grassland habitat will provide habitat for field and meadow suited small mammals while the wildlife-friendly chain link fencing will deter their large mammal predators. The Grassland 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.

A wide variety of avian species utilize Chestnut Oak Forest habitats. Avian species identified during field investigations are mentioned in the discussion on wildlife that utilizes Beech-Maple Mesic Forest habitat. Avian species utilization of Chestnut Oak Forests is similar to that of Beech-Maple Mesic Forests. The

conversion of a portion of the existing Chestnut Oak Forest to Grassland should have a minimal effect on avian populations. Grassland habitat will create open spaces and edge habitats that give birds of prey a better view for identifying prey. Additionally, Grassland habitat has the potential to increase populations of small mammals and provide a low-covered space for ground or shrub nesting birds. Overall, removing a portion of the Chestnut Oak Forest habitat 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 Chestnut Oak Forest habitat are similar to those that utilize Beech-Maple Mesic Forests and for the same purposes as that of Beech-Maple Mesic Forests. The conversion of a portion of the existing Chestnut Oak Forest to Grassland habitat should result in an increase in the diversity of herpetofauna species onsite. The wildlife-friendly chain link fence will exclude large mammal predators while the physical solar panels should provide cover from avian predators. Additionally, the higher levels of herbaceous groundcovers will provide concealment and aid these species with hunting and capturing their prey.

An equally large habitat on the property is the Successional Old Field. This habitat type accounts for roughly nine (9) percent of vegetative coverage at the project site. Old agricultural lands such as this that have been left to revert to forest habitat negatively impact wildlife species adapted to grassland landscapes. Wildlife groups expected to use this habitat type include mammals, avian species, and herpetofauna species.

Large mammals such as the white-tailed deer, red fox, and eastern coyote use Successional Old Field habitat to browse herbaceous vegetation, hunt for small mammals or bed down. While a significant portion of the Successional Old Field habitat will be modified to construct the proposed project, this habitat is proposed to be replaced with a Grassland habitat. This habitat will generally serve the same purposes for large mammals as those of the existing habitat with minor exceptions. Large mammals will be excluded from the area of proposed development and the proposed Grassland habitat via proposed chain link fencing. This removes areas for large mammals to bed down and browse herbaceous vegetation. 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 Grassland habitat will either result in the same yield or create a higher yield of small prey species for large mammals that can be accessed outside of the project area.

Small mammals expected to use Successional Old Field habitat include shrews, eastern cottontail, woodchuck, meadow vole, woodland vole, meadow jumping mouse, raccoon, and the striped skunk. These animals use this habitat for burrowing, foraging, and traveling via a protected (covered) corridor. The conversion of the existing Successional Old Field habitat to Grassland habitat should have minimal effect on small mammal populations. The proposed wildlife-friendly chain link fencing around the project site will allow small mammals to enter the proposed Grassland habitat and will exclude large mammal predators. Additionally, the overhead protection from the physical solar panel units will aid in protecting these individuals from avian predators.

A wide variety of avian species utilize Successional Old Field habitats. Some species use the lack of canopy coverage within the Successional Old Field habitat to soar while hunting for small mammals or herpetofauna in the open areas below, some find perching trees spread throughout the habitat, some prowl and prod the soil in search of insects and other invertebrates, and others use the herbaceous vegetation within the habitat to build nests. Avian species identified during field investigations are mentioned above. Additional species expected to use this habitat include the northern mockingbird, willow flycatcher, field sparrow, and the northern cardinal. The conversion of the current Successional Old Field habitat to Grassland habitat should have a minimal effect on the avian populations. Similar herbaceous vegetation found within the Successional Old Field habitat will be available for nest building upon the creation of the grassland habitat. There is potential to increase prey populations as discussed earlier, and the physical solar

panel units will provide a low-covered space for ground or shrub nesting birds to utilize the proposed Grassland habitat.

Lastly, herpetofauna expected to use the successional old field habitat include the northern black racer, red belly snake, milk snake, and rat snake. Herpetofauna use this habitat for its large quantities of sunlight and soft sandy soils for burrowing/egg laying. Additionally, snakes can hunt small mammals with the aid of herbaceous cover. The Eastern Box turtle has the potential to utilize this habitat for egg laying and thermoregulating activities. The conversion of the current Successional Old Field habitat to Grassland habitat should have a minimal effect on the herpetofauna populations. The proposed wildlife-friendly chain link fence around the project site will allow herpetofauna to enter the proposed Grassland habitat and will exclude large mammal predators. Likewise, the overhead protection from the physical solar panel units should aid in providing cover for these species from avian predators.

The smallest habitat type on the property is the two similar riverine systems. One stream is a Marsh Headwater Stream while the other is a Rocky Headwater Stream. Combined, these habitats account for approximately six (6) percent of vegetative coverage at the project site. Riverine systems such as these are common in this region of Connecticut and support a large variety of wildlife. Wildlife expected to use these habitat types include mammals and avian, herpetofauna, and aquatic species. A list of wildlife identified onsite is attached as Appendix H.

Both small and large mammals primarily use these wetland and watercourse systems 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 the 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 these habitats 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 thick vegetation of the wetland or use the open area above the stream to hunt for aquatic insects.

Herpetofauna such as the northern two lined salamander and the northern dusky salamander are the two primary amphibians found in these habitats. 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 rely on the wetland system for survival as a place to burrow and hibernate. It is likely that the eastern box turtle and possible that the spotted turtle use these habitats.

Lastly, the wetland and watercourse systems support a viable population of aquatic species. These species include minnows and crayfish; the watercourse lacks the depth and temperature to adequately support a larger size or population of finfish. According to the CT DEEP Connecticut Trout Stocking Map, the offsite Little River watercourse does contain a stocked trout population. It is unlikely Jacks Brook, which connects to Little River by means of Riggs Street Brook, serves as trout habitat due to its water depth and temperature. Neither onsite watercourse are cold-water habitats according to the CT DEEP Cold Water Habitat Map; however, the nearby Towantic Brook, approximately 2,650 feet to the east of the property, is a cold-water stream, and its associated drainage basin is a cold-water basin. This cold-water basin and its tributaries are east of the property in a separate drainage basin. Jacks Brook does not flow to the Towantic Brook or its basin. Overall, the minor alterations to Jacks Brook will minimum de minimis wildlife's use of the wetland and watercourse habitats described above.

Due to the proposed project, the diversity and abundance of wildlife using the project site is expected to increase in some areas and decrease in others. To provide access to the project site, the proposed project will unavoidably modify 3,700 square feet of Jacks Brook and the habitat associated with it. The proposed

project will also modify approximately 45 percent of the Beech-Maple Mesic Forest (approximately 19.7 acres), 91 percent of the Chestnut Oak Forest (approximately 6 acres), and 84 percent of the Successional Old Field habitat (approximately 4.2 acres). This includes converting the areas of Beech-Maple Mesic Forest, Chestnut Oak Forest, and Successional Old Field habitat into Grassland habitat.

Although fragmentation of forest habitats is proposed, the creation of Grassland habitat should result in an increase of some species groups like 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 Grassland habitat by the proposed wildlife-friendly chain-link fencing; however, the creation of more defined corridors of access to other forested habitats off site will offset the proposed slight loss of each habitat type. Additionally, only de minimis impacts to the Rocky Headwater Stream and Marsh Headwater Stream are proposed. Since the proposed disturbance will be relatively small and because 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. It is important to note that the species inhabiting the project site are common in the Town of Oxford 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 were present on or adjacent to the project site or could potentially be present onsite. State records indicate that listed species are present near the project site and may be affected by project activities. Federal records indicate that the site 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 June 21 and June 23, 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 of state endangered, threatened, and special concern species and important natural communities in Connecticut. 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. The map for the Town of Oxford is dated December 2022. 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 project 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 Oxford NDDB map, this Site does not fall within a hatched area and is approximately one quarter mile from the nearest area that is east of the site. For more information refer to Figure 7, NDDB Map, included in Appendix A of this environmental assessment. Regardless, a NDDB review request was submitted to the CT DEEP and the results of this review indicate that two state-listed species have the potential to be impacted by the Project. The two state listed species are the eastern box turtle (*Terrapene carolina carolina)*, and the spotted turtle *(Clemmys guttata)*.

Eastern box turtles are listed as state "species of special concern" by the CT DEEP. 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 1st and November 1st, in the remaining months, they are dormant, in a state of brumation a few inches under the ground surface.

Spotted turtles are listed as state "species of special concern" by the CT DEEP. Spotted turtles typically inhabit wetlands such as vernal pools but travel up to a kilometer in distance over forest and field habitat to reach other wetlands. Spotted turtles overwinter within the mud of wetlands between November 1st and March 15th.

The following is a summary of measures required by the CT DEEP to be used before, during and following construction to protect eastern box turtles that may potentially be encountered at the project site. All ground disturbance work associated with the project must be conducted between April 1st and November 1st., the turtles active season. The CT DEEP recommends the following measures described within the pre-construction section.

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, will 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 for exclusionary fence installation within the active turtle timeframe, the CT DEEP recommends the following in regard to mowing style, mowing height, mowing directionality, mowing speed and recommendations on leaving unmowed area:
    - 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 patter 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 field is bordered by 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."
    - Leave an unmowed field edge in high turtle use areas until after September 15th.
- Once exclusionary fencing has been installed surrounding the work area, a qualified individual must survey the area for 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 workday, 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 the project includes phasing measures that cordon off separate segments of the worksite, all active areas must remain exclusionary to turtles. Exclusionary fencing can be removed from individual areas when all work has been completed in that area.
- As the project site is proposed to be continuously maintained as grassland habitat, the grassland areas should only be mowed during the turtle's dormant season from September 15 to May 15. Mowing recommendations outlined in the pre-construction section should be used if mowing has to occur during the turtle's active season.

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 17, 2023, is attached in Appendix C. This determination is valid until August 17, 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 30, 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*". This report is attached in Appendix B. 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 report in the attached Appendix B.

The Northern Long Eared Bat is listed as endangered under the ESA. This species range encompasses the entirety of Connecticut. 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 Oxford. The nearest hibernacula according to the map is within the Town of Roxbury, approximately 12 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 'Riggs Street, Oxford, 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 5,205 cubic yards of excess 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 *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

The following soils exist onsite and in surrounding areas:

1. Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stoney
2. Hinckley loamy sand, 3 to 15 percent slopes
3. Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony
4. Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony
5. Canton and Charlton fine sandy loams, 8 to 15 percent slopes
6. Canton and Charlton fine sandy loams, 15 to 25 percent slopes
7. Canton and Charlton fine sandy loams, 3to 15 percent slopes, extremely stony
8. Charlton- Chatfield complex, 0 to 15 percent slopes, very rocky
9. Charlton- Chatfield complex, 15 to 45 percent slopes, very rocky

10. Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes
11. Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
12. Paxton and Montauk fine sandy loams, 8 to 15 percent slopes
13. Paxton and Montauk fine sandy loams, 15 to 25 percent slopes
14. Paxton and Montauk fine sandy loams, 3 to 15 percent slopes, extremely stony
15. Pootatuck fine sandy loam
16. Rippowam fine sandy loam

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

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 score can be attributed to rocky soil contexts and considerable distance to the nearest major water source, which is Jacks Brook that flows through the eastern part of the property. Because of the possibility that this large property could contain historic collier sites and other historic occupations along Riggs Street and possibly the discontinued course of Larkey Road, ACS recommends a Phase 1B archaeological reconnaissance survey to test the eastern boundary areas near Riggs Street, the far western boundary area, and the broad gently sloping area towards the central part of the project area.

This survey would likely contain a number of standard-size shovel tests. For more information refer to the Phase 1A report in Appendix D, Cultural Resources.

3.8 SCENIC AND RECREATIONAL AREAS

No state road, local road, or scenic area will be affected physically or impaired visually by the project. Oxford Centralized School and Little River Nature Preserve are located south of the development approximately one quarter mile away. Within a mile radius there are two (2) cemeteries, a small recreational park, and a golf course. For more information regarding resources located within one mile of the Site refer to Figure 9, Scenic & Recreation Map.

3.9 LIGHTING

Exterior lighting is not planned for the project. There may be onsite equipment that has small lights which will only be activated during maintenance.

3.10 FAA DETERMINATION

The closest federally obligated airport is Waterbury-Oxford Airport located approximately 2 miles northwest of the Site.

Solli Engineering has submitted the required project 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-ft off finished grade within the solar panel facility. All disturbed areas will be contained within a 7-ft chain link fence. Trees constituting the existing tree line will be preserved and maintained to the best of the developer's ability. Most neighbors in the vicinity of the subject property will only be able to view the solar panel facility on a seasonal basis due to tree coverage; however, the facility may be visible to some neighbors year-round. For more information refer to Figure 10, Proposed Conditions Viewshed Map.

The solar panel products are designed in such a way that they are not highly reflective. Because the solar panels 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 Site. 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 and will emit 61 decibels measured one meter from the inverter. The collective operational noise level of the inverters at the nearest property boundaries would be 42 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.