EXHIBIT G

ENVIRONMENTAL ASSESSMENT

PUTNAM MEADOW SOLAR STATION PROJECT

56 RIVER ROAD

PUTNAM, CONNECTICUT

Prepared for:

Putnam Meadow Solar Station LLC
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March 2023

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Appendices

1 Introduction

All-Points Technology Corporation, P.C. ("APT") prepared this Environmental Assessment ("EA") on behalf of Glenvale LLC and Putnam Meadow Solar Station LLC (together referred to as the "Applicant") for the proposed installation and utility interconnection of a solar-based electric generating facility (collectively, the "Project"), with output of approximately 4.0 megawatts[1] ("MW") located in the Town of Putnam, Connecticut ("Town"). This EA has been completed to support the Applicant's submission to the Connecticut Siting Council ("Council") of a petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of the electric generating facility.

The results of this assessment demonstrate that the proposed development will comply with the Connecticut Department of Energy and Environmental Protection's ("DEEP") air and water quality standards and will not have an adverse effect on the existing environment and ecology of the Site or the surrounding area. The Town of Putnam is an "environmental justice community" under Connecticut General Statutes § 22a-20a.[2] However, the proposed Project is not defined as an "affecting facility" under Connecticut General Statutes § 22a-20a and therefore is not subject to the requirements of that section.[3]

The Project will be located on an undeveloped 31.39-acre[4] property east of River Road in Putnam, Connecticut (referred to herein as the "Site") within the AG-2 Agricultural zoning district. The northern portion of the Site is almost entirely wooded; an approximately 3-acre area abutting River Road is under cultivation.

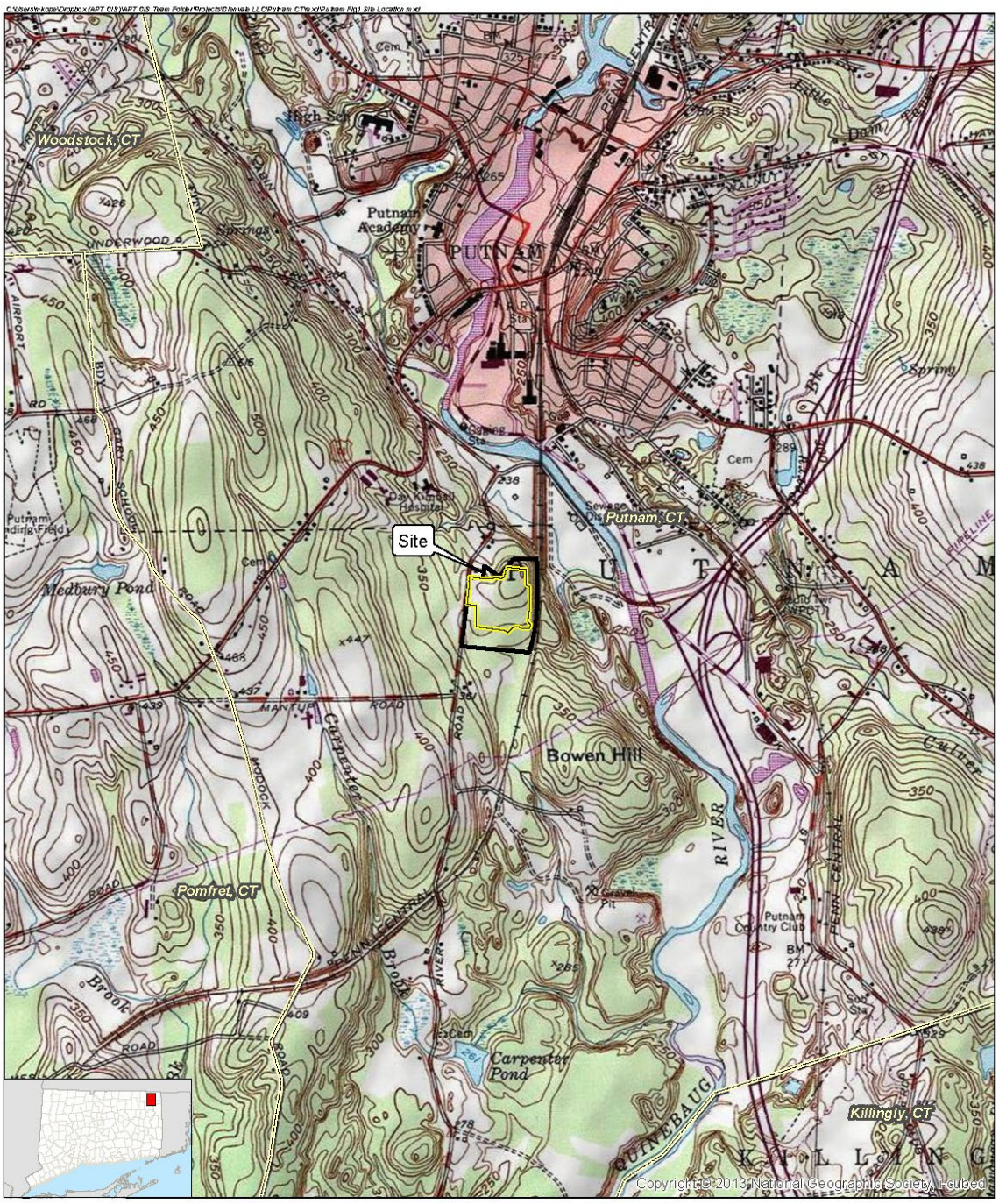
Figure 1, *Site Location Map*, depicts the location of the Site and the immediate surrounding area.

[1] The output referenced is Alternating Current (AC).

[2] "Environmental justice community" means (A) a United States census block group, as determined in accordance with the most recent United States census, for which thirty per cent or more of the population consists of low income persons who are not institutionalized and have an income below two hundred per cent of the federal poverty level, or (B) a distressed municipality, as defined in subsection (b) of § 32-9p.

[3] "Affecting facility" is defined, in part, as any electric generating facility with a capacity of more than ten megawatts.

[4] The Applicant intends to purchase approximately 26 acres (all but the northernmost portion) of the property currently identified in Town Assessor records as Map 37, Lot 39.



Legend

- Project Area
- Site
- Municipal Boundary

Map Notes:
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Maps, Putnam, CT (1970)
Map Scale: 1 inch = 2,000 feet
Map Date: July 2022

N

2,000 1,000 0 2,000 Feet

Figure 1
Site Location Map

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

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2 Proposed Project

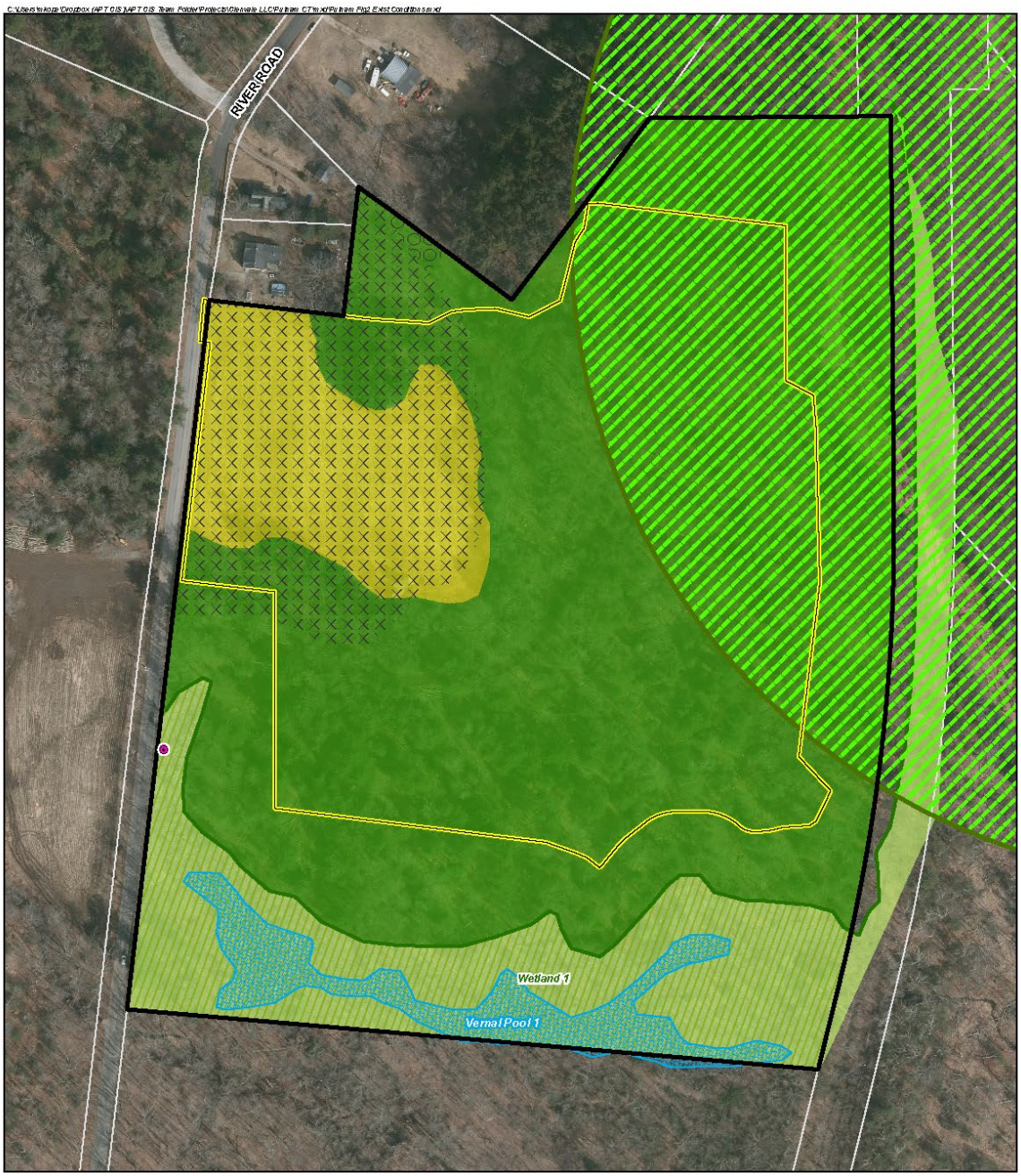
2.1 Project Setting

The Project will occupy ±16.93 acres in the southern portion of the Site (the "Project Area"). The electrical service interconnection line will extend to River Road at the northwestern corner of the Site. The access drive will extend east from River Road near the northern property boundary.

The Site's existing topography ranges from approximately 281 feet above mean sea level ("AMSL") to 366 feet AMSL. Grades within the Project Area generally slope downward from the northwestern portion to the south and east, with ground elevations ranging from approximately 366 feet AMSL to 328 feet AMSL.

Figure 2, *Existing Conditions*, depicts current conditions on the Site.

The surrounding area includes sparse residential development, wooded areas and agricultural fields. A portion of the Air Line State Park Trail borders the Site on the east. The Quinebaug River is east beyond the Trail and additional intervening properties that include the municipal water treatment plant and parcels within the Quinebaug Regional Technical Park. Day Kimball Hospital is northwest of the Site.



Legend

- Site
- Project Area
- Approximate Parcel Boundary
- Prime Farmland Soils
- Statewide Important Farmland Soils
- Existing Culvert
- Delineated Wetland Boundary
- Wetland Area
- Vernal Pool
- Natural Diversity Database (updated Dec 2021)

Habitat Type

- Mixed Field
- Upland Forest
- Wetland Forest

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: July 2022

N

200 100 0 200 Feet

Figure 2
Existing Condtions

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

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2.2 Project Development and Operation.

Upon its completion, the solar electric energy generating facility (the "Facility") will consist of a total of 8,925 490W photovoltaic modules ("panels") and associated equipment, including one (1) Medium Voltage Power Station that houses the inverter and transformer. A ground-mounted single-axis tracker racking system will be used to secure the panel arrays. The perimeter of the Facility will be surrounded by an eight (8)-foot tall chain link fence with privacy slats along River Road; a seven (7)-foot tall chain link fence will surround the remainder of the Facility. The Project will also require one (1) electrical service interconnection that will extend from the existing Eversource distribution system along the west side of River Road. The interconnection route will run overhead across River Road to a pole at the northwest corner of the Facility and from there to pad-mounted electrical equipment. From there, electrical connections will extend underground into the Facility. Once complete, the fenced Facility will occupy approximately 11.89 acres of the Site with an additional ±5.04 acres of improvements beyond the fenced limits, for a total Project Area of ±16.93 acres.

Proposed development drawings are provided in Appendix A, *Project Plans*.

The leading edge of the panels will be at least 2'6" above the existing ground surface, which will provide adequate room for any accumulating snow to "sheet" off. Any production degradation due to snow build-up has already been modeled into the annual system output and performance calculations. The Applicant does not envision requiring any "snow removal" operations; rather, the snow will be allowed to melt or slide off.

Construction activities within the Project Area will require the following:

- installing erosion and sedimentation control measures;
- creating three (3) water quality volume basins and associated grading;
- creating swales, ditches and stormwater overflow features;
- installing racking and modules;
- trenching for electrical service and interconnection; and
- installing one overhead utility pole for interconnection to the existing electrical distribution system along River Road.

Earthwork is required to allow the Project development to comply with DEEP's *Appendix I, Stormwater Management at Solar Array Construction Projects*. ("Appendix I") to the *General*

Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("General Permit"), including creation of the access drive, grading associated with the required drainage and erosion and sedimentation control features (cuts/fills), and construction of the water quality features.

The Facility is unstaffed; after construction is complete and the Facility is operable, traffic at the Site will be minimal. It is anticipated that the Facility will require routine maintenance of the electrical equipment one (1) time per year. Annual maintenance will typically involve two (2) technicians for a day. Repairs will be made on an as-needed basis. It is expected that mowing would occur, at a minimum, one (1) time per year to suppress woody growth and maintain a meadow environment. Depending on site-specific conditions, additional mowings (e.g., 2 to 3 times annually) may be required to negate shading of the panels from taller species.

2.2.1 Access

The Facility will be accessed via a new 16-foot-wide gravel drive that will extend east from River Road to a 16-foot-wide gate at the northwest corner of the Facility fence and from there along the northern fence line a distance of approximately 104 feet.

2.2.2 Public Health and Safety

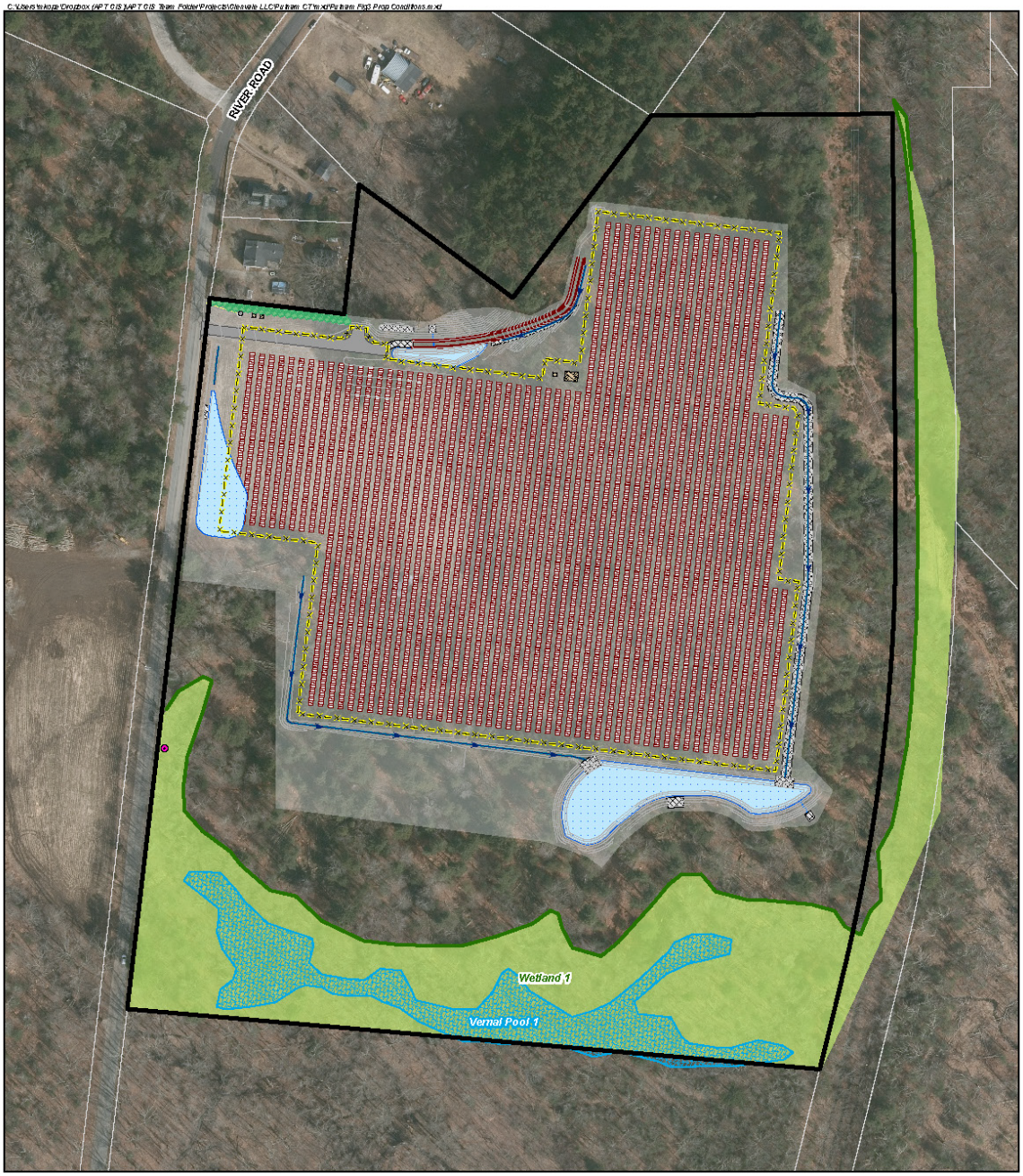
The Project will meet applicable local, state, national and industry health and safety standards and requirements related to electric power generation. The Facility will not consume any raw materials, will not produce any by-products and will be unstaffed during normal operating conditions.

Most of the Facility will be enclosed by a seven (7)-foot tall chain link fence; along River Road, the fence will be eight (8) feet tall. The entrance to the Facility will be gated, limiting access to authorized personnel only. All Town emergency response personnel will be provided access via a Knox padlock. The Facility will be remotely monitored and will have the ability to remotely de-energize in the case of an emergency.

3 Environmental Conditions

This section provides an overview of the current conditions at the Site and an evaluation of the Project's potential impacts on the environment. The results of this assessment demonstrate that the Project will comply with the DEEP air and water quality standards and will not have an undue adverse effect on the existing environment and ecology.

Please refer to Figure 3, *Proposed Conditions* for a depiction of the Project and its relationship with the resources discussed herein.



Legend

- Site
- Utility Pole
- Landscape Screening
- Existing Culvert
- Stormwater Swale
- Interconnection Path (OVH)
- Perimeter Fence
- Topographic Contour
- Berm
- Solar Modules
- Culvert
- Concrete Equipment Pad
- Gravel Access Road
- Stormwater Overflow
- Stormwater Basin
- Delineated Wetland Boundary
- Wetland Area
- Vernal Pool
- Limit of Disturbance
- Approximate Parcel Boundary

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: July 2022

N

200 100 0 200 Feet

Figure 3
Proposed Condtions

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

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3.1 Air Quality

Due to the nature of a solar energy generating facility, no air emissions will be generated during operations and, therefore, the operation of the Facility will have no adverse effects on air quality and no permit is required.

Temporary, potential, construction-related mobile source emissions will include those associated with construction vehicles and equipment. Any potential air quality impacts related to construction activities can be considered de minimis. Such emissions will be mitigated using available measures, including limiting idling times of equipment; proper maintenance of all vehicles and equipment; and watering/spraying to minimize dust and particulate releases. In addition, all on-site and off-road equipment will meet the latest standards for diesel emissions, as prescribed by the United States Environmental Protection Agency.

3.2 Water Resources

3.2.1 Wetlands and Watercourses

APT Registered Soil Scientists identified portions of one (1) wetland on the Site during a field inspection and wetland delineation completed on January 19, 2022. The results of the field delineation are summarized below. The location of this resource is depicted on Figure 2, *Existing Conditions* (and identified as Wetland 1).

Wetland 1 consists of a relatively large forested wetland complex in the southern portion of the Site that is characterized by areas of seasonally saturated soils resulting from seepage with embedded areas of shallow seasonal flooding. Contributing drainage from River Road via a 24" concrete pipe road culvert discharges to the southwestern portion of this wetland. The wetland continues to the south, extending beyond the Site's southern boundary, and transitions to a 3- to 4-foot-wide dug drainage ditch to the southeast that runs along the eastern property boundary adjacent to the Air Line State Park Trail. The historically constructed drainage ditch functions as an intermittent watercourse with a mucky/detritus bottom that is generally slow moving due to its shallow pitch. Wetland 1 generally drains southeast into the drainage ditch that is surrounded by forested uplands dominated by white pine (*Pinus strobus*), red maple (*Acer rubrum*) and red oak (*Quercus rubra*). The majority of the wetland is dominated by native species of red maple, Yellow Birch (*Betula alleghaniensis*), highbush blueberry (*Vaccinium corumbosum*), and spicebush

(*Lindera benzoin*), with patches of invasive Japanese barberry (*Berberis thunbergia*) and winged euonymus (*Euonymus alatus*).

3.2.2 Vernal Pool

The Department of the Army, Regional General Permits for the State of Connecticut define vernal pools as depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). Several species of amphibians depend on vernal pools for reproduction and development. These species are referred to as obligate, or indicator, vernal pool species and their presence in a wetland during the breeding season helps to identify that area as a vernal pool. In most years, vernal pools support one or more of the following obligate species: wood frog (*Lithobates sylvaticus*), spotted salamander (*Ambystoma maculatum*), blue-spotted salamander (*Ambystoma laterale*), marbled salamander (*Ambystoma opacum*), Jefferson's salamander (*Ambystoma jeffersonianum*) and fairy shrimp (*Eubranchipus spp.*). However, they should preclude sustainable populations of predatory fish.

Vernal pool physical characteristics can vary widely while still providing habitat for obligate species. "Classic" vernal pools are natural depressions in a wooded upland with no hydrologic connection to other wetland systems. Often, vernal pools are depressions or impoundments within larger wetland systems. These vernal pool habitats are commonly referred to as "cryptic" vernal pools. "Anthropogenic" vernal pools are intentionally or unintentionally man-made depressions that support successful breeding by obligate species.

A flooded depression imbedded within an interior area of Wetland 1 was identified during the site investigation on January 19, 2022. A vernal pool survey was conducted on April 4, 2022, timed appropriately during early spring breeding activity of vernal pool wildlife. At that time, evidence of breeding by an obligate vernal pool species, spotted salamander, was observed (during the peak hydroperiod) in a complex of multiple flooded and interconnected depressions within the wetland. The boundary of the vernal pool was delineated and surveyed during the investigation using field observations of the seasonally flooded extents of the pool. Survey methods included audial surveys to record chorusing wood frogs, visual surveys to search for adults, egg masses and larvae, and dip-netting within accessible areas to identify species within the water column and benthic material. Egg mass searches were conducted by slowly and methodically wading along the perimeter of accessible open water areas using polarized sunglasses for enhanced visual

scanning under generally sunny skies. Due to the early-April inspection time, observations were limited to egg mass surveys, as tadpoles and larvae development were not yet present. Approximately 55 spotted salamander egg masses were observed, indicating the pool is fairly productive with respect to this particular species. No other obligate vernal pool species were observed.

A follow-up investigation was conducted on May 11, 2022 to confirm the areas supporting vernal pool breeding had sustained the necessary hydrology to complete larval development and also to determine if any late breeding had occurred. The May 11th investigation revealed no significant change in the number of spotted salamander[5] egg masses and no other obligate vernal pool species breeding; the salamander egg masses were still intact and hatch-out had yet to occur.

The maximum observed water depth was approximately 8 to 12 inches in the vernal pool, which is characterized as cryptic habitat. The relatively shallow pool bottom consists of accumulated detritus and organics with numerous shrubs and fallen woody debris providing attachment sites for salamander egg masses.

Construction and operation of the Facility would not result in a direct physical impact to the vernal pool or areas within 100 feet of the vernal pool edge, known as the Vernal Pool Envelope. It is widely documented that vernal pool dependent amphibians are not solely reliant upon the actual vernal pool for breeding (i.e., egg and larval development) and require surrounding upland forest habitat for most of their adult lives. Accepted studies recommend conservation of the majority of adjacent terrestrial habitat up to 750 feet from the vernal pool edge for obligate pool-breeding amphibians (Calhoun, Klemens, 2002; "BDP").[6]

Vernal Pool Analysis

In order to evaluate potential impacts to the vernal pool and its surrounding upland habitat, the resource was assessed using the BDPs methodology developed by Calhoun and Klemens (2002) in combination with the US Army Corps of Engineers New England District's *Vernal Pool Best Management Practices* ("BMPs") (Calhoun, 2015)[7]. Collectively, these methodologies assess

[5] Spotted salamander generally occurs statewide across all ecoregions and is one of the most common vernal pool indicator species.
[6] Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices (BDPs): Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. WCS/MCA Technical Paper No. 5.
[7] https://www.nae.usace.army.mil/Portals/74/docs/regulatory/VernalPools/VPBMPsJan2015.pdf

vernal pool ecological significance based on two (2) parameters: 1) biological value of the vernal pool (e.g., presence of state-listed species and the abundance and diversity of vernal pool indicator species); and 2) conditions of the critical terrestrial habitat.

The terrestrial habitat is assessed based on the integrity of the vernal pool's two conservation zones: vernal pool envelope ("VPE" - within 100 feet of the pool's edge) and the critical terrestrial habitat ("CTH" - within 100 to 750 feet of the pool's edge). The higher the species diversity and abundance coupled with an undeveloped and intact, forested landscape surrounding the pool (obligate vernal pool amphibians require forested habitats), the higher the tier rating. Tier 1 pools are considered the highest quality pools, while Tier 3 are the lowest. Based on observations from the field inspections and intactness of the VPE/CTH in their existing conditions, this vernal pool appears to meet the biological criteria for a Tier 1 pool, considered to represent a relatively high ecological value pool.

The landscape condition surrounding the vernal pool was evaluated to determine the existing and proposed qualities of the terrestrial (non-breeding) habitat. When assessing potential impacts on a vernal pool's CTH, a key conservation goal of the BDPs is to maintain a percentage of 25% or less development (including site clearing, grading and construction). More recent BMPs guidance relies on preserving principal migratory vectors that link the vernal pool, forested aquatic habitats and forested terrestrial uplands that cover vernal pool indicator species' breeding, foraging, cover, and hibernation habitats.

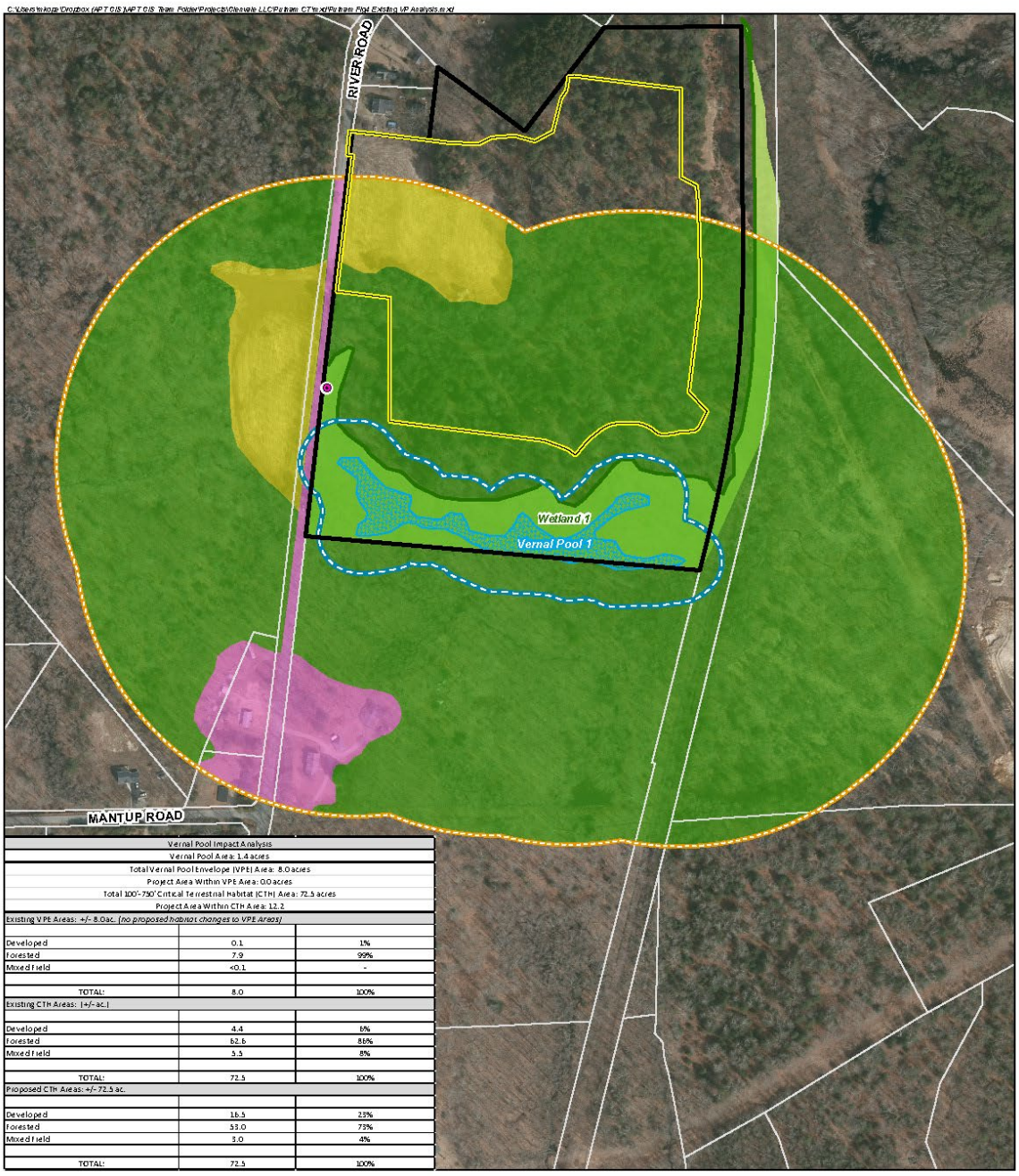
The results of this combined landscape analysis demonstrate that the Project would comply with both the BDPs and BMPs by avoiding degradation of the vernal pool's existing tier rating or its terrestrial habitat integrity. The Project will not encroach within 100 feet of the vernal pool edge and thus avoids impacts to the VPE. Portions of the Facility would be located in surrounding upland habitat consisting of existing even-aged forest and a cultivated agricultural field (which is considered suboptimal terrestrial habitat for obligate vernal pool amphibian species). Under existing conditions, total development accounts for ±4.4 acres of the ±72.5-acre CTH (representing 6% development within the CTH). Proposed development of the Project within the CTH consists of an increase of ±12.2 acres. This increase would result in approximately 23% of the CTH being developed in the proposed condition. Despite this increase, the Facility development would not result in exceeding the 25% development threshold within the CTH and therefore the pool is considered optimally conserved. Furthermore, a minimum ±130-foot to

maximum ±200-foot undisturbed forested buffer will remain around vernal pool resources. The proposed development is located within a large, forested tract that is primarily undeveloped, with multiple migratory vectors that link the vernal pool to adjacent forested wetland and terrestrial habitats to the south, east, and west that will remain intact. Therefore, the Project would maintain the current tier status of the vernal pool and not have a likely adverse impact on this resource or to the population of vernal pool indicator species that utilize this habitat.

Nonetheless, the Applicant proposes to implement a Resource Protection Plan[8] to mitigate potential short-term impacts associated with construction activities occurring within the CTH. The Resource Protection Plan is intended to prevent incidental injury to any migrating vernal pool species by excluding them from entering the Project Area during construction. In addition, due to the proximity of the Project's proposed stormwater basin to the vernal pool and the potential for the basin to act as a "decoy pool", a permanent isolation barrier will be installed around the stormwater basin to prevent access by obligate vernal pool amphibians.

Figures 4 and 5, *Vernal Pool Analysis – Existing and Proposed*, respectively, depict the Project's development relative to the vernal pool.

[8] See Appendix A, *Project Plans,* Environmental Notes – Resource Protection Measures, Sheet GN-2.



Vernal Pool Impact Analysis		
Vernal Pool Area: 1.4 acres		
Total Vernal Pool Envelope (VPE) Area: 8.0 acres		
Project Area Within VPE Area: 0.0 acres		
Total 100'-750' Critical Terrestrial Habitat (CTH) Area: 72.5 acres		
Project Area Within CTH Area: 12.2		
Existing VPE Areas: +/- 8.0ac. *(no proposed habitat changes to VPE Areas)*		
Developed	0.1	1%
Forested	7.9	99%
Mixed Field	<0.1	-
TOTAL:	8.0	100%
Existing CTH Areas: (+/-ac.)		
Developed	4.4	6%
Forested	62.6	86%
Mixed Field	5.5	8%
TOTAL:	72.5	100%
Proposed CTH Areas: +/- 72.5 ac.		
Developed	16.5	23%
Forested	53.0	73%
Mixed Field	3.0	4%
TOTAL:	72.5	100%

Legend

- Site
- Project Area
- Approximate Parcel Boundary
- Existing Culvert
- Delineated Wetland Boundary
- Wetland Area
- Vernal Pool
- 100' Vernal Pool Envelope (VPE)
- 100'-750' Critical Terrestrial Habitat (CTH)

Habitat Areas

- Developed
- Forested
- Mixed Field

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 350 feet
Map Date: July 2022

N

350 175 0 350 Feet

Figure 4
Vernal Pool Analysis - Existing

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

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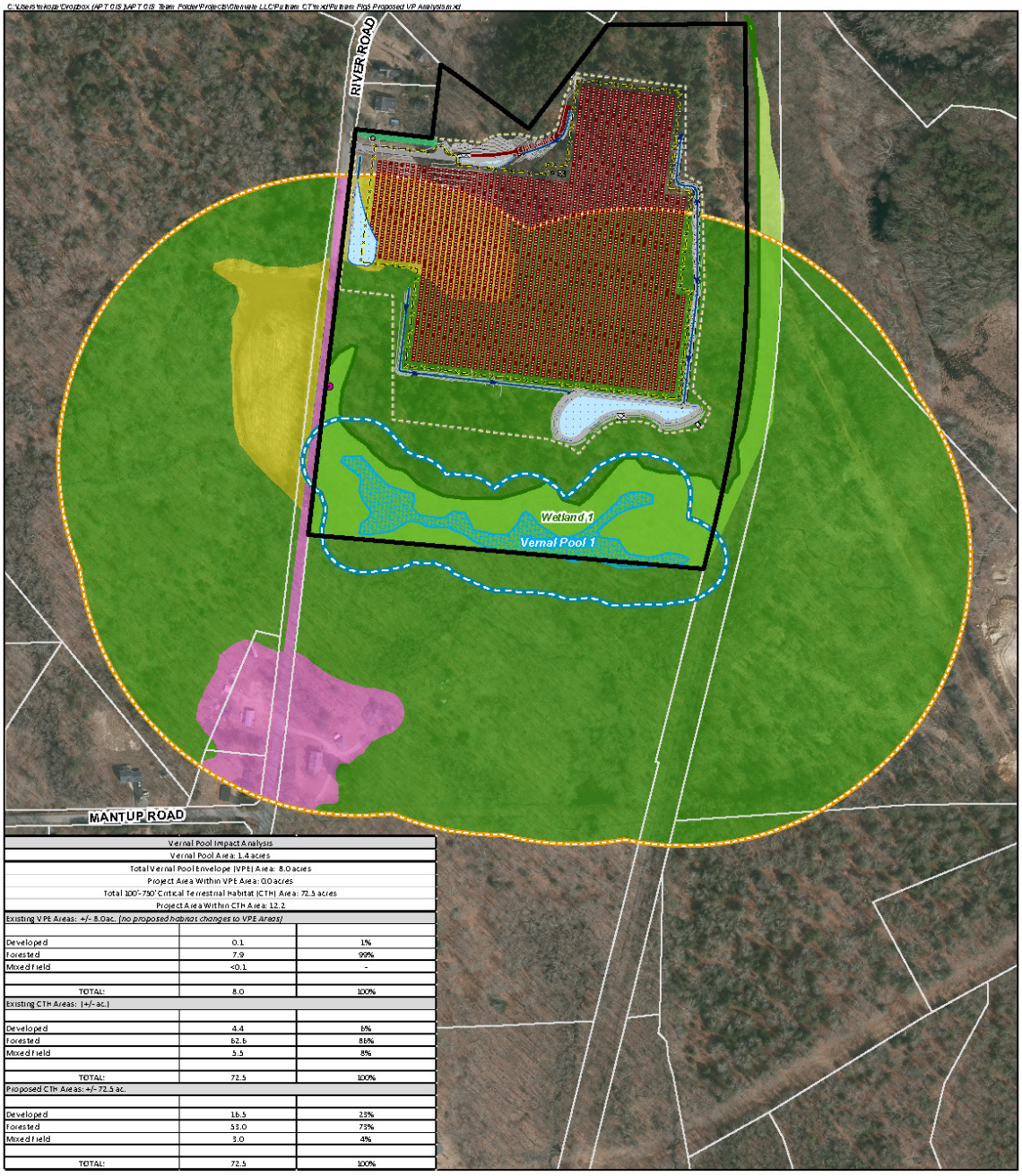

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Existing CTH Areas: (+/-ac.)		
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Mixed Field	5.5	8%
TOTAL:	72.5	100%
Proposed CTH Areas: +/- 72.5 ac.		
Developed	16.5	23%
Forested	53.0	73%
Mixed Field	3.0	4%
TOTAL:	72.5	100%

Legend

- Site
- Utility Pole
- Landscape Screening
- Existing Culvert
- Stormwater Swale
- Interconnection Path (OVH)
- Perimeter Fence
- Topographic Contour
- Berm
- Solar Modules
- Culvert
- Concrete Equipment Pad
- Gravel Access Road
- Stormwater Overflow
- Stormwater Basin
- Delineated Wetland Boundary
- Wetland Area
- Vernal Pool
- 100' Vernal Pool Envelope (VPE)
- 100'-750' Critical Terrestrial Habitat (CTH)

Habitat Areas:

- Developed
- Forested
- Mixed Field
- Limit of Disturbance
- Approximate Parcel Boundary

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 350 feet
Map Date: July 2022

N

350 175 0 350 Feet

Figure 5
Vernal Pool Analysis - Proposed

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

3.2.3 Wetland Impacts

No portion of the Project will result in direct impacts to Wetland 1. Tree clearing, earth work, and the fenced Facility will generally maintain a minimum 100-foot buffer to wetlands. The Project's stormwater basin's southern limits of disturbance will encroach slightly into the 100-foot buffer with the closest location to wetlands occurring at ±96 feet. Areas outside the 100-foot buffer south of the Project and west of the stormwater basin are proposed for tree clearing to minimize shading impacts. To minimize ground disturbance within this selective tree clearing area, no stump removal is proposed. Furthermore, this area will be enhanced with removal of invasive woody shrubs and select planting of native shrubs and a native conservation seed mix to improve the function of this upland, with a focus on enhancing wildlife habitat value. Construction activities would not be expected to result in an adverse impact to the Site's wetland resources based on sufficient buffers being afforded and the use of erosion and sedimentation controls.

3.2.4 Floodplain Areas

The Facility will not be located within a 100- or 500-year flood zone. APT reviewed the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") covering the Site. A FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and risk premium zones applicable to the community. The area inclusive of the Site is mapped on FIRM PANEL #090194 004 B, dated October 18, 1988. Based upon the reviewed FIRM Map, the Project Area is located in an area designated as Zone X, which is defined as an area of minimal flooding, typically above the 500-year flood level.

No special design considerations or precautions relative to flooding are required for the Facility. As no portion of the Project Area is proposed to be located in or impact 100- or 500-year flood zones, no impacts are anticipated to floodplain or downstream areas.

3.3 Water Quality

As discussed in this section, the Project will comply with DEEP's water quality standards. Once operative, the Facility will be unstaffed, and no potable water uses or sanitary discharges are planned. No liquid fuels are associated with the operation of the Facility. Stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 *Connecticut Stormwater Quality Manual* and Appendix I.

3.3.1 Groundwater

Groundwater underlying the Site is classified by publicly available DEEP mapping as "GA".[9] This classification indicates groundwater within the area is presumed to be suitable for human consumption without treatment. Based upon a review of available DEEP mapping, the Site is not located within a mapped (preliminary or final) DEEP Aquifer Protection Area; the nearest Aquifer Protection Area, the Park Street (Final Level A –112) Aquifer Protection Area, is located approximately 2,030 feet southeast of the Site.

The Project will have no adverse environmental effect on ground water quality.

3.3.2 Surface Water

The Project will have no adverse environmental effect on surface water quality. Based upon DEEP mapping, the Site is located in Major Drainage Basin 3 (Thames River), Regional Drainage Basin 37 (Quinebaug River), Subregional Drainage Basin 3700 Quinebaug River), and Local Drainage Basin 3700-00 (Quinebaug River).

Based upon DEEP mapping, the nearest mapped waterbody to the Site is an unnamed tributary of the Quinebaug River that is located downgradient and approximately 330 feet east of the closest Site boundary and approximately 440 feet east of the Project area. The unnamed tributary is classified as a Class A surface waterbody by the DEEP.[10] The Project will have no effect on this surface waterbody.

Based upon DEEP mapping, the Site is not located within a mapped Public Drinking Supply Watershed. The nearest Public Drinking Supply Watershed is located approximately 1.4 miles to the northwest.

During construction, erosion and sediment ("E&S") controls will be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. Once operative, stormwater will be managed in accordance with the 2004 *Connecticut Stormwater Quality Manual*.

[9] Designated uses in GA classified areas include existing private and potential public or private supplies of drinking water and base flow or hydraulically connected surface water bodies.

[10] Designated uses for A classified waterbodies include potential drinking water supply, fish and wildlife habitat, recreational use, agricultural and industrial supply and other legitimate uses including navigation.

3.3.3 Stormwater Management

In addition to the 2004 Connecticut Stormwater Quality Manual and 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, the Project has been designed to meet Appendix I. Combined, these address three (3) main concerns: stormwater runoff peak attenuation, water quality volume treatment, and E&S control during construction. The Applicant will apply for a General Permit from DEEP. Technical details, mapping, and HydroCAD modeling results are provided in a Stormwater Management Report to be provided to DEEP. A summary of these results is provided below.

Stormwater Runoff Peak Attenuation

The potential for changes in runoff from the Site as a result of Project construction has been evaluated and addressed in compliance with Appendix I. The Project will require the installation of underground utilities and overhead interconnection, an access drive and multiple stormwater management features. An increase in runoff will result due to the ½ step reduction of the Hydrologic Soil Group within the Facility limits as required by Appendix I.

To manage the increase in post-development runoff, three (3) grass-lined stormwater management basins with rip-rap lined overflow weirs are proposed. These features will collect surface runoff from within the Facility, thus managing the timing and release of flow from the Project Area.

The stormwater calculations for the Project predict that the post-development peak discharges to the waters of the State of Connecticut for the 2-, 25-, 50- and 100- year storm events are less than the pre-development peak discharges. Therefore, the Project is not anticipated to result in any adverse conditions to the surrounding areas and properties.

Water Quality Volume Treatment

The Project design also provides for adequate treatment of water quality volume associated with effective impervious cover, which includes the proposed gravel access drive and concrete equipment pads. The proposed basins are designed to provide the requisite treatment volumes associated with these features.

Erosion and Sediment Control During Construction

To safeguard water resources from potential impacts during construction, the Applicant is committed to implementing protective measures in the form of a Stormwater Pollution Control Plan ("SWPCP"), to be finalized and submitted to the Council, subject to approval by DEEP Stormwater Management. The SWPCP will include monitoring of established E&S controls that are to be installed and maintained in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control* and Appendix I.

To meet the requirement of the General Permit, two (2) temporary sediment traps and one (1) temporary sediment basin will be installed prior to the start of Facility construction. Perimeter erosion controls (silt fence) will encircle the Project Area to capture sediment potentially mobilized during site work. The traps will be cleaned of deposited sediment as needed during construction to maintain sufficient sediment storage capacity. Upon final site stabilization, they will be removed and the stormwater management basin will be installed.

Open areas will be temporarily stabilized with quick growing annual seed during construction. The Project Area will subsequently be seeded with a permanent Ernst Pollinator-friendly Solar Farm Seed Mix (ERNMX-147 Fuzz & Buzz) upon completion of construction. The phased erosion control plan and details are provided in Appendix A, *Project Plans*.

With the incorporation of these protective measures, stormwater runoff from Project development is not anticipated to result in an adverse impact to water quality associated with nearby surface water bodies.

3.4 Habitat and Wildlife

Three (3) distinct habitat types (vegetative communities) separated by transitional ecotones are located on the Site and within the Project Area. These habitats were initially assessed using remote sensing and publicly available datasets and physically inspected during a January 19, 2022 field evaluation and subsequent Site visits.

The habitats occupying the Site are as follows:

- Mixed Field;
- Upland Forest; and
- Wetland Forest.

3.4.1 Habitat Types

Mixed Field

Mixed Field habitat encompasses the northwestern corner of the Site. This habitat consists of a cultivated agricultural field. These surfaces are routinely maintained via cultivation techniques (i.e., plowing, harrowing, etc.) in association with their respective active agricultural use. Routine maintenance of this field suppresses other herbaceous and shrub species, resulting in limited wildlife habitat utilization. The field has most recently been primarily utilized for growing corn and remains fallow in the winter months, based on observations during the Site visits. Transitional scrub/shrub and edge forested areas, with pockets of multiflora rose (*Rosa multiflora*), separate this habitat from surrounding Wetland and Upland Forested habitats.

Project impacts will encompass the entire ±3.2-acre Mixed Field habitat. The Project's occupation of this habitat is not viewed as significant from an ecological impact perspective due to the high level of human activity and disturbed nature of this area from historic and current agricultural practices.

Upland Forest

Upland Forested habitat occupies the majority of the Project Area (±13.7 acres). The Upland Forested habitat differs from the adjacent Wetland Forest habitat by occurring entirely within well-drained upland soils and consisting of a significantly different vegetative species composition. This forested habitat is characterized by two distinct forest types. An even aged Eastern white pine overstory dominant forest with a low bush blueberry (*Vaccinium angustifolium*) dominant shrub layer occupies the northern portions of the Site. The central and southern areas of the Site are characterized by a dominance of red oak, black oak (*Quercus velutina*), white oak (*Quercus alba*) and eastern white pine in the overstory. High bush blueberry and low bush blueberry dominate the understory in complex with hay scented fern (*Dennstaedtia punctilobula*) in localized clearings. Suppressed red maple and black birch (*Betula lenta*) are also present as mid-story

species. The Site has historically and recently been logged; the majority of the harvested timber has been oak, resulting in a dominance of Eastern white pine in the overstory. Large amounts of coarse woody debris are present throughout the Site due to residual slash from the logging operations.

Impacts to the Upland Forest habitat by the proposed Project include development within primarily 'edge' portions of this habitat. Potential short-term impacts to this habitat will be minimized through the proper stabilization of soils during construction through strict adherence to the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*. While the Project necessitates removal of forest, similar forested habitat occurs in abundance around the Site.

Wetland Forest

Wetland Forest habitat occurs in the southern portion of the Site in complex with the Upland Forest habitat type. The on-Site wetland consists of seasonally saturated seeps with pockets of seasonal flooding that narrow to the east, converging into a dug drainage ditch that functions as an intermittent watercourse. A dominance of native vegetation is present throughout this complex, with pockets of invasive Japanese barberry and winged euonymus.

No direct impacts to wetlands are proposed from the development of the Project, which will generally maintain a minimum 100-foot setback from surrounding Wetland Forest habitat with limited exceptions to allow for the installation of the stormwater basin and associated erosion controls. Robust erosion and sediment control measures will be installed and maintained as part of the Project along with implementation of a Resource Protection Plan to avoid potential secondary impacts to the adjacent forested wetland and vernal pool.

Table 1, *Habitat Areas* provides the total acreages of each habitat type located on the Site and within the Project Area.

Table 1: Habitat Areas

Habitat Areas		
Habitat Type	Total Area On-Site (± ac.)	Area Occupied by Project (± ac.)
Mixed Field	3.2	3.2
Upland Forest	23.0	13.7
Wetland Forest	5.2	0.0

3.4.2 Core Forest Determination

APT evaluated the size and extent of the contiguous interior forest block present adjacent to the Site using two (2) publicly available GIS-based datasets designed to assess impacts to core forest habitat. An independent evaluation was also performed, based on GIS analysis of 2019 leaf-off aerial photography, field observations and professional experience. The results of these analyses demonstrate no core forest exists on the Site or within the immediate surrounding area.

The first dataset, the DEEP's *Forestland Habitat Impact Mapping*[11], does not depict the wooded areas on the Site as core forest.

The second dataset, UConn's Center for Land Use Education and Research's ("CLEAR") Forest Fragmentation Analysis ("FFA")[12] study, designates "core forest" as greater than 300 feet from non-forested habitat. This 300-foot zone is referred to as the "edge width" and represents sub-optimal breeding habitat for forest-interior birds due to decreased forest quality, increased levels of disturbance, and increased rates of nest predation and brood parasitism within this transitional forest edge. The FFA study identifies three categories of core forest: small (< 250 acres); medium (250-500 acres); and large (>500 acres). Based on the FFA criteria and using APT's independent analysis, there is an approximately 104-acre forested block that includes a portion of the Site. Due to surrounding fragmentation features (public road, agricultural clearing, utility ROW, etc.), the total forested block associated with the Site is only 34 acres, technically classifying it as a small core forest block with edge forest dominating the Site. The Project will mainly impact edge forest with only ±2 acres of small core forest habitat directly affected by the proposed development. This intrusion into the forest block will result in a reduction of the original 34-acre forest block to 26 acres. However, this reduction will not change its category, which will remain as a small core forest block.

In accordance with Connecticut General Statutes §16-50k(a), and based on the size of the proposed Facility (>2.0 MW), the Applicant sent email correspondence to DEEP Bureau of Natural Resources on May 24, 2022 documenting that the Project will not materially affect core forest. The Applicant received a letter from DEEP dated May 25, 2022 concurring that the Project will

[11] Source: http://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=7b81844bab634281b544c20bf2d7bfb8: This spatial screening layer identifies prime contiguous and connected core forestland blocks. If the project intersects with the Forestland Habitat Impact Map there is a potential for material effects to core forest.

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

not materially affect the status of the Site as core forest. See Appendix C, DEEP and DOA correspondence.

As such, no significant impact is expected to result to core forested habitat associated with the Project. (See Figure 6, *Existing Core Forest* and Figure 7, *Proposed Core Forest*.)

Legend

Site
Project Area
Approximate Parcel Boundary

Existing Forest Block

Core Forest
Edge Forest

Map Notes:
Base Map Source: CTECO 2019 Aerial Imagery
Map Scale: 1 inch = 500 feet
Map Date: July 2022

N
S

500 250 0 500
Feet

Figure 6
Existing Core Forest

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

Legend

Site
Project Area
Approximate Parcel Boundary

Proposed Forest Block

Core Forest
Edge Forest

Map Notes:
Base Map Source: CTECO 2019 Aerial Imagery
Map Scale: 1 inch = 500 feet
Map Date: July 2022

N
W E
S

500 250 0 500
Feet

Figure 7
Proposed Core Forest

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

ALL-POINTS TECHNOLOGY CORPORATION

3.4.3 Wildlife

Development of the Project will occur entirely within Mixed Field and Upland Forest habitats. The roughly 3.2-acre field habitat provides limited value from a wildlife utilization standpoint as a result of routine management of the areas, small habitat block size, and high level of human activity. The larger forest habitat area has experienced varying degrees of fragmentation through on-Site logging and off-site development, land use activities and infrastructure including the Air Line State Park Trail, River Road, surrounding residential and agricultural land use, and utility corridors. Project-related impacts within this Upland Forest habitat are limited and not anticipated to adversely affect wildlife.

Based on the surrounding land uses, the adjacent disturbed areas located in proximity to the Project Area are likely utilized by species that are tolerant of human disturbance and habitat fragmentation. Generalist wildlife species, including among others several song birds and mammals such as raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), grey squirrel (*Sciurus carolinensis*), Virginia opossum (*Didelphus virginiana*), white-tailed deer (*Odocoileus virginianus*), and eastern chipmunk (*Tamias striatus*) could be expected to use this area. Due to the relatively small size of this habitat patch, and given the abundance of similar habitat surrounding the Site, the Project is not anticipated to result in a significant impact to wildlife.

The Project Area will not encroach into the southern wetland habitat. Noise and associated human activities during construction may result in limited, temporary disruption to wildlife using this wetland habitat. Any possible wildlife displaced during construction would be expected to temporarily disperse deeper into the wetland habitat and nearby edge forest. Post-construction, operation of the Facility will not result in a likely adverse effect to wildlife using these habitats because it will be unoccupied and does not generate any significant noise, traffic, or high level of human activity.

3.5 Rare Species

APT reviewed publicly available information to determine the potential presence of state/federally listed species and critical habitat on or proximate to the Site. A discussion is provided in the following sections.

3.5.1 Natural Diversity Data Base

The DEEP Natural Diversity Data Base ("NDDB") program performs hundreds of environmental reviews each year to determine the impact of proposed development projects on state-listed species and to help landowners conserve the state's biodiversity. In furtherance of this endeavor, the DEEP also developed maps to serve as a pre-screening tool to help Applicants determine if there is the potential for project-related impact to state-listed species.

The NDDB maps represent approximate locations of (i) endangered, threatened and special concern species and, (ii) significant natural communities in Connecticut. The locations of species and natural communities depicted on the maps are based on data collected over the years by DEEP staff, scientists, conservation groups, and landowners. In some cases, an occurrence represents a location derived from literature, museum records and/or specimens. These data are compiled and maintained in the NDDB. The general locations of species and communities are symbolized as shaded (or cross-hatched) polygons on the maps. Exact locations have been masked to protect sensitive species from collection and disturbance and to protect landowner's rights whenever species occur on private property.

APT reviewed the most recent DEEP NDDB mapping (December 2021), which revealed that a NDDB polygon exists within the Site and Project Area. Because state-listed species or communities are documented on the Site, consultation with NDDB is required since the Project's area of effect could potentially affect this nearby NDDB polygon. A request for a preliminary assessment of project plans was submitted to NDDB staff and a response was received on January 25, 2022 stating impacts to state listed species are not anticipated with the proposed development activities. *See* Appendix B.

3.5.2 USFWS Consultation

Federal consultation was completed in accordance with Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, one federally-listed[13] threatened species, northern long-eared bat ("NLEB"; *Myotis septentrionalis*), is known to occur in the vicinity of the Site. The NLEB's range encompasses the entire State of Connecticut and suitable NLEB

[13] Listing under the federal Endangered Species Act

roost habitat includes trees (live, dying, dead, or snag) with a diameter at breast height ("DBH") of three (3) inches or greater.

APT reviewed the DEEP's publicly available *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map (February 1, 2016) to determine the locations of any known maternity roost trees or hibernaculum in the state. This map reveals that there are currently no known NLEB maternity roost trees in Connecticut. The nearest NLEB habitat resource to the Site is located in East Granby, approximately 41.9 miles to the west.

APT completed a determination of compliance with Section 7 of the Endangered Species Act of 1973 for the Project. In compliance with the USFWS criteria for assessing NLEB, the Project will not likely result in an adverse effect or incidental take[14] of NLEB and does not require a permit from USFWS. A USFWS letter dated May 26, 2022 confirmed compliance; thus, no further consultation with USFWS is required for the proposed activity.

A full review of the *Endangered Species Act (ESA) Compliance Determination* and USFWS's Response Letter is provided in Appendix B, *USFWS and NDDB Compliance Statement*.

3.6 Soils and Geology

The construction of the water quality basins and swales and grading within the Project Area will generate some excess material that will be redistributed on Site. Topsoil will be segregated from underlying soil, stockpiled, and spread over disturbed areas being seeded. See Appendix A*, Project Plans.*

All exposed soils resulting from construction activities will be properly and promptly treated in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

Surficial materials within the Project Area are predominantly thin deposits of glacial till. Bedrock beneath the northern portion of the Subject Property and beneath the northeastern portion of the Project Area is identified as Tatnic Hill Formation. Tatnic Hill Formation is described as a medium to dark-gray, medium-grained gneiss or schist composed of quartz, andesine, biotite,

[14] "Incidental take" is defined by the Endangered Species Act as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." For example, harvesting trees can kill bats that are roosting in the trees, but the purpose of the activity is not to kill bats.

garnet, and sillimanite, locally kyanite, muscovite, or K-feldspar, interlayered with locally mappable units and thinner layers of rusty-weathering graphitic pyrrhotitic two-mica schist, amphibolite, and calc-silicate rock. Bedrock beneath the southern portion of the Subject Property and beneath the southwestern portion of the Project Area is identified as Yantic Member of Tatnic Hill Formation. Yantic Member of Tatnic Hill Formation is described as a medium to dark-gray, fine to medium-grained schist, composed of quartz, oligoclase, biotite, and muscovite, some layers with garnet, staurolite, and kyanite or garnet and sillimanite, local epidote, or K-feldspar; some layers of rusty-weathering graphitic, pyrrhotitic, two-mica schist.[15]

3.6.1 Prime Farmland Soils

In accordance with the Code of Federal Regulations, CFR Title 7, part 657, farmland soils include land that is defined as prime, unique, or farmlands of statewide or local importance based on soil type. They represent the most suitable land for producing food, feed, fiber, forage, and oilseed crops.

According to the Connecticut Environmental Conditions Online Resource Guide[16], approximately 5.0 acres of the Site contain Prime Farmland Soils (See Figure 2, *Existing Conditions Map)*, with 4.4 acres located within the Project Area. The Project Area represents ±80.0% of such soils on the Site. Currently, approximately 3.2 acres of 5.0 acres of Prime Farmland Soils are under cultivation for agricultural purposes; a large dairy operation in nearby Woodstock, Connecticut leases that land for cultivation of a small percentage of their feed corn.

Clearing, excavation and regrading activities are necessary within areas mapped as Prime Farmland Soils to facilitate Project development. Topsoil removed from these areas will be segregated from underlying horizons, temporarily stockpiled and used as top dressing for reestablishing vegetation (with a pollinator-friendly seed mix). No topsoil will leave the Site.

After its useful life, the Facility will be decommissioned and all of the disturbed areas will be reseeded with the same (or approved equivalent) blend as established within the rest of the Project Area, ultimately creating additional available cleared areas for agricultural use. Therefore, the Project will not materially affect Prime Farmland Soils.

[15] Connecticut Natural Resources Atlas Series: Bedrock Geological map, cteco.uconn.edu/maps/state/Bedrock_Geologic_Map_of_Connecticut.pdf

[16] Connecticut Environmental Conditions Online (CTECO) Resource Guide, www.cteco.uconn.edu.

In accordance with General Statutes §16-50k(a), the Applicant initiated consultation with the Connecticut Department of Agriculture ("DOA") in May 2022, including information on the Project and a proposed plan for pollinator-friendly grass, and indicating a willingness to work with the host property owner to establish substitute field acreage on a separate nearby property. Following presentation of multiple alternatives, the DoA responded that none of the Applicant's proposed activities was sufficient for the DoA to conclude that the Project would not have an adverse impact on Connecticut's prime farmland soils. See Appendix C, DEEP and DOA correspondence.

3.7 Historic and Archaeological Resources

At the request of APT, and on behalf of the Applicant, Heritage Consultants LLC ("Heritage") reviewed relevant historic and archaeological information to determine whether the Site holds potential historic or cultural resource significance. Their review of historic maps and aerial images of the Site, examination of files maintained by the Connecticut State Historic Preservation Office ("SHPO"), and a pedestrian survey of the Site revealed the following resources are located within one (1) mile of the Site: ten (10) precontact period archaeological sites; one (1) multicomponent archaeological site; one (1) National Register of Historic Places ("NRHP") Historic District (Wilkinson Mill), two (2) NRHP properties; and six (6) Connecticut State Register of Historic Places properties. Due to their distance from the Project, Heritage has determined that neither the archaeological sites nor the NHRP resources will be impacted by the Project.

In terms of archaeological potential, Heritage determined that much of the Project Area retains a moderate to high potential to contain intact archaeological deposits in the subsoil. The report has been submitted to the SHPO for review.

The Phase 1A report is included in Appendix D.

3.8 Scenic and Recreational Areas

No state or local designated scenic roads or scenic areas are located near the Site and therefore none will be physically or visually impacted by development of the Project. The nearest scenic road is a portion of State Route 169 in Pomfret, located approximately 2.4 miles west of the Project Area.

There are no Connecticut Blue Blaze Hiking Trails located proximate to the Site. A portion of the Air Line State Park Trail (Northern Section) parallels the eastern Site boundary at a distance of

approximately 0.40 mile. Town of Putnam open space is located approximately 0.40 mile southeast of the Site along Town Farm Road. State and municipal park and forest areas line the eastern bank of the Quinebaug River. The Project will have no effect on any of these resources.

See Figure 8, *Surrounding Features Map,* for these and other resources located within one mile of the Project Area.

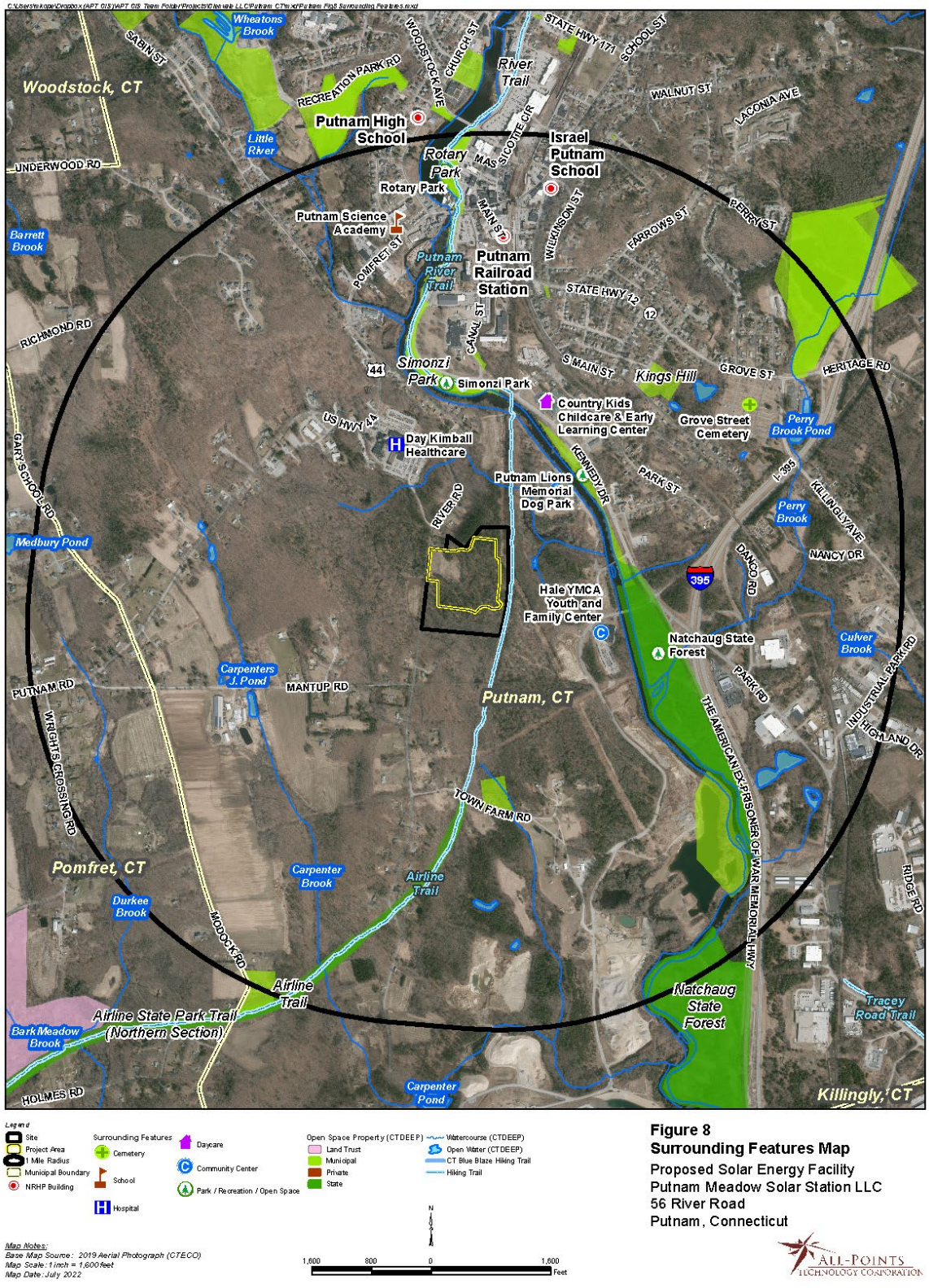


Figure 8
Surrounding Features Map
Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

3.9 Noise

The Site contains a cleared field and wooded land. Noise associated with human activities is currently generated on the Site seasonally and on an occasional basis in association with agricultural activities.

Construction noise is exempted under State of Connecticut regulations for the control of noise, RCSA 22a-69-1.8(h)[17]. During construction of the Facility, the temporary increase in noise would likely raise localized ambient sound levels immediately surrounding the Project Area. Standard types of construction equipment would be used for the Project. In general, the highest noise level from this type of equipment (e.g., backhoe, bulldozer, crane, trucks, etc.) is approximately 88 dBA at the source.

Once operational, noise from the Facility will be minimal; the Facility's only noise generating equipment are the inverters and transformers. Based on information provided by the equipment manufacturer, a Medium Voltage Power Station (MVPS) will house both the inverter and transformer such that the combined noise will come from this single source during operating hours (i.e., daytime). The MVPS will generate a maximum sound level of approximately 67 dBA (measured at 10-meters – or 32.81 feet - away). The Site is located within a residential zoning district but the Facility would, conservatively, be considered a Class C (Industrial) noise emitter. The nearest property line from the MVPS is ±137 feet to the north-northwest, a residential property at 16 River Road (note the residence occupying this parcel lies over 400 feet beyond the property line). The nearest residence is located ±416 feet to the northwest (at 34 River Road). Both residential properties would be considered a Class A Noise Receptor Zone.[18] As such, noise standards of 61 dBA during the daytime and 51 dBA at night apply.

Sound reduces with distance, and the MVPS is inactive at night. APT applied the Inverse Square Law[19] to evaluate the relative sound level of the MVPS to the nearest receptors. At a distance of 137 feet, the sound level would reduce to 54.6 dBA. The calculation shows that the sound generated from the MVPS would reduce to 44.9 dBA at a distance of 416 feet. With increased distances from the source, the noise level would decrease even further. Thus, all off-Site receptors

[17] The Town of Putnam does not have a municipal Noise Ordinance.

[18] RCSA 22a-69-3.5. Noise Zone Standards

[19] Inverse Square Law states that *the intensity of a force is inversely proportional to the square of the distance from that force*. With respect to sound, this means that any a noise will have a drastic drop-off in volume as it moves away from the source and then shallows out.

are of sufficient distances from the proposed Project-related equipment that, once operational, noise levels during Facility operation will meet applicable State noise standards for a Class A Noise Receptor Zone.

Please refer to the MVPS specification sheet provided in Appendix D, *Product Information Sheet*.

3.10 Lighting

No lighting currently exists on the Site. No exterior lighting is planned for the Project.

3.11 FAA Determination

The Applicant submitted relevant Project information to the Federal Aviation Administration ("FAA") for an aeronautical study to evaluate potential hazards to air navigation. The nearest airport is the Woodstock Airport located approximately 2.4 miles to the northwest. The FAA provided Determinations of No Hazard to Air Navigation on June 30, 2022. See Appendix F, *FAA Determinations.* Based on this determination, there is no need to conduct a glare analysis.

3.12 Visibility

The Facility will consist of 8,925 non-reflective solar panels measuring approximately 8 feet above grade. The proposed electrical interconnection will require the installation of one (1) new utility pole in the northwestern corner of the Site.

The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, such that only a small percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than common building materials, such as steel, or the surface of smooth water. The panels will be tilted up toward the southern sky, thereby further reducing reflectivity.

APT assessed the predicted visibility of the Facility with a Project-specific computer analysis of a one-mile radius around the Site. As depicted on the resulting viewshed maps, year-round visibility of the proposed Facility is limited to the Site itself, with an additional area southwest of the Project Area where the interconnect utility pole will be visible. Seasonal visibility may be experienced along River Road west and north of the Site at distances up to 0.1 mile. Proposed vegetative

screening will minimize visibility from River Road and the abutting property at the northwest corner of the Project Area. The incremental impact on views is not anticipated to be significant.

No views of the Facility will be achieved from the Air Line State Park Trail as the grade drops substantially directly east of the Site and the trail elevation lies anywhere from 10 to 15 feet lower than the nearest edge of the Project Area. A narrow forested buffer will also remain, separating the Project from the trail.

Please see Appendix G, *Visibility Documentation* for viewshed maps and photo-simulations.

4 Conclusion

As demonstrated in this Environmental Assessment, the Project will comply with the DEEP air and water quality standards. Further, it will not have an undue adverse effect on the existing environment and ecology; nor will it affect the scenic, historic and recreational resources in the vicinity of the Project.

Once operative, the Facility will be unstaffed and generate minimal traffic.

Development of the Project will have no significant impact on existing habitats and wildlife. The Northern long-eared bat was identified as potentially occurring within the vicinity of the Site but the Project is not expected to result in an adverse effect or an incidental take.

The northwest portion of the Project Area includes mapped Prime Farmland Soils. The Applicant has designed the Project to minimize disturbance to these soils by proposing minimally intrusive methods for construction and installation of Facility components and limiting excessive grading and compaction. No soil will be exported from the Site. The Applicant will seed all disturbed areas with a pollinator-friendly seed mix. Once the Facility has reached the end of its useful life, the panels and equipment will be removed and the Project Area restored.

Predicted visibility of the proposed Facility beyond the Site is primarily limited to areas within approximately 0.1 mile to the north and west. No visibility is anticipated from the Air Line State Park Trail.

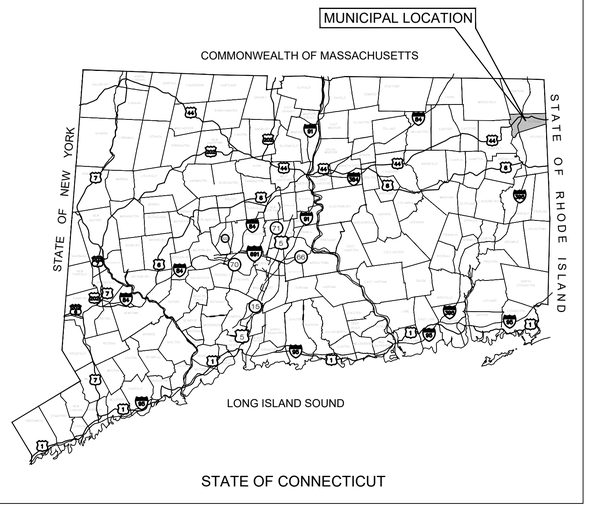
There are no impacts, direct or indirect, to wetlands on the Site. The nearest wetland boundary to the Project area is 96 feet away. E&S controls will be installed and maintained throughout construction in accordance with the Project's Resource Protection Plan. The distance from the main areas of disturbance within the fenced Facility to wetlands and implementation of protective management techniques will mitigate potential impacts to these resources during construction.

Overall, the Project's design minimizes the creation of impervious surfaces and maintains existing grades. Grading and excavation will be required for the development of the Facility and the construction of the water quality management features. The Project has been designed to adequately handle water volume, in accordance with the DEEP's *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* as well as Appendix I.

The Applicant will implement a SWPCP, in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*, that will include provisions for monitoring of development activities and the establishment of E&S controls to be installed and maintained throughout construction.

APPENDIX A

PROJECT PLANS



PUTNAM MEADOW SOLAR STATION, LLC

56 RIVER ROAD PUTNAM, CT

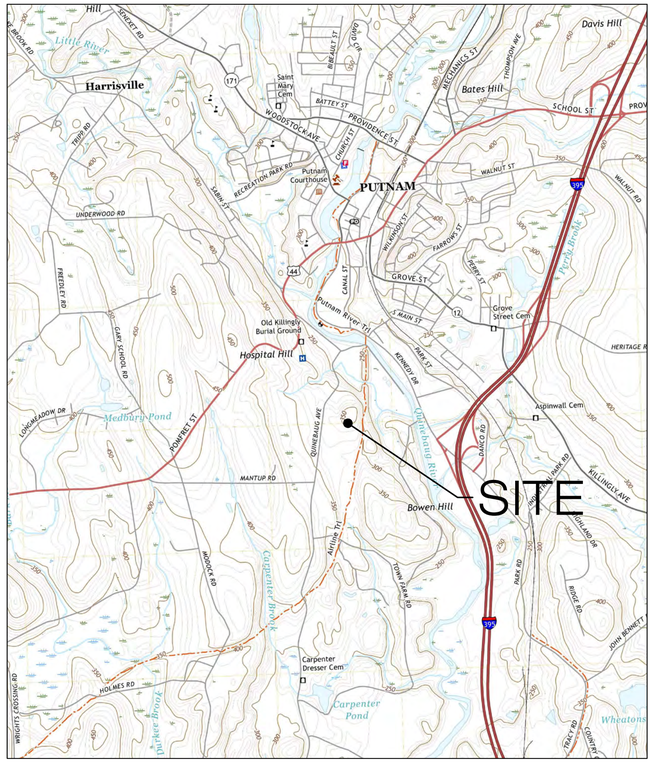
PERMIT APPLICATION DRAWINGS JULY 27, 2022

LIST OF DRAWINGS

SITE INFORMATION

SITE NAME:	PUTNAM SOLAR
LOCATION:	56 RIVER ROAD PUTNAM, CT
SITE TYPE/DESCRIPTION:	ADD (1) GROUND MOUNTED SOLAR PANEL ARRAY W/ ASSOCIATED EQUIPMENT.
PROPERTY OWNER:	SYLVIA HANKEN, RIT 27 WEATHERWOOD ROAD AMHERST, MA 01002
APPLICANT:	PUTNAM MEADOW SOLAR STATION, LLC 179 GREEN STREET, SUITE 100 BOSTON, MA 02130
ENGINEER CONTACT:	KEVIN A. MCCAFFERY, PE (860) 663-1697 x228
LATITUDE:	41° 54' 07" N
LONGITUDE:	71° 54' 37" W
ELEVATION:	320-366'± AMSL
MAP-LOT:	037-039
ZONE:	AG-2
EXISTING LAND USE:	6-2 FOREST
PROPOSED LAND USE:	ENERGY PRODUCTION
TOTAL PARCEL AREA:	36.3± AC *(31.4± AC PROPOSED)*
TOTAL DISTURBED AREA:	16.9± AC
APPROX. VOLUME OF CUT:	6,770± CY
APPROX. VOLUME OF FILL:	1,450± CY
APPROX. NET VOLUME:	5,320± CY OF CUT (TO BE SPREAD ON SITE)
PROP. GRAVEL ACCESS ROAD:	285± LF
PROP. SILT FENCE:	3,710± LF
TREE CLEARING AREA:	13.2± AC
EFFECTIVE IMPERVIOUS AREA:	5,446± SF

USGS TOPOGRAPHIC MAP



SCALE : 1-IN = 2000-FT SOURCE: NRCS GEOSPATIAL GATEWAY

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	07/27/22	ISSUED FOR PERMIT: KAM
1		
2		
3		
4		
5		
6		

NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.
ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

APT FILING NUMBER: CT710100

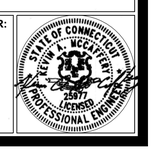
DRAWN BY: KAM
DATE: 07/27/22
CHECKED BY: JT

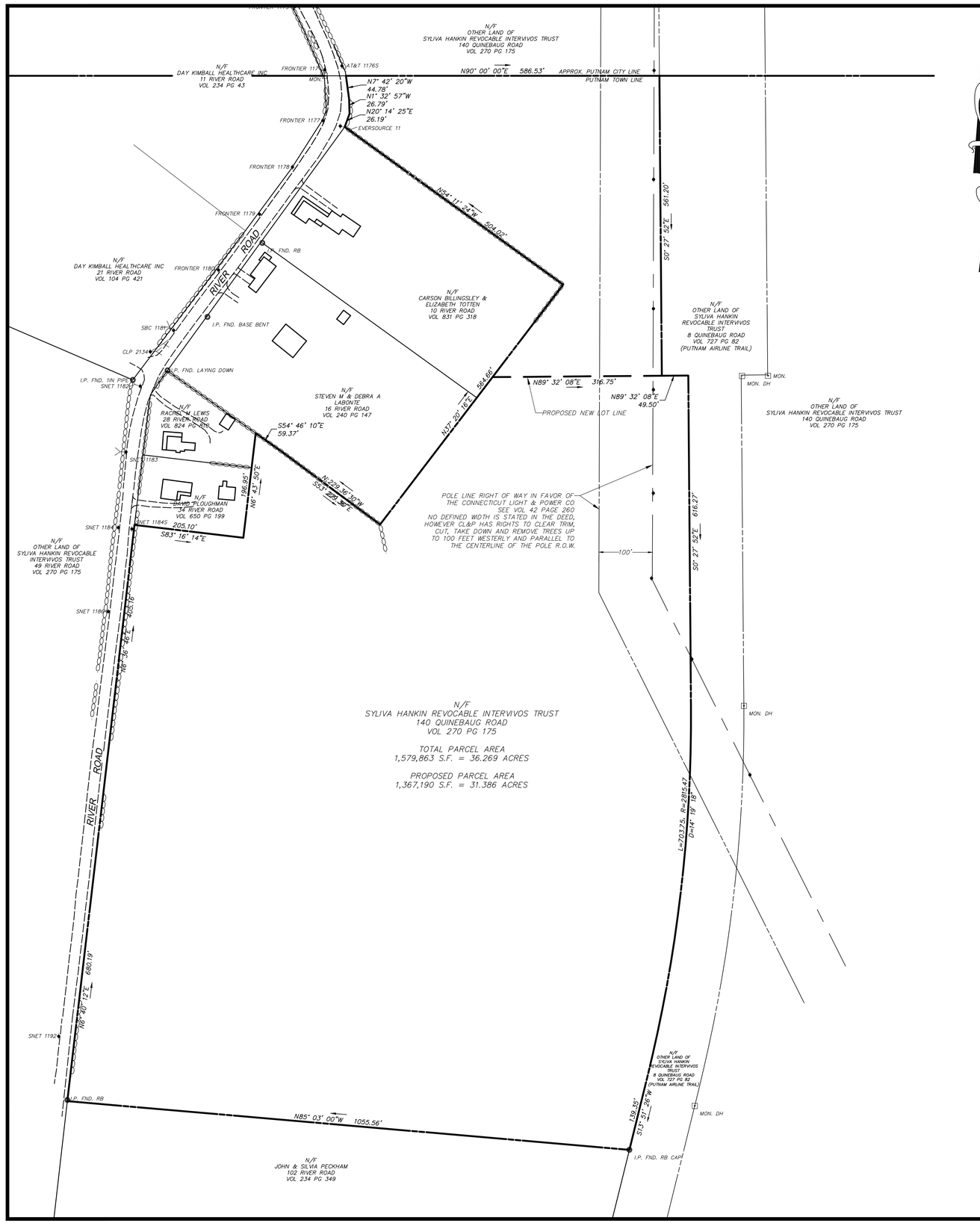
SHEET TITLE:

TITLE SHEET & INDEX

SHEET NUMBER:

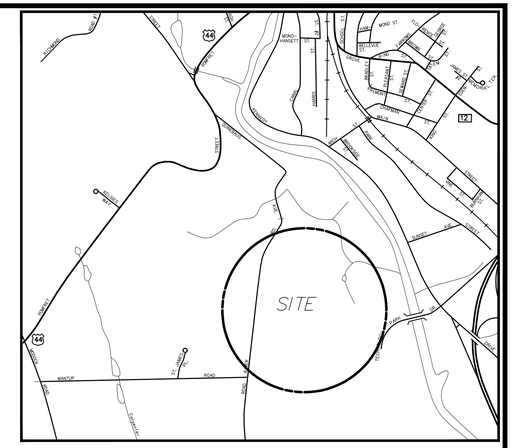
T-1





MAP REFERENCES

1. "PROPERTY SURVEY PROPERTY OWNED BY SYLIVA HANKIN REVOCABLE TRUST "THE AIRLINE TRAIL" PUTNAM, CONNECTICUT JOB NO 09188 DATE MARCH 2011 SCALE 1"=100' SHEET 1 OF 1 J & D CIVIL ENGINEERS, LLC
2. PROPOSED SUBDIVISION PREPARED FOR SYLVIA B. HANKIN QUINEBAUG AVENUE PUTNAM, CONN SCALE 1"=50' DATE NOVEMBER 1986 BY NORMANSIN & ASSOCIATES
3. PUTNAM WOOLEN CORPORATION PUTNAM, CONN SCALE 1"=100 WM PIKE C.E. 1945 PLAN NO. 2
4. PLAN OF LAND OWNED BY ESTATE OF HENRY P. MAYNARD RIVER ROAD PUTNAM, CONNECTICUT 1 INCH = 100 FEET DATE JANUARY 6, 1992 FIELDBOOK 316 JOB NO 9250 SHEET 1 OF 1 DRAWING 116 -01-92 BY ALBERT L. FITZBACK, LLS
5. ALTA/ACSM LAND TITLE SURVEY PREPARED FOR DAY KIMBALL HEALTHCARE, INC #320 POMFRET STREET (ROUTE #44), RIVER ROAD & QUINEBAUG AVENUE PUTNAM, CONNECTICUT SCALE 1"=80' DATE 5/29/2013 SHEET 1 OF 1 PROJECT # 91015 BY KWP ASSOCIATES
6. THE CONNECTICUT LIGHT & POWER CO. LOCATION OF POLE LINE RIGHT OF WAY ESTATE OF CLARENCE M. KENT MABEL KENT, ADMIN PUTNAM, CONN SCALE 1"=100' 1935



LOCATION MAP N.T.S.

LEGEND

UTILITY SERVICES (UNDERGROUND OR OVERHEAD)

- E — ELECTRIC SERVICE
- G — GAS PIPES
- SAN — SANITARY SEWER PIPES
- STORM WATER PIPES (LESS THAN 12")
- STORM WATER PIPES (12" OR LARGER)
- STM — STEAM PIPES (SUPPLY & COND.)
- T — TELEPHONE SERVICE
- W — WATER PIPES
- COM — COMMUNICATION/FIBER OPTIC SERVICE
- FP — FIRE PROTECTION PIPES
- UG — UG — UNKNOWN UTILITY SERVICE
- OH — OVERHEAD WIRES

PROPERTY/BOUNDARY LINES

- PROPERTY/BOUNDARY LINES (CLASS A-2)
- PROPERTY/BOUNDARY LINES (CLASS D)
- EASEMENT LINES

FEATURE LINES

- CURBED ROADWAY
- EDGE OF PAVED ROAD/DRIVE
- BUILDING ROOFLINE (AERIAL PHOTOS)
- RETAINING WALL
- STOCKADE FENCE
- CHAIN LINK/WIRE FENCE
- TREE/VEGATATION LINE
- STONE WALL
- SURFACE WATER (WATERCOURSE)
- WETLANDS LIMIT
- EDGE OF LANDSCAPING
- INTERMEDIATE CONTOUR
- INDEX CONTOUR

SYMBOL LEGEND

- CATCH BASIN
- ROUND DRAIN
- SQUARE DRAIN
- STORM DRAIN MANHOLE
- ELECTRIC MANHOLE
- SANITARY MANHOLE
- STEAM MANHOLE
- TELEPHONE MANHOLE
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- MANHOLE (OF UNKNOWN TYPE)
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- GUY WIRE
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- SIGN (DOUBLE POST)
- BORING (AS DRILLED)
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- x 427.3 — SPOT ELEVATION
- WF-# — WETLANDS FLAG
- PROPERTY MONUMENT
- UTILITY MONUMENT (SET AS 2' OFFSET)
- IRON PIPE OR REBAR FOUND
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- EMERGENCY PHONE
- TRAFFIC CONTROLLER CABINET
- UTILITY POLE
- UTILITY POLE W/ LIGHT
- STREET LIGHT
- LIGHT POST
- BOLLARD LIGHT
- BOULDER / ROCK
- CONIFER SHRUB
- DECIDUOUS SHRUB
- DECIDUOUS TREE (SAPLING)
- DECIDUOUS TREE
- CONIFER TREE

ABBREVIATIONS

A/C.	AIR CONDITIONER
AT&T	AMERICAN TELEPHONE & TELEGRAPH COMPANY
BIT.	BITUMINOUS
BLK.	BLACK
CB	CATCH BASIN
COM	COMMUNICATION
CON.	CONIFER
CONC.	CONCRETE
CNG	CONNECTICUT NATURAL GAS
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CL&P	CONNECTICUT LIGHT & POWER COMPANY
CP	CONTROL POINT
DEC.	DECIDUOUS
DMH	DRAINAGE MANHOLE
E	EAST OR ELECTRIC
EL.	ELECTRIC
ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
F.L.	FLOW LINE
FND.	FOUND
GRAN.	GRANITE
GSTC	GRANITE STONE CURB
HELCO	HARTFORD ELECTRIC COMPANY
HYD.	HYDRANT
H.H.	HAND HOLE
L.P.	LIGHT POLE
MH	MANHOLE
M	METER
M.W.	MONITOR WELL
N	NORTH
NAD	NORTH AMERICAN DATUM
NAVD	NATIONAL AMERICAN VERTICAL DATUM
NE	NORTHEAST
N/F	NOW OR FORMERLY
NW	NORTHWEST
PVC	POLYVINYL CHLORIDE
P.I.V.	POST INDICATOR VALVE
RET.	RETAINING
RCP	REINFORCED CONCRETE PIPE
R.L.	RAIN LEADER
S	SOUTH OR SUPPLY
SE	SOUTHEAST
SW	SOUTHWEST
SAN.	SANITARY
SMH	SANITARY MANHOLE
SNET	SOUTHERN NEW ENGLAND TELEPHONE
SQ.	SQUARE
STM	STEAM
TMH	TELEPHONE MANHOLE
TEL.	TELEPHONE
T.F.	TOP OF FRAME
UNK.	UNKNOWN
W	WATER OR WEST
W.G.	WATER GATE

SURVEY NOTES

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300B-1 THRU 20-300B-20 AND THE "MINIMUM STANDARDS OF ACCURACY, CONTENT & CERTIFICATION FOR SURVEYS AND MAPS, AS AMENDED OCTOBER 26, 2018.
   1.1. THE TYPE OF SURVEY IS A PROPERTY/BOUNDARY SURVEY.
   1.2. THE BOUNDARY DETERMINATION CATEGORY IS FIRST RESURVEY.
   1.3. THE ACCURACIES ARE AS FOLLOWS:

HORIZONTAL CONTROL	CLASS "A-2"
VERTICAL CONTROL	CLASS "V-2"
BOUNDARY	CLASS "A-2"

2. THE COORDINATES AND ELEVATIONS DEPICTED ON THE PLAN REPRESENT THE NAD '83 AND THE NAVD '88 DATUMS. COORDINATES WERE ESTABLISHED ON THE SITE BASED UPON GPS OBSERVATIONS TAKEN ON FEBRUARY 8, 2022 USING TRIMBLE GNSS RTK R10 RECEIVERS AND SOLUTIONS PROVIDED THROUGH THE KEYNET NETWORK.
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4. THE SUBJECT PROPERTY'S CURRENT DEED CAN BE FOUND IN VOLUME 270 PAGE 176 (THIRD TRACT) OF THE TOWN OF PUTNAM HAVEN LAND RECORDS.
5. THE PROPERTY IS LOCATED IN THE "AG-2" ZONE PER TOWN.
6. THE PROPERTY LIES WITHIN THE "OTHER AREAS ZONE 'X' – AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN." PER THE FEMA FLOOD INSURANCE RATE MAP TOWN OF PUTNAM CONNECTICUT WINDHAM COUNTY, CONNECTICUT PANEL 2 OF 10 MAP NUMBER: 09019400028 EFFECTIVE DATE: OCTOBER 18, 1988 AND FEMA FLOOD INSURANCE RATE MAP TOWN OF PUTNAM CONNECTICUT WINDHAM COUNTY, CONNECTICUT PANEL 4 OF 10 MAP NUMBER: 09019400048 EFFECTIVE DATE: OCTOBER 18, 1988.
7. TOTAL PARCEL AREA IS 1,579,863 SQ. FT. = 36.269 AC.
8. THE FACE OF WALL WAS HELD THE THE STREET LINE ALONG RIVER ROAD. INTERIOR STONEWALLS THE CENTERLINE OF THE WALL WAS HED FOR THE BOUNDARY LINE.

STATE OF CONNECTICUT
DAVID A. CARICCHIO
No. 70036
LICENSED LAND SURVEYOR

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS DEPICTED AND NOTED HEREON.

7/22/2022

DAVID A. CARICCHIO, P.L.S. No. 70036 DATE
ALFRED BENESCH & COMPANY, GLASTONBURY, CONNECTICUT
(not valid without original signature and embossed seal)

REVISIONS

No.	DATE	DESCRIPTION
1	2/16/2022	MISC REVISION
2	7/19/2022	REVISE ABUTTERS ADDRESS
	7/22/2022	ADD ABUTTERS ON WEST SIDE RIVER RD

SURVEY BOOK: 06-
SURVEYOR: PC & NDC
DRAWN: DAC
CHECKED: RS
APPROVED: WW

SCALE: HORZ.: 1" = 100'
VERT.: 1" = 7'
SURVEY DATUM: HORZ.: NAD 1983
VERT.: NAVD 1988

GRAPHIC SCALE 100 0 100 50

Prepared By:

benesch
Alfred Benesch & Company
20 Hebron Avenue, 2nd Floor
Glastonbury, Connecticut 06033
Phone (860) 633-8341, Fax: (860) 633-1068
www.benesch.com

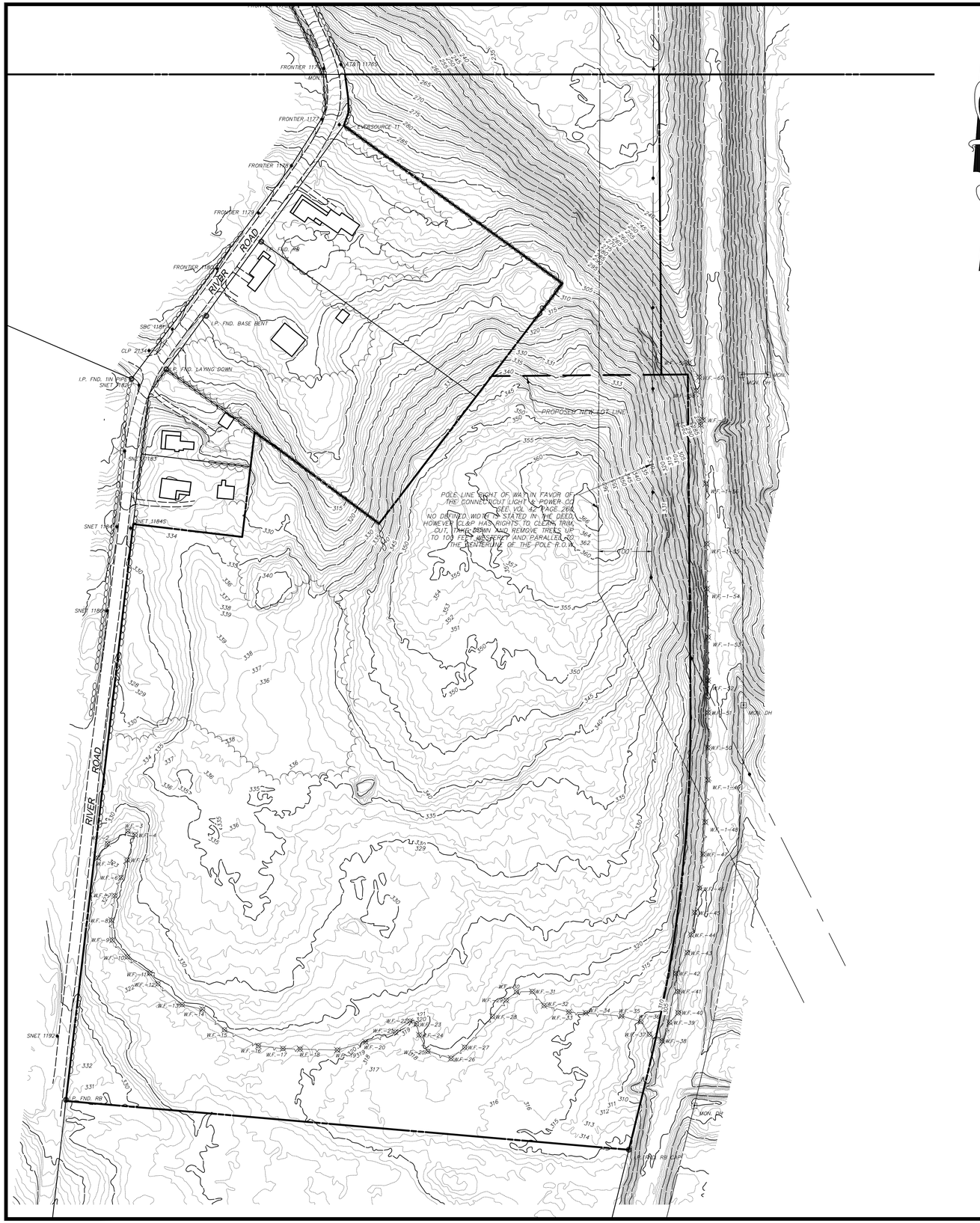
BOUNDARY SURVEY
PREPARED FOR
ALL-POINTS TECHNOLOGY CORP
RIVER ROAD
PUTNAM CONNECTICUT

PROJ. No.:
DATE: JAN 2022

SV.01

VIEWNAME:
LAYER MANAGER NAME:

File Location/Name - Y:\Glastonbury\70700S\70748.00_ALLPOINTS_PUTNAM\Survey\ACAD\70748 BASE.dwg
Date of Plot: July 22, 2022 - 1:33 PM



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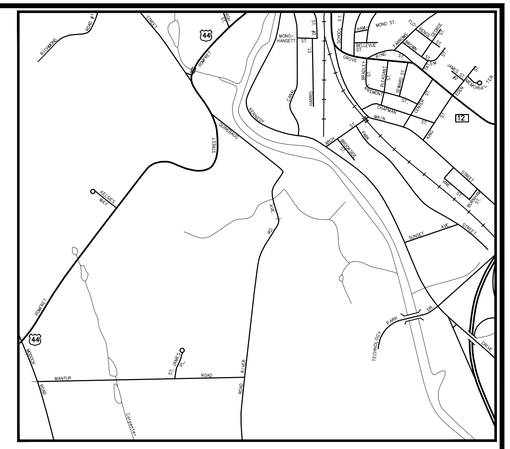

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R.L.	RAIN LEADER
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   - *1.1. THE TYPE OF SURVEY IS A TOPOGRAPHIC AND GENERAL LOCATION SURVEY.*
   - *1.2. THE ACCURACIES ARE AS FOLLOWS:*

HORIZONTAL CONTROL	CLASS "A–2"
VERTICAL CONTROL	CLASS "V–2"
BOUNDARY	CLASS "A–2"
TOPOGRAPHY	CLASS "T–D"

2. *THE COORDINATES AND ELEVATIONS DEPICTED ON THE PLAN REPRESENT THE NAD '83 AND THE NAVD '88 DATUMS. COORDINATES WERE ESTABLISHED ON THE SITE BASED UPON GPS OBSERVATIONS TAKEN ON FEBRUARY 8, 2022 USING TRIMBLE GNSS RTK R10 RECEIVERS AND SOLUTIONS PROVIDED THROUGH THE KEYNET NETWORK.*
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5. *THE PROPERTY IS LOCATED IN THE "AG–2" ZONE PER TOWN.*
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7. *TOTAL PARCEL AREA IS 00,000 SQ. FT. = 00.00 AC.*
8. *TOPOGRAPHIC INFORMATION DEPICTED HEREON WAS TAKEN FROM THE CT ECO WEBSITE 2016 LIDAR CONTOURS*

STATE OF CONNECTICUT — DAVID A. CARICCHIO — No. 70036 — LICENSED LAND SURVEYOR

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS DEPICTED AND NOTED HEREON.

07/14/2022

DAVID A. CARICCHIO, P.L.S. No. 70036 — *DATE*
ALFRED BENESCH & COMPANY, GLASTONBURY, CONNECTICUT
(not valid without original signature and embossed seal)

REVISIONS		
No.	DATE	DESCRIPTION

SURVEY BOOK: 06-
SURVEYOR: JK??
DRAWN: ???
CHECKED: ???
APPROVED:

SCALE: HORZ.: 1" = 100'
VERT.: 1" = 7'
SURVEY DATUM: HORZ.: NAD 1983
VERT.: NAVD 1988

GRAPHIC SCALE 100 50 0 100

Prepared By:

benesch

Alfred Benesch & Company
120 Hebron Avenue 2nd Floor
Glastonbury, Connecticut 06033
Phone (860) 633-8341, Fax: (860) 633-1068
www.benesch.com

TOPOGRAPHIC SURVEY
PREPARED FOR
ALL-POINTS TECHNOLOGY CORP
RIVER ROAD
PUTNAM CONNECTICUT

PROJ. No.:
DATE: JAN 2022

SV.01

VIEWNAME:
LAYER MANAGER NAME:
PLOT TABLE: .STB

File Location/Name - Y:\Glastonbury\70700S\70748.00_ALLPOINTS_PUTNAM\Survey\ACAD\70748 BASE.dwg
Date of Plot: July 14, 2022 - 9:56 AM

GENERAL NOTES

1. ALL CONSTRUCTION SHALL COMPLY WITH PROJECT DEVELOPER STANDARDS, TOWN OF PUTNAM STANDARDS, CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS IN THE ABOVE REFERENCED INCREASING HIERARCHY. IF SPECIFICATIONS ARE IN CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. IF NO PROJECT CONSTRUCTION SPECIFICATION PACKAGE IS PROVIDED BY THE PROJECT DEVELOPER OR THEIR REPRESENTATIVE, THE CONTRACTOR SHALL COMPLY WITH THE MANUFACTURER, TOWN OF PUTNAM, OR CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, AND BE IN ACCORDANCE WITH ALL APPLICABLE OSHA, FEDERAL, STATE AND LOCAL REGULATIONS.
3. THE PROJECT DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING AND STORMWATER PERMITS REQUIRED BY GOVERNMENT AGENCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL TOWN OF PUTNAM CONSTRUCTION PERMITS. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
4. REFER TO PLANS, DETAILS AND REPORTS PREPARED BY ALL-POINTS TECHNOLOGY CORPORATION FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE PROJECT DEVELOPER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT APPROPRIATE REVISIONS CAN BE MADE PRIOR TO BIDDING/CONSTRUCTION. ANY CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE CONFIRMED WITH THE PROJECT DEVELOPER'S CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS, MATERIALS PER PLANS AND SPECIFICATIONS TO THE PROJECT DEVELOPER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
6. SHOULD ANY UNKNOWN OR INCORRECTLY LOCATED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE PROJECT DEVELOPER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
7. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE PROJECT DEVELOPER OR OTHERS DURING OCCUPIED HOURS, EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE PROJECT DEVELOPER AND THE LOCAL MUNICIPALITY. INTERRUPTIONS SHALL ONLY OCCUR AFTER ACCEPTABLE TEMPORARY SERVICE HAS BEEN PROVIDED.
8. THE CONTRACT LIMIT IS THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE CONTRACT DRAWINGS.
9. THE CONTRACTOR SHALL ABIDE BY ALL OSHA, FEDERAL, STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID FOR BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL COMPLY WITH OSHA CFR 29 PART 1926 FOR EXCAVATION TRENCHING AND TRENCH PROTECTION REQUIREMENTS.
11. THE ENGINEER IS NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ENGINEER HAS NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OF PERSONNEL OR TO SUPERVISE SAFETY AND DO NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR RESPONSIBILITY.
12. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE PROJECT DEVELOPER OR TOWN OF PUTNAM.
13. THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE PROJECT DEVELOPER AT THE END OF CONSTRUCTION.
14. ALTERNATIVE METHODS AND PRODUCTS, OTHER THAN THOSE SPECIFIED, MAY BE USED IF REVIEWED AND APPROVED BY THE PROJECT DEVELOPER, ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION DURING THE BIDDING/CONSTRUCTION PROCESS.
15. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO DEMOLITION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFE" 72 HOURS BEFORE COMMENCEMENT OF WORK AT "811" AND VERIFY ALL UTILITY AND STORM DRAINAGE SYSTEM LOCATIONS.
16. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.

SITE PLAN NOTES

1. THE SURVEY WAS PROVIDED BY ALFRED BENESCH & COMPANY DATED JULY, 2022.
2. THERE ARE WETLANDS AND WATERWAYS LOCATED ON THE SITE AS INDICATED ON THE PLANS. BOUNDARIES WERE FLAGGED BY APT IN JANUARY, 2022 AND FIELD SURVEYED BY BENESCH.
3. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDED SEQUENCE OF CONSTRUCTION NOTES PROVIDED ON THE EROSION CONTROL PLAN OR SUBMIT AN ALTERNATE PLAN FOR APPROVAL BY THE ENGINEER AND/OR PERMITTING AGENCIES PRIOR TO THE START CONSTRUCTION. ALLOW A MINIMUM OF 14 WORKING DAYS FOR REVIEW.
4. PROPER CONSTRUCTION PROCEDURES SHALL BE FOLLOWED ON ALL IMPROVEMENTS WITHIN THIS PARCEL SO AS TO PREVENT THE SILTING OF ANY WATERCOURSE OR WETLAND IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. IN ADDITION, THE CONTRACTOR SHALL ADHERE TO "EROSION CONTROL PLAN" CONTAINED HEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE TO POST ALL BONDS AS REQUIRED BY GOVERNMENT AGENCIES WHICH WOULD GUARANTEE THE PROPER IMPLEMENTATION OF THE PLAN.
5. ALL SITE WORK, MATERIALS OF CONSTRUCTION, AND CONSTRUCTION METHODS FOR EARTHWORK AND STORM DRAINAGE WORK, SHALL CONFORM TO THE SPECIFICATIONS AND DETAILS AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS MANUAL. OTHERWISE THIS WORK SHALL CONFORM TO THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION AND PROJECT GEOTECHNICAL REPORT IF THERE IS NO PROJECT SPECIFICATIONS MANUAL. ALL FILL MATERIAL UNDER STRUCTURES AND PAVED AREAS SHALL BE PER THE ABOVE STATED APPLICABLE SPECIFICATIONS, AND/OR PROJECT GEOTECHNICAL REPORT, AND SHALL BE PLACED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER. MATERIAL SHALL BE COMPACTED IN 8" LIFTS TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557 AT 95% PERCENT OF OPTIMUM MOISTURE CONTENT.
6. ALL DISTURBANCE INCURRED TO PUBLIC, MUNICIPAL, COUNTY, STATE PROPERTY DUE TO CONSTRUCTION SHALL BE RESTORED TO ITS PREVIOUS CONDITION OR BETTER, TO THE SATISFACTION OF THE TOWN OF PUTNAM AND STATE OF CONNECTICUT.
7. IF IMPACTED OR CONTAMINATED SOIL IS ENCOUNTERED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUSPEND EXCAVATION WORK OF IMPACTED SOIL AND NOTIFY THE PROJECT DEVELOPER AND/OR PROJECT DEVELOPER'S ENVIRONMENTAL CONSULTANT PRIOR TO PROCEEDING WITH FURTHER WORK IN THE IMPACTED SOIL LOCATION UNTIL FURTHER INSTRUCTED BY THE PROJECT DEVELOPER AND/OR PROJECT DEVELOPER'S ENVIRONMENTAL CONSULTANT.

UTILITY NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE TOWN OF PUTNAM TO SECURE CONSTRUCTION PERMITS AND FOR PAYMENT OF FEES FOR STREET CUTS AND CONNECTIONS TO EXISTING UTILITIES.
2. REFER TO DRAWINGS BY PROJECT DEVELOPER FOR THE ONSITE ELECTRICAL DRAWINGS AND INTERCONNECTION TO EXISTING ELECTRICAL GRID. SITE CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY AT BUILDING CONNECTION POINT OR AT EXISTING UTILITY OR PIPE CONNECTION POINT. THESE DETAILS ARE NOT INCLUDED IN THESE PLANS.
3. UTILITY LOCATIONS AND PENETRATIONS ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND SHALL BE VERIFIED WITH THE ELECTRICAL ENGINEER AND THE PROJECT DEVELOPER'S CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY THE ELEVATION AND LOCATION OF ALL UTILITIES BY VARIOUS MEANS PRIOR TO BEGINNING ANY EXCAVATION. TEST PITS SHALL BE DUG AT ALL LOCATIONS WHERE PROP. SANITARY SEWERS AND WHERE PROP. STORM PIPING WILL CROSS EXISTING UTILITIES, AND THE HORIZONTAL AND VERTICAL LOCATIONS OF THE UTILITIES SHALL BE DETERMINED. THE CONTRACTOR SHALL CONTACT THE PROJECT DEVELOPER IN THE EVENT OF ANY DISCOVERED OR UNFORESEEN CONFLICTS BETWEEN EXISTING AND PROPOSED SANITARY SEWERS, STORM PIPING AND UTILITIES SO THAT AN APPROPRIATE MODIFICATION MAY BE MADE.
5. UTILITY CONNECTION DESIGN AS REFLECTED ON THE PLAN MAY CHANGE SUBJECT TO UTILITY PROVIDER AND GOVERNING AUTHORITY STAFF REVIEW.
6. THE CONTRACTOR SHALL ENSURE THAT ALL UTILITY PROVIDERS AND GOVERNING AUTHORITY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET. THE CONTRACTOR SHALL PERFORM PROPER COORDINATION WITH THE RESPECTIVE UTILITY PROVIDER.
7. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY PROVIDERS FOR SERVICE INSTALLATIONS AND CONNECTIONS. THE CONTRACTOR SHALL COORDINATE WORK TO BE PERFORMED BY THE VARIOUS UTILITY PROVIDERS AND SHALL PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS, AND DEMOLITION UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATIONS MANUAL AND/OR GENERAL CONDITIONS OF THE CONTRACT.
8. ALL EXISTING PAVEMENT WHERE UTILITY PIPING IS TO BE INSTALLED SHALL BE SAW CUT. AFTER UTILITY INSTALLATION IS COMPLETED, THE CONTRACTOR SHALL INSTALL TEMPORARY AND/OR PERMANENT PAVEMENT REPAIR AS DETAILED ON THE DRAWINGS OR AS REQUIRED BY THE TOWN OF PUTNAM.
9. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
10. RELOCATION OF UTILITY PROVIDER FACILITIES, SUCH AS POLES, SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY PROVIDER.
11. THE CONTRACTOR SHALL COMPACT PIPE BACKFILL IN 8" LIFTS ACCORDING TO THE PIPE BEDDING DETAILS. TRENCH BOTTOM SHALL BE STABLE IN HIGH GROUNDWATER AREAS. A PIPE FOUNDATION SHALL BE USED PER THE TRENCH DETAILS AND IN AREAS OF ROCK EXCAVATION.
12. CONTRACTOR TO PROVIDE STEEL SLEEVES AND ANNULAR SPACE SAND FILL FOR UTILITY PIPE AND CONDUIT CONNECTIONS UNDER FOOTINGS.
13. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION FOR APPROVAL PRIOR TO BACKFILLING, IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROVIDER REQUIREMENTS.
14. A ONE-FOOT MINIMUM VERTICAL CLEARANCE BETWEEN WATER, GAS, ELECTRICAL, AND TELEPHONE LINES AND STORM PIPING SHALL BE PROVIDED. A SIX-INCH MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN STORM PIPING AND SANITARY SEWER. A 6-INCH TO 18-INCH VERTICAL CLEARANCE BETWEEN SANITARY SEWER PIPING AND STORM PIPING SHALL REQUIRE CONCRETE ENCASEMENT OF THE PROP. SANITARY PIPING.
15. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPE, CONDUIT, PAVEMENT, CURBING, SIDEWALKS, DRAINAGE STRUCTURE, SWALE OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION, TO THEIR ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE PROJECT DEVELOPER AND TOWN OF PUTNAM.
16. INFORMATION ON EXISTING UTILITIES AND STORM DRAINAGE HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY PROVIDER AND MUNICIPAL RECORD MAPS AND/OR FIELD SURVEY, AND IS NOT GUARANTEED CORRECT OR COMPLETE. UTILITIES AND STORM DRAINAGE ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE INCLUDING SERVICES. CONTACT "DIG SAFE" AT 811 72 HOURS PRIOR TO CONSTRUCTION AND VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY AND STORM DRAINAGE LOCATIONS. THE CONTRACTOR SHALL EMPLOY THE USE OF A UTILITY LOCATING COMPANY TO PROVIDE SUBSURFACE UTILITY ENGINEERING CONSISTING OF DESIGNATING UTILITIES AND STORM PIPING ON PRIVATE PROPERTY WITHIN THE CONTRACT LIMIT AND CONSISTING OF DESIGNATING AND LOCATING WHERE PROP. UTILITIES AND STORM PIPING CROSS EXISTING UTILITIES AND STORM PIPING WITHIN THE CONTRACT LIMITS.
17. THE CONTRACTOR SHALL ARRANGE AND COORDINATE WITH UTILITY PROVIDERS FOR WORK TO BE PERFORMED BY UTILITY PROVIDERS. THE CONTRACTOR SHALL PAY ALL UTILITY FEES UNLESS OTHERWISE STATED IN THE PROJECT SPECIFICATION MANUAL AND GENERAL CONDITIONS, AND REPAIR PAVEMENTS AS NECESSARY.
18. ELECTRIC DRAWINGS AND REQUIREMENTS ARE NOT INCLUDED AS PART OF THIS DRAWING SET AND SHOULD BE OBTAINED FROM THE PROJECT DEVELOPER.
19. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE PROJECT DEVELOPER, ENGINEER, AND APPROPRIATE REGULATORY AGENCIES PRIOR TO INSTALLATION.
20. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE PROJECT DEVELOPER, TOWN OF PUTNAM, UTILITY PROVIDERS AND GOVERNING AUTHORITIES.

GENERAL LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
BUILDING SETBACK		
SOLAR SETBACK		
EASEMENT		
TREE LINE		
WETLAND		
WETLAND BUFFER		
VERNAL POOL		
VERNAL POOL BUFFER		
WATERCOURSE		
WATERCOURSE BUFFER		
MAJOR CONTOUR		
MINOR CONTOUR		
UNDERGROUND ELECTRIC		E E
OVERHEAD ELECTRIC	OH OH	OH OH
GAS LINE		
WATER LINE	W W	W W
WATER QUALITY SWALE		
FENCE		X X X
LIMIT OF DISTURBANCE		LOD
SILT FENCE		SF SF

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
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CSC PERMIT SET

NO	DATE	REVISION
0	07/27/22	ISSUED FOR PERMIT: KAM
1		
2		
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NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.
ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

APT FILING NUMBER: CT710100

DRAWN BY: KAM
DATE: 07/27/22
CHECKED BY: JT

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

GN-1

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25977 · LICENSED PROFESSIONAL ENGINEER

ENVIRONMENTAL NOTES - RESOURCE PROTECTION MEASURES

WETLAND AND VERNAL POOL PROTECTION PROGRAM

AS A RESULT OF THE PROJECT'S LOCATION IN THE VICINITY OF SENSITIVE WETLAND RESOURCES THAT INCLUDE A VERNAL POOL, THE FOLLOWING PROTECTION PROGRAM SHALL BE IMPLEMENTED BY THE CONTRACTOR TO AVOID UNINTENTIONAL IMPACTS TO PROXIMATE WETLAND RESOURCES, VERNAL POOL, OR MORTALITY TO VERNAL POOL HERPETOFAUNA (I.E., WOOD FROG, SALAMANDERS, TURTLES, ETC.) DURING CONSTRUCTION ACTIVITIES.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR THE INSTALLATION OF PROTECTIVE MEASURES AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THE WETLAND PROTECTION MEASURES SHALL BE IMPLEMENTED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES UNTIL PERMANENT STABILIZATION OF SITE SOILS HAS OCCURRED. VERNAL POOL PROTECTION MEASURES SHOULD ALSO BE IMPLEMENTED THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES WITH A PARTICULAR FOCUS DURING PEAK AMPHIBIAN MOVEMENT PERIODS (EARLY SPRING BREEDING [MARCH 1ST TO MAY 15TH] AND LATE SUMMER DISPERSAL [JULY 15TH TO SEPTEMBER 15TH]).

ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THESE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY AND WILL PROVIDE AN EDUCATION SESSION ON THE PROJECT'S PROXIMITY TO SENSITIVE WETLAND AND VERNAL POOL RESOURCES PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AND TYPICAL AMPHIBIANS AND REPTILES ASSOCIATED WITH THESE HABITATS THAT MAY BE ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT, AT LEAST . BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 552-2033 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

THIS RESOURCES PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS INCLUDING: EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; INSTALLATION OF EROSION CONTROLS; PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION; PROTECTIVE MEASURES; RARE SPECIES PROTECTION MEASURES; HERBICIDE, PESTICIDE, AND SALT RESTRICTIONS; AND, REPORTING.

1. CONTRACTOR EDUCATION:

a. PRIOR TO WORK ON SITE AND INITIAL DEPLOYMENT/MOBILIZATION OF EQUIPMENT AND MATERIALS, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF INFORMATION SUCH AS, BUT NOT LIMITED TO: IDENTIFICATION OF WETLAND AND VERNAL POOL RESOURCES PROXIMATE TO WORK AREAS, REPRESENTATIVE PHOTOGRAPHS OF TYPICAL HERPETOFAUNA THAT MAY BE ENCOUNTERED, TYPICAL SPECIES BEHAVIOR, AND PROPER PROCEDURES IF SPECIES ARE ENCOUNTERED, AND THE ENVIRONMENTALLY SENSITIVE NATURE OF THE DEVELOPMENT SITE.

b. THE MEETING WILL FURTHER EMPHASIZE THE NON-AGGRESSIVE NATURE OF THE RARE SPECIES, THE ABSENCE OF NEED TO DESTROY SUCH ANIMALS AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN FOLLOWING SECTIONS. THE CONTRACTOR WILL DESIGNATE ONE OF ITS WORKERS AS THE "PROJECT MONITOR", WHO WILL RECEIVE MORE INTENSE TRAINING ON THE IDENTIFICATION AND PROTECTION OF HERPETOFAUNA.

c. THE CONTRACTOR WILL DESIGNATE A MEMBER OF ITS CREW AS THE PROJECT MONITOR TO BE RESPONSIBLE FOR THE PERIODIC "SWEEPS" FOR HERPETOFAUNA (AND OTHER POSSIBLE WILDLIFE) WITHIN THE CONSTRUCTION ZONE EACH MORNING AND FOR ANY GROUND DISTURBANCE WORK. THIS INDIVIDUAL WILL RECEIVE MORE INTENSE TRAINING FROM APT ON THE IDENTIFICATION AND PROTECTION OF HERPETOFAUNA IN ORDER TO PERFORM SWEEPS. ANY HERPETOFAUNA (OR OTHER WILDLIFE) DISCOVERED WOULD BE TRANSLOCATED OUTSIDE THE WORK ZONE IN THE GENERAL DIRECTION THE ANIMAL WAS ORIENTED.

d. THE CONTRACTOR'S PROJECT MONITOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR APT PERSONNEL TO IMMEDIATELY REPORT ANY ENCOUNTERS WITH HERPETOFAUNA. EDUCATIONAL POSTER MATERIALS WILL BE PROVIDED BY APT AND DISPLAYED ON THE JOB SITE TO MAINTAIN WORKER AWARENESS AS THE PROJECT PROGRESSES.

e. APT WILL ALSO POST CAUTION SIGNS THROUGHOUT THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION PROJECT PROVIDING NOTICE OF THE ENVIRONMENTALLY SENSITIVE NATURE OF THE WORK AREA, THE POTENTIAL FOR ENCOUNTERING VARIOUS AMPHIBIANS AND REPTILES AND PRECAUTIONS TO BE TAKEN TO AVOID INJURY TO OR MORTALITY OF THESE ANIMALS.

2. EROSION AND SEDIMENTATION CONTROLS/ISOLATION BARRIERS

a. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [WATTLES], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE PROJECT. TEMPORARY EROSION CONTROL PRODUCTS THAT WILL BE EXPOSED AT THE GROUND SURFACE AND REPRESENT A POTENTIAL FOR WILDLIFE ENTANGLEMENT WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NETLESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

b. THE EXTENT OF THE EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING DEVICES. IN ADDITION TO THE CONTRACTOR MAKING THESE DETERMINATIONS, REQUESTS FOR ADDITIONAL CONTROLS WILL ALSO BE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR.

c. INSTALLATION OF EROSION AND SEDIMENTATION CONTROLS, REQUIRED FOR EROSION CONTROL COMPLIANCE AND CREATION OF A BARRIER TO POSSIBLE MIGRATING/DISPERSING WILDLIFE, SHALL BE PERFORMED BY THE CONTRACTOR IF ANY SOIL DISTURBANCE OCCURS OR HEAVY MACHINERY IS ANTICIPATED TO BE USED ON SLOPES. THE ENVIRONMENTAL MONITOR WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION. IN ADDITION, WORK ZONES WILL BE INSPECTED PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF HERPETOFAUNA AND OTHER WILDLIFE AND SATISFACTORILY INSTALLED. THE INTENT OF THE BARRIER IS TO SEGREGATE THE MAJORITY OF THE WORK ZONE FROM POSSIBLE HERPETOFAUNA AND OTHER WILDLIFE SPECIES, IN ADDITION TO SERVING AS AN EROSION CONTROL DEVICE. OFTENTIMES COMPLETE ISOLATION OF A WORK ZONE IS NOT FEASIBLE DUE TO ACCESSIBILITY NEEDS AND LOCATIONS OF STAGING/MATERIAL STORAGE AREAS, ETC. IN THOSE CIRCUMSTANCES, THE BARRIERS WILL BE POSITIONED TO DEFLECT MIGRATING/DISPERSAL ROUTES AWAY FROM THE WORK ZONE TO MINIMIZE POTENTIAL ENCOUNTERS WITH HERPETOFAUNA/WILDLIFE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR.

d. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREECHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE, AS DEFINED BY AND IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APT ENVIRONMENTAL MONITOR WITHIN 24 HOURS OF ANY BREECHES OF THE SEDIMENTATION AND EROSION CONTROLS AND ANY SEDIMENT RELEASES BEYOND THE PERIMETER CONTROLS THAT IMPACT WETLANDS, THE VERNAL POOL, OR AREAS WITHIN 100 FEET OF WETLANDS. THE APT ENVIRONMENTAL MONITOR WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO THEIR FUNCTION TO PROTECT NEARBY WETLANDS. SUCH INSPECTIONS WILL GENERALLY OCCUR ONCE PER MONTH. THE FREQUENCY OF MONITORING MAY INCREASE DEPENDING UPON SITE CONDITIONS, LEVEL OF CONSTRUCTION ACTIVITIES IN PROXIMITY TO SENSITIVE RECEPTORS, OR AT THE REQUEST OF REGULATORY AGENCIES. IF THE ENVIRONMENTAL MONITOR IS NOTIFIED BY THE CONTRACTOR OF A SEDIMENT RELEASE, AN INSPECTION WILL BE SCHEDULED SPECIFICALLY TO INVESTIGATE AND EVALUATE POSSIBLE IMPACTS TO WETLAND RESOURCES.

e. THIRD PARTY MONITORING OF SEDIMENTATION AND EROSION CONTROLS WILL BE PERFORMED BY OTHER PARTIES, AS NECESSARY, UNDER APPLICABLE LOCAL, STATE AND/OR FEDERAL REGULATIONS AND PERMIT CONDITIONS.

f. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED WITHIN 100 FEET OF WETLAND OR VERNAL POOL RESOURCES.

g. ALL SILT FENCING AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS. IF FIBER ROLLS/WATTLES, STRAW BALES, OR OTHER NATURAL MATERIAL EROSION CONTROL PRODUCTS ARE USED, SUCH DEVICES WILL NOT BE LEFT IN PLACE TO BIODEGRADE AND SHALL BE PROMPTLY REMOVED AFTER SOILS ARE STABLE SO AS NOT TO CREATE A BARRIER TO WILDLIFE MOVEMENT. SEED FROM SEEDING OF SOILS SHOULD NOT SPREAD OVER FIBER ROLLS/WATTLES AS IT MAKES THEM HARDER TO REMOVE ONCE SOILS ARE STABILIZED BY VEGETATION.

3. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION

a. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL DUE TO THE PROJECT'S LOCATION IN PROXIMITY TO WETLAND AND VERNAL POOL RESOURCES.

b. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

c. SERVICING OF MACHINERY SHALL NOT OCCUR WITHIN 100 FEET OF WETLANDS.

d. AT A MINIMUM, THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.

i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING
1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.

2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS.

ii. INITIAL SPILL RESPONSE PROCEDURES
1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
2. REMOVE ANY SOURCES OF SPARK OR FLAME.
3. CONTAIN THE SOURCE OF THE SPILL.
4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WETLANDS AND VERNAL POOL.
6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.

iii. SPILL CLEAN UP & CONTAINMENT
1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ON-SITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
4. CONTACT APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

iv. REPORTING
1. COMPLETE AN INCIDENT REPORT.
2. SUBMIT A COMPLETED INCIDENT REPORT TO LOCAL, STATE AND FEDERAL AGENCIES, AS NECESSARY, INCLUDING THE CONNECTICUT SITING COUNCIL.

4. WETLAND AND VERNAL POOL PROTECTIVE MEASURES

a. A THOROUGH COVER SEARCH OF THE CONSTRUCTION AREA WILL BE PERFORMED BY APT'S ENVIRONMENTAL MONITOR PRIOR TO AND FOLLOWING INSTALLATION OF THE SILT FENCING BARRIER TO REMOVE ANY WILDLIFE FROM THE WORK ZONE PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES. ANY WILDLIFE DISCOVERED WOULD BE TRANSLOCATED OUTSIDE THE WORK ZONE IN THE GENERAL DIRECTION THE ANIMAL WAS ORIENTED. PERIODIC INSPECTIONS WILL BE PERFORMED BY APT'S ENVIRONMENTAL MONITOR THROUGHOUT THE DURATION OF THE CONSTRUCTION, GENERALLY ON A MONTHLY BASIS.

b. ANY STORMWATER MANAGEMENT FEATURES, RUTS OR ARTIFICIAL DEPRESSIONS THAT COULD HOLD WATER CREATED INTENTIONALLY OR UNINTENTIONALLY BY SITE CLEARING/CONSTRUCTION ACTIVITIES WILL BE PROPERLY FILLED IN AND PERMANENTLY STABILIZED WITH VEGETATION TO AVOID THE CREATION OF "DECOY POOLS" THAT COULD INTERCEPT AMPHIBIANS POTENTIALLY MOVING THROUGH THE PROJECT AREA. STORMWATER MANAGEMENT FEATURES SUCH AS LEVEL SPREADERS WILL BE CAREFULLY REVIEWED IN THE FIELD TO ENSURE THAT STANDING WATER DOES NOT ENDURE FOR MORE THAN A 24-HOUR PERIOD TO AVOID CREATION OF DECOY POOLS AND MAY BE SUBJECT TO FIELD DESIGN CHANGES. ANY SUCH PROPOSED DESIGN CHANGES WILL BE REVIEWED BY THE DESIGN ENGINEER TO ENSURE STORMWATER MANAGEMENT FUNCTIONS ARE MAINTAINED.

c. EROSION CONTROL MEASURES WILL BE REMOVED NO LATER THAN 30 DAYS FOLLOWING FINAL SITE STABILIZATION SO AS NOT TO IMPEDE WILDLIFE MOVEMENTS.

5. HERBICIDE, PESTICIDE, AND SALT RESTRICTIONS

a. THE USE OF HERBICIDES AND PESTICIDES AT THE FACILITY SHALL BE MINIMIZED. IF HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE FACILITY, THEIR USE WILL BE USED IN ACCORDANCE WITH CURRENT INTEGRATED PEST MANAGEMENT ("IPM") PRINCIPLES WITH PARTICULAR ATTENTION TO AVOID/MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND AND VERNAL POOL RESOURCES.

b. MAINTENANCE OF THE FACILITY DURING THE WINTER MONTHS SHALL NOT INCLUDE THE APPLICATION OF SALT OR SIMILAR PRODUCTS FOR MELTING SNOW OR ICE.

6. REPORTING

a. COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) DOCUMENTING EACH APT INSPECTION WILL BE SUBMITTED BY APT TO THE PERMITTEE AND ITS CONTRACTOR FOR COMPLIANCE VERIFICATION OF THESE PROTECTION MEASURES. THESE REPORTS ARE NOT TO BE USED TO DOCUMENT COMPLIANCE WITH ANY OTHER PERMIT AGENCY APPROVAL CONDITIONS (I.E., DEEP STORMWATER PERMIT MONITORING, ETC.). ANY NON-COMPLIANCE OBSERVATIONS OF EROSION CONTROL MEASURES OR EVIDENCE OF EROSION OR SEDIMENT RELEASE WILL BE IMMEDIATELY REPORTED TO THE PERMITTEE AND ITS CONTRACTOR AND INCLUDED IN THE REPORTS ALONG WITH ANY OBSERVATIONS OF VERNAL POOL HERPETOFAUNA.

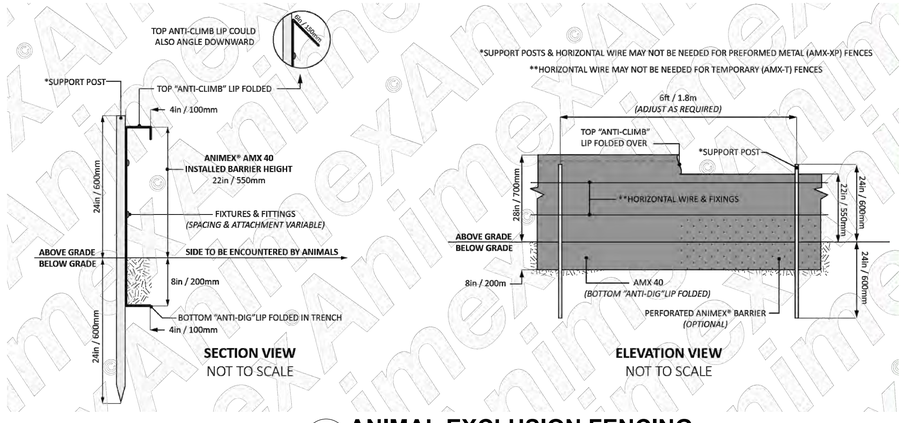
b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A FINAL COMPLIANCE MONITORING REPORT TO THE PERMITTEE DOCUMENTING IMPLEMENTATION OF THE WETLAND AND VERNAL POOL PROTECTION PROGRAM AND MONITORING OBSERVATIONS. THE PERMITTEE IS RESPONSIBLE FOR PROVIDING A COPY OF THE FINAL COMPLIANCE MONITORING REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

c. ANY OBSERVATIONS OF RARE SPECIES WILL BE REPORTED TO CTDEEP BY APT, WITH PHOTO-DOCUMENTATION (IF POSSIBLE) AND WITH SPECIFIC INFORMATION ON THE LOCATION AND DISPOSITION OF THE ANIMAL.

Vernal Pool Terrestrial Enhancement Area
(1.1 Acres)

Common Name	Latin Name	Sizing	Spacing*	Quantity
Shrubs				
Grey Dogwood	Cornus racemosa	3-4'	available locations	150
Black Chokeberry	Aronia melanocarpa	3-4'	available locations	150
Nannyberry	Viburnum lentago	3-4'	available locations	150
Serviceberry	Amelanchier canadensis	3-4'	available locations	150
Undersow with ERNMX-610 (See Sheet DN-1 for spec) at the manufacturer's recommended seeding rate and protected with a weed-free straw mulch.				
* shrub plantings to occur in spaced groupings interspshrub planting locations to occur in natural patterns spaced in groupings in available areas resulting from removal of invasive shrubs and among * shrub planting locations to occur in natural patterns spaced in groupings in available areas resulting from removal of invasive shrubs and among existing native shrubs.				

1 EN-1 **ENHANCEMENT AREA PLANT SCHEDULE**
SCALE : N.T.S.



2 EN-1 **ANIMAL EXCLUSION FENCING**
SCALE : N.T.S.

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET		
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NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

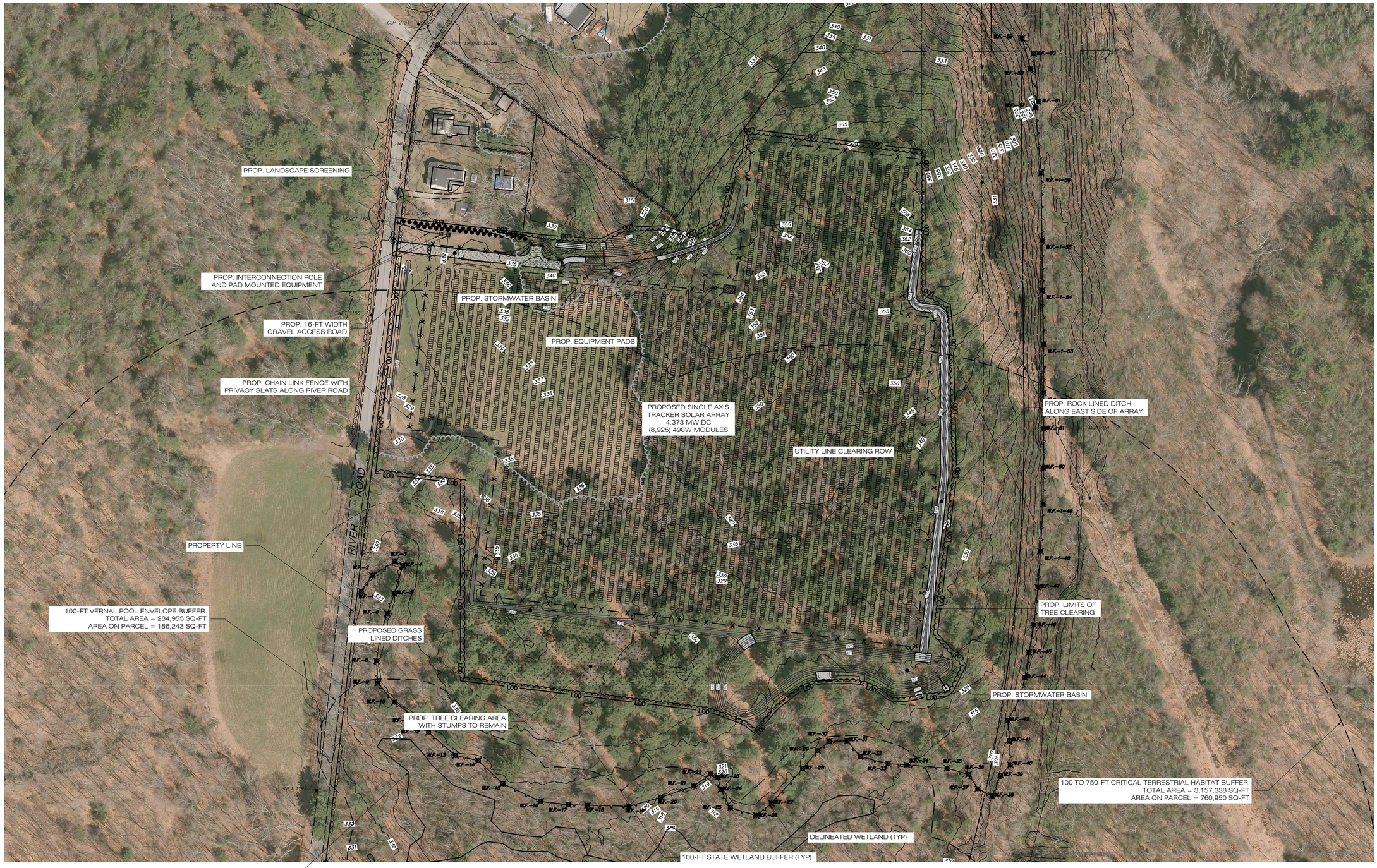
OWNER: SYLVIA HANKEN R.I.T.
ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC
SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260
APT FILING NUMBER: CT710100
DRAWN BY: KAM
DATE: 07/27/22
CHECKED BY: JT

SHEET TITLE:
ENVIRONMENTAL NOTES

SHEET NUMBER:
EN-1

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25977 · LICENSED PROFESSIONAL ENGINEER



1 OP-1 **OVERALL SITE PLAN**
SCALE : 1" = 80'-0"

80 0 40 80 160
(IN FEET) 1 inch = 80 ft.

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DATE: 07/27/22 CHECKED BY: JT

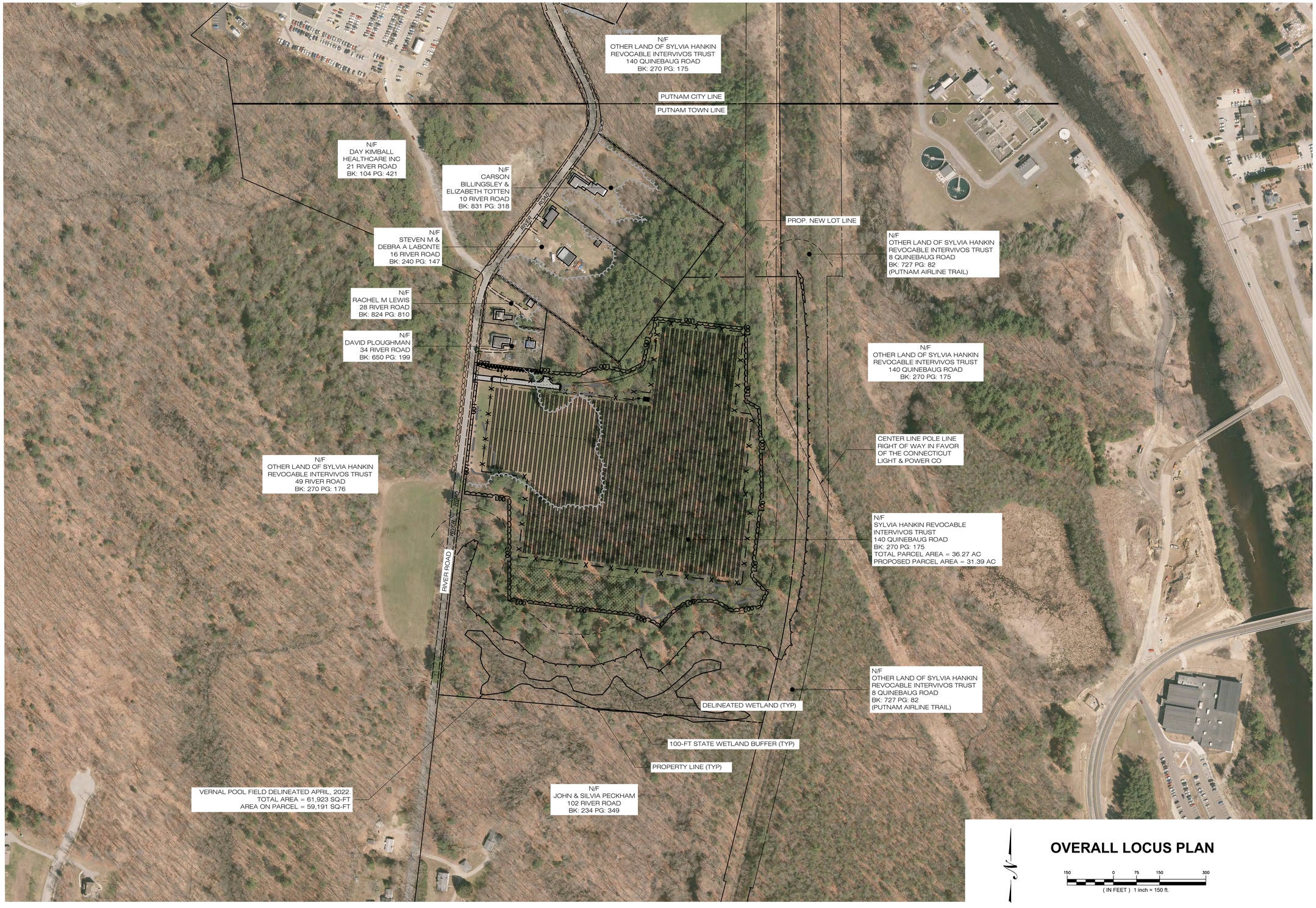
SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

OP-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



OVERALL LOCUS PLAN

150 0 75 150 300

(IN FEET) 1 inch = 150 ft.

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APT FILING NUMBER: CT710100

DRAWN BY: KAM

DATE: 07/27/22

CHECKED BY: JT

SHEET TITLE: **OVERALL LOCUS PLAN**

SHEET NUMBER: **OP-2**

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

1. THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE TOWN OF PUTNAM, PERMITTEE, AND/OR SWPCP MONITOR. ALL PERIMETER SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.

2. THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. SEE CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS, AS REQUIRED, AND AS DIRECTED BY THE PERMITTEE AND/OR SWPCP MONITOR. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.

3. A BOND OR LETTER OF CREDIT MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.

4. THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.

5. THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR INSTALLED SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS AS NECESSARY IN A TIMELY MANOR.

6. THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (SILT FENCE, COMPOST FILTER SOCK, EROSION CONTROL BLANKET, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.

7. ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.

8. PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING, ORANGE SAFETY FENCE, CONSTRUCTION TAPE, OR EQUIVALENT FENCING/TAPE. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.

9. CONSTRUCTION ENTRANCES (ANTI-TRACKING PADS) SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION IF REQUIRED. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED. CONTRACTOR SHALL ENSURE THAT ALL VEHICLES EXITING THE SITE ARE PASSING OVER THE ANTI-TRACKING PADS PRIOR TO EXISTING.

10. ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER.

11. NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS. ALL SLOPES SHALL BE SEEDED AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.

12. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE CONFORMING TO THE GUIDELINES WITHIN THE APPROVED LIMIT OF DISTURBANCE IF REQUIRED. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE PERMITTEE OR MUNICIPALITY.

13. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES AND SECURED APPROPRIATELY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.

14. MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.

15. SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.

16. VEGETATIVE ESTABLISHMENT SHALL OCCUR ON ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION, IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.

17. MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP CONCRETE PADS, CLEAN THE STORMWATER MANAGEMENT SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM PERMITTEE OR THE MUNICIPALITY.

18. SEEDING MIXTURES SHALL BE AS SPECIFIED ON DETAILS SHEET DN-1, OR APPROVED EQUAL BY OWNER.

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
COMPOST FILTER SOCK	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR/REPLACE WHEN FAILURE OR DETERIORATION IS OBSERVED.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR/REPLACE WHEN FAILURE OR DETERIORATION IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
TEMPORARY SEDIMENT BASIN (W/ BAFFLES)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REMOVE SEDIMENT ONCE IT HAS ACCUMULATED TO ONE HALF OF MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATERING AS NEEDED. RESTORE TRAP TO ORIGINAL DIMENSIONS. REPAIR/REPLACE BAFFLES WHEN FAILURE OR DETERIORATION IS OBSERVED.
TEMPORARY SEDIMENT TRAP (W/ BAFFLES)	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.5"	REMOVE SEDIMENT ONCE IT HAS ACCUMULATED TO ONE HALF OF MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATERING AS NEEDED. RESTORE TRAP TO ORIGINAL DIMENSIONS. REPAIR/REPLACE BAFFLES WHEN FAILURE OR DETERIORATION IS OBSERVED.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.25"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.

SEDIMENT & EROSION CONTROL NARRATIVE

1. THE PROJECT INVOLVES THE CONSTRUCTION OF A GROUND MOUNTED SOLAR PANEL FACILITY WITH ASSOCIATED EQUIPMENT.

THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:

A. GRADING FOR ACCESS ROAD AND DRAINAGE INSTALLATION PLUS TREE CLEARING.
B. CONSTRUCTION OF GROUND MOUNTED SOLAR PANELS AND ASSOCIATED EQUIPMENT.
B. THE STABILIZATION OF DISTURBED AREAS WITH PERMANENT VEGETATIVE TREATMENTS.

2. FOR THIS PROJECT, THERE ARE APPROXIMATELY 16.9± ACRE OF THE SITE BEING DISTURBED WITH NEGLIGIBLE INCREASE IN THE IMPERVIOUS AREA OF THE SITE, AS ALL ACCESS THOUGH THE SITE WILL BE GRAVEL. IMPERVIOUS AREAS ARE LIMITED TO THE CONCRETE PADS FOR ELECTRICAL EQUIPMENT.

3. THE PROJECT SITE, AS MAPPED IN THE SOIL SURVEY OF STATE OF CONNECTICUT (NRCS, VERSION 19, SEP 13, 2019), CONTAINS MAP UNITS 3 (HYDROLOGIC SOIL GROUP D), 38 (HYDROLOGIC SOIL GROUP A), 29, 60, 62, AND 73 (HYDROLOGIC SOIL GROUP B) SOILS. A GEOTECHNICAL ENGINEERING REPORT HAS NOT BEEN COMPLETED.

4. IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 3-4 MONTHS.

5. REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.

6. STORMWATER MANAGEMENT DESIGN CRITERIA UTILIZES THE APPLICABLE SECTIONS OF THE 2004 CONNECTICUT STORMWATER QUALITY MANUAL AND THE TOWN OF PUTNAM STANDARDS, TO THE EXTENT POSSIBLE AND PRACTICABLE FOR THIS PROJECT ON THIS SITE. EROSION AND SEDIMENTATION MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE CONNECTICUT EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS, LATEST EDITION.

7. DETAILS FOR THE TYPICAL STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON THE PLAN SHEETS OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.

8. CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION:
   A. STAGED CONSTRUCTION;
   B. MINIMIZE THE DISTURBED AREAS TO THE EXTENT PRACTICABLE DURING CONSTRUCTION;
   C. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT MEASURES AS SOON AS POSSIBLE, BUT NO LATER THAN 7-DAYS FOLLOWING DISTURBANCE;
   D. MINIMIZE IMPERVIOUS AREAS;
   E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

9. THE FOLLOWING SEPARATE DOCUMENTS ARE TO BE CONSIDERED A PART OF THE EROSION AND SEDIMENTATION PLAN:
   A. STORMWATER MANAGEMENT REPORT DATED JUNE 2022.
   B. SWPCP (TO BE ISSUED PRIOR TO CONSTRUCTION).

SUGGESTED CONSTRUCTION SEQUENCE:
THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS. SHOULD THE CONTRACTOR ALTER THE CONSTRUCTION SEQUENCE OR ANY EROSION AND SEDIMENTATION CONTROL MEASURES THEY SHALL MODIFY THE STORMWATER POLLUTION CONTROL PLAN ("SWPCP") AS REQUIRED BY THE GENERAL PERMIT. MAJOR CHANGES IN SEQUENCING AND/OR METHODS MAY REQUIRE REGULATORY APPROVAL PRIOR TO IMPLEMENTATION.

1. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE LIMITS OF DISTURBANCE IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.

2. CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNERS REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.

3. NOTIFY CALL BEFORE YOU DIG AT 1-800-922-4455, AS REQUIRED, PRIOR TO THE START OF CONSTRUCTION.

4. REMOVE EXISTING IMPEDIMENTS AS NECESSARY AND PROVIDE MINIMAL CLEARING AND GRUBBING TO INSTALL THE REQUIRED CONSTRUCTION ENTRANCE.

5. INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES. ALL WETLAND AREAS SHALL BE PROTECTED BEFORE MAJOR CONSTRUCTION BEGINS.

6. INSTALL AND STABILIZE THE DIVERSION DITCHING, STORMWATER BASINS, AND OUTLET CONTROL STRUCTURES PER THE DETAILS AND PLAN.

7. CLEAR TREES ON SITE, REMOVE STUMPS IN RELEVANT AREAS, STABILIZE OPEN SOILS WITH SEED MIXES SPECIFIED.

8. TEMPORARILY SEED DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.

9. INSTALL RACKING POSTS FOR GROUND MOUNTED SOLAR PANELS.

10. INSTALL GROUND MOUNTED SOLAR PANELS AND COMPLETE ELECTRICAL INSTALLATION.

11. AFTER SUBSTANTIAL COMPLETION OF THE INSTALLATION OF THE SOLAR PANELS, COMPLETE REMAINING SITE WORK, INCLUDING THE FENCING, EQUIPMENT PADS, AND INTERCONNECTION RUN. STABILIZE ALL DISTURBED AREAS.

12. FINE GRADE, RAKE, SEED, AND MULCH ALL REMAINING DISTURBED AREAS.

13. AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE PERMITTEE AND TOWN OF PUTNAM AGENT, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.

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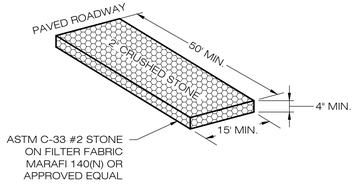
DATE: 07/27/22
CHECKED BY: JT

SHEET TITLE:
SEDIMENTATION & EROSION CONTROL NOTES

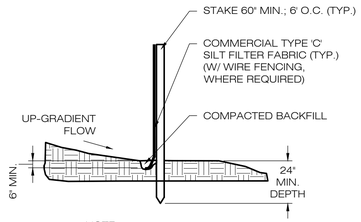
SHEET NUMBER:
EC-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



1 EC-2 CONSTRUCTION ENTRANCE DETAIL

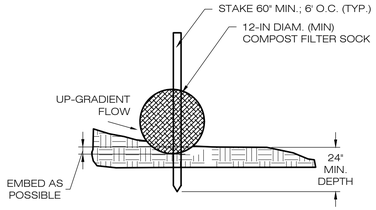
SCALE : N.T.S.



NOTE:
SILT FENCE SHALL BE LAPPED ONLY WHEN NECESSARY PER THE MANUFACTURER RECOMMENDATIONS.

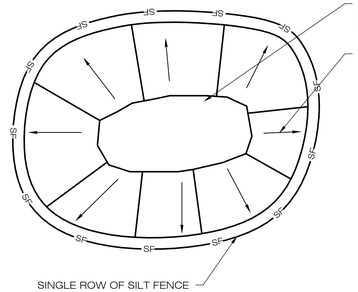
2 EC-2 SILT FENCE DETAIL

SCALE : N.T.S.



3 EC-2 COMPOST FILTER SOCK DETAIL

SCALE : N.T.S.



NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.

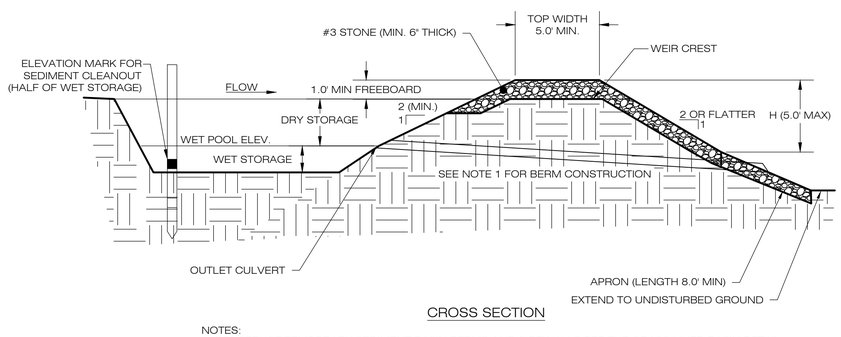
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.

3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

4 EC-2 MATERIALS STOCKPILE DETAIL

SCALE : N.T.S.

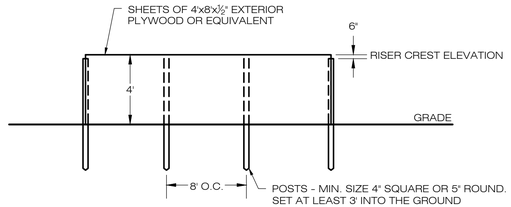


CROSS SECTION

NOTES:
1. CONSTRUCT TEMPORARY SEDIMENT BASIN BERMS AND SIDEWALLS PER THE GRASS LINED BASIN DETAIL.
2. SEDIMENT BAFFLES SHALL BE INSTALLED AS SHOWN ON PLAN VIEW SHEETS.
3. SEE TSB SIZING TABLE FOR WET AND DRY STORAGE VOLUMES.

5 EC-2 TEMPORARY SEDIMENT BASIN

SCALE : N.T.S.



6 EC-2 SEDIMENT TRAP BAFFLE

SCALE : N.T.S.

TEMPORARY SEDIMENT TRAP & BASIN SIZING TABLE

TRAP/BASIN NAME	DRAINAGE AREA (AC)	REQ. DRY VOLUME (CF)	REQ. WET VOLUME (CF)	PROP. BTM. ELEV. (FT)	PROP. CULVERT ELEV. (FT)	PROP. WEIR CREST ELEV. (FT)	PROP. TOP ELEV. (FT)	DRY VOL. PROVIDED (CF)	WET VOL. PROVIDED (CF)	TOTAL VOL. PROVIDED (CF)
TST-1	1.67	224	112	328.0	NA	329.5	330.0	6,590	9,205	15,795
TST-2	2.52	338	169	330.0	332.5	334.5	335.0	5,257	2,973	8,230
TSB-3	10.79	3,555	7,110	321.0	322.0	323.5	325.0	30,251	16,950	47,201

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

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0	07/27/22	ISSUED FOR PERMIT: KAM
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DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.

ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

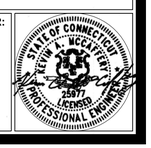
APT FILING NUMBER: CT710100

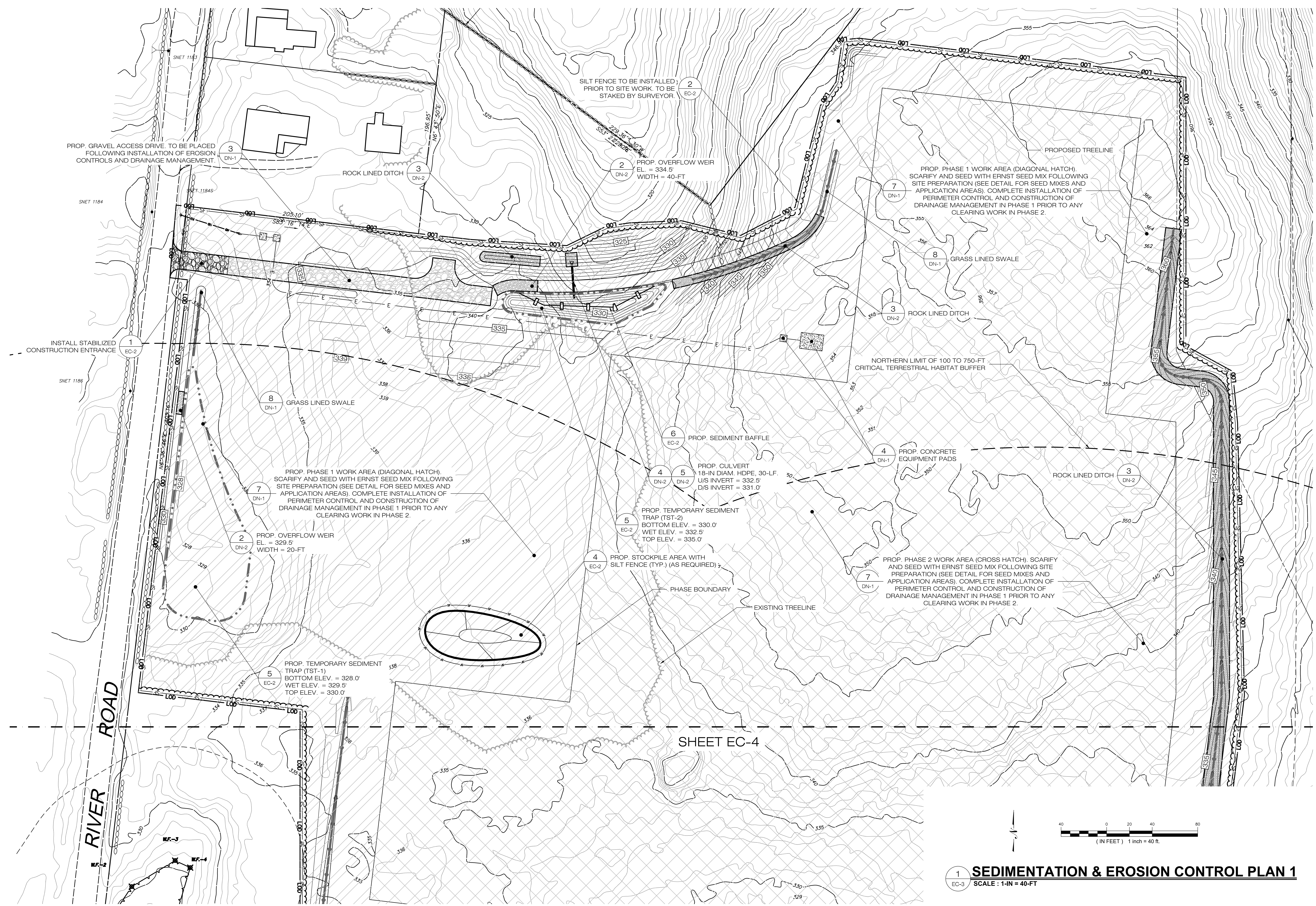
DRAWN BY: KAM

DATE: 07/27/22 CHECKED BY: JT

SHEET TITLE:
SEDIMENTATION & EROSION CONTROL DETAILS

SHEET NUMBER:
EC-2




SILT FENCE TO BE INSTALLED PRIOR TO SITE WORK. TO BE STAKED BY SURVEYOR. 2 EC-2
PROP. GRAVEL ACCESS DRIVE. TO BE PLACED FOLLOWING INSTALLATION OF EROSION CONTROLS AND DRAINAGE MANAGEMENT. 3 DN-1
ROCK LINED DITCH 3 DN-2
2 DN-2 PROP. OVERFLOW WEIR EL. = 334.5' WIDTH = 40-FT
PROPOSED TREELINE
7 DN-1 PROP. PHASE 1 WORK AREA (DIAGONAL HATCH). SCARIFY AND SEED WITH ERNST SEED MIX FOLLOWING SITE PREPARATION (SEE DETAIL FOR SEED MIXES AND APPLICATION AREAS). COMPLETE INSTALLATION OF PERIMETER CONTROL AND CONSTRUCTION OF DRAINAGE MANAGEMENT IN PHASE 1 PRIOR TO ANY CLEARING WORK IN PHASE 2.
8 DN-1 GRASS LINED SWALE
3 DN-2 ROCK LINED DITCH
INSTALL STABILIZED CONSTRUCTION ENTRANCE 1 EC-2
NORTHERN LIMIT OF 100 TO 750-FT CRITICAL TERRESTRIAL HABITAT BUFFER
8 DN-1 GRASS LINED SWALE
6 EC-2 PROP. SEDIMENT BAFFLE
4 DN-1 PROP. CONCRETE EQUIPMENT PADS
4 DN-2 5 DN-2 PROP. CULVERT 18-IN DIAM. HDPE, 30-LF. U/S INVERT = 332.5' D/S INVERT = 331.0'
ROCK LINED DITCH 3 DN-2
7 DN-1 PROP. PHASE 1 WORK AREA (DIAGONAL HATCH). SCARIFY AND SEED WITH ERNST SEED MIX FOLLOWING SITE PREPARATION (SEE DETAIL FOR SEED MIXES AND APPLICATION AREAS). COMPLETE INSTALLATION OF PERIMETER CONTROL AND CONSTRUCTION OF DRAINAGE MANAGEMENT IN PHASE 1 PRIOR TO ANY CLEARING WORK IN PHASE 2.
5 EC-2 PROP. TEMPORARY SEDIMENT TRAP (TST-2) BOTTOM ELEV. = 330.0' WET ELEV. = 332.5' TOP ELEV. = 335.0'
2 DN-2 PROP. OVERFLOW WEIR EL. = 329.5' WIDTH = 20-FT
4 EC-2 PROP. STOCKPILE AREA WITH SILT FENCE (TYP.) (AS REQUIRED)
PHASE BOUNDARY
EXISTING TREELINE
7 DN-1 PROP. PHASE 2 WORK AREA (CROSS HATCH). SCARIFY AND SEED WITH ERNST SEED MIX FOLLOWING SITE PREPARATION (SEE DETAIL FOR SEED MIXES AND APPLICATION AREAS). COMPLETE INSTALLATION OF PERIMETER CONTROL AND CONSTRUCTION OF DRAINAGE MANAGEMENT IN PHASE 1 PRIOR TO ANY CLEARING WORK IN PHASE 2.
5 EC-2 PROP. TEMPORARY SEDIMENT TRAP (TST-1) BOTTOM ELEV. = 328.0' WET ELEV. = 329.5' TOP ELEV. = 330.0'
RIVER ROAD
SHEET EC-4
SNET 1183
SNET 1184
SNET 1186
(IN FEET) 1 inch = 40 ft.

1 EC-3 **SEDIMENTATION & EROSION CONTROL PLAN 1**
SCALE : 1-IN = 40-FT

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

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COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.

ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

APT FILING NUMBER: CT710100

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DATE: 07/27/22 CHECKED BY: JT

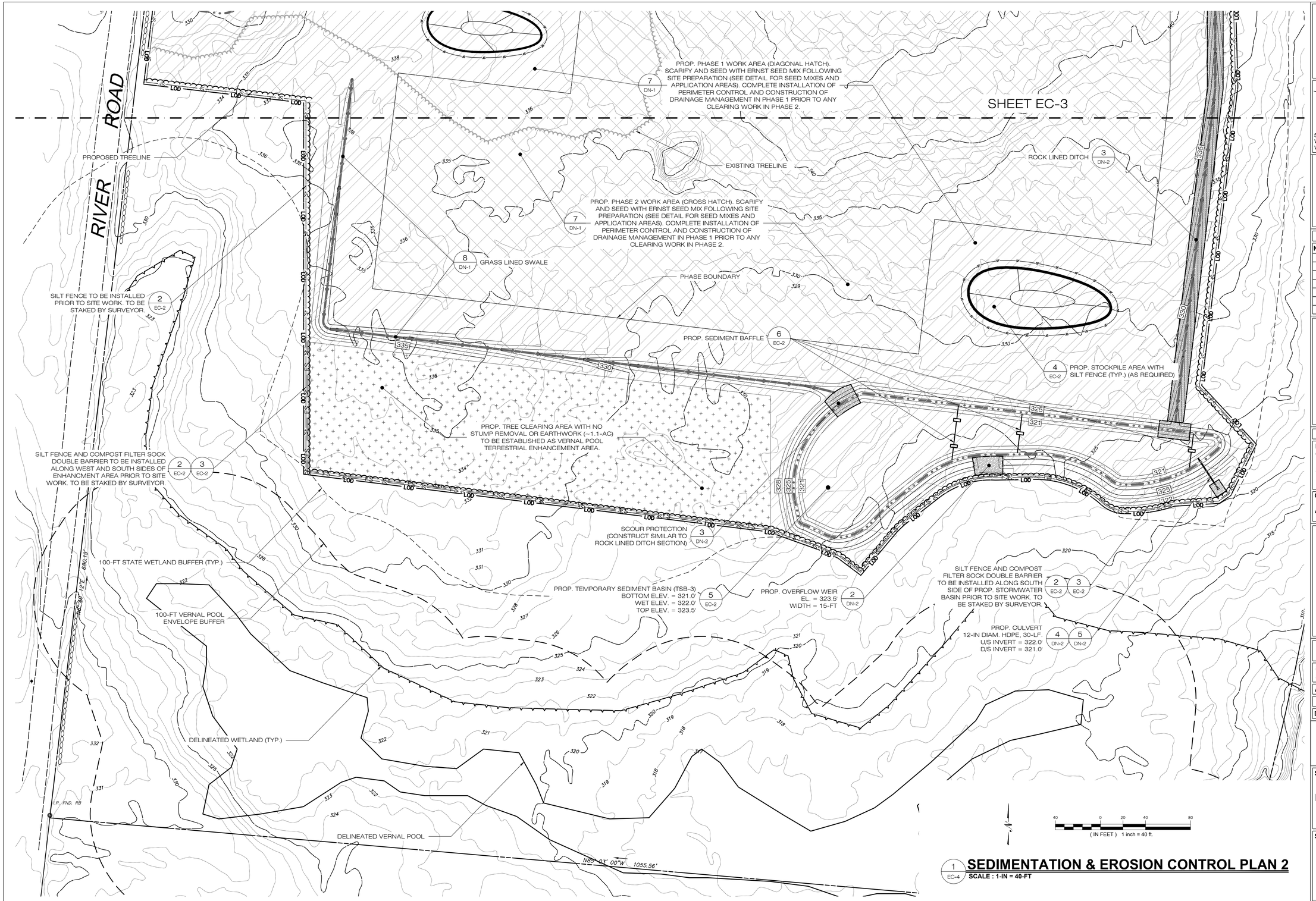
SHEET TITLE:

SEDIMENTATION & EROSION CONTROL PLAN (1 OF 2)

SHEET NUMBER:

EC-3

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25077 LICENSED PROFESSIONAL ENGINEER



1 EC-4 **SEDIMENTATION & EROSION CONTROL PLAN 2**
SCALE : 1-IN = 40-FT

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PUTNAM MEADOW SOLAR STATION, LLC

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SHEET TITLE:
SEDIMENTATION & EROSION CONTROL PLAN (2 OF 2)

SHEET NUMBER:
EC-4

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER

PROP. 16-FT WIDTH GRAVEL ACCESS DRIVE

3 DN-1

ROCK LINED DITCH

3 DN-2

2 DN-2 PROP. OVERFLOW WEIR
EL. = 334.5'
WIDTH = 40-FT

8 DN-1 GRASS LINED SWALE

3 DN-2 ROCK LINED DITCH

4 DN-2 5 DN-2 PROP. CULVERT
18-IN DIAM. HDPE, 30-LF.
U/S INVERT = 332.5'
D/S INVERT = 331.0'

1 DN-2 PROP. GRASS LINED BASIN 2
BOTTOM ELEV. = 330.0'
TOP ELEV. = 335.0'

4 DN-1 PROP. CONCRETE EQUIPMENT PADS

8 DN-1 GRASS LINED SWALE

2 DN-2 PROP. OVERFLOW WEIR
EL. = 329.5'
WIDTH = 20-FT

NORTHERN LIMIT OF 100 TO 750-FT
CRITICAL TERRESTRIAL HABITAT BUFFER

CONTRACTOR SHALL SEED AND MULCH ANY DISTURBED AREAS, SEE SEED MIX NOTES ON SHEET DN-1.

7 DN-1

1 DN-2 PROP. GRASS LINED BASIN 1
BOTTOM ELEV. = 328.0'
TOP ELEV. = 330.0'

SHEET GP-2

RIVER ROAD

SNET 1183

SNET 11845

SNET 1184

SNET 1186

W.F.-1 W.F.-2 W.F.-3 W.F.-4

40 0 20 40 80
(IN FEET) 1 inch = 40 ft.

1 GP-1 **GRADING AND DRAINAGE PLAN 1**
SCALE : 1-IN = 40-FT

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BOSTON, MA 02130

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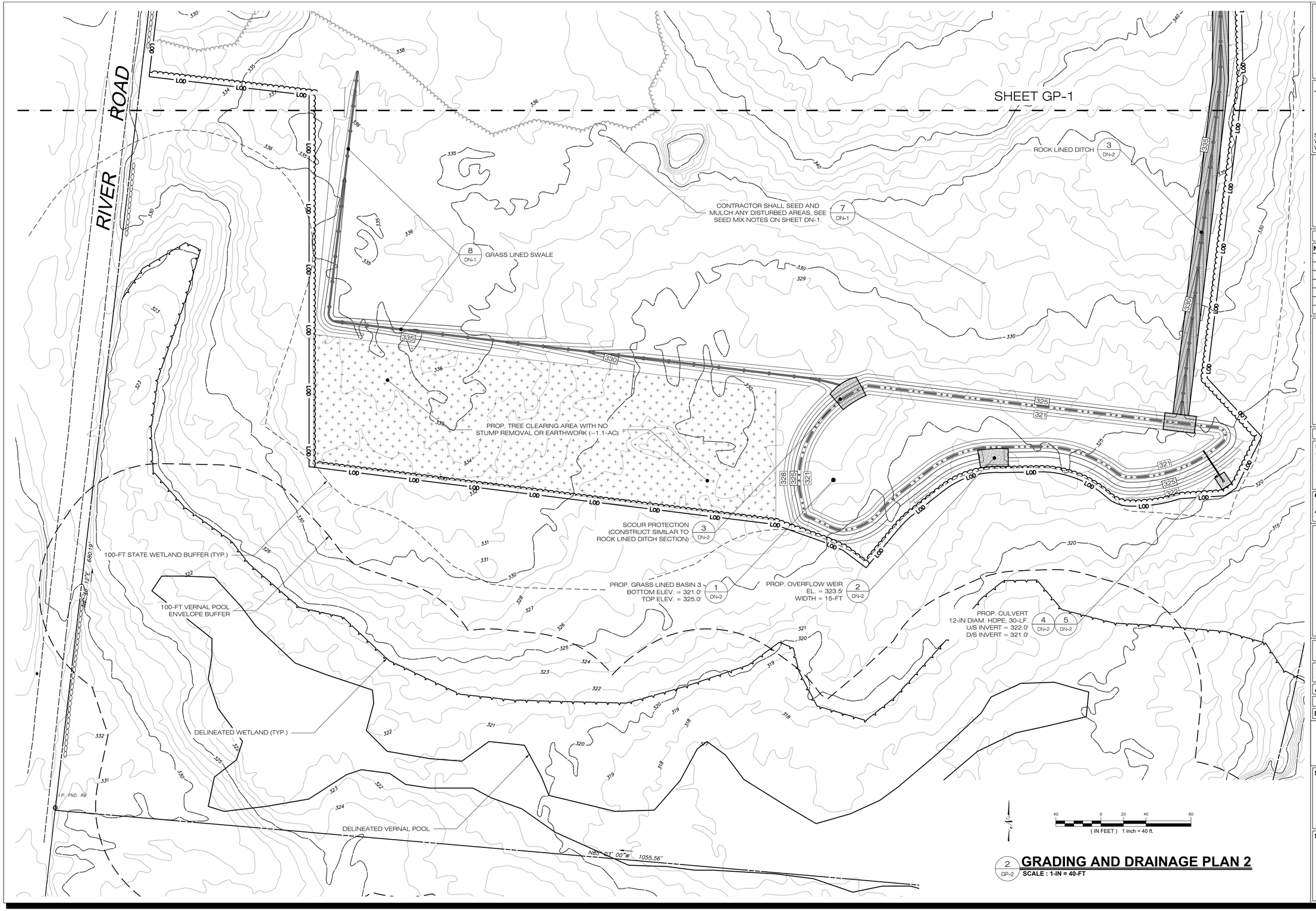
SHEET TITLE:
GRADING AND DRAINAGE PLAN (1 OF 2)

SHEET NUMBER:
GP-1

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



2 GRADING AND DRAINAGE PLAN 2

2 / GP-2 SCALE : 1-IN = 40-FT

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SUITE 100
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PUTNAM MEADOW SOLAR STATION, LLC

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SHEET TITLE:
GRADING AND DRAINAGE PLAN (2 OF 2)

SHEET NUMBER:
GP-2

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER

PROP. LANDSCAPING 6 DN-2
PROP. 16-FT WIDTH GRAVEL ACCESS DRIVE 3 DN-1
PROP. CHAINLINK FENCE GATE 5 DN-1
PROP. CHAINLINK FENCE GATE (8-FT HEIGHT W/ PRIVACY SLATS) 5 DN-1
GRASS LINED SWALE 8 DN-1
ROCK LINED DITCH 3 DN-2
PROP. CONCRETE EQUIPMENT PADS 4 DN-1
PROP. 7' HIGH CHAIN LINK FENCE 5 DN-1
UNDERGROUND ELECTRIC LINE 1 DN-1
PROP. 8' HIGH CHAINLINK FENCE WITH GREEN PRIVACY SLATS (BETWEEN TWO LEADERS) 5 DN-1
PROP. CONCRETE EQUIPMENT PADS 4 DN-1
ROCK LINED DITCH 3 DN-2
NORTHERN LIMIT OF 100 TO 750-FT CRITICAL TERRESTRIAL HABITAT BUFFER
PROPOSED SINGLE AXIS TRACKER SOLAR ARRAY 4.373 MW DC (8,925) 490W MODULES 2 DN-1
RIVER ROAD
SHEET SP-2
(IN FEET) 1 inch = 40 ft.

1 SP-1 **SITE AND UTILITY PLAN 1**
SCALE : 1-IN = 40-FT

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

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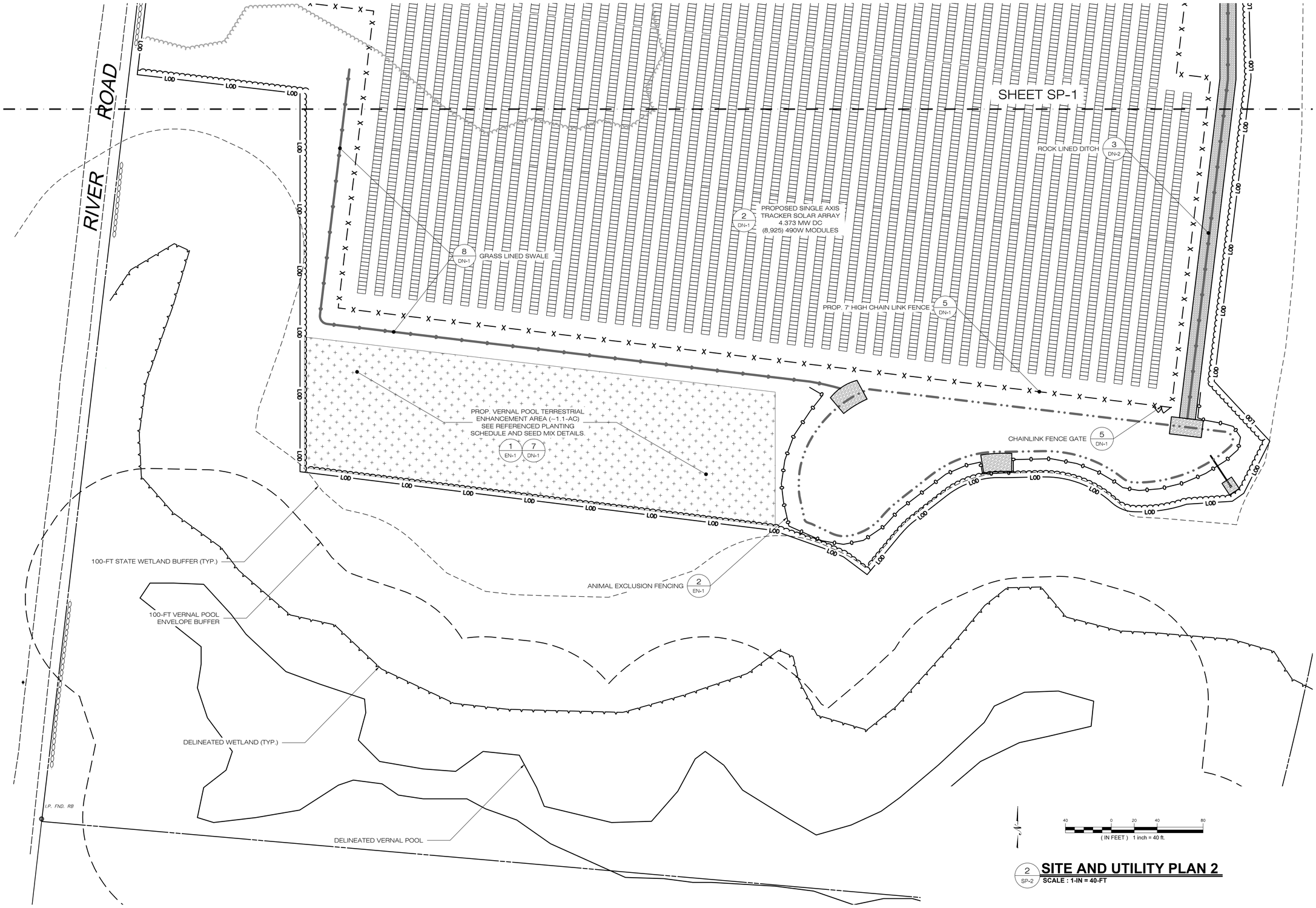
SHEET TITLE:

SITE AND UTILITY PLAN (1 OF 2)

SHEET NUMBER:

SP-1



2 SP-2 SITE AND UTILITY PLAN 2

SCALE : 1-IN = 40-FT

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SUITE 100
BOSTON, MA 02130

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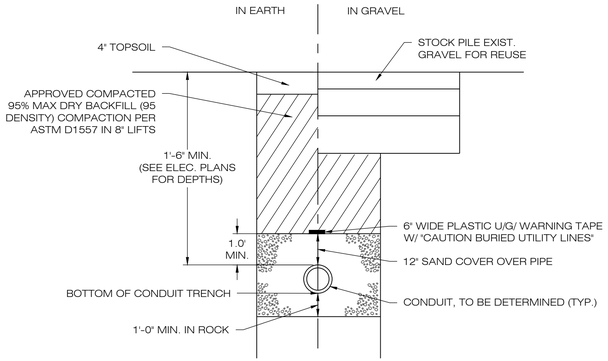
SHEET TITLE:

SITE AND UTILITY PLAN (2 OF 2)

SHEET NUMBER:

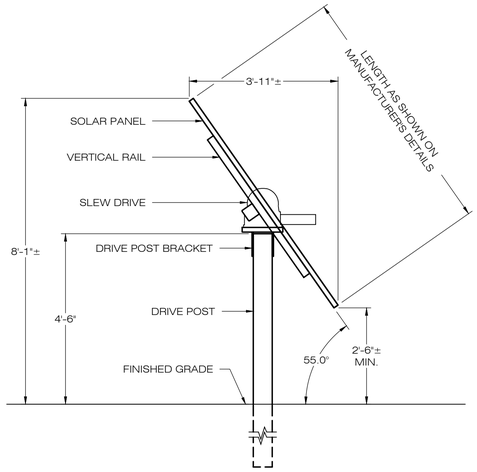
SP-2

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER



1 DN-1 ELECTRICAL TRENCH DETAIL

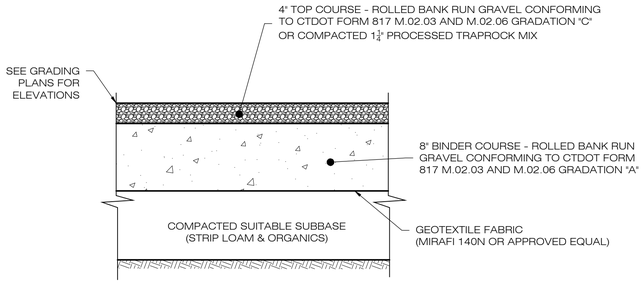
SCALE : N.T.S.



NOTES:
SEE MANUFACTURER'S DETAIL SHEETS FOR ADDITIONAL INFORMATION REGARDING RACKING SYSTEM REQUIREMENTS AND INSTALLATION PROCEDURES. RACKING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2 DN-1 TYPICAL TRACKER POST MOUNTED RACKING SYSTEM

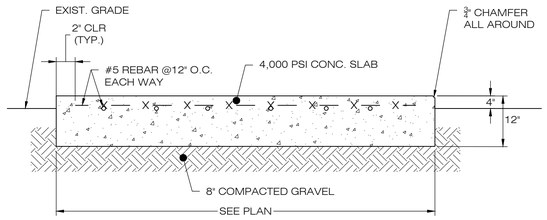
SCALE : N.T.S.



NOTES:
1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY.
2. SUBBASE IS TO BE FREE FROM DEBRIS AND UNSUITABLE MATERIALS.
3. CONTRACTOR SHALL INSTALL ACCESS ROAD FLUSH WITH EXISTING GRADE TO ENSURE DRAINAGE FLOW PATHS ARE MAINTAINED.
4. SEE PLAN VIEW SHEETS FOR ROAD WIDTH AND ELEVATIONS.

3 DN-1 GRAVEL ACCESS DRIVE SECTION

SCALE : N.T.S.



4 DN-1 CONCRETE EQUIPMENT PAD

SCALE : N.T.S.

5 DN-1 CHAIN-LINK FENCE & GATE DETAIL

SCALE : N.T.S.

Fuzz & Buzz Mix - Premium - ERNMX-147

	Botanical Name	Common Name	Price/lb
24.20 %	*Lolium perenne, 'Crave', Tetraploid*	Perennial Ryegrass, 'Crave', Tetraploid	3.48
17.70 %	*Dactylis glomerata, 'Pennlate'*	Orchardgrass, 'Pennlate'	3.00
17.70 %	*Festuca elatior*	Meadow Fescue	4.80
17.70 %	*Poa pratensis, 'Ginger'*	Kentucky Bluegrass, 'Ginger' (pasture type)	3.36
5.40 %	*Trifolium hybridum*	Alsike Clover	3.90
4.90 %	*Trifolium incarnatum, Variety Not Stated*	Crimson Clover, Variety Not Stated	1.92
4.50 %	*Trifolium pratense, Medium, Variety Not Stated*	Red Clover, Medium, Variety Not Stated	3.00
2.00 %	*Lotus corniculatus, 'Leo'*	Bird's Foot Trefoil, 'Leo'	7.50
1.30 %	*Chrysanthemum leucanthemum*	Oxeye Daisy	33.60
1.30 %	*Cichorium intybus*	Blue Chicory	19.20
0.80 %	*Chamaecrista fasciculata, PA Ecotype*	Partridge Pea, PA Ecotype	7.20
0.40 %	*Aster oblongifolius, PA Ecotype*	Aromatic Aster, PA Ecotype	336.00
0.40 %	*Aster prenanthoides, PA Ecotype*	Zigzag Aster, PA Ecotype	432.00
0.40 %	*Coreopsis lanceolata*	Lanceleaf Coreopsis	28.80
0.40 %	*Tradescantia ohiensis, PA Ecotype*	Ohio Spiderwort, PA Ecotype	192.00
0.40 %	*Tzia aurea*	Golden Alexanders	288.00
0.30 %	*Solidago nemoralis, PA Ecotype*	Gray Goldenrod, PA Ecotype	336.00
0.10 %	*Asclepias syriaca*	Common Milkweed	163.20
0.10 %	*Penstemon hirsutus*	Hairy Beardtongue	480.00
100.00 %		**Mix Price/lb Bulk:**	**$10.91**

Seeding Rate: Expect to apply about 42 lbs per acre with a cover crop of annual ryegrass at 12 lbs/acre.

Northeast Solar Pollinator Buffer Mix - ERNMX-610

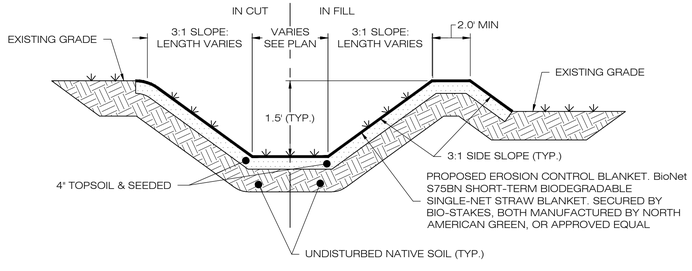
	Botanical Name	Common Name	Price/lb
37.00 %	*Schizachyrium scoparium, 'Camper'*	Little Bluestem, 'Camper'	15.90
36.30 %	*Bouteloua curtipendula, Butte*	Sideoats Grama, Butte	14.11
4.00 %	*Chamaecrista fasciculata, PA Ecotype*	Partridge Pea, PA Ecotype	7.20
4.00 %	*Coreopsis lanceolata*	Lanceleaf Coreopsis	28.80
4.00 %	*Echinacea purpurea*	Purple Coneflower	43.20
3.30 %	*Rudbeckia hirta*	Blackeyed Susan	24.00
2.30 %	*Heliopsis helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype	33.60
1.60 %	*Penstemon digitalis, PA Ecotype*	Tall White Beardtongue, PA Ecotype	192.00
1.50 %	*Asclepias tuberosa*	Butterfly Milkweed	432.00
0.80 %	*Liatris spicata*	Marsh Blazing Star	252.00
0.70 %	*Senna hebecarpa, VA & WV Ecotype*	Wild Senna, VA & WV Ecotype	28.80
0.50 %	*Asclepias incarnata, PA Ecotype*	Swamp Milkweed, PA Ecotype	192.00
0.50 %	*Geum canadense, PA Ecotype*	White Avens, PA Ecotype	192.00
0.50 %	*Monarda fistulosa, Fort Indiantown Gap-PA Ecotype*	Wild Bergamot, Fort Indiantown Gap-PA Ecotype	120.00
0.50 %	*Pycnanthemum tenuifolium*	Narrowleaf Mountainmint	168.00
0.50 %	*Tzia aurea*	Golden Alexanders	288.00
0.40 %	*Aster laevis, NY Ecotype*	Smooth Blue Aster, NY Ecotype	336.00
0.40 %	*Aster novae-angliae, PA Ecotype*	New England Aster, PA Ecotype	336.00
0.30 %	*Baptisia australis, Southern WV Ecotype*	Blue False Indigo, Southern WV Ecotype	96.00
0.30 %	*Tradescantia ohiensis, PA Ecotype*	Ohio Spiderwort, PA Ecotype	192.00
0.20 %	*Oenothera fruticosa var. fruticosa*	Sundrops	360.00
0.20 %	*Solidago nemoralis, PA Ecotype*	Gray Goldenrod, PA Ecotype	336.00
0.10 %	*Aster prenanthoides, PA Ecotype*	Zigzag Aster, PA Ecotype	432.00
0.10 %	*Veronicastrum virginicum, PA Ecotype*	Culver's Root, PA Ecotype	768.00
100.00 %		**Mix Price/lb Bulk:**	**$38.45**

Seeding Rate: Seed with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

7 DN-1 ERNST SEED MIXES

SCALE : N.T.S.

NOTE:
ERNMX-147 TO BE USED WITHIN ARRAY.
ERNMX-610 TO BE USED OUTSIDE FENCELINE AND IN NON-ARRAY AREAS (ROAD SHOULDERS, PERIMETER ALLEYS, ELECTRIC TRENCHES, ENHANCEMENT AREA, ETC.



SEED MIX TO BE NEWP NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES.

8 DN-1 GRASS LINED SWALE

SCALE : N.T.S.

New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites

Botanical Name	Common Name	Indicator
Elymus riparius	Riverbank Wild Rye	FACW
Schizachyrium scoparium	Little Bluestem	FACU
Festuca rubra	Red Fescue	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Vernonia noveboracensis	New York Ironweed	FACW+
Agrostis perennans	Upland Bentgrass	FACU
Bidens frondosa	Beggar Ticks	FACW
Eupatorium maculatum (Eutrochium maculatum)	Spotted Joe Pye Weed	OBL
Eupatorium perfoliatum	Boneset	FACW
Aster novae-angliae (Symphyotrichum novae-anglia	New England Aster	FACW-
Scirpus cyperinus	Wool Grass	FACW
Juncus effusus	Soft Rush	FACW+

PRICE PER LB. $37.00 MIN. QUANITY 3 LBS. **TOTAL:** $111.00 APPLY: 35 LBS/ACRE :1250 sq ft/lb

PUTNAM MEADOW SOLAR

IN CASE OF EMERGENCY CALL T.B.D.

NOTES:
EMERGENCY CALL NUMBER TO BE PROVIDED ONCE DETERMINED.

6 DN-1 NOTIFICATION SIGN DETAIL

SCALE : N.T.S.

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
0	07/27/22	ISSUED FOR PERMIT: KAM
1		
2		
3		
4		
5		
6		

NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.
ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

APT FILING NUMBER: CT710100

DRAWN BY: KAM
DATE: 07/27/22 CHECKED BY: JT

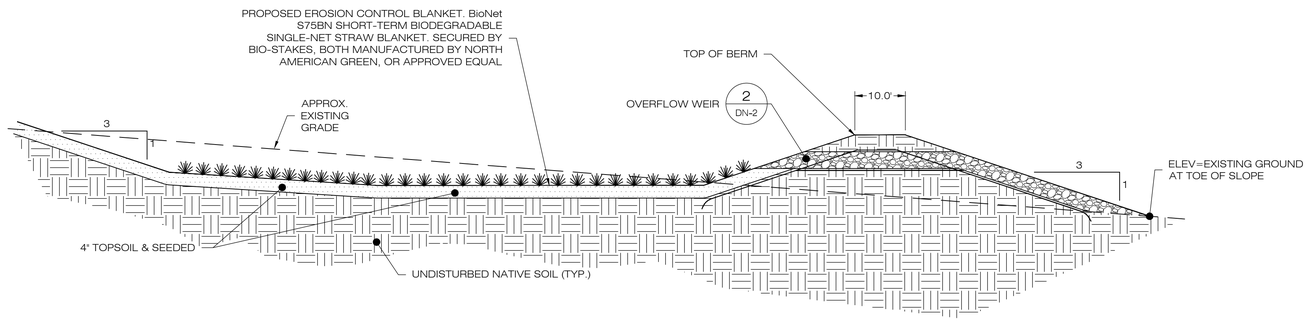
SHEET TITLE:

SITE DETAILS

SHEET NUMBER:

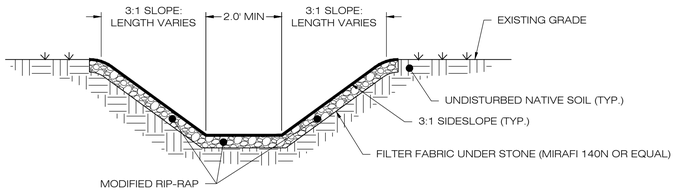
DN-1

STATE OF CONNECTICUT · KEVIN A. MCCAFFERY · 25971 · LICENSED PROFESSIONAL ENGINEER

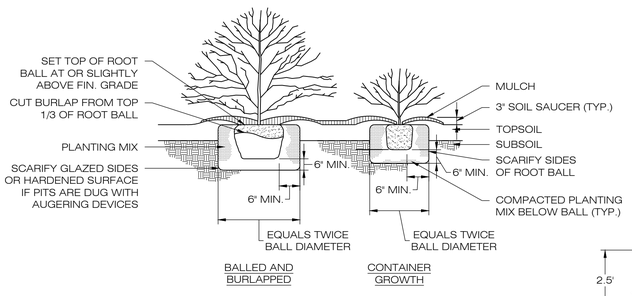


NOTES:
- SEED MIX TO BE NEWP NEW ENGLAND EROSION CONTROL/ RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES. SEE SHEET DN-1.
- FOR CONVERTING TEMPORARY SEDIMENT BASIN TO INFILTRATION BASIN, REMOVE BAFFLES, CLEAN OUT SEDIMENT, RESHAPE AS REQUIRED. SEE PLANS FOR BASIN DEPTHS AND ELEVATIONS.
- INSPECT AND CLEAN PIPES.

1 DN-2 GRASS LINED BASIN
SCALE : N.T.S.

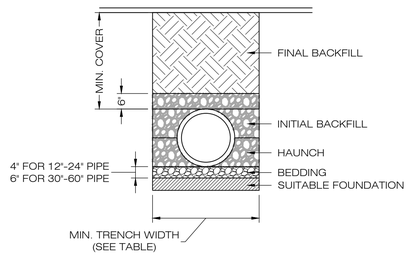


3 DN-2 ROCK LINED DITCH
SCALE : N.T.S.



NOTES:
IN AREAS OF MASS PLANTINGS, CONTINUOUSLY EXCAVATE AND MULCH ENTIRE BED..

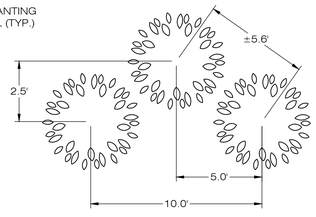
6 DN-2 TYPICAL PLANTING DETAIL
SCALE : N.T.S.

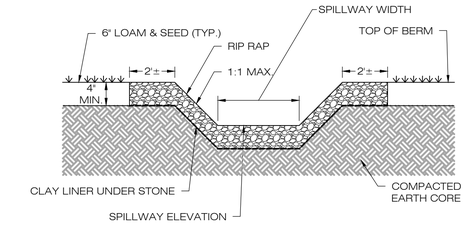


RECOMMENDED MIN. TRENCH WIDTH	
PIPE DIA.	MIN. TRENCH WIDTH
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
48"	80"
60"	96"

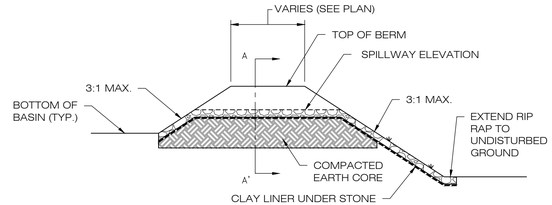
NOTES:
1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 , "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

4 DN-2 HDPE STORM DRAINAGE TRENCH DETAIL
SCALE : N.T.S.

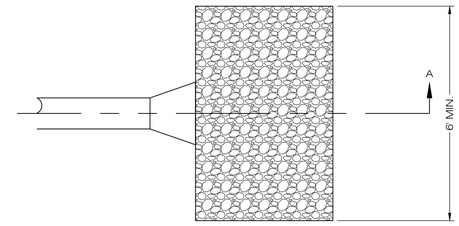




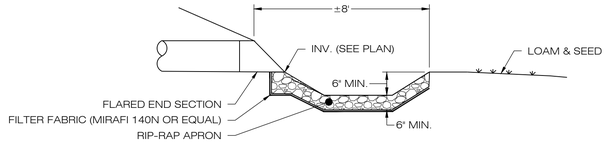
SECTION A-A' THROUGH SPILLWAY



2 DN-2 OVERFLOW WEIR DETAIL
SCALE : N.T.S.



PLAN VIEW



SECTION A-A

5 DN-2 FLARED END SECTION/PLUNGE POOL
SCALE : N.T.S.

PUTNAM MEADOW SOLAR STATION, LLC
179 GREEN STREET
SUITE 100
BOSTON, MA 02130

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHAUL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CSC PERMIT SET

NO	DATE	REVISION
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NOT FOR CONSTRUCTION

DESIGN PROFESSIONAL OF RECORD

PROF: KEVIN A. MCCAFFERY, PE
COMP: ALL-POINTS TECHNOLOGY CORPORATION
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

OWNER: SYLVIA HANKEN R.I.T.
ADDRESS: 27 WEATHERWOOD ROAD AMHERST, MA 01002

PUTNAM MEADOW SOLAR STATION, LLC

SITE ADDRESS: 56 RIVER ROAD PUTNAM, CT 06260

APT FILING NUMBER: CT710100

DRAWN BY: KAM
DATE: 07/27/22
CHECKED BY: JT

SHEET TITLE:
SITE DETAILS

SHEET NUMBER:
DN-2

STATE OF CONNECTICUT KEVIN A. MCCAFFERY 25977 LICENSED PROFESSIONAL ENGINEER

APPENDIX B

USFWS AND NDDB

COMPLIANCE STATEMENT

USFWS & NDDB COMPLIANCE

July 5, 2022

Putnam Meadow Solar Station, LLC
179 Green St., Suite 100
Boston, MA 02130

Re: Putnam Meadow Solar Station, 56 River Road, Putnam, CT
APT Job No: CT710100

On behalf of Putnam Meadow Solar Station, LLC, All-Points Technology Corporation, P.C. ("APT") performed an evaluation with respect to possible federally- and state-listed, threatened, endangered or special concern species in order to determine if the proposed referenced solar energy generation facility ("Facility") would result in a potential adverse effect to listed species.

APT understands that Putnam Meadow Solar Station, LLC proposes the construction of a solar energy generation facility to be generally located within both a cultivated field and forested upland in the central portion of property located at 56 River Road, Putnam, Connecticut (the "Site").

USFWS

The federal consultation was completed in accordance with Section 7 of the Endangered Species Act through the U.S. Fish and Wildlife Service's ("USFWS") Information, Planning, and Conservation System ("IPaC"). Based on the results of the IPaC review, one federally listed[1] threatened species is known to occur in the vicinity of the subject property documented as the northern long-eared bat ("NLEB"; *Myotis septentrionalis*). As a result of this preliminary finding, APT performed an evaluation to determine if the proposed referenced Facility would result in a likely adverse effect to NLEB.

The proposed Facility would be located within mostly forested uplands, with a portion of the northwestern extent of the Facility occurring in a cultivated agricultural field. The Facility will require tree clearing that could potentially impact NLEB habitat; trees potentially provide NLEB habitat. A review of the Connecticut Department of Energy & Environmental Protection ("CTDEEP") Wildlife Division Natural Diversity Data Base ("NDDB") NLEB habitat map[2] revealed that the proposed Facility is not within 150 feet of a known occupied NLEB maternity roost tree and is not within 0.25 mile of a known NLEB hibernaculum. The nearest NLEB habitat resource to the proposed Facility is located ±41.9 miles to the west in East Granby.

APT submitted the effects determination using the NLEB key within the IPaC system for the proposed Facility (the "Action"). This IPaC key assists users in determining whether a Federal action is consistent

[1] Listing under the federal Endangered Species Act
[2] *Northern long-eared bat areas of concern in Connecticut to assist with Federal Endangered Species Act Compliance* map. February 1, 2016.

with the activities analyzed in the USFWS's January 5, 2016, intra-Service Programmatic Biological Opinion ("PBO") on the Final 4(d) Rule for the NLEB for Section 7(a)(2) compliance.

Based upon the IPaC submission, the Action is consistent with activities analyzed in the PBO; please refer to the enclosed May 26, 2022, USFWS letter. The Action may affect NLEB; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). If the USFWS does not respond within 30 days from the date of the letter (June 27, 2022), one may presume that the IPaC-assisted determination was correct and that the PBO satisfies Glenvale's responsibilities for this Action under ESA Section 7(a)(2) with respect to NLEB. No response was received from USFWS; therefore, the Action complies with ESA Section 7(a)(2) with respect to NLEB.

In addition, Glenvale LLC would consider the following additional recommended voluntary measures, where appropriate and as the project schedule allows, to reduce the potential for impact to NLEB.

- Conduct tree removal activities outside of the NLEB pup season (June 1-July 31) and/or active season (April 1-October 31) to minimize impacts to pups at roosts not yet identified.
- Avoid clearing suitable spring staging and fall swarming habitat within a five-mile radius of known or assumed NLEB hibernacula during the staging and swarming seasons (April 1-May 15 and August 15-November 14, respectively). *Not applicable: site is located > 5 miles from the nearest hibernacula.*
- Maintain dead trees (snags) and large trees when possible.
- Use herbicides and pesticides only if unavoidable. If necessary, spot treatment is preferred over aerial application.
- Minimize exterior lighting, opting for down-shielded, motion-sensor security lights instead of constant illumination.

NDDB

DEEP issued a January 25, 2022, determination letter (No. 202200430) indicating that they "do not anticipate negative impacts to State-listed Species (RCSA Sec. 26-306) resulting from your proposed activity at this site." Recommendations contained in this letter, using native pollinator friendly seed mixes within the Facility and fencing that will allow for wildlife movement, will be incorporated into the Facility design.

Therefore, the proposed Putnam Meadow Solar Station Facility is not anticipated to adversely impact any federal or state threatened, endangered or species of special concern.

Sincerely,
All-Points Technology Corporation, P.C.

Dean Gustafson
Senior Biologist

Enclosures

USFWS NLEB Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Project code: 2022-0044708
Project Name: Glenvale - Putnam

May 26, 2022

Subject: Consistency letter for the 'Glenvale - Putnam' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Deborah Gustafson:

The U.S. Fish and Wildlife Service (Service) received on May 26, 2022 your effects determination for the 'Glenvale - Putnam' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Glenvale - Putnam

2. Description

The following description was provided for the project 'Glenvale - Putnam':

> Glenvale LLC (the "Client") proposes to lease a portion of the +/- 35-acre property located at 56 River Road in Putnam, Connecticut. The Client proposes to construct a +/- 4.0 megawatt solar photovoltaic electric generating facility.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.90222545,-71.91016262097502,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/media/nleb-roost-tree-and-hibernacula-state-specific-data-links-0.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   No

8. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

9. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

13.3

2. If known, estimated acres of forest conversion from April 1 to October 31

13.3

3. If known, estimated acres of forest conversion from June 1 to July 31

13.3

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

IPaC User Contact Information

Agency:	All-Points Technology Corporation, P.C.
Name:	Deborah Gustafson
Address:	567 Vauxhall Street Extension
Address Line 2:	Suite 311
City:	Waterford
State:	CT
Zip:	06235
Email	dleonardo@allpointstech.com
Phone:	8609849514

NDDB Determination Letter

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

January 25, 2022

Dean Gustafson
All-Points Technology Corporation, P.C.
567 Vauxhaull St Ext, Suite 311
Waterford, CT 06385
dgustafson@allpointstech.com

NDDB DETERMINATION NUMBER: 202200430

Project: Installation of PV Solar Facility; GLENVALE - PUTNAM RIVER RD., 56 RIVER RD, PUTNAM, CT

Expiration: January 25, 2024

I have reviewed Natural Diversity Database (NDDB) maps and files regarding this project. do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site. If planned properly, you can increase the value of the habitat for wildlife and state listed species with your development. Recommendations are included below:

- **Create a site management plan to promote native vegetation growth in the area under the solar panels.** Restoring native vegetation will attract pollinators and avoid the need for constant mowing. Reduced need for mowing will reduce the risk for reptiles and amphibians.
- Provide habitat for wildlife and allow for connectivity for wildlife movement. Use wildlife-friendly fencing to allow movement through the solar development.
- More specific management suggestions can be found here: https://ag.umass.edu/clean-energy/services/pollinator-friendly-solar-pv-for-massachusetts

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Natural Diversity Database information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Bureau of Natural Resources and cooperating units of DEEP, independent conservation groups, and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated in the NDDB as it becomes available.

Please contact me if you have any questions (shannon.kearney@ct.gov). Thank you for consulting with the Natural Diversity Database and continuing to work with us to protect State-listed species.

Sincerely,

/s/ Shannon B. Kearney
Wildlife Biologist

APPENDIX C

DEEP AND DOA CORRESPONDENCE

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

May 25, 2022

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

cc: Lisa Raffin
Senior Director of Corporate Development
Glenvale Solar
179 Green Street, Suite 100
Boston, MA 02130

RE: Putnam Meadow Solar Station
Proposed 4.0MW (AC)
56 River Road in Putnam, Connecticut

Dear Ms. Bachman,

Lisa Raffin, Senior Director of Corporate Development for Glenvale Solar ("Petitioner") has contacted the Connecticut Department of Energy and Environmental Protection ("DEEP") Bureau of Natural Resources and informed us of the intention to file a petition for a declaratory ruling with the Connecticut Siting Council. Petitioner proposes to construct a solar project with a capacity of two or more megawatts, to be located at 56 River Road in Putnam, Connecticut 06260 ("Site").

Pursuant to Sec. 16-50k of the Connecticut General Statutes the DEEP Bureau of Natural Resources staff have reviewed documents submitted by the Petitioner concerning this proposed project, which includes a site map dated May 2022, attached to an email dated May 24, 2022 prepared by Glenvale Solar.

In conducting such review of the proposed project, DEEP Bureau of Natural Resources has determined that such proposed project, as represented in the above-mentioned documents **will not** materially affect the status of such Site as core forest.

Nothing in this letter relieves the Petitioner of other obligations under applicable federal, state, and local law that may be necessary as part of the proposed project design and implementation.

If you have any questions, you may contact me at 860-424-3060, or by mail at 79 Elm Street, Sixth Floor, Hartford, CT 06106-5127.

Connecticut is one of the most heavily forested states in America. Our forests clean our air and water, shelter our wildlife, sequester carbon, contribute tens of millions of dollars to our economy, and add immeasurably to the quality of our lives. Yet every day, our forests are under threat. Invasive insects and diseases and our dense and growing human population continue to stress our forests in unprecedented ways. Thank you for helping us to conserve a healthy core forest for future generations,

providing public transparency and working to make thoughtful development choices.

Sincerely,

Christopher Martin, State Forester
Bureau of Natural Resources
Department of Energy and Environmental Protection

CC: Bryan P. Hurlburt, Connecticut Department of Agriculture

Holly Lalime, Connecticut Department of Agriculture

Jenny Dickson, Director of Wildlife, Bureau of Natural Resources, DEEP

DEEP.OPPD@ct.gov

siting.council@ct.gov

May 24, 2022

Department of Energy and Environmental Protection
450 Columbus Blvd.
Suite 701
Hartford, CT 06103
Attn: Katherine Dykes, Commissioner

Dear Commissioner Dykes,

Glenvale LLC proposes to develop a solar photovoltaic project at 56 River Road in Putnam, CT (parcel 037-039). The project, Putnam Meadow Solar Station, ("Putnam Meadow" or the "Project") plans to submit a petition for a declaratory ruling to the Connecticut Siting Council ("Council").

As required by Connecticut General Statutes § 16-50k, Glenvale respectfully requests that the Department review the Project for impacts on Core Forest. Attached is a Forested Habitat Impacts Map with the Project Area outlined. As indicated, there is no Forestland Habitat within the Project Area or in the surrounding area.

An introduction to Glenvale is attached. Please contact Lisa Raffin (lisa@glenvale.solar) or Eric Barron (Eric@glenvale.solar) with any questions or requests for additional information. We look forward to working with the Department.

Best Regards,

Lisa Raffin
Senior Director Corporate Development
Glenvale LLC

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Glenvale LLC\Putnam CT\mxd\Putnam Forested Habitat Impacts Map.mxd

Legend

- Site
- Approximate Parcel Boundary
- Project Area
- Delineated Wetland Boundary
- Approximate Wetland Area
- Forestland Habitat Impact (CTDEEP)*

Forested Habitat Impacts Map

Proposed Solar Energy Facility
56 River Road
Putnam, Connecticut

Map Notes:
**Item not located within map extent*
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: May 2022

N

200 100 0 200 Feet

ALL-POINTS TECHNOLOGY CORPORATION

About Glenvale

Glenvale focuses on one thing - developing New England's next generation of power plants. Our solar and storage projects generate affordable clean energy and are carefully sited to use existing infrastructure and minimize impact on natural resources. With a net-zero grid in mind, Glenvale helps the region reduce its reliance on fossil fuels while supporting affordable energy, the regional energy market, and local communities.

Working with our host communities, Glenvale takes the long and broad view approach. We view projects as opportunities for long-term impactful savings to electric ratepayers, meaningful career opportunities, and investments in the local communities through taxes, while balancing environmental conservation. Glenvale puts focus and energy into working with state and local stakeholders to meet their objectives while supporting a robust grid. We protect natural resources by using pollinator friendly grass, relocating deer wintering area and nature trails, and minimizing impact to habitat and native species.

Since forming in 2019, Glenvale is the developer several utility solar projects in New England totaling close to 300 MW AC. Five of these solar projects, 135 MWAC, have energy contracts with Central Maine Power Company ("CMP") and with interconnection approvals and permitting in hand, will go under construction in 2023-24.. Following the team's success in Maine, Glenvale submitted its Putnam Meadow Solar Station into Connecticut's Shared Clean Energy Facility (SCEF 2021) program. The Putnam project was 1 of 6 selected among 29 bidders. The project has an executed 20-year power purchase agreement with Eversource and will supply affordable clean energy to ratepayers. In the last year, we have continued development of new solar and battery storage projects In Maine, New Hampshire, and Connecticut.

Our projects currently under development provide the equivalent energy for more than 36,000 New England homes. New Englanders are advancing toward climate goals with a new generation of clean power plants, and Glenvale is proud to contribute to the future decarbonized grid.

The Glenvale Management Team

Aidan Foley
Founder and Principal

Aidan is the Founder and Principal of Glenvale, responsible for strategic leadership, corporate development, and the success of our portfolio.

Aidan has been in leadership positions in the solar industry since 2007, playing a key role in over $800 million of projects developed in twelve US States and territories.

Before founding Glenvale, Aidan was a Principal at BlueWave Solar and a Senior Director at SunEdison.

Lisa Raffin
Director of Corporate Development

Lisa is Glenvale's Senior Director of Corporate Development, leading portfolio and corporate transactions.

Lisa has been in the industry since 2009, responsible for business development and development of over 150 MW of projects.

Lisa most recently served as the Chief Investment Officer at a regional community scale developer.

Eric Barron
Senior Development Analyst

Eric is Senior Development Analyst at Glenvale, responsible for leading our analyst group in the provision of development support, including site analysis and acquisition.

Eric previously worked as an Analyst for a utility-scale solar developer. Eric Is a graduate of the State University of New York at Binghamton, with a B.S. In Mechanical Engineering.

CONNECTICUT DEPARTMENT OF AGRICULTURE
450 Columbus Blvd, Suite 701 | Hartford, Connecticut 06103 | 860.713.2500
Office of the Commissioner
An Equal Opportunity Employer

August 16, 2022

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

Re: Glenvale Solar/Putnam Meadow Solar Station –56 River Road, Putnam
Proposed 4-Megawatt AC solar project

Dear Executive Director Bachman:

Pursuant to 16-50k(a) of the Connecticut General Statutes, we have reviewed the above cited project with respect to agricultural impacts, specifically, to determine whether "…such project will not materially affect the status of such land as prime farmland…"

This project is proposed to be located at 56 River Road, Putnam, on land currently owned by the Sylvia Hankin Revocable Intervivos Trust. The property in question consists of a single parcel which is 35 acres in size. There are approximately three acres of open cropland and five acres of prime farmland soils. The solar project footprint is estimated to be 28 acres. Putnam Meadow Solar Station will purchase the 28 acres from the current owner should the project move forward which includes the three acres of open cropland and five acres of prime farmland soils.

	Total acreage	Acreage impacted by project	% acreage impacted by project
Parcel(s)	35	28	80%
Project Area	28	14.5	52%
Prime Farmland	5	5	100%
Statewide Important	0	0	0
Locally Important	0	0	0

The open cropland is currently being leased to FairVue Farms, a local dairy farm that grows feed corn on the property for its herd of dairy cows. The construction of the proposed solar facility will not allow FairVue Farms to continue to use the property for agriculture.

In a letter to the Department of Agriculture (DoAg), dated May 24, 2022, and follow up e-mail correspondence, dated June 27, 2022, the developers (Glenvale Solar LLC) have agreed to implement the following actions:

1) The project company will work with the current property owner to convert a portion of nearby parcels, also owned by the current property owner, into active farmland of the same quality and size as the current cropland.

2) Glenvale Solar will plant a pollinator friendly seed mix throughout the entire project area and will open up the property to a farmer interested in housing bees on the subject site.

Based on the information provided, our Department considers the project, as proposed, to have material impact to prime farmland. The reasons for this determination are: 1) The entirety of the farmed acres will be brought out of production by the project and 2) Glenvale Solar has not provided our Department with concrete plans or commitments to develop significant agricultural co-uses on the project site.

If you have any questions, please feel free to contact Holly Lalime of my staff. Holly can be reached at Holly.Lalime@ct.gov or at (860) 969-7053.

Sincerely,

Bryan P. Hurlburt
Commissioner

Enc.

Cc: Katie Dykes, Commissioner, Department of Energy and Environmental Protection
Lisa Raffin, Senior Director Corporate Development, Glenvale LCC

May 24, 2022

Department of Agriculture
450 Columbus Blvd.
Suite 701
Hartford, CT 06103
Attn: Bryan P. Hurlburt, Commissioner

Re: Proposed solar photovoltaic generating facility, 56 River Road, Putnam
Glenvale Solar/Putnam Meadow Solar Station

Dear Commissioner Hurlburt:

Glenvale LLC proposes to develop a solar photovoltaic project at 56 River Road in Putnam, CT (parcel 037-039). The project, Putnam Meadow Solar Station, ("Putnam Meadow" or the "Project") plans to submit a petition for a declaratory ruling to the Connecticut Siting Council ("Council").

As required by Connecticut General Statutes § 16-50k, Glenvale respectfully requests that the Department review the Project for impacts on Prime Farmland Soils. Attached is a map depicting soils on the property with the Project Area outlined. As indicated, Prime Farmland Soils are found in the northwestern portion of the property and represent approximately five acres of the total parcel.

Glenvale proposes to use pollinator friendly grass in the solar field. We understand that the farm has sufficient acreage in the area to support their farm, however, should they need to replace these 3 acres, Glenvale will support finding substitute land nearby.

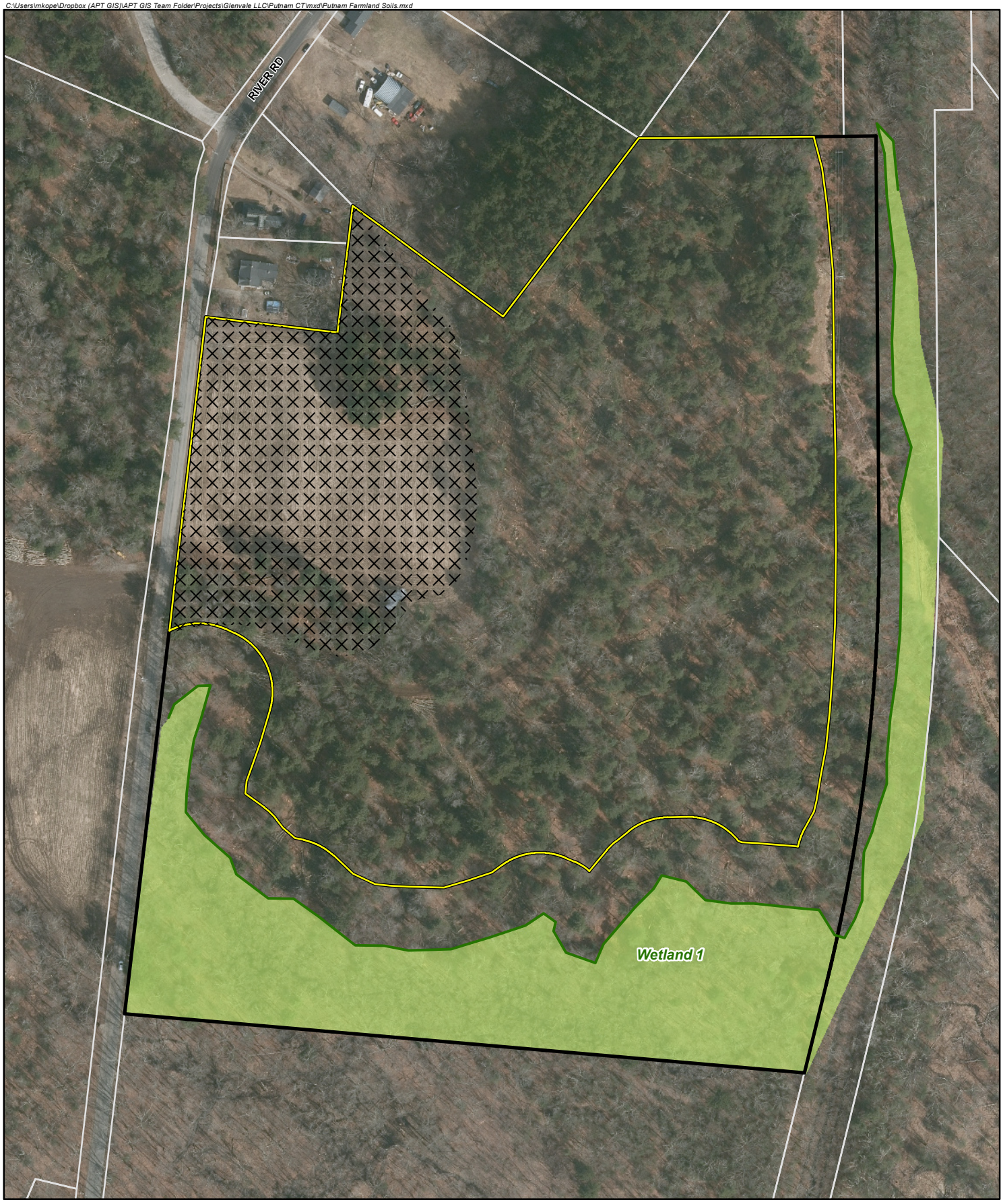
The questions and responses to follow are taken directly from the Department's questionnaire, Solar Energy Project Considerations, dated January 16, 2020.

An introduction to Glenvale is attached. Please contact Lisa Raffin (lisa@glenvale.solar) or Eric Barron (Eric@glenvale.solar) with any questions or requests for additional information. We look forward to working with the Department.

Best Regards,

Lisa Raffin
Senior Director Corporate Development
Glenvale LLC

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Glenvale LLC\Putnam CT\mxd\Putnam Farmland Soils.mxd



Legend

- Site
- Project Area
- Approximate Parcel Boundary
- Delineated Wetland Boundary
- Approximate Wetland Area

Farmland Soils

- Prime Farmland Soils
- Statewide Important Farmland Soils

Farmland Soils Map

Proposed Solar Energy Facility
56 River Road
Putnam, Connecticut

N

200 100 0 200 Feet

Map Notes:
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Scale: 1 inch = 200 feet
Map Date: May 2022

ALL-POINTS TECHNOLOGY CORPORATION

1) **Farm/ Property Information**

Provide a description of the farm property, including but not limited to the following (include appropriate maps and surveys to allow evaluation):

a. Farm owner(s), farm name and location; *The land is owned by Sylvia Hankin Revocable Intervivos Trust, located at 56 River Road, Putnam, CT, consisting of 35+/- acres (Tax Map/Lot 037-039).*

b. Total acreage, identification of prime, statewide and/or locally important farmland soils & acreage; *The total parcel is 35 acres, 28+/- of which will be sold to the project owner, Putnam Meadow Solar Station LLC. Approximately five acres of the land are classified as prime farmland soils. The project company has a land purchase option with the current landowner.*

c. Current production agriculture on the farm and the approximate location of crops, farm buildings, etc. used to support the farming operation. *Of the entire 35-acre parcel, 3 acres in the northwest corner of the parcel are leased to a CT farmer to grow feed corn for their dairy farm. There are no farm buildings or animals on the property.*

2) **Energy Project Information**

a. Describe the energy project, including but not limited to, the size of the project in megawatts (MW), the footprint being proposed as it relates to prime farmland on the property, # of panels (if known), and a description of infrastructure needed to support the project; *The proposed project is a photovoltaic (solar) energy project using approximately 8,275 panels and will total 4.80 MW DC and 4.0 MW AC. The project area inside the perimeter fence will be approximately 14.4 acres Including use of the existing 3 acres of actively farmed area. The project will require the standard interconnection equipment including a pad-mounted transformer and load center, and pole-mounted reclosers and load breaks.*

b. Describe what the energy will be used for and how it will benefit the farming operation; *The energy will be sold directly to Eversource under the CT Shared Clean Energy Facility (SCEF) program. There is no on-site load as there is no farming operation at this site.*

c. Are there future plans to increase energy capacity beyond what is proposed? If so, please describe these future plans, and any impacts the increase may have on prime farmland or the overall farming operation; *There are no plans to expand the solar energy capacity, however battery storage may be a future consideration depending on CT state policy. We would plan to site the storage within the same project footprint.*

3) **Agricultural Resource Impacts**

a. Describe any production agriculture currently being conducted within the footprint of the solar project; *The 3 acres in the northwest corner of the property are leased to FairVue Farms of Woodstock, CT. FairVue runs a dairy farm*

operation with over 1,200 milking cows and leases the River Road parcel to grow feed corn. It is our understanding that the farm has miultiple parcels in the area that are being used to cultivate feed corn. This 3-acre parcel represents a small of the total acreage used by the farm.

b. Describe overall how the project will impact production agriculture currently being conducted on the farm; *FairVue has stated that losing parcel will not impact their operation….*
c. Provide a description of any plans by the farm owner(s) to foster production agriculture within or as a result of the development (e.g., grazing animals in and around the solar project, providing pollinator habitat); *Since there are no cows at the property, and no farming operation other than growing the feed corn, there are no plans to co-use the land for animal grazing and solar. We plan to use a bee pollinator friendly seed mix.*

4) **Alternatives to Locating the Energy Project on Prime Farmland**

a. Provide a description of any alternatives considered by the farm owner(s) to developing the project on prime farmland soils (e.g., the option of selling agricultural development rights for the farm instead of developing for solar, or as a mitigation measure to reduce the size of the solar development); *No alternatives have been considered by the farm owner as the 3-acre portion of this parcel represents such a small percentage of their overall operation and is readily replaced with other land elsewhere.*
b. Describe any alternatives examined which might enable placement of some or all of the solar panels in locations other than on prime farmland (e.g., elsewhere on the property or on farm buildings); *This land is adjacent to a transmission line and an industrial zone to the east. Route 395 and Quinebaug River are further to the east. A hospital and shopping centre are within 1-mile to the north of the parcel. This parcel and the land directly across River Road are classified as prime farmland and statewide Important farmland. There are several residential homes along River Road. We determined that the electrical distribution lines could support the generation of a 4 MW facility in this area. Our site search criteria targets low value land that will have minimal impact on natural resources or agricultural operations. We deemed this parcel to be the best site in the area given the proximity to electrical infrastructure--no new power lines are required-- and the low impact on the community and the natural environment.*
c. Provide a description of any other form of mitigation considered by the farm owner(s) (e.g., farmland restoration, or a future commitment to preserve the farm). *As the future property owner, the project company is willing to work with the landowner to convert a portion of nearby parcels, also owned by the current property owner, into active farmland of the same type as the project is offsetting. This would require clearing forested land and therefore will need to be carefully considered with DEEP consultation.*

About Glenvale

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Founder and Principal

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Director of Corporate Development

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Lisa most recently served as the Chief Investment Officer at a regional community scale developer.

Eric Barron
Senior Development Analyst

Eric is Senior Development Analyst at Glenvale, responsible for leading our analyst group in the provision of development support, including site analysis and acquisition.

Eric previously worked as an Analyst for a utility-scale solar developer. Eric Is a graduate of the State University of New York at Binghamton, with a B.S. In Mechanical Engineering.

199 Route 171, Woodstock, CT 06281
Office: 860-928-9483 Fax: 860-928-5656
www.fairvuefarms.com

May 26, 2022

Mr. Paul Lipman
27 Weather Wood Rd.
Amherst MA 01002

RE: Sale of Property located on River Road in Putnam CT.

Dear Mr. Lipman,

As we discussed this week, I understand that you are currently engaged in a purchase and sale arrangement with a buyer for your 3-acre field on River Road here in Putnam. Although we like to keep fields in production for our herd, there will be no hardship on our farm due to this sale.

Fairvue Farms manages about 1200 acres of corn and losing a 3-acre field will not be a dramatic loss to us. We have been happy to have the property, and once our corn growing in this field is cut this fall, we expect our use of it to end. We understand this type of thing happens. We are grateful for the time we had it.

Let me know if there is any more I can do for you on this.

Take care,

William Rees
Fairvue Farms
206-571-0050
williamrees@fairvuefarms.com

From: Lisa Raffin
To: Lalime, Holly
Cc: eric@glenvale.solar; Ari Jackson; Jennifer Young Gaudet; Hoffman, Lee D.; Aidan Foley
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter
Date: Wednesday, July 27, 2022 12:32:23 PM

Good afternoon Holly,

Regarding subject project, do you have an update on receiving letter from the Commissioner's Office?

Thankyou.

Lisa

> On Jul 19, 2022, at 12:48 PM, Lalime, Holly <Holly.Lalime@ct.gov> wrote:
>
> Hi Lisa,
>
> Thank you for reaching out and making me aware of your timeline. I am waiting on word from the Commissioner's Office regarding the no impact letter. I sent another reminder up this morning.
>
> Best,
> Holly
>
> E: Holly.Lalime@ct.gov
> C: (860)969-7053
> Farmland Preservation Program
> Connecticut Dept. of Agriculture
> **www.ctgrown.gov**
> **www.ctfarmlink.org**
>
> <Outlook-lfb4ksqq.png>
>
> ---
>
> **From:** lisa@glenvale.solar <lisa@glenvale.solar>
> **Sent:** Monday, July 18, 2022 2:44 PM
> **To:** Lalime, Holly <Holly.Lalime@ct.gov>

Cc: eric@glenvale.solar <eric@glenvale.solar>; 'Ari Jackson' <ari@glenvale.solar>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>; 'Hoffman, Lee D.' <LHoffman@PULLCOM.COM>
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Good afternoon Holly,

I'm following up on this matter noting the last communication below. Could you provide an update on the Department's determination; when might we expect a letter? Glenvale intends on filing a petition to the Siting Council early next week and are hoping that the Department's letter is imminent.

Thank you in advance.
Lisa

<image003.png>

Glenvale Solar
Lisa Raffin
Senior Director of Corporate Development
+1 (617) 435-5268
179 Green Street, Suite 100
Boston, MA 02130
glenvale.solar

From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Monday, June 27, 2022 5:16 PM
To: 'Lalime, Holly' <Holly.Lalime@ct.gov>
Cc: eric@glenvale.solar; 'Ari Jackson' <ari@glenvale.solar>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Good afternoon Holly,

I confirmed with our environmental engineer that using a pollinator friendly seed mix would be appropriate for the entire facility. If there are any sloped areas that they feel might be at risk for erosion during stabilization, they might recommend using a seed mix tailored for stabilization and then once stabilized come back in and over sow with the pollinator mix. The topsoil depth throughout the site is likely sufficient for

establishment of turf. The possible exception would be the small areas of proposed grading which may require import of topsoil if scraping and saving of existing topsoil in these areas results in insufficient topsoil depth.

Glenvale will plan to use pollinator friendly mix throughout the site.

I provided the answer to the second question in a separate email.

Let us know if you have any further questions. Thank you.

Lisa

From: Lalime, Holly <Holly.Lalime@ct.gov>
Sent: Friday, June 24, 2022 2:39 PM
To: lisa@glenvale.solar
Cc: eric@glenvale.solar; 'Ari Jackson' <ari@glenvale.solar>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter

Hi Lisa,

Before our Department issues a no impact letter for this project, we want to confirm a couple of details.

1. Does Glenvale Solar plan to use a bee friendly pollinator mix throughout the entire 14.4-acre fenced in project area? We want to make sure the mix is being used throughout the entire project site and not just the 3-acre actively farmed area.
2. We want to make sure that Glenvale Solar is committed to working with the current landowner to convert a portion of nearby parcels, also owned by the current property owner, into active farmland of the type size and quality as the current agricultural land being displaced. Can you please confirm?

Thank you and have a great weekend,
Holly

E: Holly.Lalime@ct.gov

C: (860)969-7053

Farmland Preservation Program

Connecticut Dept. of Agriculture

www.ctgrown.gov

www.ctfarmlink.org

From: Lalime, Holly <Holly.Lalime@ct.gov>
Sent: Friday, June 10, 2022 1:47 PM
To: lisa@glenvale.solar <lisa@glenvale.solar>
Cc: eric@glenvale.solar <eric@glenvale.solar>; 'Ari Jackson' <ari@glenvale.solar>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter

Hi Lisa,

I'm not sure, it's currently in the Commissioner's office for review. I'll let you know as soon as I'm updated.

Have a great weekend,
Holly

E: Holly.Lalime@ct.gov

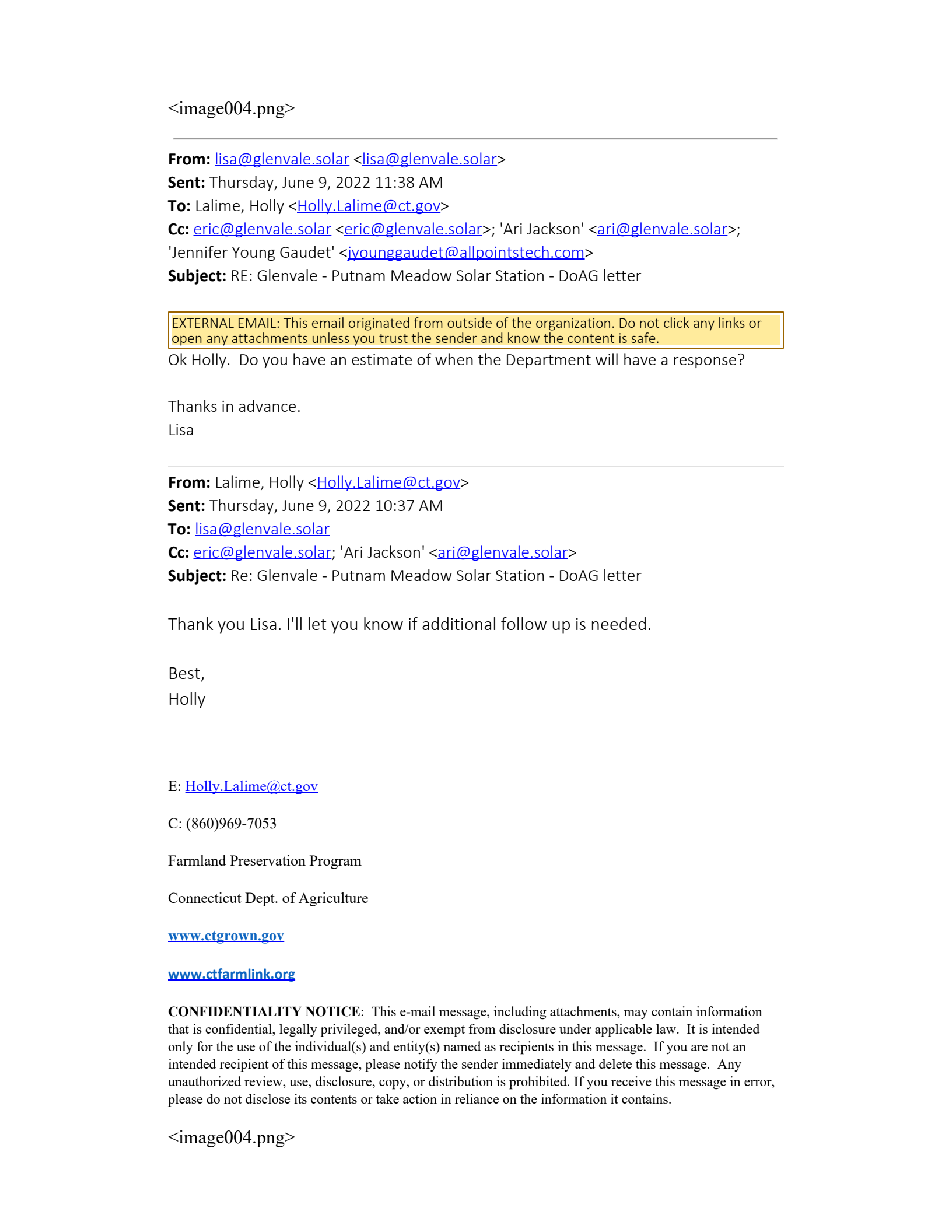
C: (860)969-7053

Farmland Preservation Program

Connecticut Dept. of Agriculture

www.ctgrown.gov

www.ctfarmlink.org



From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Thursday, June 9, 2022 11:38 AM
To: Lalime, Holly <Holly.Lalime@ct.gov>
Cc: eric@glenvale.solar <eric@glenvale.solar>; 'Ari Jackson' <ari@glenvale.solar>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Ok Holly. Do you have an estimate of when the Department will have a response?

Thanks in advance.
Lisa

From: Lalime, Holly <Holly.Lalime@ct.gov>
Sent: Thursday, June 9, 2022 10:37 AM
To: lisa@glenvale.solar
Cc: eric@glenvale.solar; 'Ari Jackson' <ari@glenvale.solar>
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter

Thank you Lisa. I'll let you know if additional follow up is needed.

Best,
Holly

E: Holly.Lalime@ct.gov

C: (860)969-7053

Farmland Preservation Program

Connecticut Dept. of Agriculture

www.ctgrown.gov

www.ctfarmlink.org

From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Thursday, June 9, 2022 9:52 AM
To: Lalime, Holly <Holly.Lalime@ct.gov>
Cc: eric@glenvale.solar <eric@glenvale.solar>; 'Ari Jackson' <ari@glenvale.solar>
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Hi Holly,

Attached is our current site plan. Let me know if you have further questions or would like to discuss on a call.

Lisa

From: Lalime, Holly <Holly.Lalime@ct.gov>
Sent: Wednesday, June 8, 2022 2:44 PM
To: lisa@glenvale.solar
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter

Hi Lisa,

Could you please send me a more detailed site plan for the project area showing where the panels will be placed?

Thank you,
Holly

E: Holly.Lalime@ct.gov

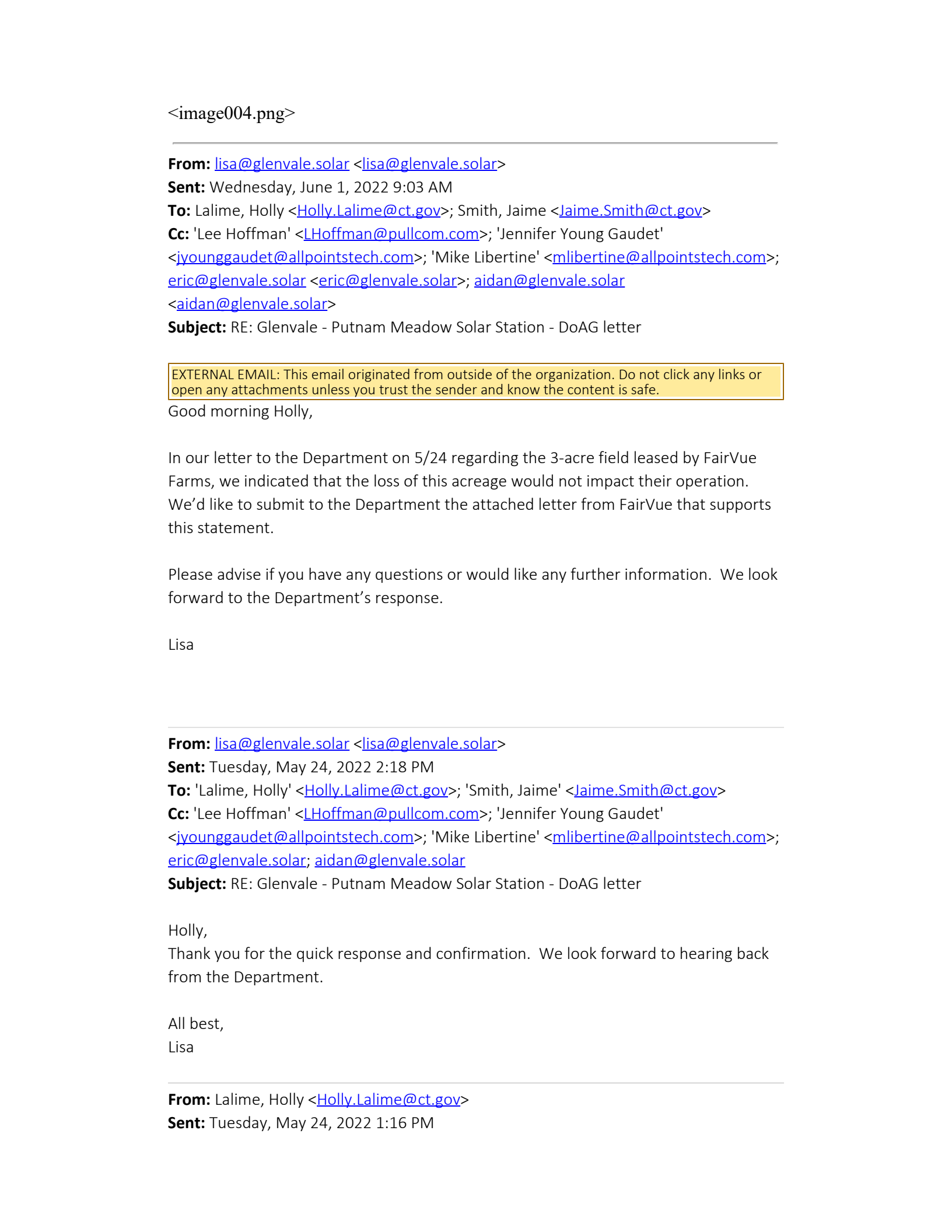
C: (860)969-7053

Farmland Preservation Program

Connecticut Dept. of Agriculture

www.ctgrown.gov

www.ctfarmlink.org



From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Wednesday, June 1, 2022 9:03 AM
To: Lalime, Holly <Holly.Lalime@ct.gov>; Smith, Jaime <Jaime.Smith@ct.gov>
Cc: 'Lee Hoffman' <LHoffman@pullcom.com>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>; 'Mike Libertine' <mlibertine@allpointstech.com>; eric@glenvale.solar <eric@glenvale.solar>; aidan@glenvale.solar <aidan@glenvale.solar>
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Good morning Holly,

In our letter to the Department on 5/24 regarding the 3-acre field leased by FairVue Farms, we indicated that the loss of this acreage would not impact their operation. We'd like to submit to the Department the attached letter from FairVue that supports this statement.

Please advise if you have any questions or would like any further information. We look forward to the Department's response.

Lisa

From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Tuesday, May 24, 2022 2:18 PM
To: 'Lalime, Holly' <Holly.Lalime@ct.gov>; 'Smith, Jaime' <Jaime.Smith@ct.gov>
Cc: 'Lee Hoffman' <LHoffman@pullcom.com>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>; 'Mike Libertine' <mlibertine@allpointstech.com>; eric@glenvale.solar; aidan@glenvale.solar
Subject: RE: Glenvale - Putnam Meadow Solar Station - DoAG letter

Holly,
Thank you for the quick response and confirmation. We look forward to hearing back from the Department.

All best,
Lisa

From: Lalime, Holly <Holly.Lalime@ct.gov>
Sent: Tuesday, May 24, 2022 1:16 PM

To: lisa@glenvale.solar; Smith, Jaime <Jaime.Smith@ct.gov>
Cc: 'Lee Hoffman' <LHoffman@pullcom.com>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>; 'Mike Libertine' <mlibertine@allpointstech.com>; eric@glenvale.solar; aidan@glenvale.solar
Subject: Re: Glenvale - Putnam Meadow Solar Station - DoAG letter

Hi Lisa,

We have received your message and attached letter. I will review and get back to you as soon as I can.

Kindly,
Holly

Holly.Lalime@ct.gov

C: (860)969-7053

Farmland Preservation Program

CT FarmLink

Connecticut Dept. of Agriculture

www.ctgrown.gov

www.ctfarmlink.org

Tell us what you think about the 2021 Connecticut Grown Campaign!

<image005.png>

From: lisa@glenvale.solar <lisa@glenvale.solar>
Sent: Tuesday, May 24, 2022 12:15 PM
To: Smith, Jaime <Jaime.Smith@ct.gov>
Cc: 'Lee Hoffman' <LHoffman@pullcom.com>; 'Jennifer Young Gaudet' <jyounggaudet@allpointstech.com>; 'Mike Libertine' <mlibertine@allpointstech.com>;

eric@glenvale.solar <eric@glenvale.solar>; aidan@glenvale.solar <aidan@glenvale.solar>; Lalime, Holly <Holly.Lalime@ct.gov>
Subject: Glenvale - Putnam Meadow Solar Station - DoAG letter

Good afternoon Jaime,

Glenvale proposes to develop a solar project in Putnam, Connecticut. As required by General Statutes § 16-50k, Glenvale requests that the Department review the Project for impacts on Prime Farmland Soils.

Please find the attached letter. We would appreciate confirmation of receipt of this letter. Thank you in advance. We look forward to working with the Department.

Regards,
Lisa Raffin

<image003.png>

Glenvale Solar
Lisa Raffin
Senior Director of Corporate Development
+1 (617) 435-5268
179 Green Street, Suite 100
Boston, MA 02130
glenvale.solar

APPENDIX D

CULTURAL RESOURCES REVIEW

JULY 2022

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF A PROPOSED SOLAR FACILITY AT 56 RIVER ROAD IN PUTNAM, CONNECTICUT

PREPARED FOR:

ALL-POINTS TECHNOLOGY CORPORATIO
567 VAUXHALL STREET EXTENSION – SUITE 311
WATERFORD, CT 06385

PREPARED BY:

HERITAGE CONSULTANTS
830 BERLIN TURNPIKE
BERLIN, CONNECTICUT 06037

ABSTRACT

This report presents the results of the Phase IA cultural resources assessment survey for the development of a solar facility in Putnam, Connecticut that will include construction of a 20 ft (6.1 m) wide access road, interconnection pole, equipment pads, multiple stormwater management features, and a chain link fence. The limit of disturbance associated with the project is 17.11 acres. Heritage Consultants, LLC completed the Phase IA cultural resources assessment survey in June 2022. The investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historical maps and aerial imagery depicting the project area to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area to determine archaeological sensitivity. The Phase IA survey revealed that the proposed project area consists of active agricultural fields, a forested swamp in the norther end of the limit of disturbance, and wooded areas. Aside from the agricultural section, the study area appears to have limited disturbance and possess a moderate to high archaeological sensitivity. The project area is in proximity to the Quinebaug River and previously surveyed archaeological sites (Site 116-25 and Site 116-26) that are potentially eligible for listing on the National Register of Historic Places (36 CFR 60.4 [a-d]).

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CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for the development of a solar facility that at 56 River Road in Putnam, Connecticut. The facility will include a 20 ft (6.1 m) wide access road, interconnection pole, equipment pads, multiple stormwater management features, and a chain link fence. The limit of disturbance associated with the project is 17.11 acres (Figure 1). All-Points Technology Corporation (All-Points) requested that Heritage Consultants, LLC (Heritage) complete the Phase IA survey as part of the planning process for the proposed development project (the Project). Heritage completed the investigation in June of 2022. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The 17.11 acre limit of disturbance is located along the eastern side of River Road in Putnam, Connecticut. The partially agricultural and wooded parcel will be the site of a solar facility that will include a 20 ft (6.1 m) wide access road, interconnection pole, equipment pads, multiple stormwater management features, and a chain link fence (Figure 2). The Quinebaug River runs to the east of the project area, with Carpenter's Brook, a feeder brook to the Quinebaug River, to the west and south of the project area. Two unnamed feeder streams to the Quinebaug River are separately located to the north and the south of the project area. The project area is situated on elevations ranging between 89 to 111 m (292 to 364.2 ft) NGVD. The project area is primarily located in a wooded area with an open field meadow and abutting residences along River Road to the northwest corner, Day Kimball Hospital further northwest, the Putnam Wastewater Treatment Plant to the northeast, and commercial businesses to the southeast along Technology Park Drive.

The current Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the project area; 3) a review of readily available historical maps and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine its archaeological sensitivity.

Project Results and Management Recommendations Overview

The review of historical maps and aerial images depicting the study area and files maintained by the CT-SHPO resulted in the identification of 10 precontact period archaeological sites and a single multicomponent archaeological site (116-15, 116-16, 116-19, 116-20, 116-21, 116-23, 116-24, 116-25, 116-26, 116-27, and 116-28) within 1.6 km (1 mi) of the project area. In addition, one National Register Historic District (Wilkinson Mill), two National Register of Historic Places (NRHP) properties (Israel Putnam School and Putnam Railroad Station), and six Connecticut State Register of Historic Places (SRHP) properties (116-7, 116-8, 116-9, 116-10, 116-11, and 116-67) were identified within 1.6 km (1 mi) of the project area. These properties suggest a general historical nature of the region encompassing the proposed solar facility. Heritage combined this data with those derived from historical map and aerial image analysis, as well as subsequent pedestrian survey, to assess the archaeological sensitivity of the development area.

The desktop portion of the Phase IA survey suggested that portions of the limit of disturbance may be archaeologically sensitive due to the gentle easterly slope, well drained soils, and visible lack of disturbance. The pedestrian survey, completed on June 7, 2022, confirmed the results of the desktop survey; much of the proposed project area is moderately or highly archaeologically sensitive, with low sensitivity in the forested swamp in the northern part of the project area.

Project Personnel

Key personnel who worked in this project included David R. George, M.A., RPA, (Principal Investigator); Renee Petruzelli, M.A., RPA (Project Manager); John A. Campbell, M.A., RPA (Project Archaeologist); Cory Atkinson, M.A., RPA (Project Archaeologist); Dr. David Naumec, Ph.D. (Historian); and Sean Buckley, B.A., (GIS Specialist).

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project region in Putnam, Connecticut. Previous archaeological research has documented that specific environmental factors can be associated with both precontact and historical period site selection. These include general ecological conditions, as well as types of fresh water sources present, degree of slopes, and soils situated within a given project area. The remainder of this chapter provides a brief overview of the ecology, hydrological resources, and soils present within the project area and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has different natural characteristics than the coastline. Recognizing this fact, Dowhan, and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> an area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota.

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: Northeast Hills ecoregion. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the project area.

<u>Northeast Hills Ecoregion</u>

The Northeast Hills ecoregion consists of a hilly upland terrain located between approximately 40.2 and 88.5 km (25 and 55 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by streamlined hills bordered on either side by local ridge systems, as well as broad lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the western-most of which is referred to as the Bolton Range and the eastern-most as the Mohegan Range (Bell 1985:45). Elevations in the Northeast Hills range from 121.9 to 243.8 m (400 to 800 ft) above sea level, reaching a maximum of nearly 304.8 m (1,000 ft) above sea level near the Massachusetts border (Bell 1985). The bedrock of the region is composed of Schist and gneiss formed during the Paleozoic era as well as gneiss and granite formed during the Precambrian period (Bell 1985). Soils in uplands areas have been deposited on top of glacial till and in the valley they consist of stratified deposits of sand, gravel, and silt (Dowhan and Craig 1976).

Hydrology in the Vicinity of the Project Area

The project area is situated within a region that contains several sources of freshwater, including the Quinebaug River, Carpenter's Brook, and two unnamed feeder streams, as well as wetlands. These freshwater sources may have served as resource extraction areas for Native Americans and historical populations. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for precontact occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

Soils Comprising the Project Area

Soil formation is the direct result of the interaction of many variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to various diagenic and taphonomic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing, and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils within the project area is presented below. The project area is characterized by the presence of four major soil types: Agawam (29B: Agawam Fine Sandy Loam, 3 to 8 percent slopes), Canton, Charlton (60B: Canton-Charlton fine sandy loams, 3 to 8 percent slopes; 62C: Canton-Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony), and Chatfield (73E: Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky) (Figure 3). All the soil types identified within the project area are well drained, and where not previously disturbed, these soils may be correlated with precontact and historical use and occupation, resulting in the possibility of archaeological deposits. All the identified soils series are classified as possessing steep grades, while the project area is relatively level with gradual sloping occurring toward the eastern edge. Descriptive profiles for each soil type found within the project area are presented below; they were gathered from the United States Department of Agriculture - National Resources Conservation Service.

<u>Agawam Soils (Soil Code: 29B)</u>

The Agawam series consists of very deep, well drained soils formed in sandy, water deposited materials. They are level to steep soils on outwash plains and high stream terraces. Slope ranges from 0 to 15 percent. A typical profile associated with Agawam soils is as follows: **Ap**--0 to 11 inches; dark grayish brown (10YR 4/2) fine sandy loam; light brownish gray (10YR 6/2) dry; weak medium and coarse subangular blocky structure; very friable; common fine and medium roots; strongly acid; abrupt smooth boundary. **Bw1**--11 to 16 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium and coarse subangular blocky structure; very friable; common fine and medium roots; strongly acid; abrupt smooth boundary. **Bw2**--16 to 26 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary. **C1**--26 to 45 inches; olive (5Y 5/3) loamy fine sand; massive; very friable; few fine roots; strongly acid; clear smooth boundary. **2C2**--45 to 55 inches; olive brown (2.5Y 4/4) loamy fine sand; massive; very friable; strongly acid; abrupt smooth boundary. **2C3**--55 to 65 inches; olive (5Y 5/3) loamy sand; single grain; loose; strongly acid.

Canton and Charlton Soils (Soil Codes: 60B and 62C)

The Canton series consists of very deep, well drained soils formed in a loamy mantle underlain by sandy till. They are on nearly level to very steep moraines, hills, and ridges. Slope ranges from 0 to 45 percent. A typical profile associated with Canton soils is as follows: **Oi**--0 to 5 cm; slightly decomposed plant material; **A**--5 to 13 cm; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; common fine roots; 5 percent gravel; very strongly acid (pH 4.6); abrupt smooth boundary. **Bw1**--13 to 30 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary. **Bw2**--30 to 41 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; strongly acid (pH 5.1); clear smooth boundary. **Bw3**--41 to 56 cm; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky; friable; common fine and medium roots; 15 percent gravel; strongly acid (pH 5.1); abrupt smooth boundary. **2C**--56 to 170 cm; grayish brown (2.5Y 5/2) gravelly loamy sand; massive; friable; 25 percent gravel; moderately acid (pH 5.6).

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material. **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary. **w1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary. **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary. **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary. **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

Charlton-Chatfield Soils (Soil Code: 73E)

The Charlton series consists of very deep, well drained soils formed in loamy melt-out till. They are nearly level to very steep soils on moraines, hills, and ridges. Slope ranges from 0 to 60 percent. A typical profile associated with Charlton soils is as follows: **Oe**--0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material. **A**--4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary. **w1**--10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary. **Bw2**--18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary. **Bw3**--48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary. **C**--69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

The Chatfield series consists of well drained soils formed in loamy melt-out till. They are moderately deep to bedrock. They are nearly level to very steep soils on bedrock-controlled hills and ridges. Slope ranges from 0 to 70 percent. A typical profile associated with Chatfield soils is as follows: **Oi**--0 to 3 cm, slightly decomposed leaf, needle, and twig litter; extremely acid, pH 4.2. (0 to 15 cm thick.) **A**--3 to 5 cm,

very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1), dry; weak fine subangular blocky structure; friable; many fine and medium roots throughout; 5 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt smooth boundary. (1 to 25 cm thick.) **Bw1**--5 to 33 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; weak fine subangular blocky structure; friable; common fine roots throughout and common medium roots throughout; 15 percent mixed gravel and cobbles; very strongly acid, pH 4.5; abrupt wavy boundary. **Bw2**--33 to 76 cm, strong brown (7.5YR 5/6) gravelly fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots throughout; 20 percent mixed rock fragments; very strongly acid, pH 4.5; abrupt irregular boundary. (Combined thickness of the Bw horizons is 10 to 80 cm.) **2R**--76 cm; fractured slightly-weathered schist bedrock.

Summary

The natural setting of the region containing the proposed project area is common throughout the Northeast Hills ecoregion. Carpenter Brook and the two unnamed streams act as feeders to the Quinebaug River, which in turn feeds into the Thames River and drains into Long Island Sound. The landscape is dominated by well drained soils that consist mainly of sandy loams with extremely stony or very rocky conditions. In general, the project region is well suited for precontact Native American and historical period occupation.

CHAPTER III
PRECONTACT SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the State of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by precontact Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the precontact era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the prehistory of Connecticut. The remainder of this chapter provides an overview of the precontact setting of the region encompassing the project area.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals. While there have been over 50 surface finds of Paleo-Indian projectile points throughout the State of Connecticut (Bellantoni 1995), only three sites, the Templeton Site (6-LF-21) in Washington, Connecticut, the Hidden Creek Site (72-163) in Ledyard, Connecticut, and the Brian D. Jones Site (4-10B) in Avon, Connecticut have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980; Singer 2017a; Leslie et al., 2020).

The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

The Brian D. Jones Site (4-10B) was identified in a Pleistocene levee on the Farmington River in Avon, Connecticut; it was buried under 1.5 m (3.3 ft) of alluvium (Leslie et al., 2020). The Brian D. Jones Site was identified by Archaeological and Historical Services, Inc., in 2019 during a survey for the Connecticut Department of Transportation preceding a proposed bridge construction project. It is now the oldest known archaeological site in Connecticut at +12,500 years old. The site also provides a rare example of a Paleo-Indian site on a river rather than the more common upland areas or on the edges of wetlands. Ground-penetrating radar survey revealed overbank flooding and sedimentation that resulted in the creating of a stable ancient river levee with gentle, low-energy floods. Archaeological deposits on the levee were therefore protected.

Excavations at the Brian D. Jones Site revealed 44 soil anomalies, 27 of which were characterized as cultural features used as hearths and post holes, among other uses. One hearth has been dated thus far (10,520 ± 30 14C yr BP; charred Pinus; 2-sigma 12,568 to 12,410 CAL BP) (Leslie et al., 2020: 4). Further radiocarbon testing will be completed in the future. Artifact concentrations surrounded these features and were separated in two stratigraphic layers representing at least two temporally discrete Paleoindian occupations. The recovered lithic artifacts are fashioned from Normanskill chert, Hardyston jasper, Jefferson/Mount Jasper rhyolite, chalcedony, siltstone, and quartz. They include examples of a fluted point base, preforms, channel flakes, pièces esquillées, end scrapers, side scrapers, grinding stones, bifaces, utilized flakes, gravers, and drilled stone pendant fragment. Lithic tools numbered over 100, while toolmaking debris was in the thousands. The channel flakes represent the production of spear points used in hunting. Scrapers, perforators, and grinding stones indicate animal butchering, plant food grinding, the production of wood and bone tools, and the processing of animal skins for clothing and tents. Other collected cultural materials included charred botanicals and calcined bone. Botanicals recovered in hearth features included burned remains of cattail, pin cherry, strawberry, acorn, sumac, water lily, and dogwood. In addition, pieces of ochre were recovered during the excavations; these, in combination with the drilled pendant fragment, are the earliest evidence of personal adornment and artistic expression identified in Connecticut (Leslie et al. 2020). Approximately 15,000 artifacts were collected in total.

The scarcity of identified Paleoindian sites suggests a low population density during this period. The small size of most Paleoindian sites, their likely inundation by rising sea levels, and the high degree of landscape disturbance over the past 10,000 years likely contribute to poor site visibility, although the presence of two deeply alluvially buried Paleoindian sites in Connecticut suggests that other sites may be located along stable rivers (Leslie et al. 2022).

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final "transitional" Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

<u>Early Archaic Period (10,000 to 8,000 B.P.)</u>

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to

cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions of the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, finds of these projectile points have rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, are represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Another localized cultural tradition, the Gulf of Maine Archaic, which lasted from ca. 9,500 to 6,000 14C BP, is beginning to be recognized in Southern New England (Petersen and Putnam 1992). It is distinguished by its microlithic industry, which may be associated with the production of compound tools (Robinson and Peterson 1993). Assemblages from Maine (Petersen et al. 1986; Petersen 1991; Sanger et al. 1992), Massachusetts (Strauss 2017; Leslie et al. 2022), and Connecticut (Forrest 1999) reflect the selection of local, coarse-grained stones. Large choppers and hoe-like forms from southeastern Connecticut's Sandy Hill Site likely functioned as digging implements. Woodworking tools, including adzes, celts, and gull-channeled gouges recovered at the Brigham and Sharrow sites in Maine (Robinson and Petersen 1993: 68), may have been used for dugout canoe manufacture. The deeply stratified Sandy Hill (Forrest 1999; Jones and Forrest 2003) and Sharrow sites (Petersen 1991), with their overlapping lenses of "black sand" floor deposits, suggest intensive site re-occupations according to an adaptation that relied, in part, on seasonally available wetland resources. Thus far, sites from this tradition have only been identified within coastal and near-coastal territories along the Gulf of Maine, in southeastern Connecticut, and in Massachusetts.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have

afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite, and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic Period, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the

Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic Period that interior cord marked, grit tempered, thick walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region, and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern still was diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish, and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut, and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and it has been thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper.

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of white-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by increased numbers of ceramic types and forms. (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they

were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types, indicative of the Middle Woodland Period, include Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For much of the precontact era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further,

settlement patterns throughout the precontact era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed project area, a variety of precontact site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
HISTORICAL OVERVIEW

Introduction

The proposed project is located at 56 River Road in Putnam, Windham County, Connecticut. The area is a mix of clear fields and wooded land abutted west by River Road, east by a historic railroad and the Quinebaug River beyond, north by wooded land, and south by more wooded land. For the purposes of this study, this history will provide an overview of the Town of Putnam with a focus on the impact of the proposed project area. As with most Connecticut towns, present-day Putnam originated as Native American settlements and later became an English colonial village. Through the nineteenth and twentieth centuries, Putnam was both an agricultural and manufacturing hub powered by the High Fall on the Quinebaug River. The automobile culture of the twentieth century along with the development of improved roads and highways in the twenty-first century did not significantly impact the town of Putnam, which largely remained rural with pockets of residential and commercial development.

Woodland Period to Seventeenth Century

During the Woodland Period of northeastern North American history (about 3000 to 2500 years ago) the Indigenous peoples who resided along the Quinebaug River in the present-day Town of Putnam were part of the greater Algonquian culture of northeastern North America (Lavin 2013). They spoke local variations of Southern New England Algonquian (SNEA) languages and resided in extended kinship groups on lands they maintained for a variety of horticultural and resource extraction purposes (Goddard 1978). Native people in the region practiced subsistence activities including hunting, fowling, and fishing, along with the cultivation of various crops, the most important of which were maize, squash, and beans. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder times (Lavin 2013). Additionally, these communities came together in large groups to hunt deer in the fall and winter. Indigenous peoples lived with their immediate or extended families in large settlements often concentrated along rivers and/or wetlands. Some villages were fortified by wooden palisades. Their habitations, known as a *weetus* or *wigwams,* were generally constructed of a tree sapling frame and covered in reed matting during warm months and tree bark throughout the winter. These varied in size from a small, individual dwelling to an expansive "long house" which could accommodate several families. Native communities commonly traded among both their immediate neighbors and often maintained long-distance networks as well (Lavin 2013). At the time of the arrival of Europeans the Nipmuc were the most prominent Native nation within the present-day bounds of Windham County, which included distinct communities known as the Quinebaug, Nipmuc, Mohegan and Narragansett people (De Forest 1852; Larned 1874; Lavin 2013). All these groups were closely connected through kinship, culture, language, and trade. Two distinct Native communities resided within the bounds of what is present-day Putnam. Groups affiliated with the Nipmuc nation, and more specifically, the Wabbaquasset community, frequented the lands north of the High Falls on the Quinebaug River (De Forest 1852; Larned 1874; Bayles 1889; Lavin 2013). South of the falls were generally considered the territory of the Quinebaug nation who were distinct from their Nipmuc neighbors.

Seventeenth Century through Eighteenth Century

As Native communities maintained oral tradition rather than a written record, most surviving information of the Indigenous people of Connecticut was recorded by European observers who were Dutch or English colonists (Lavin 2013). In 1614, Dutch traders sailing under Captain Adrian Block were the earliest Europeans known to have sailed along Long Island Sound and up the Connecticut River where they initiated contact and trade with the Indigenous people of the Connecticut River Valley (De Forest

1852; Larned 1874; Lavin 2013). Following that voyage, Block created a figurative map of the region clearly depicting the Connecticut River, which the Dutch named the *Versche Rivier* (Fresh River) due to it being a freshwater river. It was during this voyage that Dutch traders learned the significance of *wampum,* polished tubular shell beads created from the white *whelk* shell and the purple *quahog* shell (Hauptman & Wherry 2009; McBride 2013). They found they could exchange wampum for valuable furs from Native peoples north along the Hudson River. By the early 1620s, the Dutch and Pequot of present-day southeastern Connecticut entered a trade partnership in which the Pequot supplied wampum and furs in return for European goods. In 1624, the Dutch established New Netherland Colony on the Hudson River with its eastern bounds extending as far as Cape Cod, including the Connecticut River (Jacobs 2009). The Pequot accessed a variety of trade goods they distributed to tributaries and other groups in the region. They extended their dominance over the Connecticut shoreline, eastern Long Island, and the lower Connecticut River Valley bringing Native nations there into a tributary relationship under their leadership (Hauptman & Wherry 2009; McBride 2013). Some Nipmuc groups and the Quinebaug, became tributaries to the Pequot during this time as well.

In 1633, the Pequot allowed the Dutch to build a fortified post, the *Huys de Hoop,* on the Connecticut River at the site of present-day Hartford to further cement both parties' domination over the flow of wampum, fur, and trade goods. To break from the Pequot, several Connecticut River sachems invited the English to the valley who settled Windsor (1633), Wethersfield (1634), and Hartford (1635) (Van Dusen 1961; Barry 1985). Increased interactions with Europeans resulted in exposure to epidemics Native people never encountered and to which they had no natural immunity. Illnesses such as smallpox, measles, tuberculosis, and cholera devastated Native communities. In the winter of 1633-1634, one such epidemic spread to the people of the Connecticut River Valley but there is no indication it impacted the Nipmuc further northeast (Trumbull 1886). Tensions between Native and European groups in the region resulted in the death of several English traders in 1634 and 1636, which were blamed on the Pequot. In retaliation English forces from Massachusetts Bay destroyed Pequot and Nehantic villages on the Pequot (Thames) River in August 1636, which began the Pequot War. The Pequot laid siege to Saybrook Fort at the mouth of the Connecticut River during the winter of 1636-1637 and attacked Wethersfield in April 1637. Connecticut Colony declared war on the Pequot and were joined by Native warriors from the Connecticut River, including the Poquonnock, as well as Mohegans under the Sachem Uncas (Oberg 2006). In May of 1637, English forces led by Captain John Mason of Windsor destroyed the fortified Pequot village at Mistick and in July, they pursued refugees west where the Pequot were defeated in present-day Fairfield and the war soon ended (Cave 1996). Pequot territory was considered conquered land claimed by Connecticut Colony while Massachusetts Bay settlers formed New Haven Colony at Quinnipiac in late 1638. In 1652, the Dutch lost the *Huys de Hoop* at Hartford during the First Anglo-Dutch War (Trumbull 1886).

In January of 1639, the Connecticut River towns adopted the "fundamental orders" which outlined the framework for Connecticut Colony (Trumbull 1886). In the aftermath of the Pequot War, the Sachem Uncas claimed much of northeastern Connecticut colony, the lands of former Pequot tributaries, as Mohegan through both right of conquest and hereditary claims (Larned 1874; Oberg 2006). This included Wabbaquasset and Quinebaug lands and Uncas' sons were sent to live in the respective communities. During the upheaval of King Philip's War (1675-1676) much of present-day Windham County was depopulated of Native communities. The Narragansett settlements at Egonk Hill were removed during the war and the Nipmuc peoples at Wabbaquasset either fell in with the Mohegan or sided with the greater Nipmuc nation that fought alongside Metacom's Native coalition against the English (Bowen 1926; Oberg 2006). Connecticut Colony recognized Uncas's claims to the Wabbaquassett territory, which included present-day Putnam. Uncas died around 1684 and his lands were divided

between his two sons, Attawanhood and Owaneco. Wabbaquassett territory came into the possession of Captain James Fitch by 1684 from Owaneco, then sachem of the Mohegan. In 1686, the Connecticut legislature granted a township patent to several proprietors which included much of the present Town of Putnam and was known as Aspinock (Larned 1880; Hoadly 1887; Bayles 1889). The region was frequented by Nipmuc and Quinebaug peoples drawn to the Falls during shad and salmon seasons. English settlers arrived in the early 1690's. A road to Providence, Rhode Island was laid out starting at the falls which promoted settlement.

In the eighteenth century, High Falls or Aspinock, attracted English settlers from neighboring Woodstock and Norwich. The earliest permanent English residents settled on the new road between Woodstock and Providence in 1703 and 1704 (Larned 1880; Bayles 1889). In 1708 the town of Killingly was established with most of the population living in the north end of town in the present-day village of Putnam. In 1722 Captain John Sabin built a bridge over the Quinebaug River below the High Falls which resulted in the growth of a village there and greatly facilitated travel between Hartford and Providence. By 1726 Windham County was organized and contained the towns of Ashford, Canterbury, Killingly, Plainfield, Pomfret, Voluntown, Windham, and Woodstock (Bayles 1889). Water-powered industry developed around the High Falls in earnest beginning around 1730 when David Howe constructed a gristmill, malt house and dye house on the Quinebaug (Larned 1880). Additional roads and bridges followed making this area between Woodstock, Norwich, and Providence more accessible. Slavery existed in Killingly during the eighteenth century and was primarily practiced by wealthy families, merchants, and ministers. The 1774 Connecticut colonial census recorded a "White" population of 3,439, a "Negro" population of 47, and 12 "Indians" in Killingly which included Aspinock (Hoadly 1887). It was not until 1784 that the State passed a gradual manumission law, but slavery was not fully abolished until 1848 (Normen 2013). During the American Revolution (1775-1783) men from the Killingly served in the 11th Regiment Connecticut Militia while the town supplied food stores for the war effort. After the Revolution, Windham County recovered from wartime economic disruptions thanks to its robust agricultural production. On January 9, 1788, Connecticut ratified the U.S. Constitution to become the fifth state (Van Dusen 1961).

Nineteenth Century through the Twenty-first Century

During the early 1800's Windham County experienced an overall population increase and this was also true of towns situated along the Quinebaug River due to early industrialization. Transportation improvements in the form of improved roads and railroad construction further linked present-day Putnam to markets in southern New England. In 1801, the Norwich and Woodstock Turnpike incorporated and extended a route northward from Norwich to Woodstock, passing through Brooklyn, Killingly, and Putnam to Woodstock. According to John Warner Barber, there were 4,000 people in Killingly in 1830 along with 14 cotton mills, three woolen mills, an iron furnace, an axe factory, and was described as "the greatest cotton manufacturing town in the state" (Barber 1836). The railroad encouraged the development of manufacturing in this region as well. A line of the Norwich & Worcester Railroad in eastern Connecticut began in 1838 and opened in 1840 with stops at Danielson, Dayville, and North Killingly (Putnam), which brought significant traffic through those areas (Turner and Jacobus 1989). The area had grown in population so much so that in 1855 Putnam was incorporated into a town with land from the towns of Killingly, Thompson, and Pomfret (Bayles 1889). It was named in honor of General Israel Putnam (1718-1790) who lived in neighboring Brooklyn and was a local Revolutionary War hero (Larned 1880). In 1860 the Census enumerated 2,722 people in Putnam (Connecticut 2022a). During the Civil War (1861-1865), local manufacturers produced military goods, including uniforms, and 193 men served in the Union Army (Niven 1965; Hines 2002). Following the end of the war Putnam developed as a manufacturing center along the Quinebaug River and agricultural hub elsewhere (Larned

1880; Bayles 1889). In 1894 the Day Kimball Hospital was founded on the west side of the Quinebaug, south of the falls, and was the first in Windham County underscoring the growing regional population and wealth located in Putnam (DKH 2022).

At the beginning of the twentieth century Putnam's population was 7,348 residents, a number that increased to 8,397 by 1920. Thereafter, however, the town's population rose steadily, but lost about 300 residents across the "Great Depression" decade of the 1930's (Connecticut 2022b). Manufacturers along the Quinebaug River closed during the depression while the Hurricane of 1938 destroyed most mill structures and dams along the river. Manufacturing in Putnam never recovered. The Federal Highway Acts of 1944 and 1956 funded the construction of Interstate 395 which was completed in 1958 and ran through Putnam (DeLuca 2020). This spurred new commercial and residential development in town particularly along Route 44. Putnam's population rose to a new high of 9,304 residents by 1950 and continued its steady growth throughout the rest of the century (Connecticut 2022b). In the twenty-first century, Putnam remained largely a rural landscape with pockets of suburban and commercial development, particularly in the village area around the falls. Overall, the population has increased annually since 1930 (Connecticut 2022b, 2022c). As of 2010, the U.S. Census enumerated 9,584 people living in Putnam, of which 9,018 identified as "white," 126 as "black or African American," 97 as "Asian," 282 as "Hispanic or Latino," and 60 as "American Indian and Alaska Native" (Connecticut 2022c; US Census 2012). By 2020, the population of the Town of Putnam decreased slightly to 9,224 people (US Census 2022). In 2021, to top three industries in town were health care, manufacturing, and retail trade. (AdvanceCT 2022).

Table 1. Population of Putnam, Connecticut 1790-2010 (Connecticut 2022a-c; AdvanceCT 2022)

Town	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900
Putnam, Windham County	-	-	-	-	-	-	-	2,722	4,192	5,827	6,512	7,348
	1910	**1920**	**1930**	**1940**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2020**
	7,280	8,397	8,099	8,692	9,304	8,412	8,598	8,580	9,031	9,002	9,584	9,224

History of the Project Area

The proposed project is located at 56 River Road in Putnam, Windham County, Connecticut. It is currently a mix of clear land and wooded land abutted west by River Road, east by a railroad bed and Quinebaug River beyond, north by wooded land, and south by more wooded land. The western portion of the area closest to River Road is currently an agricultural field and has likely been actively farmed since European settlement in the early eighteenth century, if not earlier by the Native Americans of the region. The rest of the area is wooded and the Quinebaug River runs along the eastern edge of the parcel beyond the railroad tracks.

The 1856 Woodford Windham County map of the Town of Putnam depicts the project area as undeveloped land, but it is unclear if the area is wooded or used for agricultural purposes. There are no structures recorded on the map within 500 meters (1,640 feet) of the parcel boundary nor has the railroad to the east been constructed yet (Figure 4, 1856 Woodford Map). Similarly, the Gray *Atlas of Windham and Tolland Counties* map of Putnam continues to depict the project area as undeveloped with no structures in the immediate area along River Road. By 1869 the Boston, Hartford and Erie Railroad was constructed through Putnam and appears to the east of the project area (Figure 5, 1869 Gray Map).

A 1934 aerial photograph documents the project area as being maintained as agricultural fields. The eastern boundary of the agricultural fields appears wooded which may be due to the land being hilly and rocky. There are several new structures, perhaps a farm, located north of the parcel while the railroad and Quinebaug River are noticeable just east of the project area (Figure 6, Fairchild 1934). Aerial photos taken in 1951 by the U.S. Department of Agriculture document a landscape that had not changed significantly since 1934. The northwestern portion of the project area remains cleared and used for agricultural purposes while the remainder of the property appears increasingly wooded. There are no new homes constructed in the vicinity and there is no real increase in wooded areas (Figure 7, USDA 1951). Similarly, a 1965 aerial photo depicts a landscape nearly identical to the 1951 aerial series (Figure 8, 1965). A 2004 aerial photo appears largely similar to earlier imagery except an expansion to Day Kimball Hospital is noticeable to the northwest of the parcel and the Putnam Wastewater Treatment Plant is seen to the northeast (Figure 9, 2004 Aerial). Finally, a 2022 aerial image demonstrates that the project area had not changed in any noticeable way with the exception of some residential homes to the southwest of the parcel (Figure 10, CT ECO 2019).

Light Imaging, Detection, and Ranging (LiDAR) Desktop Survey of the Project Area

The light imaging, detection, and ranging (LiDAR) desktop survey is an intuitive strategy employed by archaeologists to view the earth's surface, the regional landscape, and the proposed project area without interference in identifying macro- and/or micro- topographic precontact and historical period aboveground and/or subsurface features (Johnson and Ouimet 2014) (Figure 11). The LiDAR desktop survey is designed to locate and identify cultural features prior to the pedestrian survey component of the Phase IA cultural resources assessment survey. The LiDAR survey illustrated the actively plowed agricultural fields in the northwest corner of the project area, varying stonewalls, previous footpaths or farm roads along the eastern portion of the project area, and a possible pile of discarded stones due to previous tilling practices. Additionally, River Road can be seen to the west of the project area, whereas sidehill cuts from prior railroad construction are present to the east of the project area, and a possible cellar hole is located just south of the project area; the cellar hole does not have a corresponding structure on the historical maps, indicating that it might predate the 1856 map of the project area (Figure 4).

Conclusions

The historical investigation of the project located at 56 River Road in Putnam, Windham County, Connecticut indicates that the project area may be associated with historical resources, based on the proximity to a thoroughfare road, railroad, and potential cellar hole identified through LiDAR survey. Also, due to the landscape mainly consisting of forested land and some agricultural fields, there is the possibility of encountering remains of outbuildings, stone walls, collier huts or charcoal mounds, or other evidence of historical farming.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in Putnam, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites and National/State Register of Historic Places properties situated in the project region. The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office (CT-SHPO) in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage were examined during this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites and National/State Register of Historic Places Districts/Properties in the Vicinity of the Project Area

A review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage identified 10 precontact period archaeological sites and a single multicomponent archaeological site (116-15, 116-16, 116-19, 116-20, 116-21, 116-23, 116-24, 116-25, 116-26, 116-27, and 116-28) situated within 1.6 km (1 mi) of the project area. In addition, one National Register Historic District (Wilkinson Mill), two NRHP properties (Israel Putnam School and Putnam Railroad Station), and six SRHP properties (116-7, 116-8, 116-9, 116-10, 116-11, and 116-67) were identified within 1.6 km (1 mi) of the project area. A discussion of all cultural resources identified in the search area is provided below.

Site 116-15

Site 116-15, which is also known as the River Road Site I, is located on private land in the northern end of the cornfield along the western side of the intersection of River Road and Route 44 in Putnam, Connecticut (Figure 12). The Middle Archaic period site was recorded in June of 1978 by Robert R. Gradie III of the Public Archaeology Survey Team (PAST) in Storrs, Connecticut. Gradie described the site as a possible fishing station along the Quinebaug River. Artifacts collected during the Phase IB survey included a quartz Stark projectile point, a heat-treated flint scraper, and an uncertain number of flint and quartz flakes. Site 116-15 has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). It is located approximately 750 m (2,460.6 ft) to the northwest of the project area, and it will not be impacted by the proposed construction.

Site 116-16

Site 116-16, which is also known as the River Road Site II, is located on private land in the central portion of the cornfield along the western side of the intersection of River Road and Route 44 in Putnam, Connecticut (Figure 12). The indeterminate precontact archaeological site was recorded in June of 1978 by Robert R. Gradie III of the Public Archaeology Survey team (PAST) in Storrs, Connecticut. Gradie described the site as being a possible Archaic period campsite that may be related to the possible fishing station recorded as Site 116-15, or River Road Site I. Artifacts collected during the Phase IA cultural resources reconnaissance survey include one flint scraper and an uncertain amount of quartz flakes. Site 116-16 has not been evaluated for listing on the National Register of Historic Places criteria for

evaluation (36 CFR 60.4 [a-d]). It is located approximately 625 m (2,050.5 ft) to the northwest of the project area, and it will not be impacted by the proposed construction.

Site 116-19

Site 116-19 is located on town property abutting the Putnam Wastewater Treatment Plant to the north, approximately 300 m (984.3 ft) eat of Quinebaug Road and approximately 40 m (131.2 ft) to the west of the Quinebaug River in Putnam, Connecticut (Figure 12). The indeterminately dated precontact site was recorded in April of 2008 by Daniel Forrest of Archaeological and Historical Services, Inc. (AHS), in Storrs, Connecticut. Forrest described the site being on the same riverine terrace as Sites 116-15 and 116-16 and was classified as a small encampment. Artifacts collected during Phase IB and Phase II investigations included 10 Plainfield Formation quartzite flakes, 3 quartz flakes, and 2 high quality, moderately glossy dark gray chert flakes. No further archaeological investigations were recommended, and the site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-19 is located approximately 375 m (1,230.3 ft) to the northeast of the project area and will not be impacted by the proposed construction.

Site 116-20

Site 116-20 is located on private land approximately 182.9m (600 ft) to the west of Kennedy Drive and approximately 75 m (246 ft) west of the Quinebaug River in Putnam, Connecticut (Figure 12). The precontact period site was recorded in October of 2012 by Mary Harper of AHS, in Storrs, Connecticut. Artifacts collected during the Phase IB survey included 6 quartzite flakes and 3 quartz flakes which were recovered in both plowzone and subsoil contexts, in addition to 1 window glass shard, 1 whiteware sherd, and an iron spring action hook from the plowzone. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-20 is located approximately 325 m (1,066.3 ft) to the east of the project area and will not be impacted by the proposed construction.

Site 116-21

Site 116-21 is located on private land approximately 244 m (800 ft) to the west of Kennedy Drive and approximately 100 m (328 ft) to the west of the Quinebaug River in Putnam, Connecticut (Figure 12). The precontact period site was recorded in October of 2012 by Mary Harper of AHS, in Storrs, Connecticut. Artifacts collected during the Phase IB survey included 7 calcined bone, 6 quartzite flakes, 1 quartz flake, and 1 chert flake, in addition to 7 glass fragments and 2 nails all recovered from the topsoil. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-21 is located approximately 250 m (820 ft) to the east of the project area and will not be impacted by the proposed construction.

Site 116-23

Site 116-23 is located on private land approximately 274 m (900 ft) to the west of Kennedy Drive and approximately 525 m (1,722 ft) to the east of River Road in Putnam, Connecticut (Figure 12). The precontact period site was recorded in October of 2012 by Mary Harper of AHS, in Storrs, Connecticut. Artifacts recovered during the Phase IB survey included 4 quartz flakes, 2 calcined bone fragments, and 1 quartzite flake recovered in plowzone and subsoil, in addition to 1 whiteware sherd, 1 glass shard, and 1 spent lead bullet. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-23 is located approximately 225 m (738.2 ft) to the east of the project area and will not be impacted by the proposed construction.

Site 116-24

Site 116-24 is located on private land approximately 305 m (1000 ft) to the west of Kennedy Drive, approximately 200 m (656.2 ft) to the west of the Quinebaug River and is approximately 500 m (1,640 ft) to the east of River Road in Putnam, Connecticut (Figure 12). Site 116-24 is the only multicomponent archaeological site within the 1.6 km (1 mi) project area buffer and was recorded by Mary Harper of AHS, in Storrs, Connecticut. The artifact assemblage of the precontact component recovered during the Phase IB survey included 12 calcined bone fragments, 1 quartzite flake, 1 siltstone flake, 1 argillite flake, and 1 unknown lithic flake that were recovered from plowzone and subsoil contexts. The historical period component artifact assemblage included unspecified amounts of coal, coal ash, bottle and window glass, uncalcined bone, porcelain, creamware, whiteware, ironstone, lead, kaolin, nails, and slag recovered from the plowzone context. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-24 is located approximately 200 m (656.2 ft) to the east of the project area and will not be impacted by the proposed construction.

Site 116-25

Site 116-25 is located on private land approximately 244 m (800 ft) to the west of Kennedy Drive and approximately 30 m (98.4 ft) from the western edge of the Quinebaug River in Putnam, Connecticut (Figure 12). The Early Archaic period site was initially recorded in October 2012 by Mary Harper of AHS, in Storrs, Connecticut and was updated in April of 2015 by Michael Raber of Raber Associates (Raber), in South Glastonbury, Connecticut. The artifacts collected during the Phase IB survey conducted by AHS resulted in the recovery of 5 quartz flakes and 1 hammerstone from subsoil contexts. The Phase II site examination conducted by Raber in 2015 recovered an assemblage of artifacts that included 25 quartz scrapers, 1 quartz unifacial blade, 11 quartz cores, 2 granite hammerstones, 215 quartz flakes, and 19 shallow soil stain features. All the recovered Native American data was in the lower B soil horizon, with the soil stains being areas of minor discoloration, ranging between 3 to 5 cm (1.18 to 1.97 in) in depth and 7 to 12 cm (2.76 to 4.72 in) in length, and containing charred fragments of hazelnut, unidentified nutshell, and coniferous trees fragments. The radiocarbon and botanical data indicate that the site was occupied during the Early Archaic period (c. 9,000 to 8,500 yr BP), associated with the Gulf of Maine Archaic tradition (GMAT), and was interpreted as a food and nut processing site. Raber has assessed Site 116-25 to be potentially eligible for listing on the National and State Register of Historic Places based on Criterion D (36 CFR 60.4 [a-d]). Site 116-25 is located approximately 480 m (1,575 ft) to the southeast of the project area and will not be impacted by the proposed construction.

Site 116-26

Site 116-26 is located on private land approximately 244 m (800 ft) to the west of Kennedy Drive, approximately 150 m (492 ft) to the west of the Quinebaug River, and approximately 650 m (2,133 ft) to the east of River Road in Putnam, Connecticut (Figure 12). The Archaic/Woodland period site was initially recorded in October 2012 by Mary Harper of AHS, in Storrs, Connecticut and was updated in April 2015 by Michael Raber of Raber, in South Glastonbury, Connecticut. The artifacts collected during the Phase IB survey conducted by AHS resulted in the recovery of 2 quartzite flakes and 1 whiteware shard from topsoil and subsoil contexts. The Phase II site examination conducted by Raber in 2015 recovered an artifact assemblage that included 5 complete and fragmentary portions of unspecified projectile points, 1 quartz scraper, 1 basalt scraper, 7 quartzite utilized flakes, 39 quartzite flakes, 6 quartz flakes, 3 basalt flakes and 3 calcined bones. Additionally, one postmold and 2 soil stains were identified in the upper B subsoil at 45 to 50 cm (17.72 to 19.69 in) below surface. Raber states that the site could have been occupied as early as the Early Archaic period (c. 9,000 to 8,500 yr BP) and represents short-term hunting and gathering episodes. In addition, Site 116-26 was interpreted as being related chronologically and spatially with Site 116-25, and 7 unspecified precontact archaeological sites

within 213 m (700 ft) of the same large wetland, located to the east of River Road and to the west of the Quinebaug River in Putnam, Connecticut. Raber has assessed Site 116-26 to be potentially eligible for listing on the National and State Register of Historic Places based on Criterion D (36 CFR 60.4 [a-d]). Site 116-26 is located approximately 375 m (1,230 ft) to the southeast of the project area and will not be impacted by the proposed construction.

Site 116-27

Site 116-27 is located on private land approximately 488 m (1,600 ft) to the west of Kennedy Drive, approximately 475 m (1,558.4 ft) to the west of the Quinebaug River, and approximately 400 m (1,312 ft) to the east of River Road in Putnam, Connecticut (Figure 12). The precontact period site was recorded in October of 2012 by Mary Harper of AHS, in Storrs, Connecticut. Artifacts recovered during the Phase IB survey included 3 quartzite flakes, 1 quartz flake, 1 modern bottle glass shard, and 4 curved glass shards recovered from topsoil and subsoil contexts. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-27 is located approximately 150 m (492.1 ft) to the southeast of the project area and will not be impacted by the proposed construction.

Site 116-28

Site 116-28 is located on private land approximately 488 m (1600 ft) to the west of Kennedy Drive, approximately 450 m (1,476.4 ft) to the west of the Quinebaug River, and approximately 500 m (1,640.4 ft) to the east of River Road in Putnam, Connecticut (Figure 12). The precontact site was recorded in October 2012 by Mary Harper of AHS, in Storrs, Connecticut. Artifacts recovered during the Phase IB survey included 8 quartz flakes, 1 quartz core, and 1 curved glass shard from topsoil and subsoil contexts. The site has not been assessed for listing on the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 116-28 is located approximately 250 m (820.2 ft) to the southeast of the project area and will not be impacted by the proposed construction.

Wilkinson Mill National Register Historic District

The Wilkinson Mill Historic District, commonly known as the Cargill Falls Mill, contains 20 contributing buildings and one contributing structure, and was listed on the National Register of Historic Places in June of 2014. The district is bounded by the Quinebaug River to the immediate east and by Pomfret Street/Route 44 to the immediate north and west (Figure 13). The Wilkinson Mill Historic District is significant because it is one of the oldest mill complexes in Connecticut and it exemplifies the historic development of early mill industrialization in southern New England from the period of between 1806 and 1950. Architectural styles represented in the district include Federal, Greek Revival, Second Empire, Romanesque, and Twentieth Century Industrial. The Wilkinson Mill complex is comprised entirely of industrial-oriented, interconnected buildings that illustrate economic and industrial growth since the inception of the Pomfret Cotton Mill by Smith Wilkinson in 1806. The Wilkinson Mill complex expanded following the initial mill being demolished by fire in 1824 and was periodically expanded upon until the mill was closed for manufacturing in 1984. The southern boundary of the historic district is located approximately 1.2 km (0.75 mi) to the north of the proposed project area, and it has been determined that historic district will not be impacted by the proposed construction.

Israel Putnam School

The Israel Putnam School is an early twentieth century modern brick school located at 71 Front Street in Putnam, Connecticut (Figure 13). The structure was listed on the Connecticut State Register of Historic Places and simultaneously listed on the National Register of Historic Places in 1984. The school is significant for its architecture as the first modern brick school building in Putnam, Connecticut and that

the building was designed beyond its basic functional requirements with quality materials (Criteria A and C). The land, prior to the construction of the Israel Putnam School, was owned by the town of Putnam, where a wooden two-story school structure was located to facilitate the educational needs of mainly mill-working families. While serving over 400 pupils in 1899, the school board found that the two-story wooden school structure, "surroundings and condition of the building are not such as to inspire enthusiasm… and the teachers are badly handicapped by rooms poorly lighted, ventilated, and heated", as outlined in their annual report. In 1901 the voters approved construction of a new facility and the Israel Putnam School was constructed in 1902. The school building is located approximately 1.6 km (1 mi) to the north of the project area, and it will not be impacted by the proposed construction.

Putnam Railroad Station

The Putnam Railroad Station is a late nineteenth century to twentieth century railroad station that is located at 35 and 45 to 47 Main Street in Putnam, Connecticut (Figure 13). The structure was listed on the National Register of Historic Places in 2007. The Putnam Railroad Station is significant for recalling the importance of rail transportation in making Putnam into a small city and for its architectural significance (Criteria A and C). Architecturally, the Putnam Railroad Station is significant for its Mediterranean Revival, Tudor/Elizabethan Revival, and possesses Spanish-tile roof styles and influences. The railroad station was built to replace the aging ca. 1875 station due to increasing infrastructural construction and to alleviate traffic congestion. The present railroad station was constructed between 1905 to 1907 due to a comprehensive program where the Town of Putnam financially contributed $20,000 dollars to its construction. It was constructed by William Patterson, a contractor from New Haven, Connecticut, although the architect is unknown. The Putnam Railroad Station is located approximately 1.4 km (0.87 mi) to the north of the project area, and it will not be impacted by the proposed construction.

Connecticut State Register of Historic Places

Six SHRP properties were identified during a review of data currently on file at the CT-SHPO, as well as the electronic files maintained by Heritage, within 1.6 km (1 mi) of the project area (see Figure 13). Each of the SHRP properties is detailed below (Table 2). Three of the SHRP properties; The Sampson Howe Tavern (116-7), St. Thomas Hall (116-11), and the Congregational Church of Putnam (116-67), were documented with commonly known names, while the remaining three properties were not recorded with similar identifiers. The dates of construction ranges from the late eighteenth century, Sampson Howe Tavern (c. 1788), to the late nineteenth century, both 116-9 and 116-10 (c. 1875). All identified SHRP properties are located to the north of the project area and will not be impacted by the proposed construction.

Table 2. State Register Historic Places Within the Project Area Buffer

Name	SRHP Number	Date	Architectural Style	Location	Year	Recorder
Sampson Howe Tavern	116-7	1788	Center-Chimney Colonial	21 Danielson Road	1968	H.C. Darbee
--	116-8	1850 - 1860	Transitional/ Greek Revival	120-122 Quinebaug Avenue	1968	H.C. Darbee
--	116-9	1875	Victorian Style	6 Belleview Street	1968	H.C. Darbee
--	116-10	1875	Four-Square, Hip-Roofed	5 Prospect Street	1968	H.C. Darbee
St. Thomas Hall	116-11	1860	Gothic Style Mansard Roof	62 Church Street	1968	H.C. Darbee
Congregational Church of Putnam	116-67	1870	Romanesque	175 Main Street	1987	Bruce Clouette and Matthew Roth

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methods used to complete the Phase IA cultural resources assessment survey of the project area in Putnam, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting, as presented in Chapters II through IV; 2) a literature search to identify and discuss previously recorded cultural resources in project region; 3) a review of historical maps, topographic quadrangles, and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987).

Research Framework

The current Phase IA cultural resources assessment survey was designed to assess the archaeological sensitivity of the project area, as well as to visually examine the development areas for any previously unidentified cultural resources during pedestrian survey. The undertaking was comprehensive in nature, and project planning considered the distribution of previously recorded cultural resources located within the larger region, local soil conditions, and a visual assessment of proposed project area. The methods used to complete this investigation were designed to provide coverage of all portions of the project area and considered both below and above ground resources. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and mapping (see below).

Archival Research & Literature Review

Background research for this project included a review of a variety of historical maps depicting the proposed project area; an examination of USGS 7.5' series topographic quadrangles; an examination of aerial images dating from 1934 through 2019, including LiDAR; and a review of all archaeological sites and National and State Register of Historic Places on file with the CT-SHPO, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the project area, and to provide a natural and cultural context for the project region. This information then was used to develop the archaeological context of the project area, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

Background research materials, including historical maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the CT-SHPO. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during the course of this project, and they provided valuable data related to the project region, as well as data concerning previously identified archaeological sites and National/State Register of Historic Places properties within the general vicinity of the development area.

Field Methodology and Data Synthesis

The field methods for this project included pedestrian survey, photo-documentation, and mapping of the project area. During the completion of the pedestrian survey, a representative from Heritage photo-documented all parts of the project area and assessed its archaeological sensitivity.

CHAPTER VII
RESULTS OF THE INVESTIGATION & MANAGEMENT SUMMARY

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the project area in Putnam, Connecticut. As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the project region; 3) a review of readily available historical maps and aerial imagery depicting the project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project area in order to determine its depositional integrity, historical associations, and archaeological sensitivity.

Determining Archaeological Sensitivity

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of historical maps, aerial images, and data regarding previously identified archaeological sites and National/State Register of Historic Places properties to stratify the project items into zones of no/low and/or moderate/high archaeological sensitivity. In general, historical period archaeological sites are relatively easy to identify on the current landscape because the features associated with them tend to be relatively permanent constructions that extend above the ground surface (i.e., stone foundations, pens, wells, privies, etc.). Archaeological sites dating from the precontact era, on the other hand, are less often identified during pedestrian survey because they are buried, and predicting their locations relies more on the analysis and interpretation of environmental factors that would have informed Native American site choices.

With respect to the potential for identifying precontact archaeological sites, the project area was divided into areas of no/low and/or moderate/high archaeological potential by analyzing the landform types, slope, aspect, soils contained within them, and their distance to water. In general, areas located less than 300 m (1,000 ft) from a freshwater source and that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing precontact archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source and well drained soils are considered moderate probability areas. This is in keeping with broadly based interpretations of precontact settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of precontact site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences, while smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are generally deemed to retain a no/low archaeological sensitivity with respect to their potential to contain precontact archaeological sites.

In addition, the potential for a given area to yield evidence of historical period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of previously identified historical period archaeological resources as identified during previous archaeological surveys, recorded on historical period maps, or captured in aerial images of the region under study. In this case, proposed project items that are situated within 100 m (328 ft) of a previously identified historical period archaeological site or a National or State Register of Historic Places district/individually listed property also may be deemed to retain a moderate/high archaeological sensitivity. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties would be considered to retain a no/low historical period archaeological sensitivity.

Results of Phase IA Survey and Management Summary

The study area located in Putnam, Connecticut is an active agricultural and wooded parcel that is situated to the immediate east of River Road, with the Quinebaug River to the east, Carpenters Brook to the west and south, and two unnamed feeder streams to the north and south of the project area. The proposed project includes the construction of a solar facility that includes construction of a 20 ft (6.1 m) wide access road, interconnection pole, equipment pads, multiple stormwater management features, and a chain link fence (Figures 1 and 2). The project area is situated on elevations ranging between 89 to 111 m (292 to 364.2 ft) NGVD. During the survey, the project area was characterized primarily as a forested swamp along the northern extent and surrounded by the Putnam Wastewater Treatment Plant to the northeast, the Day Kimball Hospital further northwest, and the commercial park located on Technology Park Drive to the southeast.

The predominant soil types identified throughout the project area include Agawam, Canton, Charlton, and Chatfield soils. All the identified soil types are well drained soils, and where there is no presence of previous disturbance, these soils may be correlated with precontact and historical use and occupation. The location within the Northeast Hills ecoregion, with proximity to the feeder Carpenter Brook, and Quinebaug River provides an optimal area for precontact and historical period occupation and past activities that may result in the formation of archaeological deposits.

Heritage personnel completed a pedestrian survey of the project area on June 7, 2022 (Figure 14 and Photos 1 through 12). The pedestrian survey revealed that the proposed project area consists of active agricultural fields in the northwest corner of the area, a forested swamp in the northern portion of the area, and the remainder of the project area is a vacant wooded area. Aside from the agricultural section of the limit of disturbance, the study area appears to have limited disturbance and possess a moderate to high archaeological sensitivity. The project area is in proximity to the Quinebaug River and previously surveyed archaeological sites (Site 116-25 and Site 116-26) that are potentially eligible for listing on the National Register of Historic Places (36 CFR 60.4 [a-d]).

BIBLIOGRAPHY

AdvanceCT and CTData Collaborative

2022 Hartford, Connecticut, CERC Town Profile 2021. https://s3-us-west-2.amazonaws.com/cerc-pdfs/2021/Putnam.pdf, accessed June 21, 2022.

Aerographics, Inc.

1986 Connecticut statewide aerial photograph series. Connecticut State Archives, Hartford, CT.

Barber, John Warner

1837 *Connecticut Historical Collections*. 2nd edition. Storrs, Connecticut: Bibliopola Press; Hanover, New Hampshire: Distributed by the University Press of New England.

Barry, Ann P.

1985 *Connecticut Towns and their Establishment*. Connecticut State Library, Hartford, CT.

Bayles, Richard M.

1889 *History of Windham County, Connecticut*. Volume 2. W. W. Preston, New York, NY.

Bellantoni, Nicholas

1995 Distribution of Paleoindian Cultural Material in Connecticut. Paper presented at the Archaeological Society of Connecticut Annual Spring Meeting.

Bendremer, J.

1993 *Late Woodland Settlement and Subsistence in Eastern Connecticut*. Ph.D. Dissertation, Department of Anthropology, University of Connecticut, Storrs, Connecticut.

Bendremer, J. and R. Dewar

1993 The Advent of Maize Horticulture in New England. In *Corn and Culture in the Prehistory of the New World.* Ed. by S. Johannessen and C. Hastorf. Westview Press, Boulder.

Bendremer, J., E. Kellogg, and T. Largy

1991 A Grass-Lined Storage Pit and Early Maize Horticulture in Central Connecticut. *North American Archaeologist 12(4):325-349.*

Cave, Alfred A.

1996 *The Pequot War*. University of Massachusetts Press, Amherst, MA.

Coe, J.L.

1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society*, Vol. 54, Part 5. Philadelphia, Pennsylvania.

Connecticut, State of

1932 *State Register and Manual*. Hartford, Connecticut: State of Connecticut.

2022a "Population of Connecticut Towns 1830-1890," Office of the Secretary of the State Denise W. Merrill. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1830---1890,

accessed June 20, 2022.

2022b "Population of Connecticut Towns 1900-1960," Office of the Secretary of the State Denise W. Merrill. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1900-1960, accessed June 20, 2022.

2022c "Population of Connecticut Towns 1970-2010," Office of the Secretary of the State Denise W. Merrill. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1970-2010, accessed June 20, 2022.

Connecticut Department of Environmental Protection (CT DEP)

1981 Connecticut Statewide Aerial Photograph Series. Hartford, Connecticut: Connecticut State Archives.

Connecticut Environmental Conditions Online (CT ECO)

2019 Connecticut 2019 Orthophotography. University of Connecticut, Connecticut Environmental Conditions Online. http://www.cteco.uconn.edu/data/flight2019/index.htm, accessed March 23, 2022.

Curran, M.L., and D.F. Dincauze

1977 Paleo-Indians and Paleo-Lakes: New Data from the Connecticut Drainage. In *Amerinds and their Paleoenvironments in Northeastern North America.* Annals of the New York Academy of Sciences 288:333-348.

Day Kimball Healthcare (DKH)

2002 "History of DKH," DKH Day Kimball Healthcare. https://www.daykimball.org/about-day-kimball-healthcare/history-of-dkh/, accessed June 20, 2022.

De Forest, John W.

1852 *History of the Indians of Connecticut from the Earliest Known Period to 1850*. Wm. Jas. Hamersley, Hartford, Connecticut.

DeLuca, Richard

2020 *Paved Roads & Public Money: Connecticut Transportation in the Age of Internal Combustion*. Wesleyan University Press. Middletown, CT.

Dincauze, D.F.

1974 An Introduction to Archaeology in the Greater Boston Area. *Archaeology of Eastern North America* 2(1):39-67.

1976 *The Neville Site: 8000 Years at Amoskeag.* Peabody Museum Monograph No. 4. Cambridge, Massachusetts.

Dowhan, J.J. and R.J. Craig

1976 *Rare and endangered species of Connecticut and Their Habitats*. State Geological Natural History Survey of Connecticut Department of Environmental Protection, Report of Investigations No. 6.

Fairchild Aerial Surveys
1934 Connecticut Statewide Aerial Photograph Series. Hartford, Connecticut: Connecticut State Archives.

Feder, K.
1984 *Pots, Plants, and People: The Late Woodland Period of Connecticut*. Bulletin of the Archaeological Society of Connecticut 47:99-112.

Fitting, J.E.
1968 *The Spring Creek Site*. In *Contributions to Michigan Archaeology*, pp. 1-78. Anthropological Papers No. 32. Museum of Anthropology, University of Michigan, Ann Arbor.

Forrest, D.T.,
1999 Beyond presence and absence: Establishing diversity in Connecticut's Early Holocene archaeological record. *Bulletin of the Archaeological Society of Connecticut*, 62: 79-99.

Funk, R.E.
1976 *Recent Contributions to Hudson Valley Prehistory.* New York State Museum Memoir 22. Albany.

George, D.
1997 A Long Row to Hoe: The Cultivation of Archaeobotany in Southern New England. *Archaeology of Eastern North America* 25:175 - 190.

George, D., and C. Tryon
1996 *Lithic and Raw Material Procurement and Use at the Late Woodland Period Cooper Site, Lyme, Connecticut.* Paper presented at the joint meeting of the Archaeological Society of Connecticut and the Massachusetts Archaeological Society, Storrs Connecticut.

George, D.R., and R. Dewar
1999 Prehistoric Chenopodium in Connecticut: Wild, Weedy, Cultivated, or Domesticated? *Current Northeast Paleoethnobotany*, edited by J. Hart, New York State Museum, Albany, New York.

Gerrard, A.J.
1981 *Soils and Landforms, An Integration of Geomorphology and Pedology*. George Allen & Unwin: London.

Goddard, Ives
1978 *Handbook of North American Indians,* V. 17, Languages. Smithsonian Institution, Washington, D.C.

Gramly, R. Michael, and Robert E. Funk
1990 What is Known and Not Known About the Human Occupation of the Northeastern United States Until 10,000 B. P. *Archaeology of Eastern North America* 18: 5-32.

Gray, Ormando Willis
1869 *Atlas of Windham and Tolland Counties: With a Map of Connecticut*. C. G. Keeney: Hartford, CT.

Griffin, J.B.
1967 Eastern North America Archaeology: A Summary. *Science* 156 (3772):175-191.

Hauptman, Laurence M. and James D. Wherry (editors)
1990 *The Pequots in Southern New England: The Fall and Rise of an American Indian Nation*. University of Oklahoma Press. Norman, Oklahoma.

Hines, Blaikie
2002 *Civil War Volunteer Sons of Connecticut.* American Patriot Press. Thomaston, ME.

Hoadly, Charles J.
1887 *The Public Records of the Colony of Connecticut,* Volume 14. Case, Lockwood & Brainard Company, Hartford, CT.

Jacobs, Jaap
2009 *The Colony of New Netherland: A Dutch Settlement in Seventeenth-Century America.* Cornell University Press. Cornell, NY.

Johnson, K.M. and W.B. Ouimet
2014 Rediscovering the lost archaeological landscape of southern New England using airborne light detection and ranging (LiDAR). *Journal of Archaeological Science*, 43: 9-20.

Jones, B.
1997 The Late Paleo-Indian Hidden Creek Site in Southeastern Connecticut. *Archaeology of Eastern North America* 25:45-80.

Jones, B.D., and D.T. Forrest
2003 Life in a Postglacial Landscape: Settlement-Subsistence Change During the Pleistocene-Holocene Transition in Southern New England. In *Geoarchaeology of Landscapes in the Glaciated Northeast*, edited by D.L. Cremeens and J.P. Hart, pp. 75-89. New York State Museum Bulletin 497. Albany, NY: University of the State of New York, The State Education Department.

Larned, Ellen D.
1880 *History of Windham County, Connecticut*. Volume II, 1760-1880. Charles Hamilton Printer, Worcester, MA.

Lavin, L.
1980 Analysis of Ceramic Vessels from the Ben Hollister Site, Glastonbury, Connecticut. *Bulletin of the Archaeological Society of Connecticut* 43:3-46.

1984 Connecticut Prehistory: A Synthesis of Current Archaeological Investigations. *Archaeological Society of Connecticut Bulletin* 47:5-40.

1986 *Pottery Classification and Cultural Models in Southern New England Prehistory*. North American Archaeologist 7(1):1-12.

1987 The Windsor Ceramic Tradition in Southern New England. *North American Archaeologist* 8(1):23-40.

1988a Coastal Adaptations in Southern New England and Southern New York. *Archaeology of Eastern North America*, Vol.16:101-120.

1988b The Morgan Site, Rocky Hill, Connecticut: A Late Woodland Farming Community in the Connecticut River Valley. *Bulletin of the Archaeological Society of Connecticut* 51:7-20.

2013 *Connecticut's Indigenous Peoples: What Archaeology, History, and Oral Traditions Teach Us About Their Communities and Cultures*. Yale University Press, New Haven, Connecticut.

Leslie, David E., Sarah P. Sportman, and Brian D. Jones
2020 The Brian D. Jones Site (4-10B): A Multi-Component Paleoindian Site in Southern New England. *PaleoAmerica* 6(2): 199-203.

Leslie, David E., Zachary L.F. Singer, William B. Ouimet, and Peter A. Leach
2021 Deeply Buried Pleistocene Landscapes and the Search for Paleoindian Sites in the Northeast. *Bulletin of the Archaeological Society of Connecticut*, 83: 87-101.

Leslie, David E., Zachary L.F. Singer, G. Logan Miller, Katharine R. Reinhart, and Brian D. Jones
2022 Gulf of Maine Archaic Tradition Occupations at the Edgewoods Apartment Site, Plainville, Massachusetts. *Archaeology of Eastern North America*, 50: 1-29.

Lizee, J.
1994a *Prehistoric Ceramic Sequences and Patterning in southern New England: The Windsor Tradition*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Connecticut, Storrs.

1994b *Cross-Mending Northeastern Ceramic Typologies.* Paper presented at the 1994 Annual Meeting of the Northeastern Anthropological Association, Geneseo, New York.

McBride, K.
1978 Archaic Subsistence in the Lower Connecticut River Valley: Evidence from Woodchuck Knoll. *Man in the Northeast* 15 & 16:124-131.

1984 *Prehistory of the Lower Connecticut River Valley.* Ph.D. Dissertation, Department of Anthropology, University of Connecticut, Storrs, Connecticut.

2013 War and Trade in Eastern New Netherland. In *A Beautiful and Fruitful Place.* M. Lacy, editor pp. 271-141. University of Massachusetts Press, Amherst, MA.

Moeller, R.
1980 *6-LF-21: A Paleo-Indian Site in Western Connecticut.* American Indian Archaeological Institute, Occasional Papers No. 2.

Niven, John
1965 *Connecticut for the Union: The Role of the State in the Civil War.* Yale University Press,

New Haven, CT.

Normen, Elizabeth J. (Editor)
2013 *African American Connecticut Explored*. Wesleyan University Press, Middletown, CT.

Oberg, Michael Leroy
2006 *Uncas: First of the Mohegans*. Cornell University Press. Ithaca, NY.

Oglesby, Scott
2012 Route 99. *Connecticut Roads*. Accessed April 27, 2022. https://web.archive.org/web/20220408120605/http://kurumi.com/roads/ct/ct99.html.

2014 I-91. *Connecticut Roads*. Accessed April 27, 2022. https://web

Pagoulatos, P.
1988 Terminal Archaic Settlement and Subsistence in the Connecticut River Valley. *Man in the Northeast* 35:71-93.

Pease, John C. and John M. Niles
1819 *A Gazetteer of the States of Connecticut and Rhode-Island*. Hartford, Connecticut: William S. Marsh.

Petersen, J.B.
1991 *Archaeological Testing at the Sharrow Site: A Deeply Stratified Early to Late Holocene Cultural Sequence in Central Maine*. Occasional Publications in Maine Archaeology 8. Augusta, ME: Maine Historic Preservation Commission and Maine Archaeological Society.

Petersen, J.B., and D.E. Putnam
1992 Early Holocene Occupation in the Central Gulf of Maine Region. In *Early Holocene Occupation in Northern New England*, edited by B. Robinson, J. Petersen and A. Robinson, pp. 13-62. Occasional Papers in Maine Archaeology 9. Augusta, ME: Maine Historic Preservation Commission.

Pfeiffer, J.
1984 The Late and Terminal Archaic Periods in Connecticut Prehistory. *Bulletin of the Bulletin of the Archaeological Society of Connecticut* 47:73-88.

1986 Dill Farm Locus I: Early and Middle Archaic Components in Southern Connecticut. *Bulletin of the Archaeological Society of Connecticut* 49:19-36.

1990 The Late and Terminal Archaic Periods in Connecticut Prehistory: A Model of Continuity. In *Experiments and Observations on the Archaic of the Middle Atlantic Region.* R. Moeller, ed.

Poirier, D.
1987 *Environmental Review Primer for Connecticut's Archaeological Resources.* Connecticut Historical Commission, State Historic Preservation Office, Hartford, Connecticut.

Pope, G.
1952 Excavation at the Charles Tyler Site. *Bulletin of the Archaeological Society of Connecticut* 26:3-29.

1953 The Pottery Types of Connecticut. *Bulletin of the Archaeological Society of New Haven* 27:3-10.

Ritchie, W.A.
1969a *The Archaeology of New York State*. Garden City: Natural History Press.

1969b *The Archaeology of Martha's Vineyard: A Framework for the Prehistory of Southern New England; A study in Coastal Ecology and Adaptation*. Garden City: Natural History Press.

1971 *A Typology and Nomenclature for New York State Projectile Points*. New York State Museum Bulletin Number 384, State Education Department. University of the State of New York, Albany, New York.

Ritchie, W.A., and R.E. Funk
1973 *Aboriginal Settlement Patterns in the Northeast*. New York State Museum Memoir 20. The State Education Department, Albany.

Robinson, B.S., and J.B. Petersen
1993 Perceptions of Marginality: The Case of the Early Holocene in Northern New England. *Northeast Anthropology* 46: 61-75.

Rocky Hill, Town of
2015 *Rocky Hill 2015 Plan of Conservation and Development.* Accessed April 27, 2022. https://www.rockyhillct.gov/DocumentCenter/View/424/2015-Plan-of-Conservation-and-Development-PDF.

Rouse, I.
1947 Ceramic Traditions and sequences in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 21:10-25.

Salwen, B., and A. Ottesen
1972 Radiocarbon Dates for a Windsor Occupation at the Shantok Cove Site. *Man in the Northeast* 3:8-19.

Sanger, D., W.R Belcher, and D.C. Kellogg
1992 Early Holocene Occupation at the Blackman Stream Site, Central Maine. *In Early Holocene Occupation in Northern New England*, edited by B. Robinson, J. Petersen and A. Robinson, pp 149-161. Occasional Papers in Maine Archaeology 9.

Singer, Zachary
2017a The Paleoindian Occupation of Southern New England: Evaluating Sub-Regional Variation in Paleoindian Lifeways in the New England-Maritimes Region. Unpublished Doctoral Dissertation, University of Connecticut.

2017b Sub-Regional Patterning of Paleoindian Sites with Michaud-Neponset Points in New England and the Canadian Maritimes. *PaleoAmerica* 3(4): 337-350.

Smith, C.
1947 An Outline of the Archaeology of Coastal New York. *Bulletin of the Archaeological Society of Connecticut* 21:2-9.

Snow, D.
1980 *The Archaeology of New England.* Academic Press, New York.

Strauss, Alan E.
2017 Evidence of Early Holocene Prehistoric Activity: A Case for the Gulf of Maine Archaic Tradition in Central Massachusetts. *Archaeology of Eastern North America* 45: 109-132.

Tillotson, Edward
1873 Probate Packets, Thompson J - Upson, 1769-1880. Connecticut State Library, Hartford, CT. Ancestry.com, Provo, Utah.

Turner, Gregg M. and Melancthon W. Jacobus
1986 *Connecticut Railroads: An Illustrated History*. The Connecticut Historical Society, Hartford, CT.

United States Census Bureau (US Census)
2012 *Connecticut: 2010, Summary Population and Housing Characteristics.* U.S. Government Printing Office. Washington, DC.

2022 "Quick Facts: Putnam town, Windham County, Connecticut," United States Census Bureau, https://www.census.gov/quickfacts/fact/table/putnamtownwindhamcountyconnecticut/PST045221, accessed June 21, 2022.

United States Department of Agriculture (USDA)
1952 Agricultural Stabilization and Conservation Service Aerial Photography for Connecticut. Washington, DC: Collections of the National Archives and Records Administration.

Van Dusen, Albert E.
1961 *Connecticut*. Random House, NY.

Witthoft, J.
1949 An Outline of Pennsylvania Indian History. *Pennsylvania History* 16(3):3-15.

1953 Broad Spearpoints and the Transitional Period Cultures. *Pennsylvania Archaeologist*, 23(1):4-31.

Woodford, E. M.
1856 *Windham County, Connecticut*. E. M. Woodford, Philadelphia, PA.

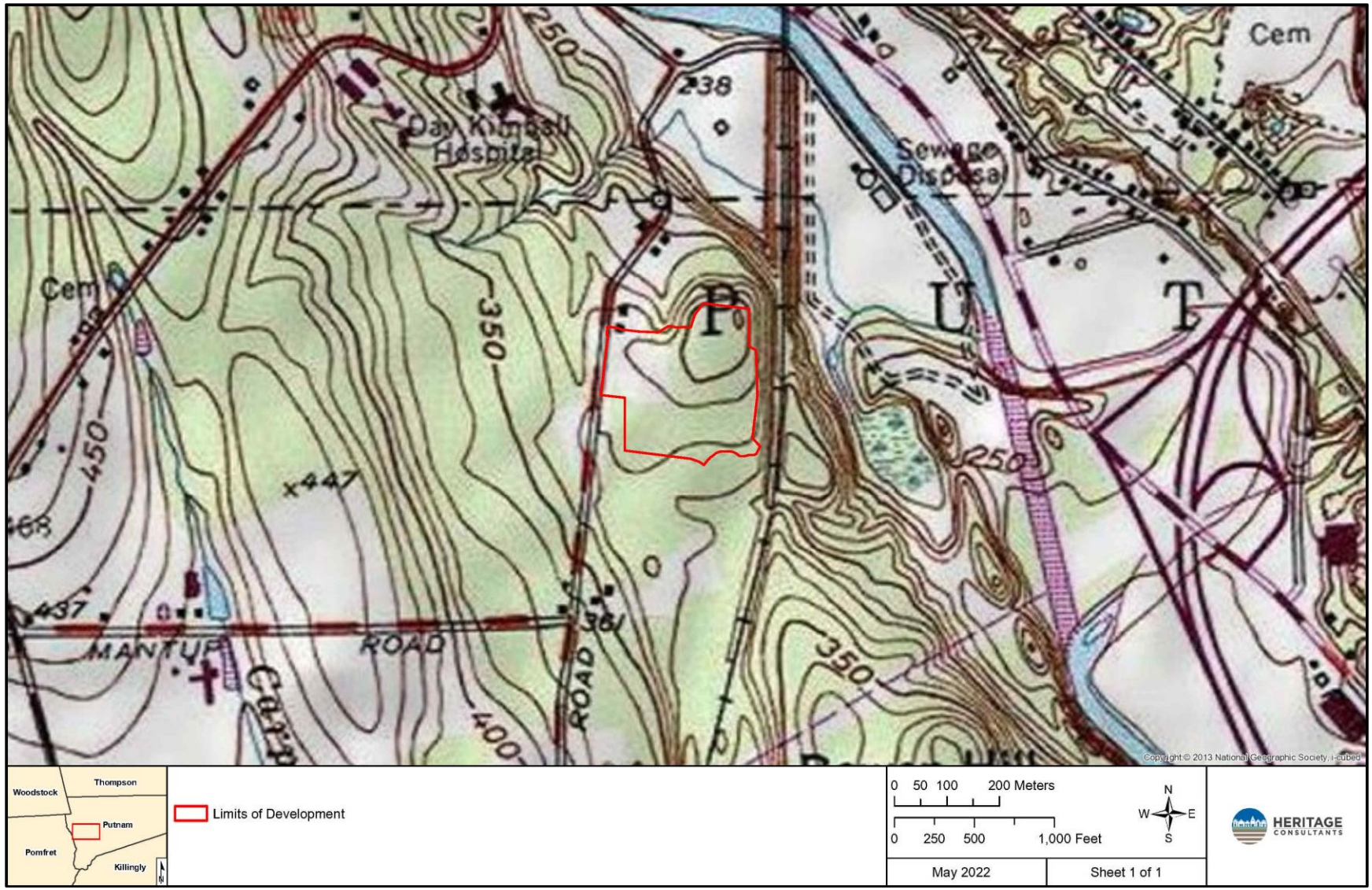

Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project area in Putnam, Connecticut.

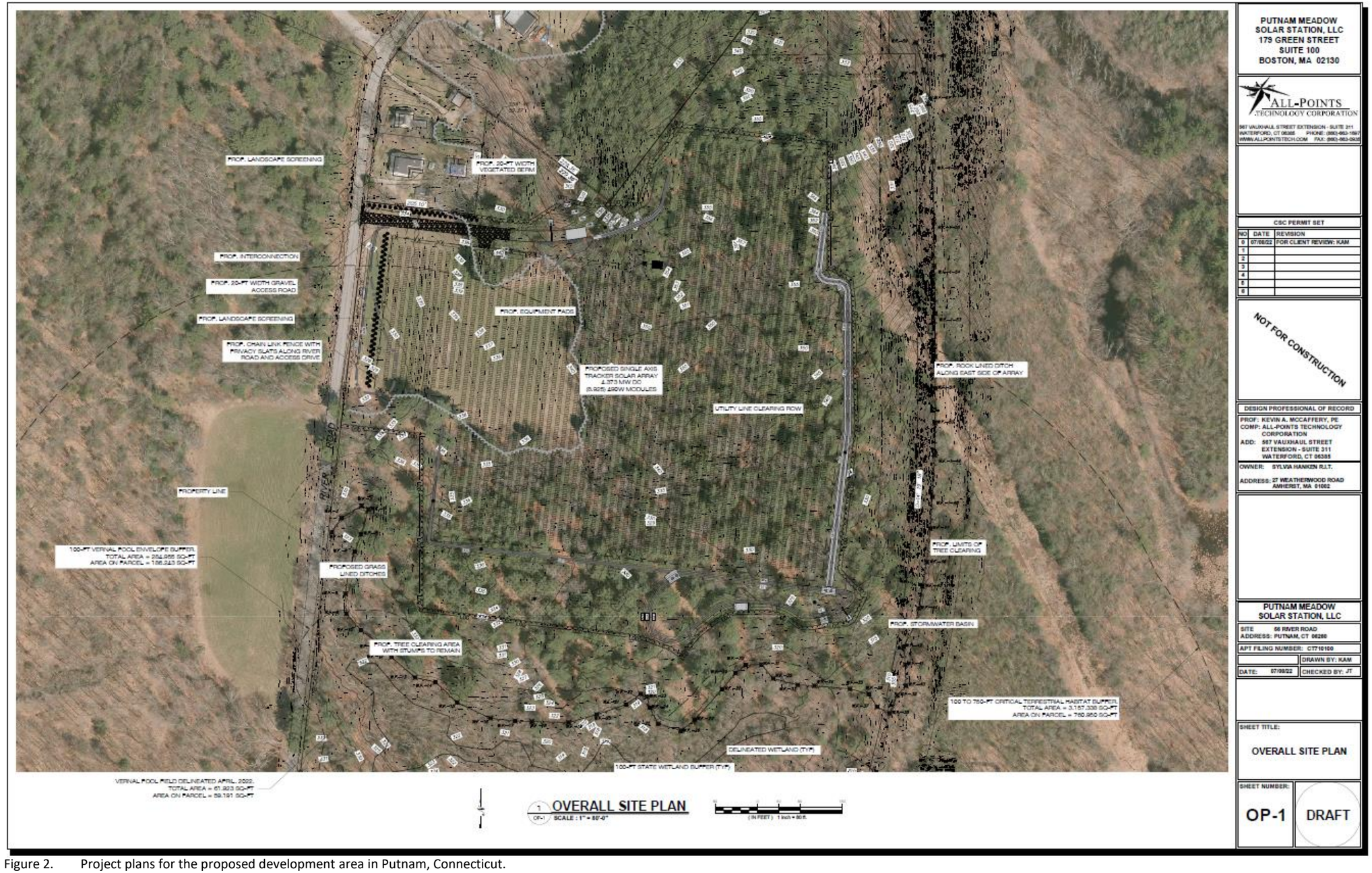

Figure 2. Project plans for the proposed development area in Putnam, Connecticut.

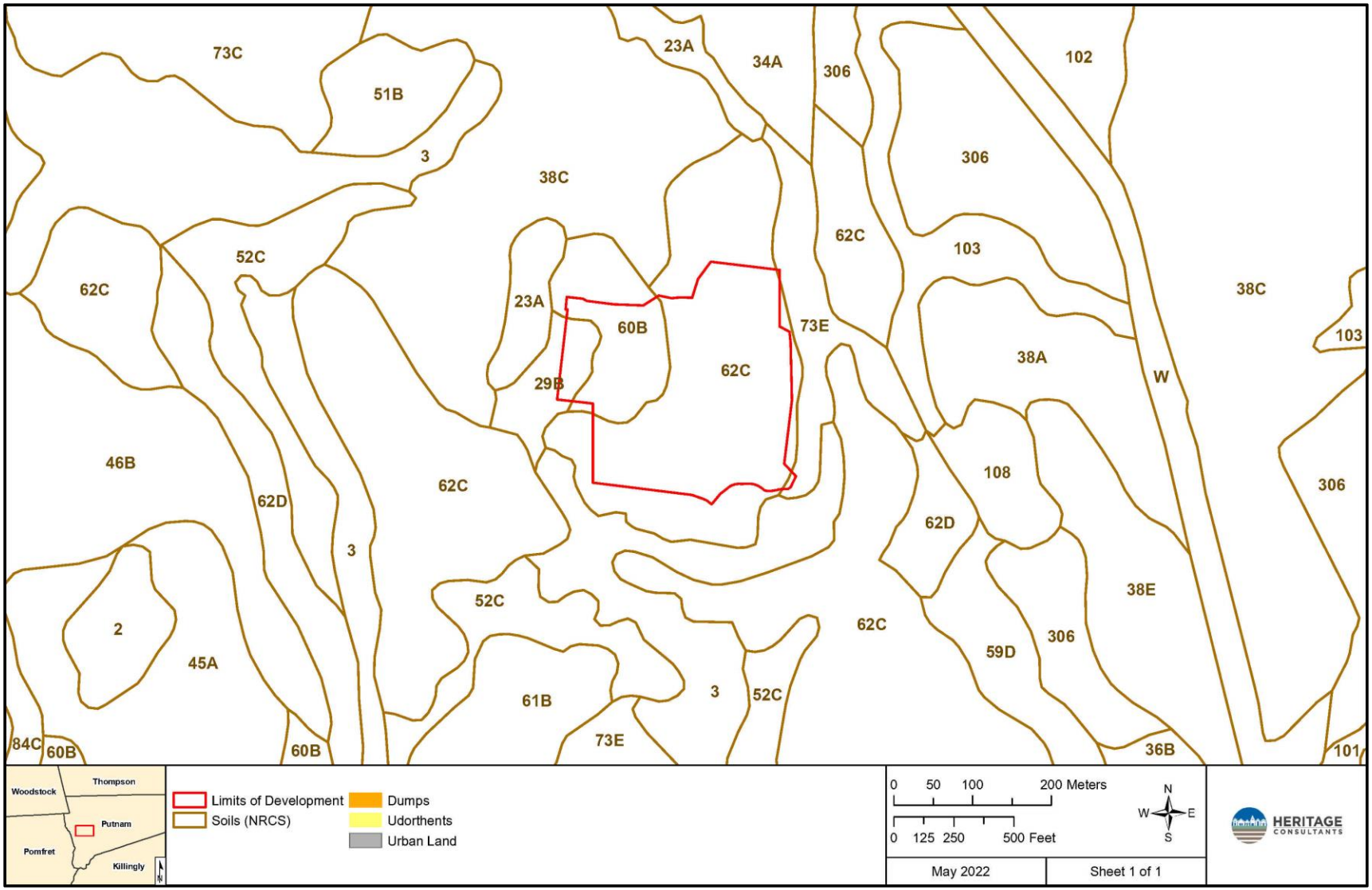

Figure 3. Map of soils located in the vicinity of the project area in Putnam, Connecticut.

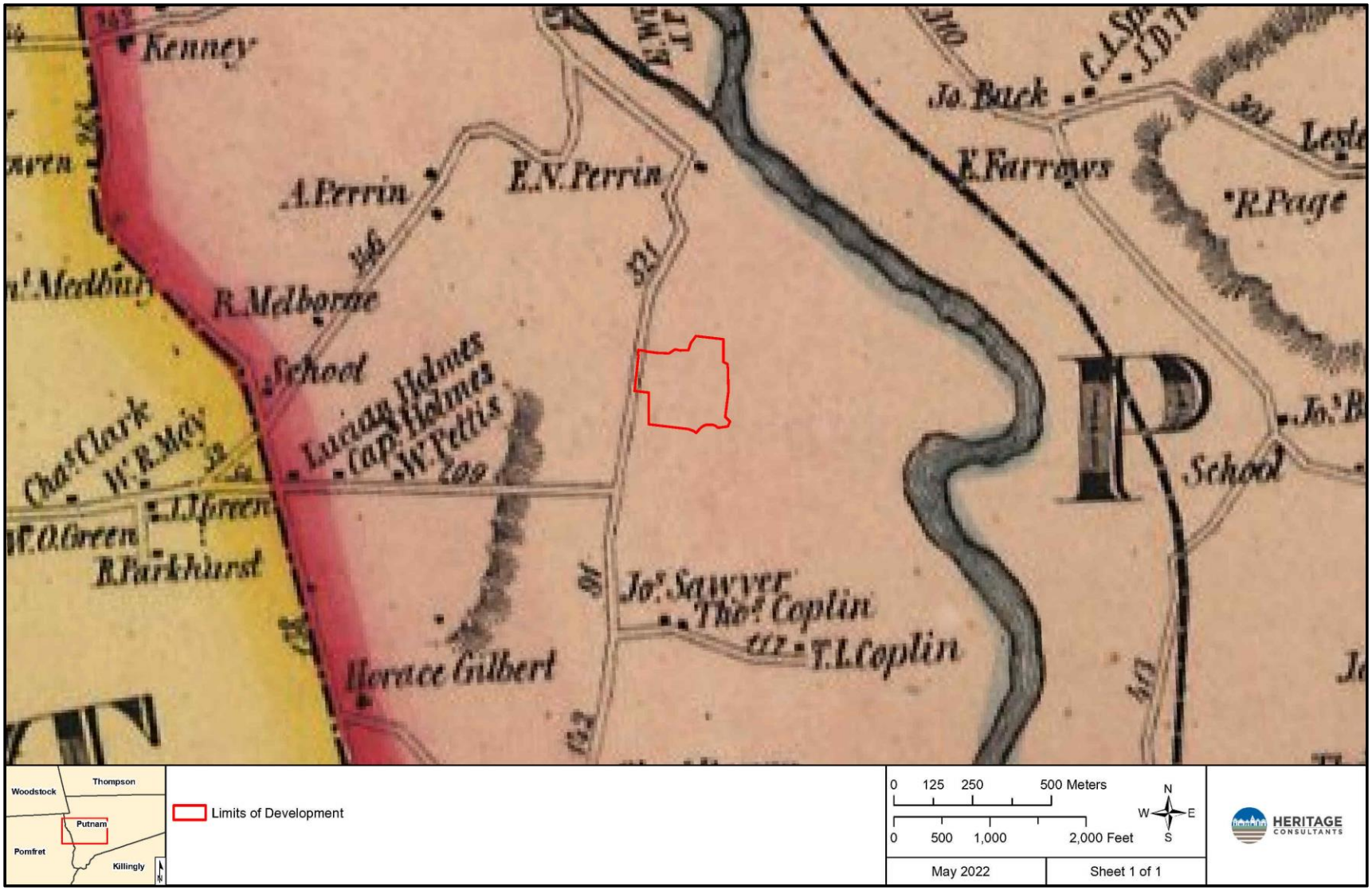

Figure 4. Excerpt from an 1856 historical map showing the location of the project area in Putnam, Connecticut.

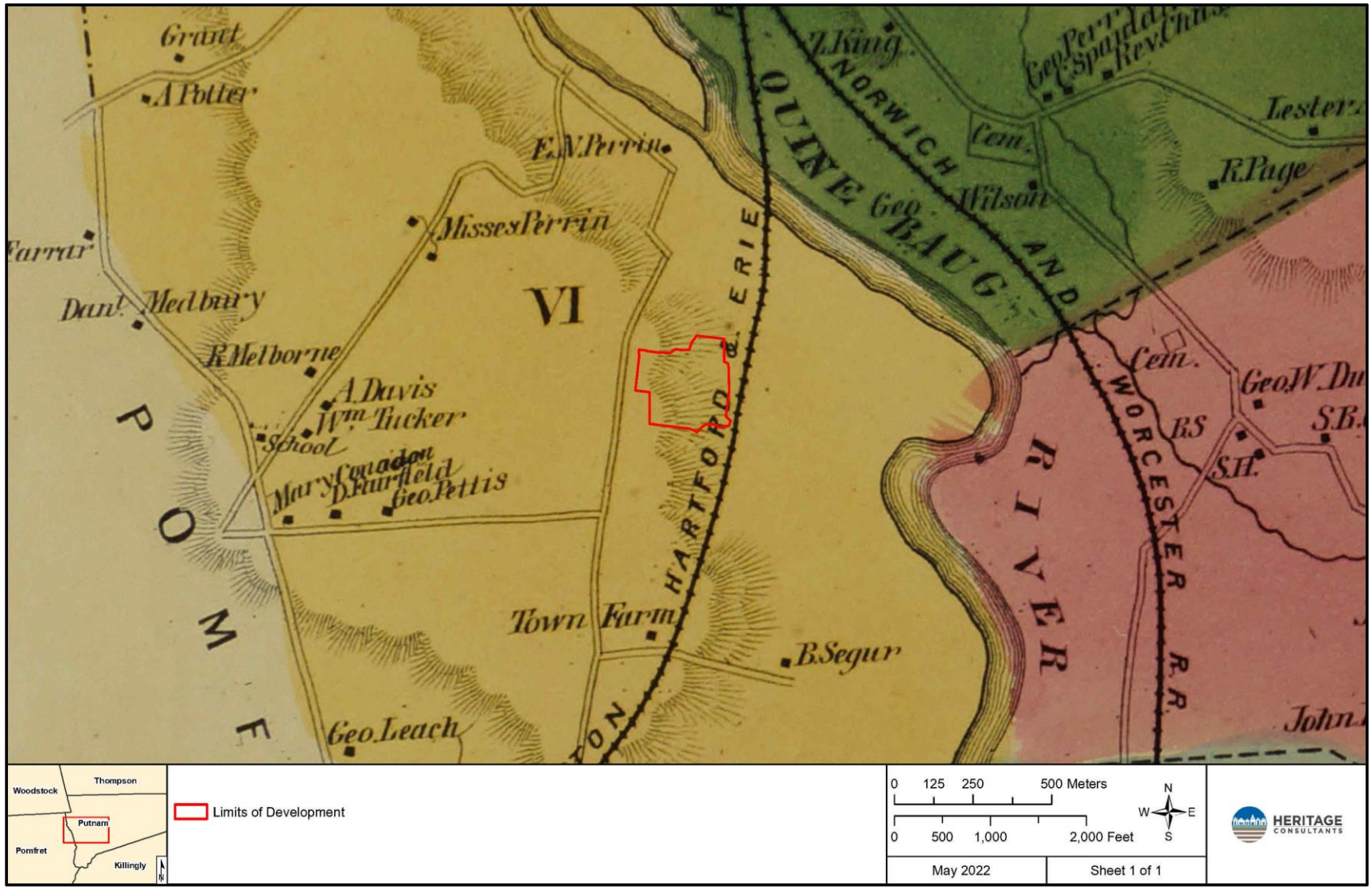

Figure 5. Excerpt from an 1869 historical map showing the location of the project area in Putnam, Connecticut.

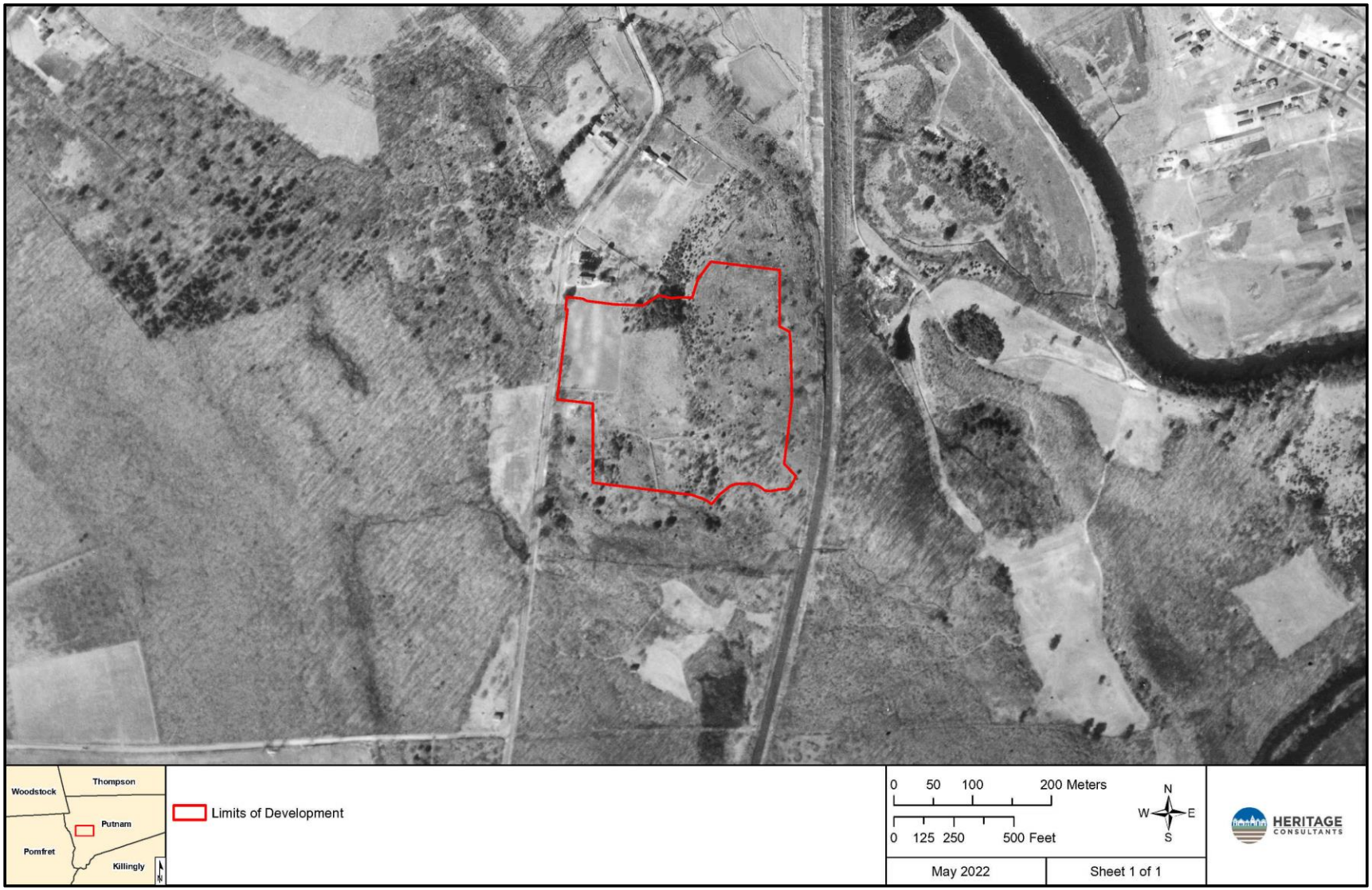

Figure 6. Excerpt from a 1934 aerial photograph showing the location of the project area in Putnam, Connecticut.

Figure 7. Excerpt from a 1951 aerial photograph showing the location of the project area in Putnam, Connecticut.

Figure 8. Excerpt from a 1965 aerial photograph showing the location of the project area in Putnam, Connecticut.

Figure 9. Excerpt from a 2004 aerial photograph showing the location of the project area in Putnam, Connecticut.

Figure 10. Excerpt from a 2019 aerial photograph showing the location of the project area in Putnam, Connecticut.

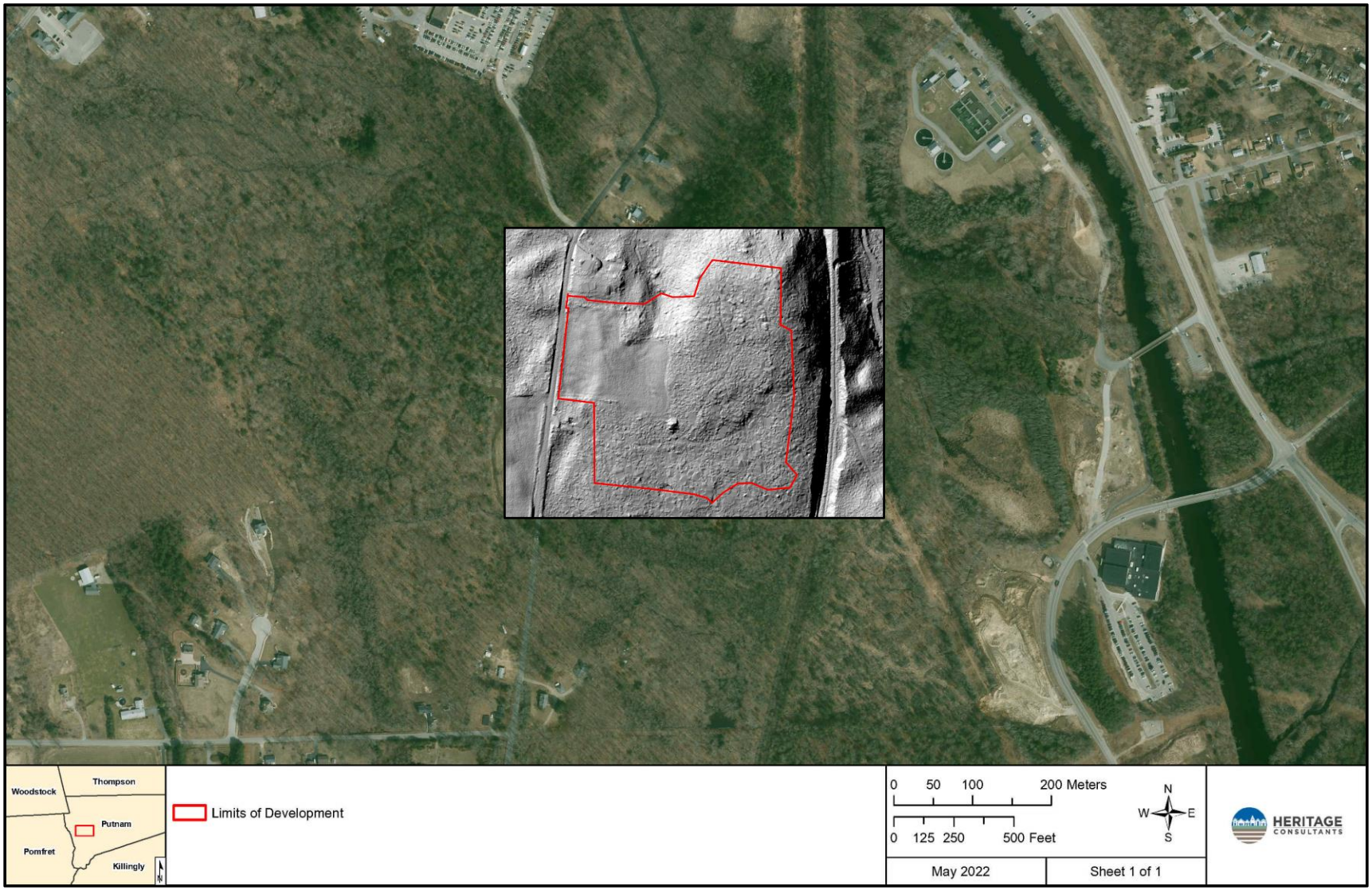

Figure 11. Excerpt from a 2019 aerial photograph, overlaid with LiDAR imagery, showing the project area in Putnam, Connecticut.

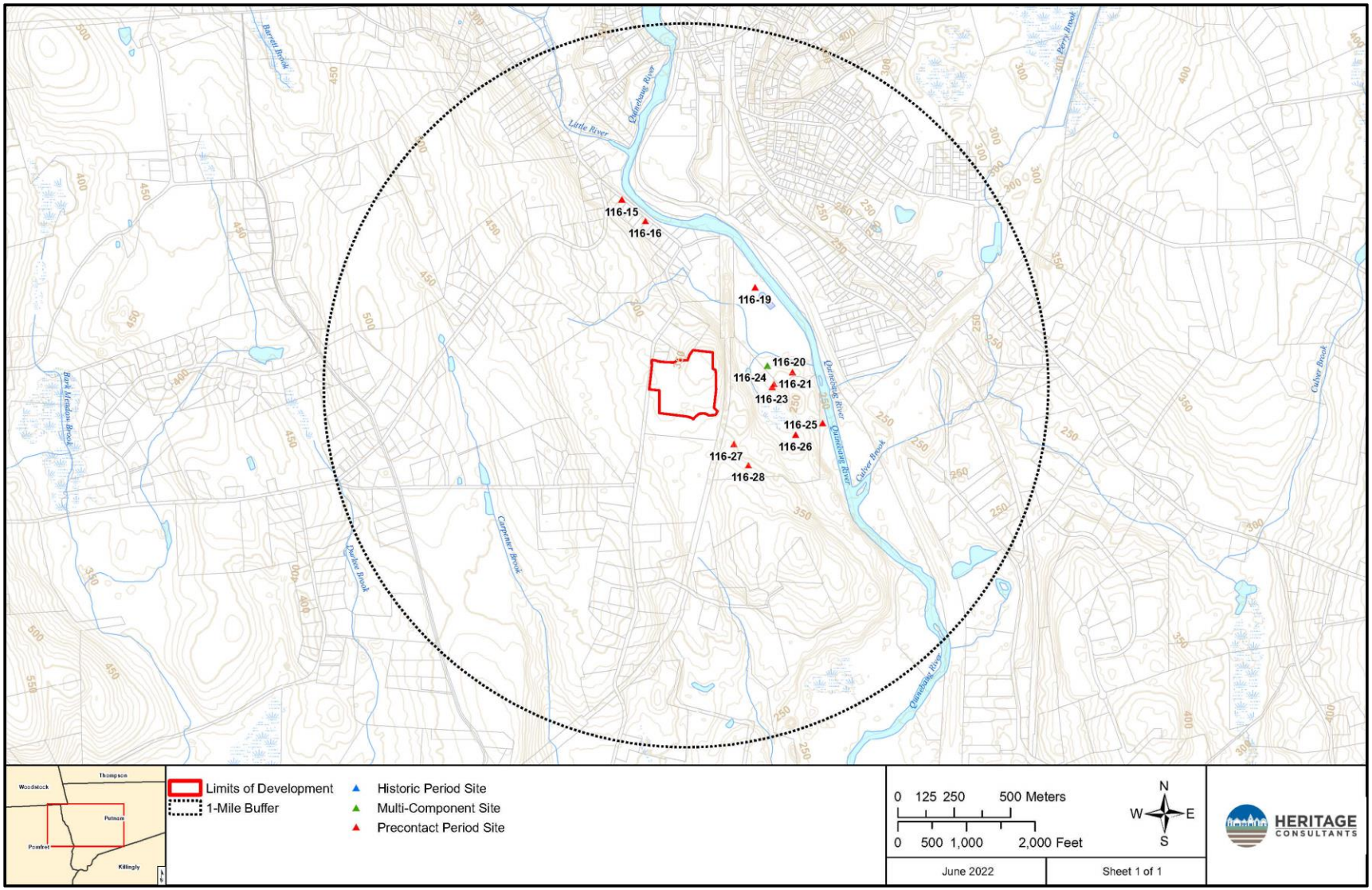

Figure 12. Digital map showing the location of previously identified archaeological sites in the vicinity of the project area in Putnam, Connecticut.

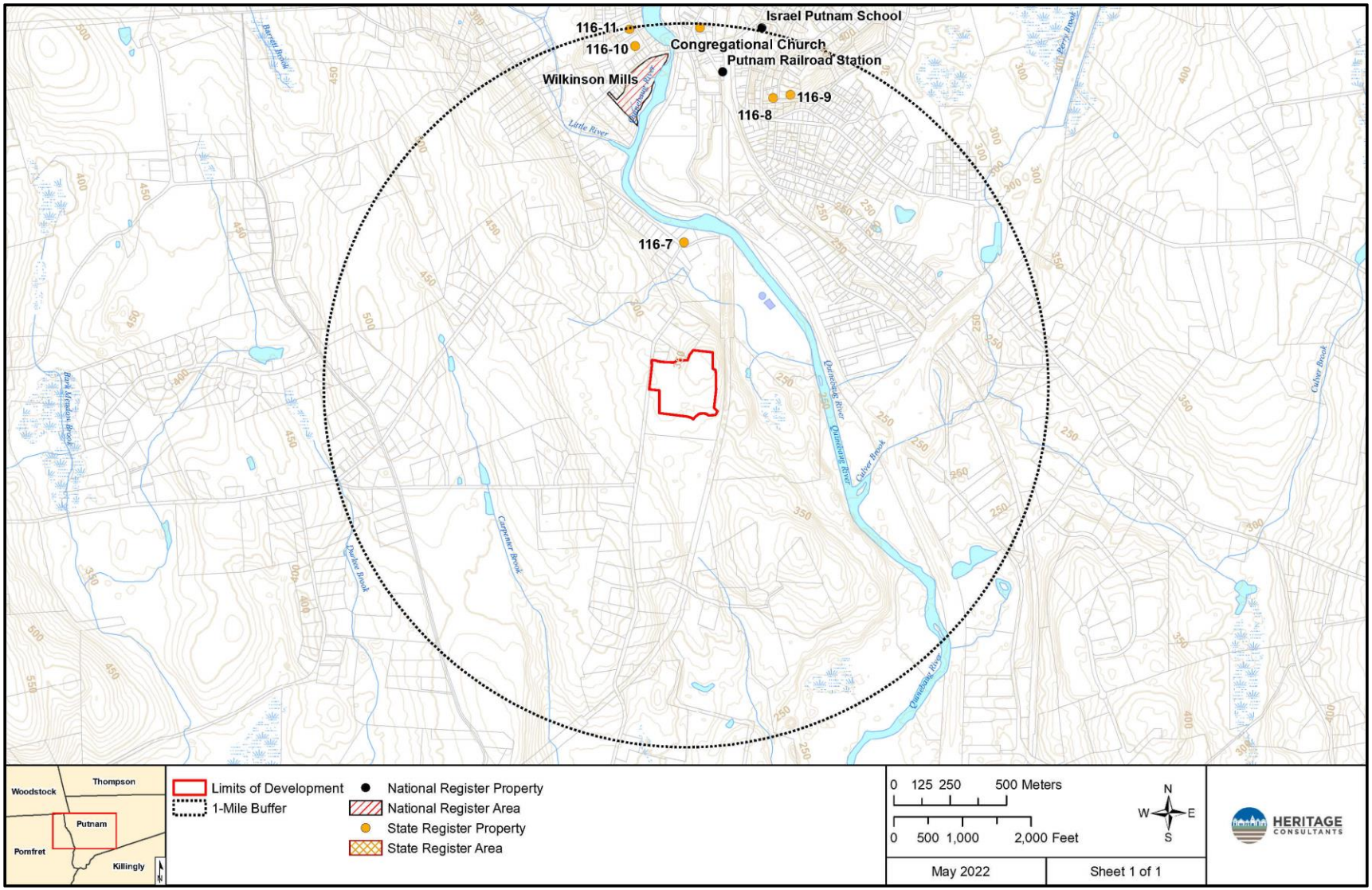

Figure 13. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project area in Putnam, Connecticut.

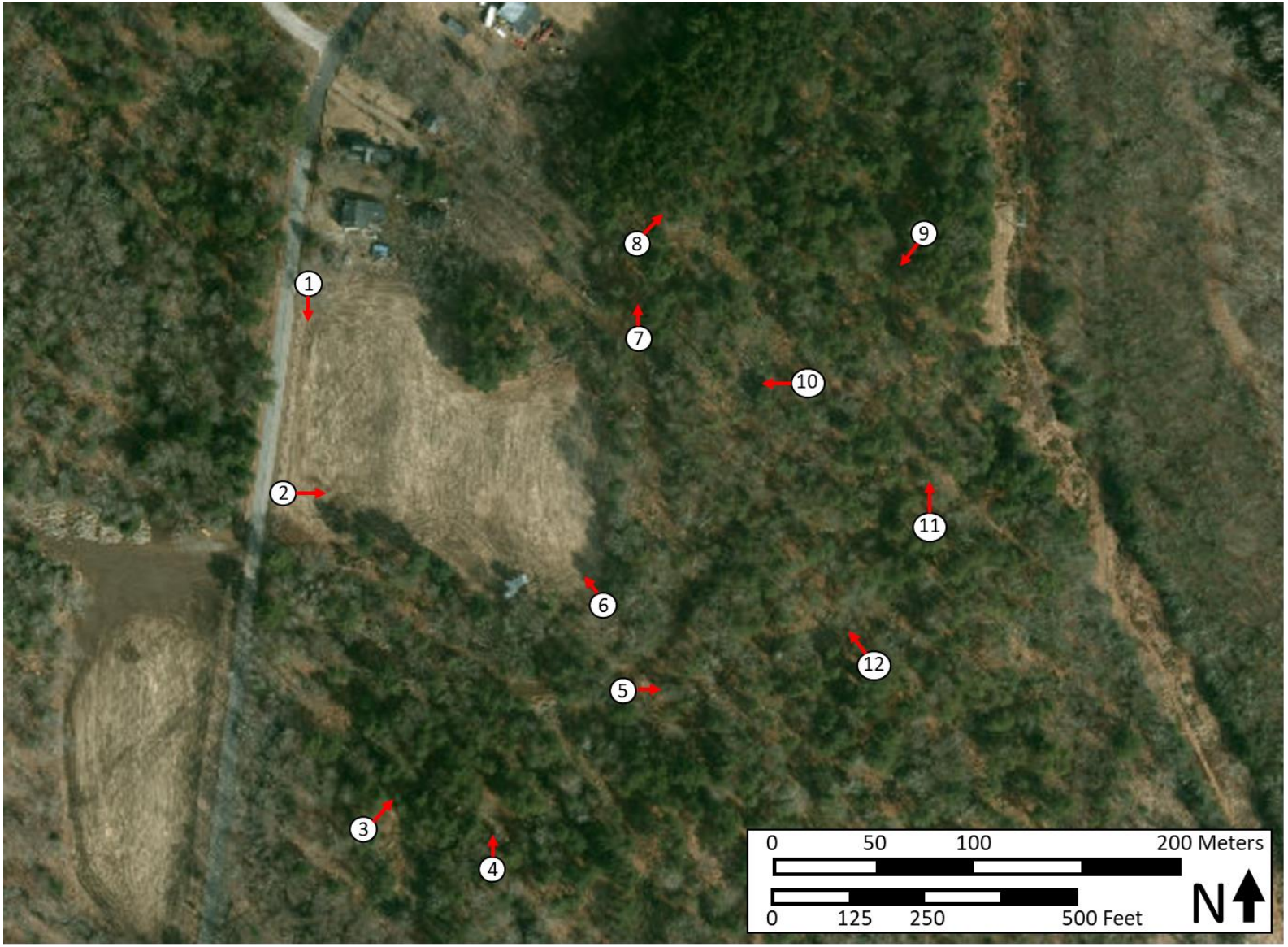

Figure 14. Excerpt from a 2019 aerial photograph showing pedestrian survey photographs taken with directional arrows within the development area in Putnam, Connecticut.

Photo 1. Overview of the project area from the northwest corner facing southeast. River Road is located on the right of the photograph.

Photo 2. Overview from the western boundary of the project area facing east.

Photo 3. Overview from the southwestern corner of the project area facing northeast.

Photo 4. Overview from the southern boundary of the project area facing north.

Photo 5. Overview from the southern portion of the project area facing east. Stone wall present in center of photograph.

Photo 6. Overview from the central portion of the project area, at the southeast corner of the active agricultural fields, facing northwest.

Photo 7. Overview from the northern portion of the project area facing north. Overlooking forested swamp.

Photo 8. Overview from the northern portion of the project area facing northeast. Stone wall present at bottom of photograph.

Photo 9. Overview from the northeast corner of the project area facing southwest.

Photo 10. Overview from the eastern portion facing the center of the project area.

Photo 11. Overview from the southeastern portion of the project area facing north.

Photo 12. Overview from the southern corner facing the center of the project area.

APPENDIX E

PRODUCT INFORMATION SHEETS

powered by

Q.ANTUM DUO Z

Q.PEAK DUO XL-G10.3 / BFG

475-490

BIFACIAL DOUBLE GLASS MODULE
WITH EXCELLENT RELIABILITY
AND ADDITIONAL YIELD

Quality Controlled PV

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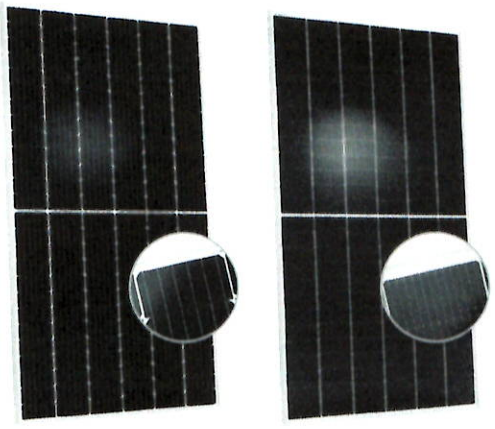


6 BUSBAR CELL TECHNOLOGY

12 BUSBAR CELL TECHNOLOGY

BIFACIAL ENERGY YIELD GAIN OF UP TO 20 %

Bifacial Q.ANTUM solar cells with zero gap cell layout make efficient use of light shining on the module rear-side for radically improved LCOE.

LOW ELECTRICITY GENERATION COSTS

Q.ANTUM DUO Z combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology for higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 21.4 %.

INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID and Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

FRAME FOR VERSATILE MOUNTING OPTIONS

High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (2400 Pa).

A RELIABLE INVESTMENT

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty[2].

[1] APT test conditions according to IEC / TS 62804-1:2015 method B (–1500 V, 168 h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)
[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:

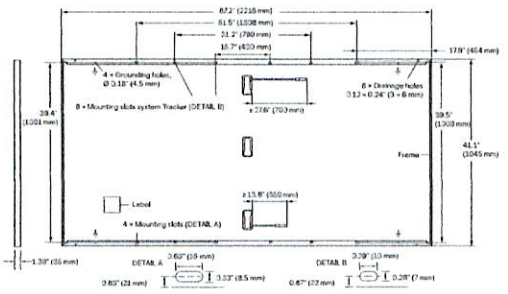
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	87.2 in × 41.1 in × 1.38 in (including frame) (2216 mm × 1045 mm × 35 mm)
Weight	64.2 lbs (29.1 kg)
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2.0 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 × 26 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09–3.98 in × 1.26–2.36 in × 0.59–0.71 in (53–101 mm × 32–60 mm × 15–18 mm), IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥27.6 in (700 mm), (–) ≥13.8 in (350 mm)
Connector	Stäubli MC4, Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, IP68



Drawing not to scale

ELECTRICAL CHARACTERISTICS

POWER CLASS			475		480		485		490	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] AND BSTC[2] (POWER TOLERANCE +5 W / –0 W)										
				BSTC*		BSTC*		BSTC*		BSTC*
Minimum	Power at MPP[1] P_{MPP}	[W]	475	519.6	480	525.0	485	530.5	490	536.0
	Short Circuit Current[1] I_{SC}	[A]	11.08	12.12	11.12	12.17	11.16	12.21	11.20	12.26
	Open Circuit Voltage[1] V_{OC}	[V]	53.15	53.34	53.39	53.58	53.63	53.82	53.86	54.06
	Current at MPP I_{MPP}	[A]	10.55	11.54	10.59	11.58	10.63	11.63	10.67	11.67
	Voltage at MPP V_{MPP}	[V]	45.03	45.02	45.33	45.32	45.63	45.62	45.93	45.92
	Efficiency[1] η	[%]	≥20.5	≥22.4	≥20.7	≥22.7	≥20.9	≥22.9	≥21.2	≥23.1

Bifaciality of P_{MPP} and I_{SC} 70% ±5% • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

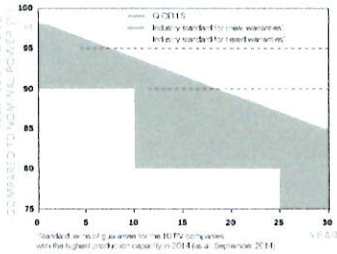
[1] Measurement tolerances P_{MPP} ±3%; I_{SC}, V_{OC} ±5% at STC: 1000 W/m², 25 ±2 °C, AM 1.5 according to IEC 60904-3

[2] at BSTC: 1000 W/m² + φ × 135 W/m², φ = 70% ±5%, 25 ±2 °C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[3]						
Minimum	Power at MPP P_{MPP}	[W]	357.6	361.4	365.1	368.9
	Short Circuit Current I_{SC}	[A]	8.92	8.96	8.99	9.02
	Open Circuit Voltage V_{OC}	[V]	50.27	50.49	50.72	50.95
	Current at MPP I_{MPP}	[A]	8.30	8.34	8.37	8.40
	Voltage at MPP V_{MPP}	[V]	43.06	43.35	43.63	43.92

[3] 800 W/m², NMOT, spectrum AM 1.5

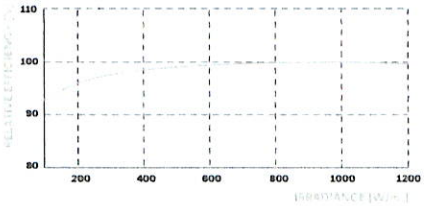
Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.95% of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²)

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	–0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.34	Nominal Module Operating Temperature	NMOT	[°F]	108 ±5.4 (42 ±3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1500	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 29[4]
Max. Design Load, Push / Pull[3]	[lbs/ft²]	75 (3600 Pa) / 33 (1600 Pa)	Permitted Module Temperature on Continuous Duty	–40 °F up to +185 °F (–40 °C up to +85 °C)
Max. Test Load, Push / Pull[3]	[lbs/ft²]	113 (5400 Pa) / 50 (2400 Pa)		

[3] See Installation Manual

[4] New Type is similar to Type 3 but with metallic frame

QUALIFICATIONS AND CERTIFICATES

Quality Controlled PV - TÜV Rheinland; UL 61730, CE-compliant, IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9.893.215 (solar cells)

C Certified US UL 61730

CE

TÜVRheinland CERTIFIED www.tuv.com ID 1111220277

PACKAGING INFORMATION

					53'	40' HC	
Horizontal packaging	89.4 in 2270 mm	43.1 in 1095 mm	47.6 in 1210 mm	1975 lbs 896 kg	20 pallets	20 pallets	29 modules
Vertical packaging	90.8 in 2306 mm	45.3 in 1150 mm	47.4 in 1205 mm	2013 lbs 913 kg	20 pallets	20 pallets	30 modules

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Robust
- Complete station is UL listed for higher safety and lower risk
- Station and all individual components type-tested for maximum reliability
- Optimally suited to extreme ambient conditions

Simple Integration
- Plug and play concept
- Completely pre-assembled for easy set-up and commissioning

Cost-Effective
- Fully integrated transformer and switchgear simplifies logistics
- Minimun O&M requirements create lowest cost of ownership

Flexible
- One product for all markets and applications
- Ideally suited for PV applications, PV plus storage (DC coupled) and storage applications (AC coupled)

MEDIUM VOLTAGE POWER STATION
4000-S2-US / 4200-S2-US / 4400-S2-US / 4600-S2-US

Turnkey solution for PV, storage, and PV plus storage power plants

With the power of the new robust central inverters, the Sunny Central UP or Sunny Central Storage UP, and with perfectly integrated medium-voltage components, the new Medium Voltage Power Station (MVPS) offers even more power density in a turnkey solution available worldwide. The solution is the ideal choice for next-generation PV power plants operating at 1500 V DC. Delivered pre-configured on a 20-foot container-integrated skid, the solution is easy to transport and quick to commission. The UL1741-listed MVPS combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk. The MVPS is DC-coupling ready for large-scale storage integration.

MEDIUM VOLTAGE POWER STATION
4000-S2-US / 4200-S2-US

Technical Data	MVPS 4000-S2-US	MVPS 4200-S2-US
Input (DC)		
Available inverters	1 x SC 4000 UP-US or 1 x SCS 3450 UP-US or 1 x SCS 3450 UP-XT-US	1 x SC 4200 UP-US or 1 x SCS 3600 UP-US or 1 x SCS 3600 UP-XT-US
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverter	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC) on the medium-voltage side		
Rated power with SC-UP-US (at -25°C to +35°C / 40°C optional 50°C)[1]	4000 kVA / 3600 kVA	4200 kVA / 3780 kVA
Rated power with SCS-UP-US (at -25°C to +25°C / 40°C optional 50°C)[1]	3450 kVA / 2930 kVA	3620 kVA / 3075 kVA
Charging power with SCS-UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	3590 kVA/3000 kVA	3770 kVA / 3150 kVA
Discharging power with SCS-UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	4000 kVA / 3400 kVA	4200 kVA / 3570 kVA
Typical nominal AC voltages	12 kV to 34.5 kV	12 kV to 34.5 kV
AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	● / ○ / ○
Transformer cooling methods	KNAN[2]	KNAN[2]
Transformer efficiency: Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	
Inverter efficiency		
Max. efficiency[3] / European efficiency[3] / CEC weighted efficiency[4]	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 20 kA 1 s	
General Data		
Dimensions equal to 20-foot HC shipping container (W / H / D)	6058 mm / 2896 mm / 2438 mm	
Weight	< 18 t	
Self-consumption (max. / partial load / average)[1]	< 8.1 kW / < 1.8 kW / < 2.0 kW	
Self-consumption (stand-by)[1]	< 370 W	
Degree of protection according to IEC 60529	Control rooms IP23D, inverter electronics IP54	
Environment: standard / harsh	● / ○	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	● / ○	
Maximum permissible value for relative humidity	95% (for 2 months/year)	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	6500 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Tap changer for MV-transformer: without / with	● / ○	
Shield winding for MV-Transformer: without / with	● / ○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA	● / ○ / ○ / ○ / ○ / ○ / ○	
Medium-voltage switchgear: without / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○	
Short circuit rating medium voltage switchgear (25 kA 1 s)	○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1 IEEE C37.100.1, IEEE C57.12, C37.20.9, UL 1741 listed, CSC Certificate, UL 347	
● Standard features ○ Optional features – Not available		
Type designation	MVPS-4000-S2-US	MVPS-4200-S2-US

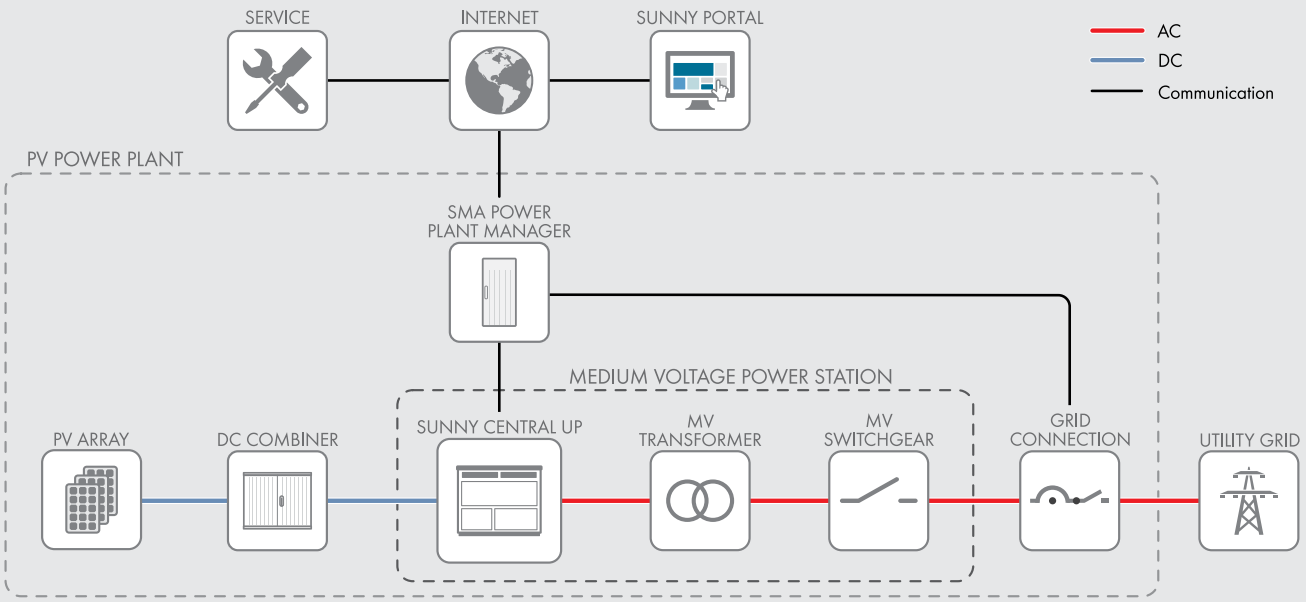
1) Data based on inverter. Further details can be found in the data sheet of the inverter.
2) KNAN = Natural ester fluid with natural air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply

MEDIUM VOLTAGE POWER STATION
4400-S2-US / 4600-S2-US

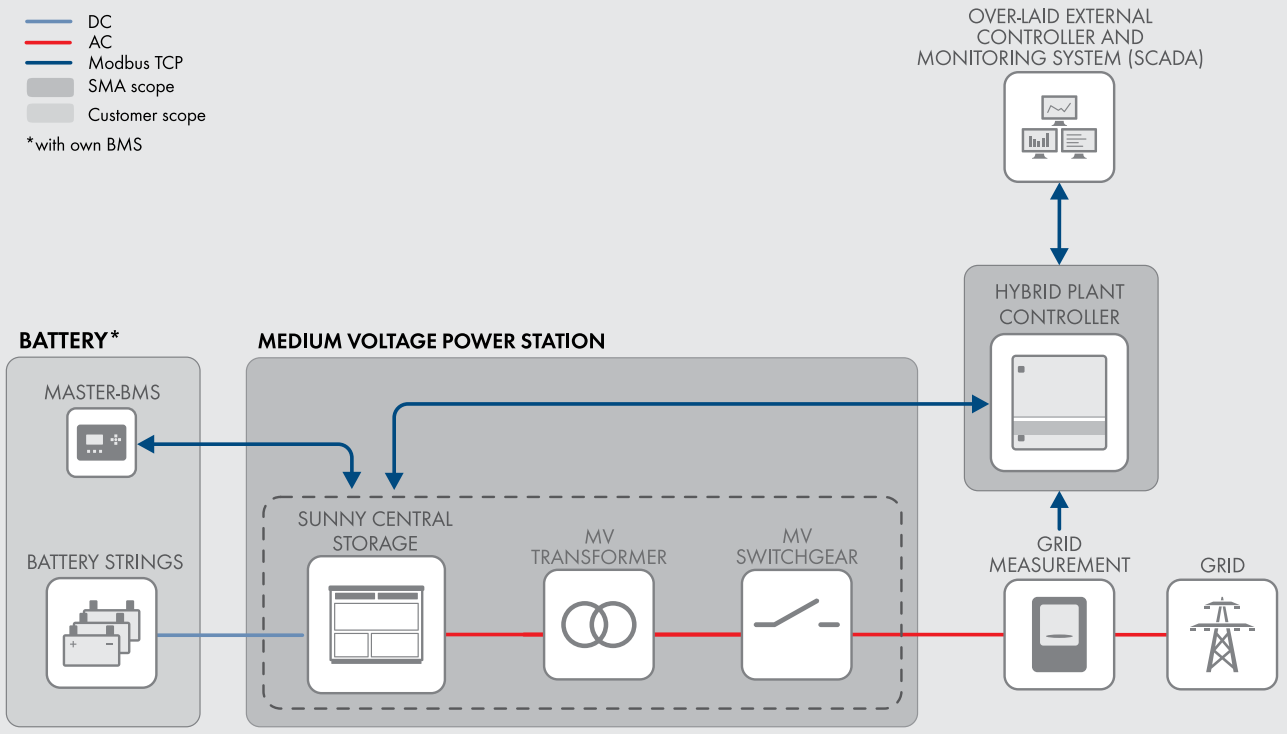
Technical Data	MVPS 4400-S2-US	MVPS 4600-S2-US
Input (DC)		
Available inverters	1 x SC 4400 UP-US or 1 x SCS 3800 UP-US or 1 x SCS 3800 UP-XT-US	1 x SC 4600 UP-US or 1 x SCS 3950 UP-US or 1 x SCS 3950 UP-XT-US
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverter	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC) on the medium-voltage side		
Rated power with SC-UP-US (at -25°C to +35°C / 40°C optional 50°C)[1]	4400 kVA / 3960 kVA	4600 kVA / 4140 kVA
Rated power with SCS-UP-US (at -25°C to +25°C / 40°C optional 50°C)[1]	3800 kVA / 3230 kVA	3960 kVA / 3365 kVA
Charging power with SCS-UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	3950 kVA / 3300 kVA	4130 kVA / 3455 kVA
Discharging power with SCS-UP-XT-US (at -25°C to + 25°C / 40°C optional 50°C)[1]	4400 kVA / 3740 kVA	4600 kVA / 3910 kVA
Typical nominal AC voltages	12 kV to 34.5 kV	12 kV to 34.5 kV
AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer vector group Dy11 / YNd11 / YNy0	● / ○ / ○	● / ○ / ○
Transformer cooling methods	KNAN[2]	KNAN[2]
Transformer efficiency: Standard / Eco Design 1 / Eco Design 2	● / ○ / ○	● / ○ / ○
Max. total harmonic distortion	< 3%	
Reactive power feed-in (up to 60% of nominal power)	○	
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	
Inverter efficiency		
Max. efficiency[3] / European efficiency[3] / CEC weighted efficiency[4]	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	Medium-voltage vacuum circuit breaker	
DC overvoltage protection	Surge arrester type I	
Galvanic isolation	●	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 20 kA 1 s	
General Data		
Dimensions equal to 20-foot HC shipping container (W / H / D)	6058 mm / 2896 mm / 2438 mm	
Weight	< 18 t	
Self-consumption (max. / partial load / average)[1]	< 8.1 kW / < 1.8 kW / < 2.0 kW	
Self-consumption (stand-by)[1]	< 370 W	
Degree of protection according to IEC 60529	Control rooms IP23D, inverter electronics IP54	
Environment: standard / harsh	● / ○	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	● / ○	
Maximum permissible value for relative humidity	95% (for 2 months/year)	
Max. operating altitude above mean sea level 1000 m / 2000 m	● / ○	
Fresh air consumption of inverter	6500 m³/h	
Features		
DC terminal	Terminal lug	
AC connection	Outer-cone angle plug	
Tap changer for MV-transformer: without / with	● / ○	
Shield winding for MV-Transformer: without / with	● / ○	
Station enclosure color	RAL 7004	
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA	● / ○ / ○ / ○ / ○ / ○ / ○	
Medium-voltage switchgear: without / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200	● / ○	
Short circuit rating medium voltage switchgear (25 kA 1 s)	○	
Integrated oil containment: without / with	● / ○	
Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1 IEEE C37.100.1, IEEE C57.12, C37.20.9, UL 1741 listed, CSC Certificate, UL 347	
● Standard features ○ Optional features – Not available		
Type designation	MVPS-4400-S2-US	MVPS-4600-S2-US

1) Data based on inverter. Further details can be found in the data sheet of the inverter.
2) KNAN = Natural ester fluid with natural air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply

PV system diagram



Storage system diagram



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SMA America, LLC

Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 150% is possible
- Full power at ambient temperatures of up to 35°C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- Conforms to all known grid requirements worldwide
- Q on demand
- Available as a single device or turn-key solution, including medium-voltage block

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

SUNNY CENTRAL
4000 UP-US / 4200 UP-US / 4400 UP-US / 4600 UP-US

The new Sunny Central: more power per cubic meter

With an output of up to 4600 kVA and system voltages of 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

SUNNY CENTRAL 4000 UP-US / 4200 UP-US

Technical data	SC 4000 UP-US	SC 4200 UP-US
Input (DC)		
MPP voltage range V_{DC} (at 25 °C / at 50 °C)	880 to 1325 V / 1050 V	921 to 1325 V / 1050 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	849 V / 1030 V	891 V / 1071 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V
Max. input current $I_{DC, max}$	4750 A	4750 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupling of battery	18 double pole fused (36 single pole fused) for PV, 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
Output (AC)		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	4000 kVA[11] / 3600 kVA	4200 kVA[11] / 3780 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	3200 kW[11] / 2880 kW	3360 kW[11] / 3024 kW
Nominal AC current $I_{AC, nom}$ (at 35°C / at 50°C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1] [8]	600 V / 480 V to 720 V	630 V / 504 V to 756 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9]	> 2	
Power factor at rated power / displacement power factor adjustable[8] [10]	1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency[2] / European efficiency[2] / CEC efficiency[3]	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection	NEMA 3R	
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	<3700 kg / < 8158 lb	
Self-consumption (max.[4] / partial load[5] / average[6])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range[8]	−25°C to 60°C / −13°F to 140°F	
Noise emission[7]	67.0 dB(A)*	
Temperature range (standby)	−40°C to 60°C / −40°F to 140°F	
Temperature range (storage)	−40°C to 70°C / −40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8] 1000 m / 2000 m	● / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CDR 6I), UL 1741-SA, UL 1998, IEEE 1547, MIL-STD-810G	
EMC standards	FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	

● Standard features ○ Optional

1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 25°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of < 2 requires a special approval from SMA
10) Depending on the DC voltage
11) Nominal power at 35°C max DC voltage of 1050 V

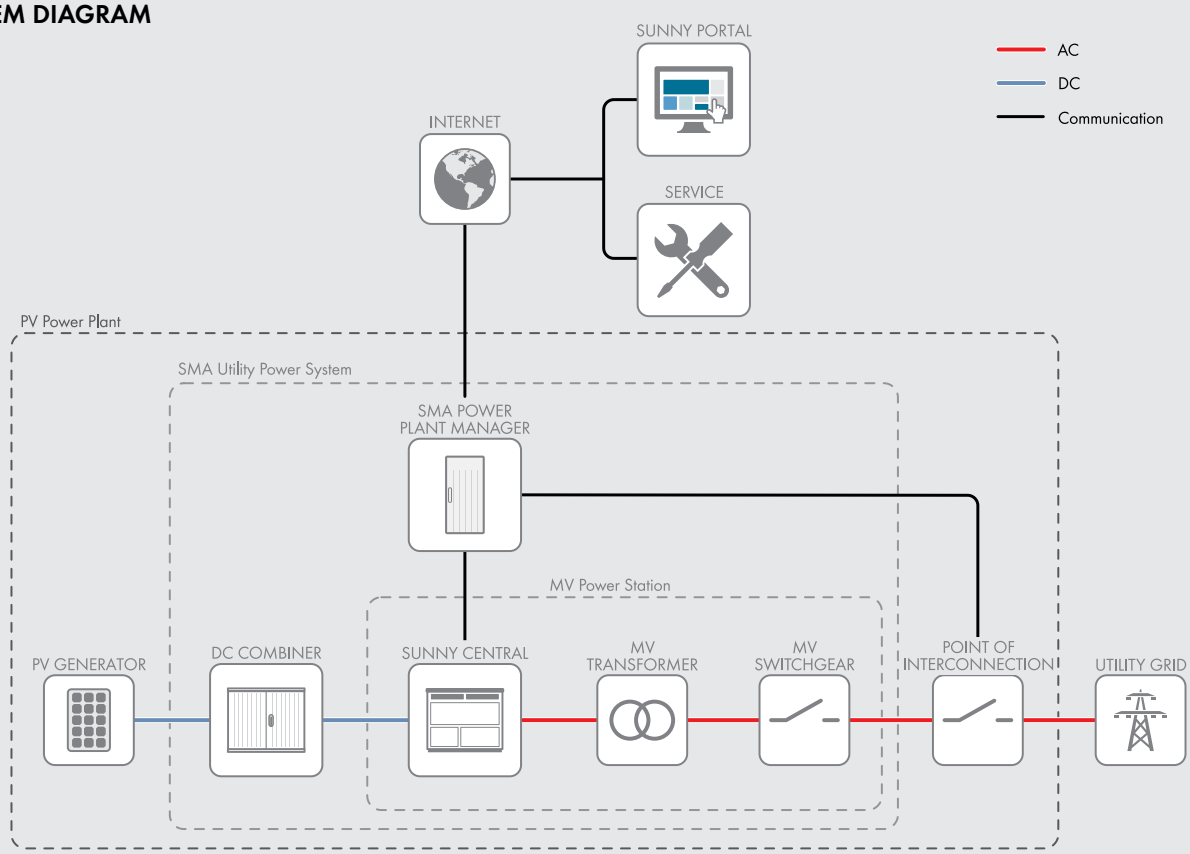
SUNNY CENTRAL 4400 UP-US / 4600 UP-US

Technical data	SC 4400 UP-US	SC 4600 UP-US
Input (DC)		
MPP voltage range V_{DC} (at 25 °C / at 50 °C)	962 to 1325 V / 1050 V	1003 to 1325 V / 1050 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	934 V / 1112 V	976 V / 1153 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V
Max. input current $I_{DC, max}$	4750 A	4750 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupling of battery	18 double pole fused (36 single pole fused) for PV, 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
Output (AC)		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	4400 kVA[11] / 3960 kVA	4600 kVA[11] / 4140 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	3520 kW[11] / 3168 kW	3680 kW[11] / 3312 kW
Nominal AC current $I_{AC, nom}$ (at 35°C / at 50°C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1] [8]	660 V / 528 V to 759 V	690 V / 552 V to 759 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9]	> 2	
Power factor at rated power / displacement power factor adjustable[8] [10]	1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency[2] / European efficiency[2] / CEC efficiency[3]	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection	NEMA 3R	
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	<3700 kg / < 8158 lb	
Self-consumption (max.[4] / partial load[5] / average[6])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range[8]	−25°C to 60°C / −13°F to 140°F	
Noise emission[7]	67.0 dB(A)*	
Temperature range (standby)	−40°C to 60°C / −40°F to 140°F	
Temperature range (storage)	−40°C to 70°C / −40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8] 1000 m / 2000 m	● / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CDR 6I), UL 1741-SA, UL 1998 IEEE 1547, MIL-STD-810G	
EMC standards	FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	

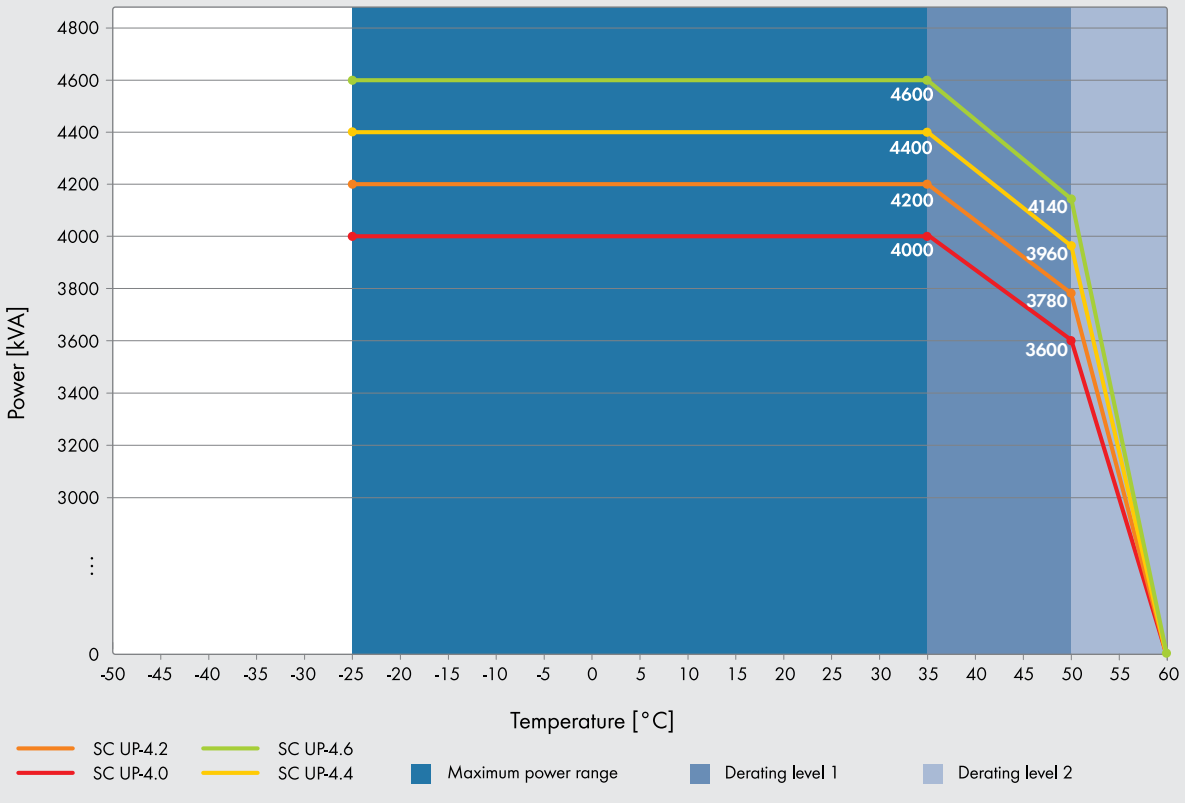
● Standard features ○ Optional

1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 25°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of < 2 requires a special approval from SMA
10) Depending on the DC voltage
11) Nominal power at 35°C max DC voltage of 1050 V

SYSTEM DIAGRAM



TEMPERATURE BEHAVIOR (at 1000 m)



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APPENDIX F

FEDERAL AVIATION ADMINISTRATION
DETERMINATIONS

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4062-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 1
Location:	Putnam, CT
Latitude:	41-54-11.05N NAD 83
Longitude:	71-54-35.32W
Heights:	354 feet site elevation (SE) 10 feet above ground level (AGL) 364 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4062-OE.

Signature Control No: 534320171-540673477 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4062-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4063-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 2
Location:	Putnam, CT
Latitude:	41-54-10.76N NAD 83
Longitude:	71-54-32.15W
Heights:	364 feet site elevation (SE) 10 feet above ground level (AGL) 374 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4063-OE.

Signature Control No: 534320172-540673473 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4063-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4064-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 3
Location:	Putnam, CT
Latitude:	41-54-08.22N NAD 83
Longitude:	71-54-32.58W
Heights:	354 feet site elevation (SE) 10 feet above ground level (AGL) 364 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4064-OE.

Signature Control No: 534320173-540673480 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4064-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4065-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 4
Location:	Putnam, CT
Latitude:	41-54-08.14N NAD 83
Longitude:	71-54-31.82W
Heights:	351 feet site elevation (SE) 10 feet above ground level (AGL) 361 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4065-OE.

Signature Control No: 534320174-540673476 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4065-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4066-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 5
Location:	Putnam, CT
Latitude:	41-54-05.54N NAD 83
Longitude:	71-54-31.82W
Heights:	337 feet site elevation (SE) 10 feet above ground level (AGL) 347 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4066-OE.

Signature Control No: 534320175-540673483 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4066-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4067-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 6
Location:	Putnam, CT
Latitude:	41-54-02.99N NAD 83
Longitude:	71-54-32.29W
Heights:	328 feet site elevation (SE) 10 feet above ground level (AGL) 338 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4067-OE.

Signature Control No: 534320176-540673484 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4067-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4068-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 7
Location:	Putnam, CT
Latitude:	41-54-03.89N NAD 83
Longitude:	71-54-41.47W
Heights:	336 feet site elevation (SE) 10 feet above ground level (AGL) 346 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4068-OE.

Signature Control No: 534320177-540673472 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4068-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4069-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 8
Location:	Putnam, CT
Latitude:	41-54-06.19N NAD 83
Longitude:	71-54-41.11W
Heights:	338 feet site elevation (SE) 10 feet above ground level (AGL) 348 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4069-OE.

Signature Control No: 534320179-540673481 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4069-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4070-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 9
Location:	Putnam, CT
Latitude:	41-54-06.37N NAD 83
Longitude:	71-54-43.06W
Heights:	329 feet site elevation (SE) 10 feet above ground level (AGL) 339 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4070-OE.

Signature Control No: 534320180-540673482 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4070-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4071-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 10
Location:	Putnam, CT
Latitude:	41-54-08.93N NAD 83
Longitude:	71-54-42.62W
Heights:	334 feet site elevation (SE) 10 feet above ground level (AGL) 344 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4071-OE.

Signature Control No: 534320181-540673475 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4071-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4072-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 11
Location:	Putnam, CT
Latitude:	41-54-08.96N NAD 83
Longitude:	71-54-40.50W
Heights:	338 feet site elevation (SE) 10 feet above ground level (AGL) 348 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

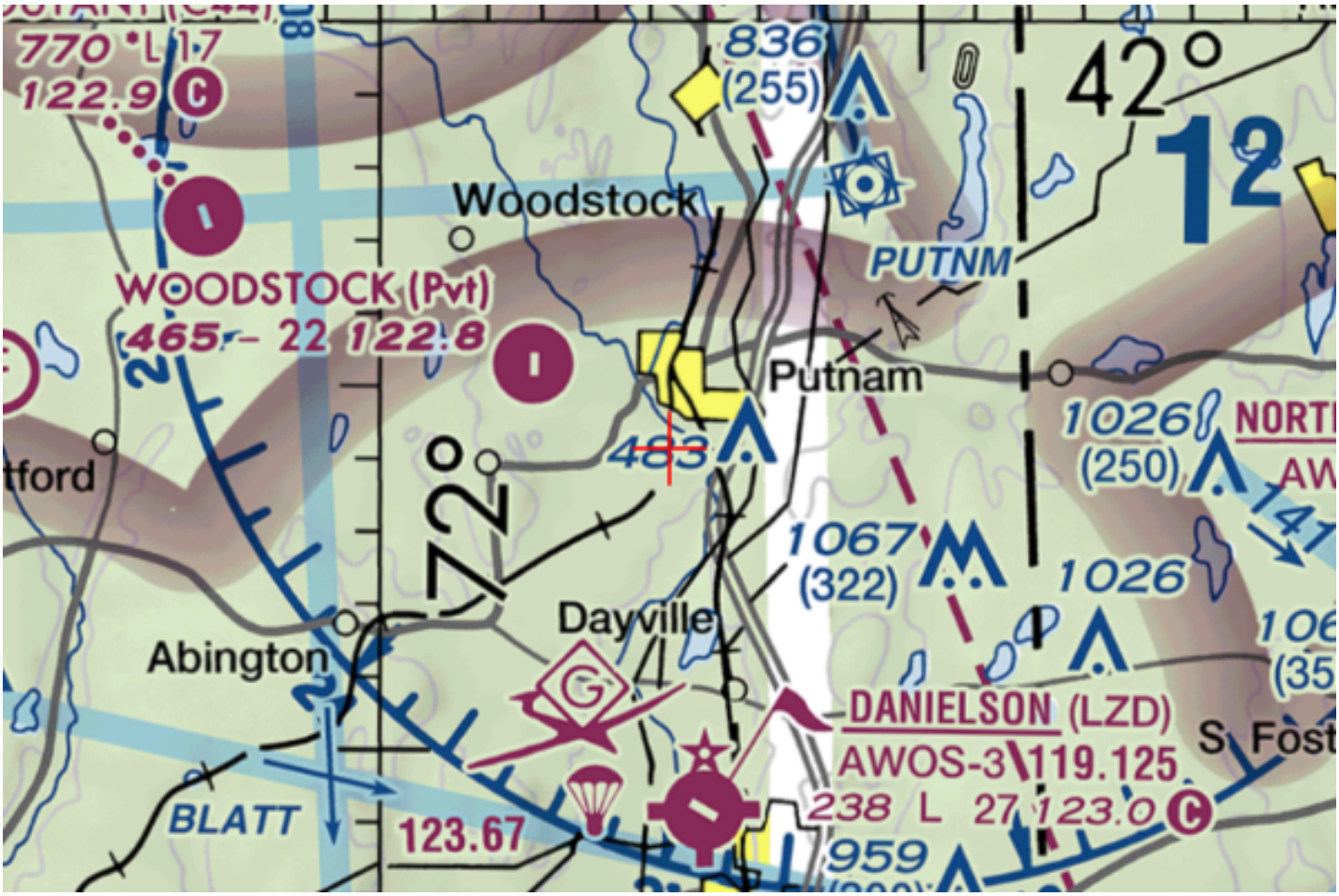
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4072-OE.

Signature Control No: 534320182-540673479 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4072-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4073-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Point 12
Location:	Putnam, CT
Latitude:	41-54-08.50N NAD 83
Longitude:	71-54-35.86W
Heights:	354 feet site elevation (SE) 10 feet above ground level (AGL) 364 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4073-OE.

Signature Control No: 534320183-540673478 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4073-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4074-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel HP
Location:	Putnam, CT
Latitude:	41-54-10.33N NAD 83
Longitude:	71-54-32.22W
Heights:	366 feet site elevation (SE) 10 feet above ground level (AGL) 376 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 12/30/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4074-OE.

Signature Control No: 534320184-540673474 (DNE)
Stephanie Kimmel
Specialist

Attachment(s)
Map(s)

Sectional Map for ASN 2022-ANE-4074-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4049-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 1
Location:	Putnam, CT
Latitude:	41-54-11.05N NAD 83
Longitude:	71-54-35.32W
Heights:	354 feet site elevation (SE) 40 feet above ground level (AGL) 394 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4049-OE

Signature Control No: 534314299-540674154 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4049-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 394 feet above mean sea level.

Location: The structure will be located 5.01 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4049-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4050-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 2
Location:	Putnam, CT
Latitude:	41-54-10.76N NAD 83
Longitude:	71-54-32.15W
Heights:	364 feet site elevation (SE) 40 feet above ground level (AGL) 404 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4050-OE

Signature Control No: 534314300-540674166 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4050-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 404 feet above mean sea level.

Location: The structure will be located 5.0 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4050-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4051-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 3
Location:	Putnam, CT
Latitude:	41-54-08.22N NAD 83
Longitude:	71-54-32.58W
Heights:	354 feet site elevation (SE)
	40 feet above ground level (AGL)
	394 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4051-OE

Signature Control No: 534314301-540674165 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4051-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 394 feet above mean sea level.

Location: The structure will be located 4.96 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4051-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4052-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 4
Location:	Putnam, CT
Latitude:	41-54-08.14N NAD 83
Longitude:	71-54-31.82W
Heights:	351 feet site elevation (SE) 40 feet above ground level (AGL) 391 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4052-OE

Signature Control No: 534314302-540674161 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4052-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 391 feet above mean sea level.

Location: The structure will be located 4.96 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4052-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4053-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 5
Location:	Putnam, CT
Latitude:	41-54-05.54N NAD 83
Longitude:	71-54-31.82W
Heights:	337 feet site elevation (SE) 40 feet above ground level (AGL) 377 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4053-OE

Signature Control No: 534314303-540674163 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4053-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 377 feet above mean sea level.

Location: The structure will be located 4.92 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4053-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4054-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 6
Location:	Putnam, CT
Latitude:	41-54-02.99N NAD 83
Longitude:	71-54-32.29W
Heights:	328 feet site elevation (SE)
	40 feet above ground level (AGL)
	368 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4054-OE

Signature Control No: 534314304-540674156 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4054-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 368 feet above mean sea level.

Location: The structure will be located 4.88 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4054-OE

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4055-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 7
Location:	Putnam, CT
Latitude:	41-54-03.89N NAD 83
Longitude:	71-54-41.47W
Heights:	336 feet site elevation (SE) 40 feet above ground level (AGL) 376 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4055-OE

Signature Control No: 534314305-540674159 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4055-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 376 feet above mean sea level.

Location: The structure will be located 4.9 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4055-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4056-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 8
Location:	Putnam, CT
Latitude:	41-54-06.19N NAD 83
Longitude:	71-54-41.11W
Heights:	338 feet site elevation (SE) 40 feet above ground level (AGL) 378 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4056-OE

Signature Control No: 534314306-540674157 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4056-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 378 feet above mean sea level.

Location: The structure will be located 4.94 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4056-OE

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4057-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 9
Location:	Putnam, CT
Latitude:	41-54-06.37N NAD 83
Longitude:	71-54-43.06W
Heights:	329 feet site elevation (SE)
	40 feet above ground level (AGL)
	369 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4057-OE

Signature Control No: 534314307-540674162 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4057-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 369 feet above mean sea level.

Location: The structure will be located 4.94 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4057-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4058-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 10
Location:	Putnam, CT
Latitude:	41-54-08.93N NAD 83
Longitude:	71-54-42.62W
Heights:	334 feet site elevation (SE) 40 feet above ground level (AGL) 374 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4058-OE

Signature Control No: 534314308-540674160 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4058-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 374 feet above mean sea level.

Location: The structure will be located 4.99 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4058-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4059-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 11
Location:	Putnam, CT
Latitude:	41-54-08.96N NAD 83
Longitude:	71-54-40.50W
Heights:	338 feet site elevation (SE) 40 feet above ground level (AGL) 378 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4059-OE

Signature Control No: 534314309-540674158 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4059-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 378 feet above mean sea level.

Location: The structure will be located 4.98 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

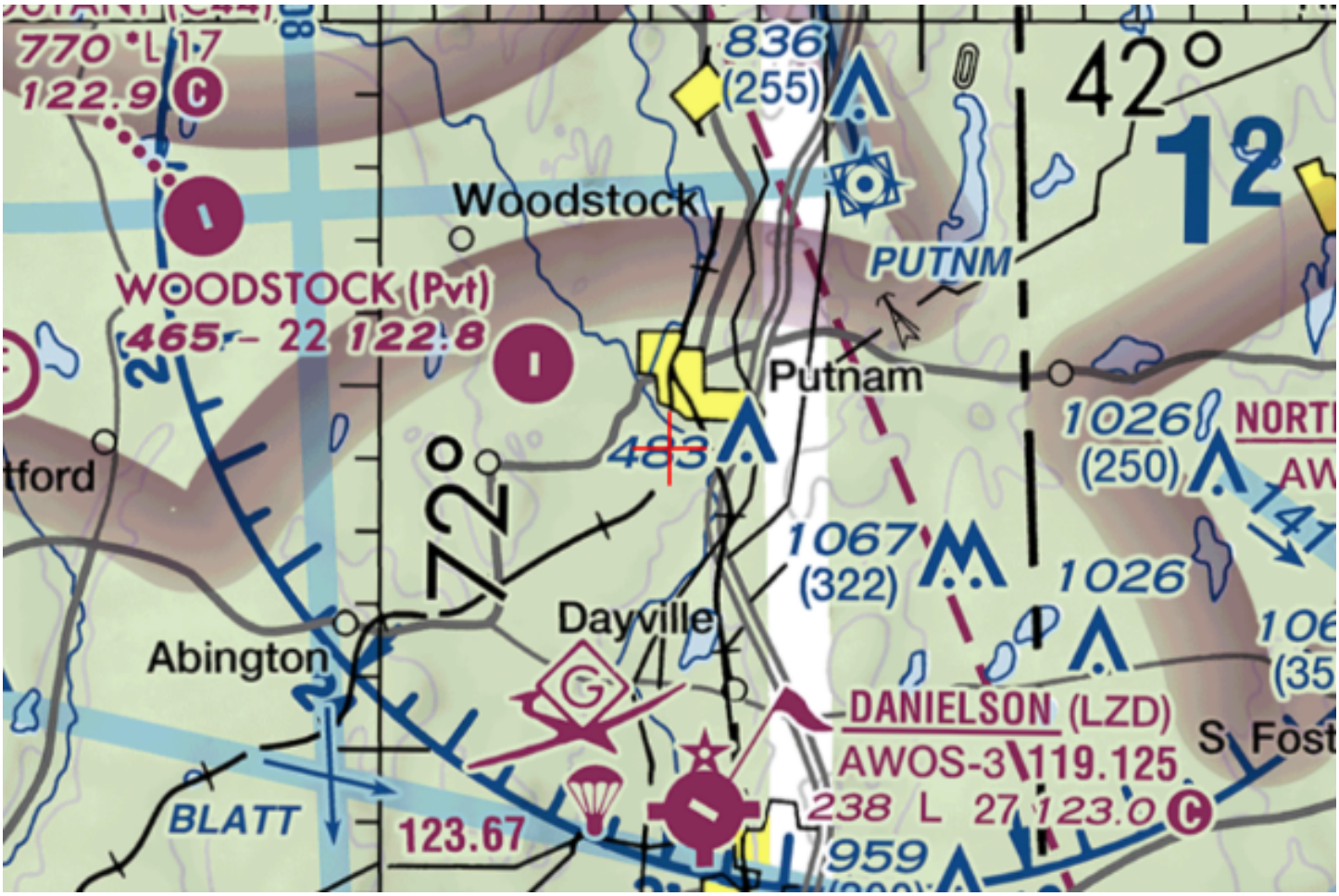
As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4059-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4060-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Point 12
Location:	Putnam, CT
Latitude:	41-54-08.50N NAD 83
Longitude:	71-54-35.86W
Heights:	354 feet site elevation (SE) 40 feet above ground level (AGL) 394 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of a structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this temporary structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Aviation Administration Flight Procedures Office if the structure is subject to the issuance of a Notice To Airman (NOTAM).

If you have any questions, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-ANE-4060-OE

Signature Control No: 534314310-540674155 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4060-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 394 feet above mean sea level.

Location: The structure will be located 4.97 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

Based on this aeronautical study, the structure would not constitute a substantial adverse effect on aeronautical operations or procedures because it will be temporary. The temporary structure would not be considered a hazard to air navigation provided all of the conditions specified in this determination are strictly met.

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, marked-Chapters 3(Marked),14(Temporary),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This determination expires on 12/30/2023 unless extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Sectional Map for ASN 2022-ANE-4060-OE

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-ANE-4061-OE

Issued Date: 06/30/2022

Robert Burns
All-Points Technology Corporation - Engineering
3 Saddlebrook Dr
Killingworth, CT 06419

****DETERMINATION OF NO HAZARD TO AIR NAVIGATION FOR TEMPORARY STRUCTURE****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane HP
Location:	Putnam, CT
Latitude:	41-54-10.33N NAD 83
Longitude:	71-54-32.22W
Heights:	366 feet site elevation (SE)
	40 feet above ground level (AGL)
	406 feet above mean sea level (AMSL)

This aeronautical study revealed that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in this letter is (are) met:

SEE ATTACHMENT FOR ADDITIONAL CONDITION(S) OR INFORMATION

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

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Signature Control No: 534314311-540674164 (TMP)
Stephanie Kimmel
Specialist

Additional Condition(s) or Information for ASN 2022-ANE-4061-OE

Proposal: To construct and/or operate a(n) Crane to a height of 40 feet above ground level, 406 feet above mean sea level.

Location: The structure will be located 5.0 nautical miles north of LZD Airport reference point.

Part 77 Obstruction Standard(s) Exceeded and Aeronautical Impacts, if any:

Aeronautical study revealed that the temporary structure will not exceed any Part 77 obstruction standard. Aeronautical study confirmed that the temporary structure will have no effect on any existing or proposed arrival, departure or en route instrument/visual flight rules (IFR/VFR) operations or procedures. Additionally, aeronautical study confirmed that the temporary structure will have no physical or electromagnetic effect on the operation of air navigation and communications facilities and will not impact any airspace and routes used by the military. Based on this aeronautical study, the FAA finds that the temporary structure will have no adverse effect on air navigation and will not impact any aeronautical operations or procedures.

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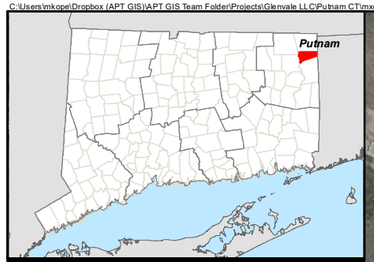
Sectional Map for ASN 2022-ANE-4061-OE

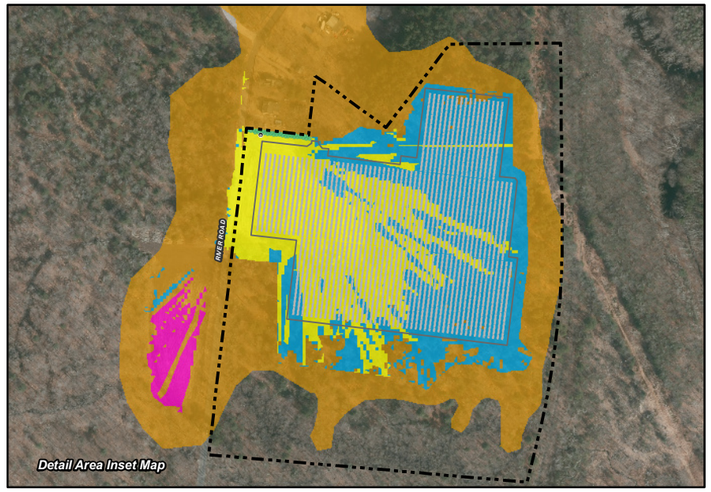
APPENDIX G

VISIBILITY DOCUMENTATION

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Glenvale LLC\Putnam CT\mxd\Putnam Viewshed Aerial.mxd



Statewide and Regional Overview Map



Detail Area Inset Map

Viewshed Analysis Map

Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

Proposed solar modules to be mounted on approximate 10' AGL support structures.
Proposed interconnect utility pole to be approximately 40' AGL.
Forest canopy height and topographic contours are derived from LiDAR data.
Study area encompasses a 1-mile radius and includes 2,613 acres.
Information provided on this map has not been field verified.
Base Map Source: 2019 Aerial Photograph (CTECO)
Map Date: July 2022

Legend

- Site
- Proposed Utility Pole
- Proposed Lanscape Screening
- Proposed Perimeter Fence
- Proposed Modules
- Study Area (1-Mile Radius)
- Areas of Potential Seasonal Visibility, Proposed Utility Poles and/or Modules (21 Acres)

Predicted Year-Round Visibility (17 Acres Total)

- Proposed Modules and Utility Pole (7 Acres)
- Proposed Modules Only (9 Acres)
- Proposed Utility Pole Only (1 Acre)
- Municipal Boundary
- Trail
- Scenic Highway
- DEEP Boat Launches
- Municipal and Private Open Space Property
- State Forest/Park

Protected Open Space Property

- Federal
- Land Trust
- Municipal
- Private
- State

Data Sources:

Physical Geography / Background Data

A digital surface model (DSM) was created from the State of Connecticut 2016 LiDAR LAS data points. The first return LiDAR LAS values, associated with the highest feature in the landscape (such as a treetop or top of building), were used to capture the natural and built features on the Earth's surface beyond the approximate limits of clearing associated with the proposed solar facility. The "bare-earth" return values were utilized to reflect proposed conditions where vegetative clearing associated with the proposed solar facility would occur.

Municipal Open Space, State Recreation Areas, Trails, County Recreation Areas, and Town Boundary data obtained from CT DEEP. Scenic Roads: CTDOT State Scenic Highways (2015); Municipal Scenic Roads (compiled by APT)

Dedicated Open Space & Recreation Areas

Connecticut Department of Energy and Environmental Protection (DEEP): DEEP Property (May 2007; Federal Open Space (1997); Municipal and Private Open Space (1997); DEEP Boat Launches (1994)

Connecticut Forest & Parks Association, Connecticut Walk Books East & West

Other

CTDOT Scenic Strips (based on Department of Transportation data)

Notes

***Not all the sources listed above appear on the Viewshed Maps. Only those features within the scale of the graphic are shown.*

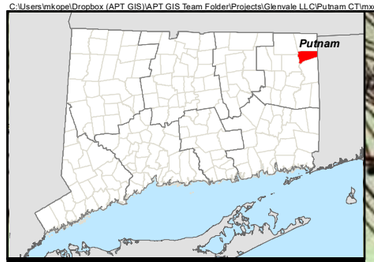
Limitations

This map depicts areas where the proposed Facility may potentially be visible to the human eye without the aid of magnification based on a viewer eye-height of 5 feet above the ground and intervening topography, tree canopy and structures. This analysis may not account for all visible locations, as it is based on the combination of computer modeling, incorporating the DSM and 2019 digital aerial photographs only. No in-field verification has been completed. This analysis does not claim to depict the only areas, or all locations, where visibility may occur; it is intended to provide a representation of those areas where the Facility is likely to be seen.

0.25 0.125 0 0.25 Miles

ALL-POINTS TECHNOLOGY CORPORATION

C:\Users\mkope\Dropbox (APT GIS)\APT GIS Team Folder\Projects\Glenvale LLC\Putnam CT\mxd\Putnam Viewshed USGS.mxd



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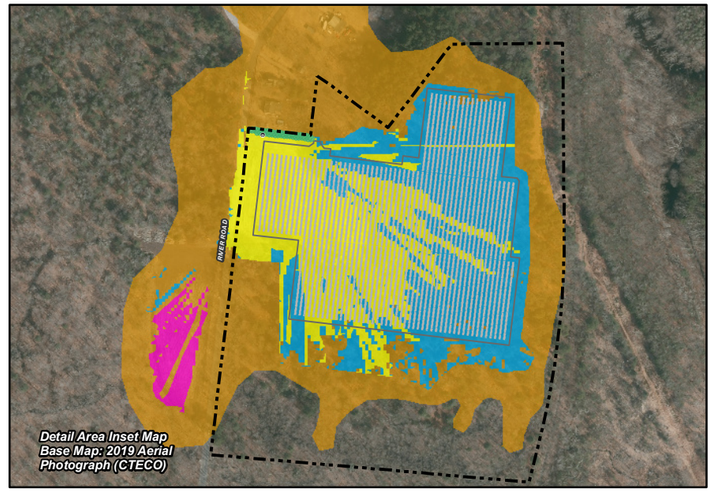

Detail Area Inset Map
Base Map: 2019 Aerial Photograph (CTECO)

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Proposed Solar Energy Facility
Putnam Meadow Solar Station LLC
56 River Road
Putnam, Connecticut

Proposed solar modules to be mounted on approximate 10' AGL support structures.
Proposed interconnect utility pole to be approximately 40' AGL.
Forest canopy height and topographic contours are derived from LiDAR data.
Study area encompasses a 1-mile radius and includes 2,613 acres.
Information provided on this map has not been field verified.
Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Putnam, CT (1970)
Map Date: July 2022

Legend

- Site
- Proposed Utility Pole
- Proposed Landscape Screening
- Proposed Perimeter Fence
- Proposed Modules
- Study Area (1-Mile Radius)
- Areas of Potential Seasonal Visibility, Proposed Utility Poles and/or Modules (21 Acres)

Predicted Year-Round Visibility (17 Acres Total)

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Data Sources:

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0.25 0.125 0 0.25 Miles

ALL-POINTS TECHNOLOGY CORPORATION

EXISTING

AERIAL PHOTOGRAPH
SOURCE: PICTOMETRY 2022

ALL-POINTS TECHNOLOGY CORPORATION

Glenvale

AERIAL PHOTOGRAPH
SOURCE: PICTOMETRY 2022

ALL-POINTS TECHNOLOGY CORPORATION

Glenvale