TECHNICAL REPORT

PHASE I RECONNAISSANCE ARCHAEOLOGICAL SURVEY
LITCHFIELD SOLAR PROJECT

Litchfield, Connecticut

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MANAGEMENT ABSTRACT

The Public Archaeology Laboratory, Inc. (PAL) conducted a Phase I reconnaissance archaeological survey for a solar project located on approximately 185 acres off Wilson Road, Highland Avenue, and Litchfield Town Road in Litchfield and Torrington, Connecticut. An archaeological sensitivity assessment of the project area identified areas of archaeological sensitivity and the reconnaissance survey was undertaken to locate and identify any potentially significant archaeological resources within the Project's area of impact. A total of 117 50-x-50-centimeter (cm) test pits were excavated, providing even coverage of the moderate and high sensitivity areas in the Project area. Two pieces of argillite and two pieces of quartz chipping debris were recovered from a single test pit. Additional testing in the form of an array of four test pits placed 2.5 meters from the original pit did not produce any additional cultural material. The investigations also recovered isolated pieces of post-contact material interpreted as field trash. The pre- and post-contact cultural materials are considered incidental, isolated finds and not representative of a potentially significant archaeological site. The proposed project will have no impact on archaeological sites and no further survey is recommended.

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CHAPTER ONE

INTRODUCTION

This report presents the results of a Phase I reconnaissance archaeological survey conducted by The Public Archaeology Laboratory, Inc. (PAL) for the proposed Litchfield Solar Project (the Project) in Litchfield and Torrington, Connecticut (Figures 1-1 and 1-2).

Project Description

Silicon Ranch Corporation is proposing to develop a ground mounted solar array facility with associated improvements on 80.5 acres within an approximately 211-acre area along Wilson Road and Town Farm Road in Litchfield, with adjacent sections off Rossi Road and Highland Avenue in Torrington (Figure 1-3).

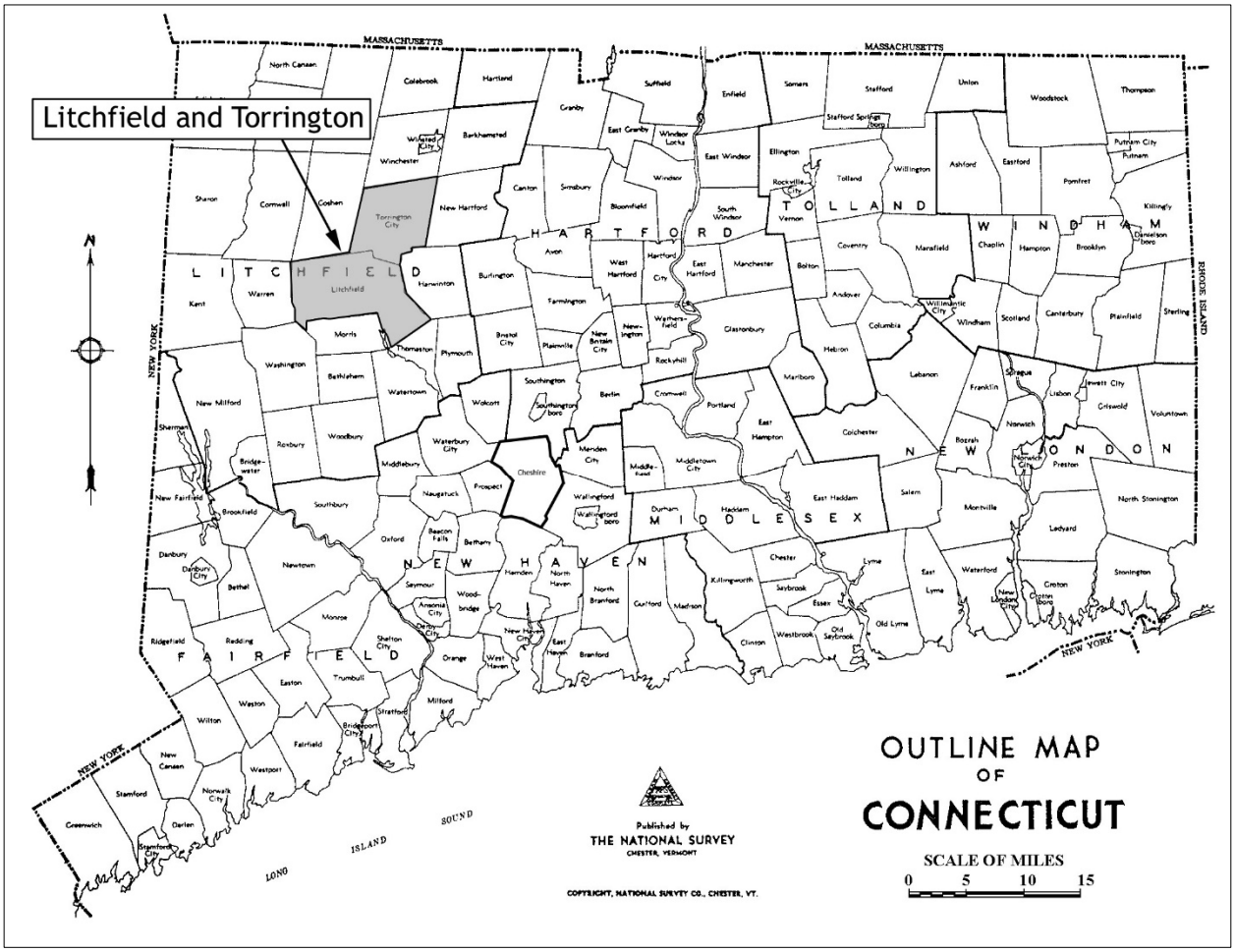

Figure 1-1. Location of Litchfield and Torrington in the State of Connecticut.

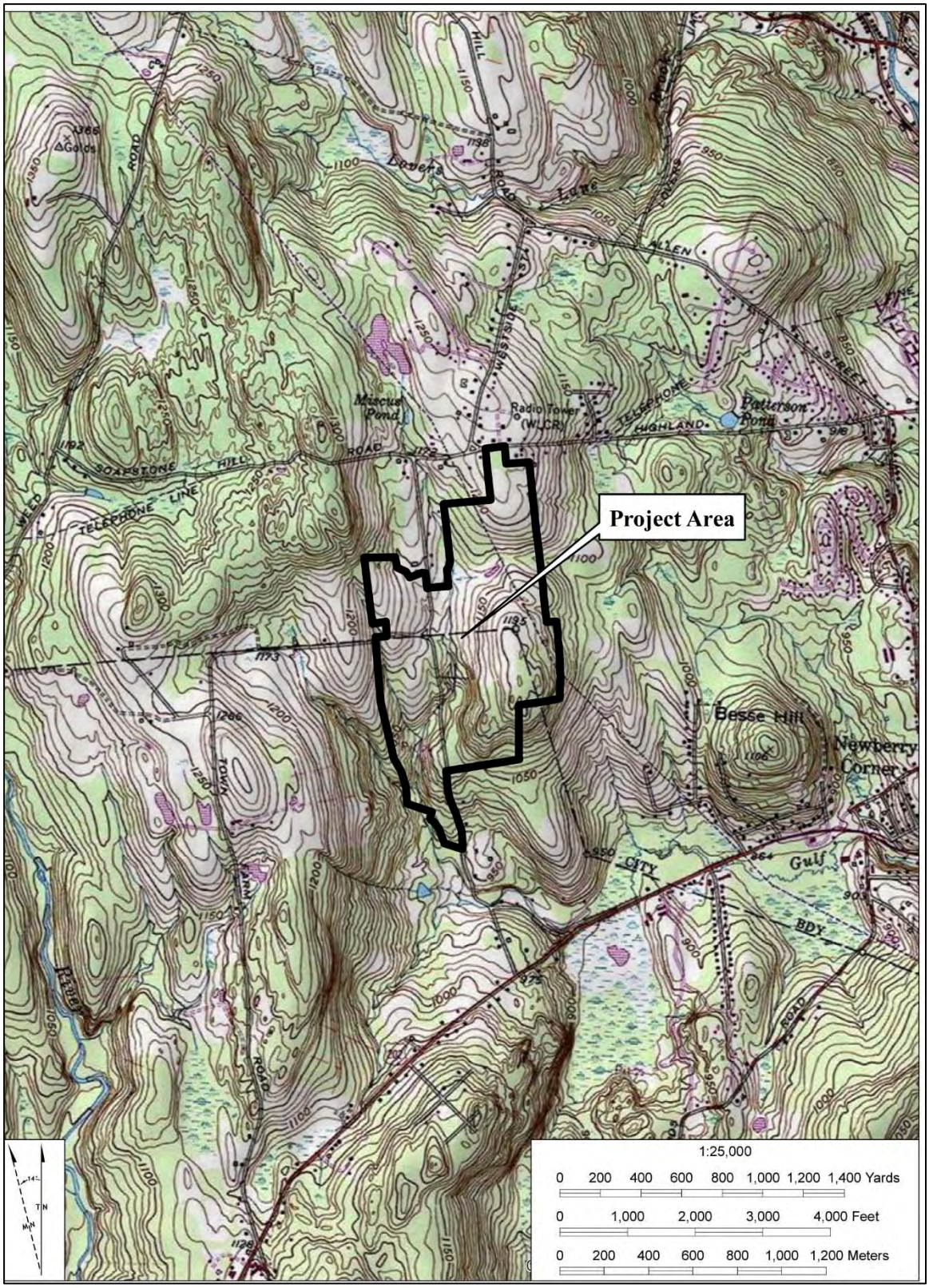

Figure 1-2. Location of the Litchfield Solar Project area on the West Torrington, CT, USGS topographic map

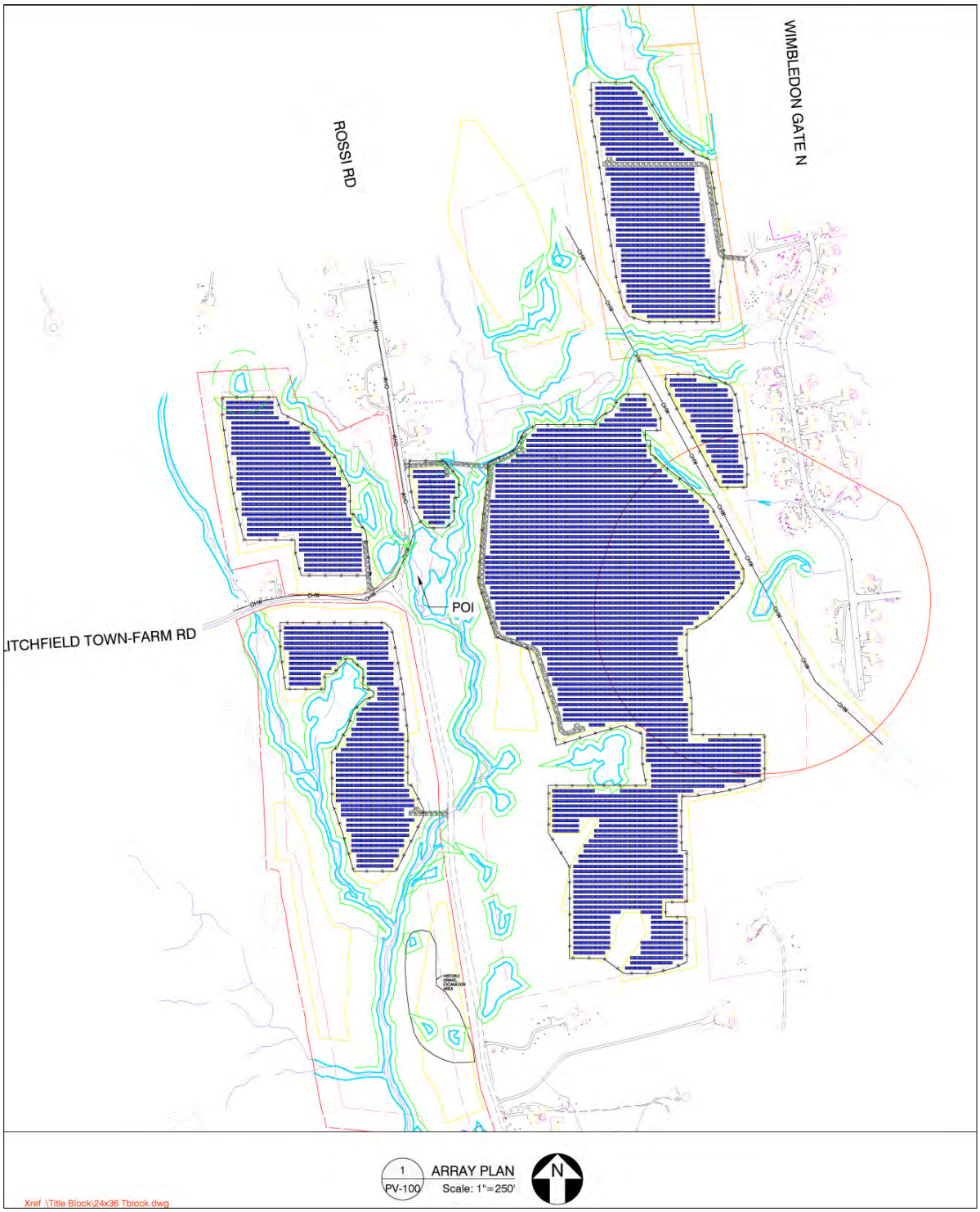

Figure 1-3. Preliminary layout of the Litchfield Solar Project.

Authority

The proposed Project will require a NPDES General Permit from the U.S. Department of Environmental Protection (EPA) and approval from the Connecticut Siting Council. The Project is therefore subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108) and its implementing regulations (36 CFR 800), and the Connecticut Environmental Policy Act (CEPA).

History of Cultural Resource Services

In 2019, at the request of Provost+Rovero, working on behalf of Silicon Ranch Corporation, PAL conducted an archaeological assessment of the project site to evaluate the potential for significant archaeological resources to be present within the area of proposed construction. The survey identified areas that have the potential to contain significant archaeological resources and subsurface testing was recommended in those areas that overlap anticipated ground disturbance. The CT State Historic Preservation Office (SHPO) reviewed PAL's report and concurred with the findings and recommendation for a Phase I reconnaissance archaeological survey (Appendix B).

PAL Scope

The goal of the Phase I reconnaissance archaeological survey was to determine the presence or absence of any potential historic properties within the Project's Area of Potential Effects (APE). The APE is defined in 36 CFR Part 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." The APE is defined based on the potential for effect, which may differ for aboveground resources (historic structures and landscapes) and subsurface resources (archaeological sites). For archaeological resources, the APE was limited to the limits of disturbance associated with the Project.

PAL's proposed scope of work for the Phase I reconnaissance archaeological survey was forwarded to the Staff Archaeologist at the CT SHPO. The survey built upon archival research conducted during the sensitivity assessment and included field investigations, and laboratory processing and analysis. The work was conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716–44742, National Park Service [NPS] 1983) and the Connecticut Historical Commission's *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987). Key PAL personnel involved in the survey meet the *Secretary of the Interior's Professional and Qualification Standards* (36 CFR 61, Appendix A).

PAL Personnel

Fieldwork for the reconnaissance archaeological survey was conducted September, 2020. PAL personnel involved in the survey were A. Peter Mair, II (principal investigator), Jessica Horn (project archaeologist), and Seth Biehler and Mechelle Gardner (archaeologists). Laboratory processing and cataloging were performed under the supervision of Heather Olson (laboratory manager).

Disposition of PAL Project Materials

All associated project materials (e.g., cultural materials, field recording forms, maps, and photographs) are currently on file at PAL, 26 Main Street, Pawtucket, Rhode Island, where they are stored according to curation guidelines established by the *Secretary of Interior's Standards* (36 CFR Part 79). In compliance with Connecticut regulations, the materials will be transferred to the Office of State Archaeology and the

Museum of Natural History at the University of Connecticut (OSA/CSMNH) at the completion of the project.

CHAPTER TWO

RESEARCH DESIGN AND FIELDWORK METHODOLOGIES

The goal of the Phase I reconnaissance archaeological survey was to locate and identify any archaeological resources that may be potentially eligible for listing in the State and/or National Registers of Historic Places (State/National Registers). Three research strategies were used:

- archival research, including a review of historical literature and maps;
- field investigations, consisting of subsurface archaeological testing; and
- laboratory processing and analyses of recovered cultural materials.

The archival research and walkover survey provided the information necessary to develop environmental and historic contexts for the Project area and a predictive model for archaeological sensitivity. Archaeological sensitivity is defined as the likelihood for belowground cultural resources to be present and is based on the following:

- geographical, functional, and temporal characteristics of previously identified cultural resources in the study area and its vicinity; and
- local and regional environmental data reviewed in conjunction with existing study area conditions documented during the walkover survey, and archival research about the study area's land use history.

Subsurface archaeological testing was conducted in areas with moderate to high sensitivity for containing archaeological deposits. Cultural materials recovered during the survey were processed in the laboratory and analyzed to interpret the nature of past human activities they represent. The artifact analyses were correlated with the subsurface testing and other field survey data and the resulting information was interpreted within the environmental and historic contexts developed for the Project area. The result was an assessment of potentially significant archaeological resources and their eligibility for listing in the National Register, the official federal list of properties that have been studied and found worthy of preservation.

Significance and Historic Contexts

The different phases of archaeological investigation (assessment, reconnaissance, intensive, and data recovery) reflect preservation planning standards for the identification, evaluation, registration, and treatment of archaeological resources (NPS 1983). An essential component of this planning structure is the identification of archaeological and traditional cultural properties that are eligible for inclusion in the National Register. Archaeological properties can be a district, site, building, structure, or object, but are most often sites and districts (Little et al. 2000). Traditional cultural properties are defined generally as ones that are eligible for inclusion in the National Register because of their association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). The results of professional surveys and consultation with Native American or other ethnic communities are used to make recommendations about the significance and eligibility of archaeological and traditional cultural properties.

An archaeological property may be pre-contact, post-contact, or contain components from both periods. Pre-contact (or what is often termed "prehistoric") archaeology focuses on the remains of indigenous American societies as they existed before substantial contact with Europeans and the resulting written records (Little et al. 2000). In accordance with the NPS guidelines, "pre-contact" is used, unless directly quoting materials that use "prehistoric." There is no single year that marks the transition from pre-contact to post-contact.

Post-contact (or what is often termed "historical") archaeology is the archaeology of sites and structures dating from time periods since significant contact between Native Americans and Europeans. Documentary records and oral traditions can be used to better understand these properties and their inhabitants (Little et al. 2000). Again, for reasons of consistency with the NPS guidelines, "post-contact" is used when referring to archaeology of this period, unless directly quoting materials that use "historical."

The NPS has established four criteria for listing significant cultural properties in the National Register (36 CFR 60). The criteria are broadly defined to include the wide range of properties that are significant in American history, architecture, archaeology, engineering, and culture. The quality of significance may be present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria (known by the letters A–D) allow for the listing of properties

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important to prehistory or history.

Archaeological and traditional cultural properties can be determined eligible for listing in the National Register under all four criteria, but must meet at least one (Little et al. 2000; Parker and King 1998). Archaeological properties listed under Criteria A or B must have a demonstrated ability to convey their associations with events, persons, or patterns significant to our history. Criterion C is intended to recognize properties that are significant expressions of culture or technology (especially architecture, artistic value, landscape architecture, and engineering) (Little et al. 2000:26). Under Criterion C, an archaeological property must have remains that are well-preserved and clearly illustrate the design and construction of a building or structure (Little et al. 2000:27). For Criterion D, under which most archaeological properties are determined eligible for listing in the National Register, only the potential to yield important information is required (Little et al. 2000:22). However, it is important to consider whether the data derived from a site are unique or redundant, and how they relate to the current state of knowledge relating to the research topic(s). A defensible argument must establish that a property "has important legitimate associations and/or information value based upon existing knowledge and interpretations that have been made, evaluated, and accepted" (McManamon 1990:15).

Another critical component in assessing the significance of a historic property is an evaluation of its integrity. Historic properties either retain integrity (i.e., convey their significance) or they do not. The National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity:

- location, the place where the historic property was constructed or the place where the historic event occurred;
- design, the combination of elements that create the form, plan, space, structure, and style of a property;
- setting, the physical environment of a historic property;
- materials, the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- workmanship, the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- feeling, a property's expression of the aesthetic or historic sense of a particular period of time; and
- association, the direct link between an important historic event or person and a historic property.

To retain historic integrity, a property will always possess several, and usually most, of these qualities. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects or qualities are most important to a particular property requires knowing why, where, and when the property is significant (NPS 2002).

The criteria are applied in relation to the historic contexts of the resources as follows:

> A historic context is a body of thematically, geographically, and temporally linked information. For an archaeological property, the historic context is the analytical framework within which the property's importance can be understood and to which an archeological study is likely to contribute important information (Little et al. 2000).

For traditional cultural properties, a historic context is further defined as follows:

> A historic context is an organization of available information about, among other things, the cultural history of the area to be investigated, that identifies "the broad patterns of development in an area that may be represented by historic properties" (48 FR 44717). The traditions and lifeways of a planning area may represent such "broad patterns," so information about them should be used as a basis for historic context development. Based on federal standards and guidelines, groups that may ascribe traditional cultural values to an area's historic properties should be contacted and asked to assist in organizing information on the area (Parker and King 1998).

The formulation of historic contexts is a logical first step in the design of an archaeological investigation and is crucial to the evaluation of archaeological and traditional cultural properties in the absence of a comprehensive survey of a region (NPS 1983). Historic contexts provide an organizational framework that groups information about related historic properties based on a theme, geographic limits, and chronological periods. A historic context should identify gaps in data and knowledge to help determine what significant information may be obtained from the resource. Each historic context is related to the developmental history of an area, region, or theme (e.g., agriculture, transportation, and waterpower), and identifies the significant patterns of which a particular resource may be an element. Only those contexts important to understanding and justifying the significance of the property need be discussed.

Historic contexts are developed by

- identifying the concept, time period, and geographic limits for the context;
- collecting and assessing existing information about these time periods;
- identifying locational patterns and current conditions of the associated property types;
- synthesizing the information in a written narrative; and
- identifying information needs.

"Property types" are groupings of individual sites or properties based on common physical and associative characteristics. They serve to link the concepts presented in the historic contexts with properties illustrating those ideas (NPS 1983; 48 FR 44719).

The following research contexts have been developed to organize the data relating to the archaeological resources identified within the project area

1. Pre-Contact and Contact Period land use and settlement patterns in the Naugatuck River drainage, circa (ca.) 12,500 to 450 years before present (B.P.); and
2. Post-Contact Period land use and settlement patterns in the Litchfield and Torrington, area, ca. A.D. 1620 to present.

Archival Research

The development of a historic context and a predictive model of expected property types and densities within the Project area began with archival research, consisting of an examination of primary and secondary documentary sources and documented/recorded sites in the general Project area. The information contained in archival sources formed the basis of the predictive models developed for the Project area and were an integral part of the archaeological survey.

State Site Files and Regional Surveys

Guidelines for archaeological research within Connecticut were provided by the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987). PAL reviewed the state site files maintained by the State Archaeologist at the University of Connecticut at Storrs to locate any recorded archaeological sites in or close to the Project area. Very few systematic surveys of Connecticut had been conducted before the late 1970's. The majority of archaeological investigations in the first three-quarters of the twentieth century focused on coastal areas with obvious shell middens and along the Connecticut River Valley, where high densities of sites had been long established. Large-scale, systematic and probabilistic surveys were first undertaken in central and eastern sections of the state in the late 1970's and early 1980's (McBride 1984; Wadleigh 1979). In northwestern Connecticut, surveys conducted by the American Indian Archaeological Institute, now the Institute for American Indian Studies, in the 1970s and 1980s identified numerous sites near large swamps and marshes. These areas, and the northwestern section of the state, in general, had previously been viewed as marginal for pre-contact settlement (Handsman 1982; Nicholas 1988). The archaeological collections from the town of Litchfield include several private collections, surface finds and AIAI site files (Handsman 1982).

Histories and Maps

Primary and secondary histories and historical maps and atlases were examined to assess changes in land use, to locate any documented structures, and to trace the development of transportation networks, an

important variable in the location of post-contact period archaeological sites. Town, county, state, and regional histories (Crofut 1937; Kilbourne 1856; J. T. Lewis & Co. 1881; Orcutt 1878; Woodruff 1845) and historical maps and atlases (Beers 1874; Hopkins 1859; Hurd 1893; Woodford 1845) were consulted to locate possible sites dating to this period within and close to the Project area. Historical aerial photographs maintained by Nationwide Environmental Title Research, LLC (NETR) were reviewed to assess more recent changes in the Project area.

Environmental Studies

Bedrock and surficial geological studies provided information about the region's physical structure and about geological resources near the Project area (Fenneman 1938; Rodgers 1985). Information about soil types and surficial deposits within the Project area was downloaded from the United States Department of Agriculture's (USDA) Natural Resources Conservation Service Web Soil Survey (USDA 2020). In addition, studies of past environmental settings of New England were consulted (Paynter 1979).

Walkover Survey

PAL conducted a walkover survey of the project area during the sensitivity assessment to document and to assess present environmental conditions. Environmental information documented on project maps during the walkover included the presence, types, and extent of fresh water; drainage characteristics; presence of bedrock outcrops and level terraces; and the angle of any slopes.

The current physical condition of an area is largely defined by the absence or degree of natural or human disturbances to the landscape. Typically encountered disturbances within a given area may include those resulting from agricultural plowing, gravel or soil mining, or previous construction and site preparation activities. Extensive survey experience indicates that such disturbances can reduce the probability for encountering contextually intact archaeological sites. However, plowing (which can move artifacts from their primary vertical and horizontal contexts and is the most common type of disturbance in New England) does not necessarily compromise the physical integrity of all cultural deposits.

Another purpose of the walkover survey was to document surface indications of archaeological sites. While pre-contact sites in New England are most often found belowground, artifact scatters are sometimes exposed on the surface through cultural agents such as pedestrian and vehicular traffic and by natural processes such as erosion. Post-contact archaeological site types that might be visible include stone foundations, stone walls, and trash deposits. If the remains of a built resource such as a farmstead are present within a given area, it is likely that a cellar hole and associated landscape features such as stone walls, overgrown orchards and fields, and ornamental plantings may be visible on or above the ground's surface.

Archaeological Sensitivity Assessment

Information collected during the archival research and walkover survey was used to develop a predictive model of potential site types and their cultural and temporal affiliation. The development of predictive models for locating archaeological resources has become an increasingly important aspect of CRM planning.

The predictive model considers various criteria to rank the potential for the Litchfield Solar Project area to contain archaeological sites: proximity of recorded and documented sites, local land use history, environmental data, and existing conditions. The Project area was stratified into zones of expected archaeological sensitivity (low, moderate, and high) to determine which areas would be tested.

Pre-Contact Period Archaeological Sensitivity

Archaeologists have documented nearly 12,000 years of pre-contact Native American occupation of the region. Prior to 7,000 years ago, peoples focused primarily on inland-based resources and on hunting and collecting along the Northeast's waterways. After 7,000 years ago, settlement became more concentrated within the region's major river drainages. By 3,000 years ago, concurrent with a focus on coastal and riverine settlement, large populations lived in nucleated settlements and developed complex social ties, with language, kinship, ideology, and trade linking peoples across the Northeast. During the centuries before European contact, these groups began to coalesce into the peoples known as Pocumtuck, Nipmuck, Massachusett, Wampanoag, Pokanoket, Mohegan, Pequot, and Narragansett.

Predictive modeling for large-scale site location in southern New England has its roots in academic research, including Dincauze's (1974) study of reported sites in the Boston Basin and Mulholland's (1984) research about regional patterns of change in pre-contact southern New England. Peter Thorbahn and others (Thorbahn et al. 1980) applied ecological modeling and quantitative spatial analysis to synthesize data from several hundred sites in southeastern New England and demonstrated that the highest concentration of pre-contact sites occurred within 300 meters (m) of low-ranking streams and large wetlands. The distribution of sites found along a 14-mile I-495 highway corridor in the same area reinforced the strong correlations between proximity to water and site locations (Thorbahn 1982). These studies and other large-scale projects provided data for developing models of Native American locational and temporal land use (MHC 1982a, 1982b, 1984; RIHPC 1982) that became the foundation for site predictive modeling used during CRM surveys.

Today, assessment of archaeological sensitivity within a given area, and the sampling strategy applied to it, takes existing physiographic conditions into consideration, including bedrock geology, river drainages, and microenvironmental characteristics. These categories of data are used to establish the diversity of possible resources through time, the land use patterns of particular cultures, and the degree to which the landscape has been altered since being occupied (Leveillee 1999). Increasingly, social and cultural perspectives, as reflected in both the archaeological and historical records (Johnson 1999), and as expressed by representatives of existing Native American communities (Kerber 2006), are considered when assessing archaeological sensitivity. Archaeological sampling strategies have also been evaluated and refined through applications of quantitative analyses (Kintigh 1992).

Geologic data provide information about lithic resources and current and past environmental settings and climates. Bedrock geology helps to identify where pre-contact Native Americans obtained raw materials for stone tools and indicates how far from their origin lithic materials may have been transported or traded. The variety and amount of available natural resources depend on soil composition and drainage, which also play a significant role in determining wildlife habitats and forest and plant communities.

Geomorphology assists in reconstructing the paleoenvironment of an area and is particularly useful for early Holocene (PaleoIndian and Early Archaic) sites in areas that are different physically from 10,000 years ago (Simon 1991). Recent landscape changes, such as drainage impoundments for highways and railroads, the creation of artificial wetlands to replace wetlands affected by construction, or wetlands drained for agricultural use, can make it difficult to assess an area's original configuration and current archaeological potential (Hasenstab 1991:57).

Beyond predicting where sites are located, archaeologists attempt to associate cultural and temporal groups with changes in the environmental settings of sites. Changes in the way pre-contact Native Americans used the landscape can be investigated through formal multivariates such as site location, intensity of land use, and specificity of land use (Nicholas 1991:76). However, distinguishing the difference between repeated

short-term, roughly contemporaneous occupations and long-term settlements is difficult, and can make interpreting land use patterns and their evolution problematic (Nicholas 1991:86).

Contact Period Archaeological Sensitivity

The Contact Period in New England dates from about A.D. 1500 to 1620 and predates most of the permanent Euro-American settlements in the region. This period encompasses a time when Native and non-Native groups interacted with one another through trade, exploration of the coastal region, and sometimes conflict. While Contact Period sites are usually associated with Native American activity, they can also include sites such as trading posts used by Native and non-Native groups.

Native settlement patterns during the Contact Period are generally thought to follow Late Woodland traditions, but with an increased tendency toward the fortification of village settlements. Larger village settlements frequently occurred along coastal and riverine settings, often at confluences. Inland villages were focused near swamp systems, which were exploited both as resource areas and as places of refuge in the event of attack. Such sites would likely contain material remnants reflecting the dynamics of daily life, trade, and defense preparedness.

The identification of Contact Period deposits is most frequently tied to the types of artifacts located within archaeological sites. Unfortunately, the majority of the archaeological data for this period in southern New England come from the analysis of grave goods within identified Native American burial grounds, rather than from habitation sites and/or activity areas (Gibson 1980; Robinson et al. 1985; Simmons 1970). The available data suggest that sites dating to this period often contain traditionally pre-contact features and artifacts (e.g., storage pits and chipped-stone tools) and non-Native trade goods and objects (e.g., glass beads, iron kettles, and hoes) (Bragdon 1996). The earliest Contact Period sites are often located at or near the coast and estuarine margin, since Europeans travelled to New England by ship. Non-Native artifacts passed from the coastal region to the interior through trade and/or seasonal travel.

Post-Contact Period Archaeological Sensitivity

The landscape of a given area is used to predict the types of post-contact archaeological sites likely to be present. Major locational attributes differ according to site type. Domestic and agrarian sites (houses and farms) are characteristically located near water sources, arable lands, and transportation networks. Industrial sites (e.g., mills, tanneries, forges, and blacksmith shops) established before the late nineteenth century are typically located close to waterpower sources and transportation networks. Commercial, public, and institutional sites (e.g., stores, taverns, inns, schools, and churches) are usually near settlement concentrations with access to local and regional road systems (Ritchie et al. 1988).

Written and cartographic documents aid in determining post-contact archaeological sensitivity. Historical maps are particularly useful for locating sites in a given area, determining a period of occupation, establishing the names of past owners, and providing indications of past use(s) of the property. Town histories often provide information, including previous functions, ownership, local socioeconomic conditions, and political evolution, which is used to develop a historic context and to assess the relative significance of a post-contact site.

The written historic record, however, tends to be biased toward the representation of Euro-American cultural practices and resources, particularly those of prominent individuals and families. Archival materials generally are less sensitive to the depiction of cultural resources and activities associated with socioeconomically or politically "marginalized" communities (McGuire and Paynter 1991; Scott 1994), including, but not limited to, Native Americans, African Americans, and "middling" farming or working-class Euro-Americans. Several archaeological studies conducted throughout New England have

demonstrated the methodological pitfalls of relying exclusively on documentary and cartographic materials to identify potential site locations associated with these types of communities. A large-scale archaeological study by King (1988) showed that in rural areas, only 63 percent of the sites discovered were identifiable through documentary research. This suggests that approximately one-third of New England's rural Euro-American archaeological sites may not appear on historical maps or in town and regional histories.

Other archaeological and ethnohistoric studies in the region have focused on identifying other historically "invisible" communities, notably post-contact Native American communities. Several townwide surveys in southeastern Massachusetts have compiled archaeological and historical data about eighteenth- and nineteenth-century Native American and African American communities that are poorly represented or are altogether absent in written town histories (Herbster and Cox 2002; Herbster and Heitert 2004). In central Massachusetts, active and influential Native Americans have been identified through archival research, despite the recorded "disappearance" of this group in the early eighteenth century (Doughton 1997, 1999). The cultural continuity of groups such as the Aquinnah Wampanoag is more thoroughly documented in archival sources, but until recently, archaeologists focused their attention on pre-contact archaeological deposits. More recent studies include predictive models for distinctly Native American post-contact sites and interpretations of eighteenth- through twentieth-century archaeological sites (Cherau 2001; Herbster and Cherau 2002).

Other archaeological investigations have focused on worker housing and landscape organization within mixed cultural mining communities in northern New England (Cherau et al. 2003); the social and spatial organization of a mixed racial community in western Connecticut (Feder 1994); and material culture and architectural patterns among nineteenth-century mixed African American and Native American households in central Massachusetts (Baron et al. 1996).

Information about post-contact land use within a given area can also be collected through written and oral histories passed through family members and descendant communities. These types of information sources can often fill gaps in the documentary record and provide details unavailable through more conventional archival sources. Although informants, other oral sources, and the documentary record can contradict each other, this type of information can also provide important data for identifying and interpreting archaeological sites. However, the sole use of and reliance on the written and oral historical records during archival research can underestimate the full range of post-contact sites in any given region. Therefore, walkover surveys and subsurface testing, in conjunction with the critical evaluation of available documentary and cartographic resources, are required to locate and identify underdocumented post-contact sites.

Archaeological Sensitivity Ranking

The Project area was ranked according to the potential for the presence of archaeological resources based on information collected during the archival research and walkover survey (Figure 2-1). Subsurface testing was planned for areas assigned moderate to high sensitivity where Project impacts will occur. Table 2-1 is a summary of the factors used to develop the archaeological sensitivity rankings. Based on prior surveys in comparable landscape settings archaeological sites are most likely to be identified in proximity to significant surface water features along the eastern sections of the property. Areas to west and sections characterized by steep slopes, irregular topography with limited level ground surfaces or areas disturbed by previous land uses have a lower potential to contain archaeological resources.

Subsurface Testing

Subsurface testing was conducted in Project impact areas with moderate to high archaeological sensitivity to locate and identify any archaeological resources. A total of 117 50-x-50-cm test pits were excavated

within the Project area during the reconnaissance archaeological survey. The test pits were distributed among within 30-x-30-meter (m) blocks, along test pit transects, isolated judgmental test pits, and an array (Figure 2-2). Each block contained 13 test pits in a staggered grid pattern, resulting in test pits placed at 7.5-m intervals. Sampling blocks of this size have a 50 percent likelihood of intercepting pre-contact sites that are less than 10 m in diameter and have a 100 percent likelihood of intercepting sites that are at least 30 m in diameter. EVALSTP and PLACESTP (Kintigh 1987) statistical computer programs were used in this evaluation. Linear transects, with test pits located at 15-m intervals, were used in areas too small or narrow for block testing. Arrays are placed at the cardinal directions around single test pits at a 2.5 or 5m interval to investigate isolated finds.

Table 2-1. Archaeological Sensitivity Rankings Used for the Litchfield Solar Project Area.

Presence of Sites		Proximity to Favorable Cultural/ Environmental Characteristics			Degree of Disturbance			Sensitivity Ranking
Known	Unknown	< 150 m	≥ 150 ≤ 500 m	> 500 m	None/Minimal	Moderate	Extensive	
•		•			•			High
•		•				•		High
•		•					•	Low
•			•		•			High
•			•			•		High
•			•				•	Low
•				•	•			High
•				•		•		High
•				•			•	Low
	•	•			•			High
	•	•				•		Moderate
	•	•					•	Low
	•		•		•			Moderate
	•		•			•		Moderate
	•		•				•	Low
	•			•	•			Moderate
	•			•		•		Low
	•			•			•	Low

All test pits and excavation units were excavated by shovel in 10-cm levels into C horizon subsoils, unless impeded by rock ledge. Excavated soil was hand-screened through ¼-inch hardware cloth. All cultural materials remaining in the screen were bagged and tagged by level within each test pit, and the count and type of all recovered cultural materials were noted on standard PAL Test Pit Profile forms. Soil profiles, including depths of soil horizons, colors, and textures, were recorded for each test pit. All test pits were filled, and the ground surface was restored to its original contour following excavation. Digital photographs were taken to document the general Project area, representative test pit profiles, and any significant features. A record of digital images was maintained on standard PAL Photograph Log forms. A daily record of observations and procedures was maintained by PAL's project archaeologist.

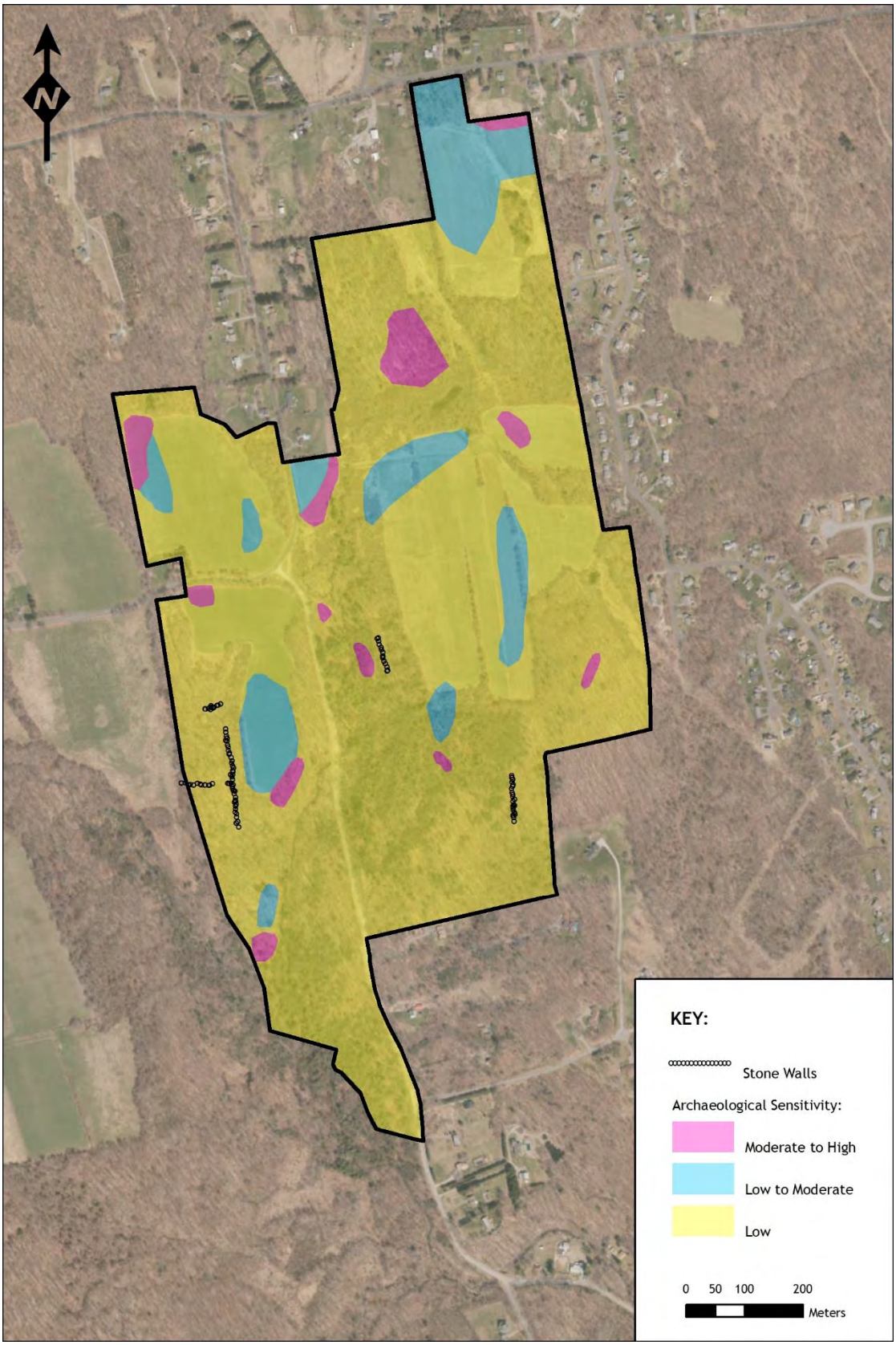

Figure 2-1. Archaeological sensitivity of the Litchfield Solar Project area

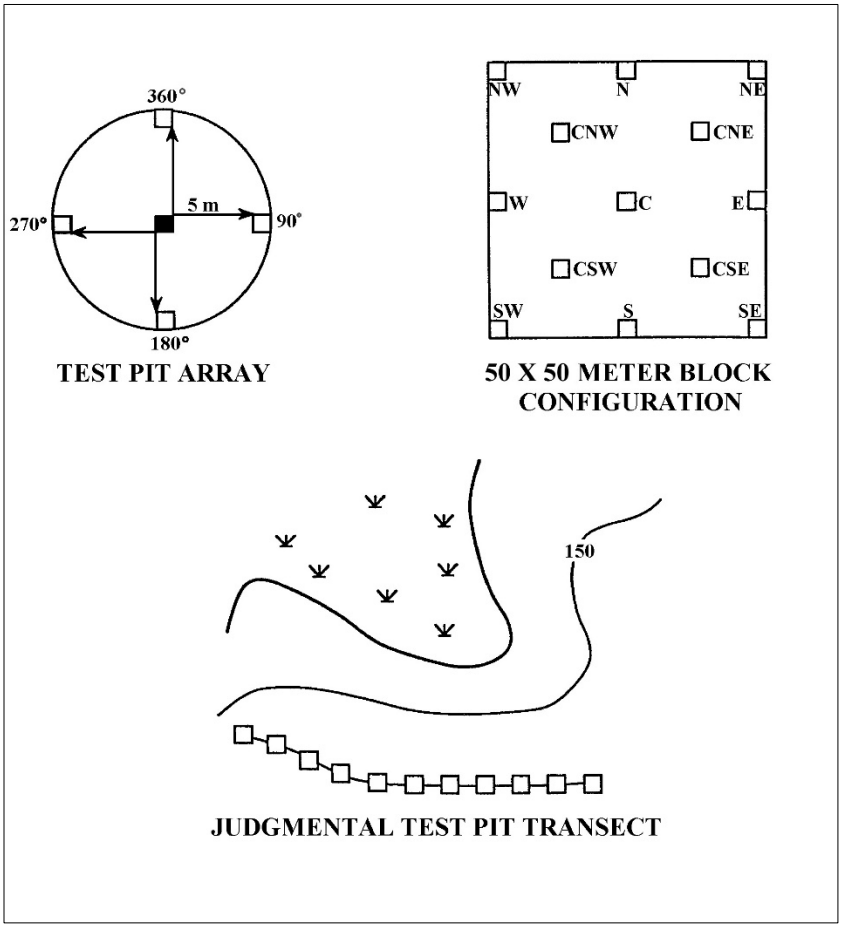

Figure 2-2. Reconnaissance survey subsurface testing strategies used in the project area.

Laboratory Processing and Analyses

Processing

All cultural materials recovered during the archaeological investigations were organized by site and provenience, recorded, and checked in on a daily basis. Cultural materials were sorted by type and either dry brushed or cleaned with tap water depending on the material or artifact type and condition.

Cataloging and Analyses

All cultural materials were cataloged using a customized relational database, which provides the flexibility needed when cataloging archaeological collections that often contain disparate cultural materials such as stone, ceramics, and/or glass. Artifacts with similar morphological attributes were grouped into lots, which allows for efficient cataloging. The artifacts were placed in 2-mil-thick polyethylene resealable bags with acid-free tags containing provenience identification information. These bags were placed in acid-free boxes that are labeled and stored in PAL's curatorial facility in accordance with current state and federal curation standards.

Culturally modified lithic materials, such as stone tools and chipping debris, were identified in terms of material, size (0–1 cm, 1–3 cm, 3–5 cm, etc.), and color. A lithic-type collection, maintained at PAL and

containing materials from various source areas in New England and nearby regions such as New York and Pennsylvania, was used to identify all lithic materials. Chipping debris was classified as either flakes or shatter. Pieces of debitage showing evidence of a striking platform, bulbs of percussion, or identifiable dorsal or ventral surfaces were called flakes. Debitage without these attributes, and exhibiting angular or blocky forms, were classified as shatter. Lithic debris was examined for edges that had been modified by use wear or intentional retouch.

Post-contact artifacts were cataloged by material (e.g., ceramic, glass, coal, and synthetic), form (e.g., bottle, jar, plate, nail, and brick), and function (e.g., kitchen, architectural, clothing, and arms). Ceramic sherds and bottle glass were examined for distinguishing attributes that provide more precise date ranges of manufacture and use, including maker's marks, decorative patterns, and embossed or raised lettering. Chronological dating of post-contact archaeological resources was performed using standardized and published artifact descriptions such as Jones and Sullivan (1989), Miller (1980, 1991, 2000), Noël Hume (1969, 2001), and South (1977). An analysis of the different nail and bottle types was used to refine the tentative date ranges of historical occupation generated by the ceramic assemblages.

Curation

Following laboratory processing, cataloging, and analyses, all recovered cultural materials were stored in acid-free Hollinger boxes with box content lists and labels printed on acid-free paper. The cataloged artifacts and associated project documentation are stored at PAL, 26 Main Street, Pawtucket, Rhode Island, in accordance with the *Secretary of the Interior's Curation of Federally-Owned and Administered Archeological Collections* (36 CFR 79) and the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) until deaccessed to the OSA/CSMNH.

CHAPTER THREE

ENVIRONMENTAL CONTEXT

Environmental settings, conditions, and natural resources are important factors to consider when assessing the potential for the presence of archaeological resources. Site locations are associated with environmental characteristics such as vegetation patterns, terrain, or proximity to water. The presence of natural resources can also be used to help predict the types of activities that may have occurred within a given area. The results of the archaeological sensitivity assessment are presented below.

Geology and Physical Geography

All of New England has been covered by at least four stages of glacial ice. The most recent stage occurred during the Pleistocene and lasted until the final glacial retreat of the Wisconsin Stage began, approximately 18,000 years ago. Over the next several thousand years, the slow advancing and rapid melting of the ice sheets depressed and shaped the land while scouring its surface and depositing debris. Flowing meltwaters and stagnant or buried blocks of ice created a variety of landforms seen today, including moraines, kames, eskers, terraces, and outwash plains. The final recession of the glaciers approximately 15,000 years ago resulted in the deposition of tremendous amounts of material on the land surface. As the ice melted, soils, rocks, and other particles were released and deposited as hills and valleys. Glacial meltwater streams created several large drainages, such as the Connecticut River, in addition to what would become the smaller, related regional drainages including the Thames, Quinebaug, and Shetucket rivers.

The Project is located on the Litchfield/Torrington town line. This section of the Litchfield Hills is topographically transitional between the rolling hills of north-central Connecticut and the more rugged, mountainous terrain of the upper Housatonic River drainage to the north and west (Figure 3-1). The hilltops within the Project and the surrounding area are characterized by steep flanking slopes with relatively level to rounded peaks. The hills and ridges show a moderate to strong north-northwest to south-southeast orientation from glacial erosion. Hills are separated by small streams and brooks flowing through deeply incised valleys and gullies formed during previous glaciations. Interspersed among the hills in the region are numerous larger marshes and swamps which developed in former pro-glacial lake and pond basins. A north-draining marsh approximately 0.5 miles (0.7 kilometers) south of the Project is the closest of these larger wetland basins. Drumlin or "drumlinoid" hills in southern New England are typically draped in dense lodgment tills that exert a strong influence on local surface water drainage. Seeps, springs, and wetlands are frequently found along the toes of drumlin slopes; a pattern which is well-expressed within the Project.

Hydrology

The Project is located in the upper Naugatuck River drainage (Figure 3-2). The project area is drained by three perennial tributary streams to Gulf Brook. The easternmost stream drains the northeastern and north central sections of the project area. The headwaters for this watercourse are at Miscus Pond, north of the Project. A small branch of this tributary flows from east to west between the two largest drumlin hills in the Project. The headwaters to this small branch stream is an artificial farm pond impounded by an earthen embankment. The central stream runs along the western project boundary north of Litchfield Town Farm Road and joins the eastern stream approximately 120 meters south of the open field in the southwestern corner of the project area. The westernmost of the watercourses only traverses the southwestern corner of the project area, south of the proposed solar array construction.

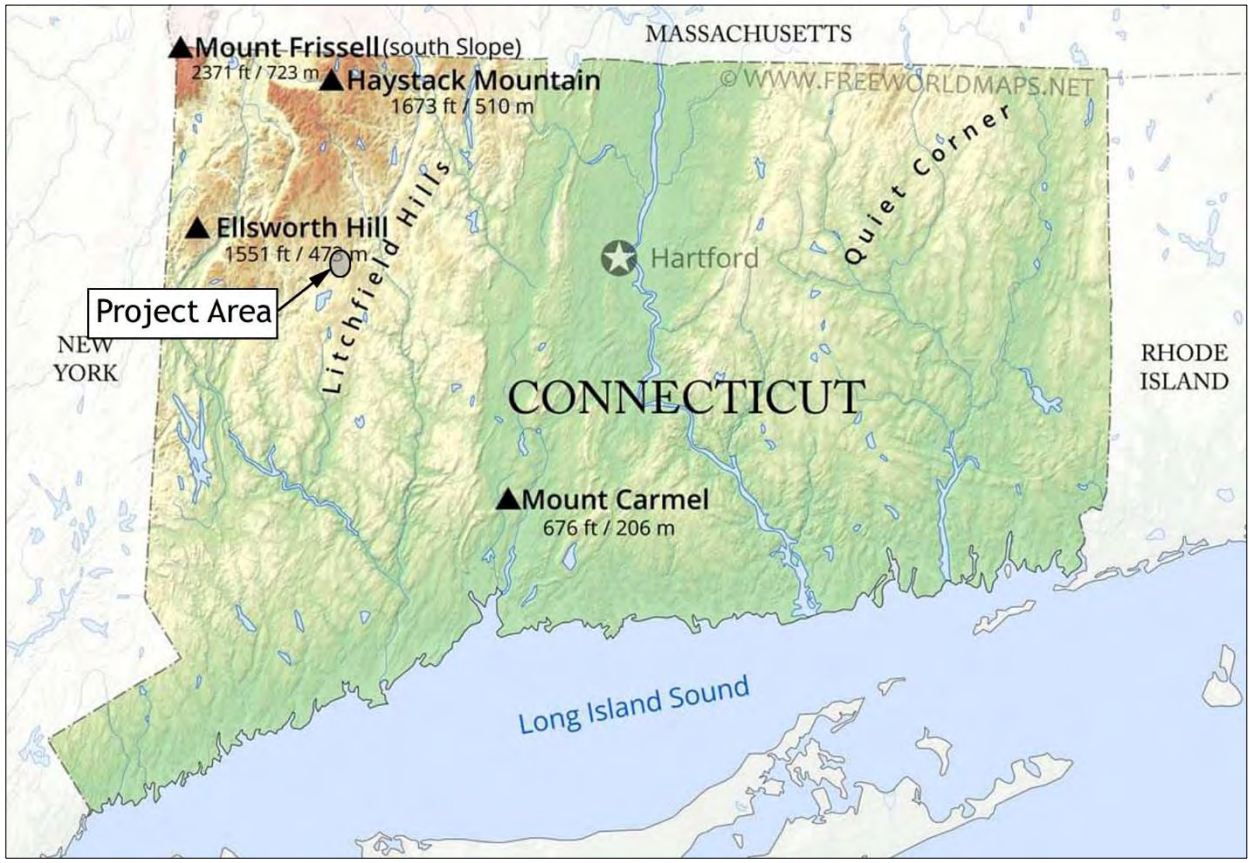

Figure 3-1. Location of Litchfield Solar Project within the Litchfield Hills.

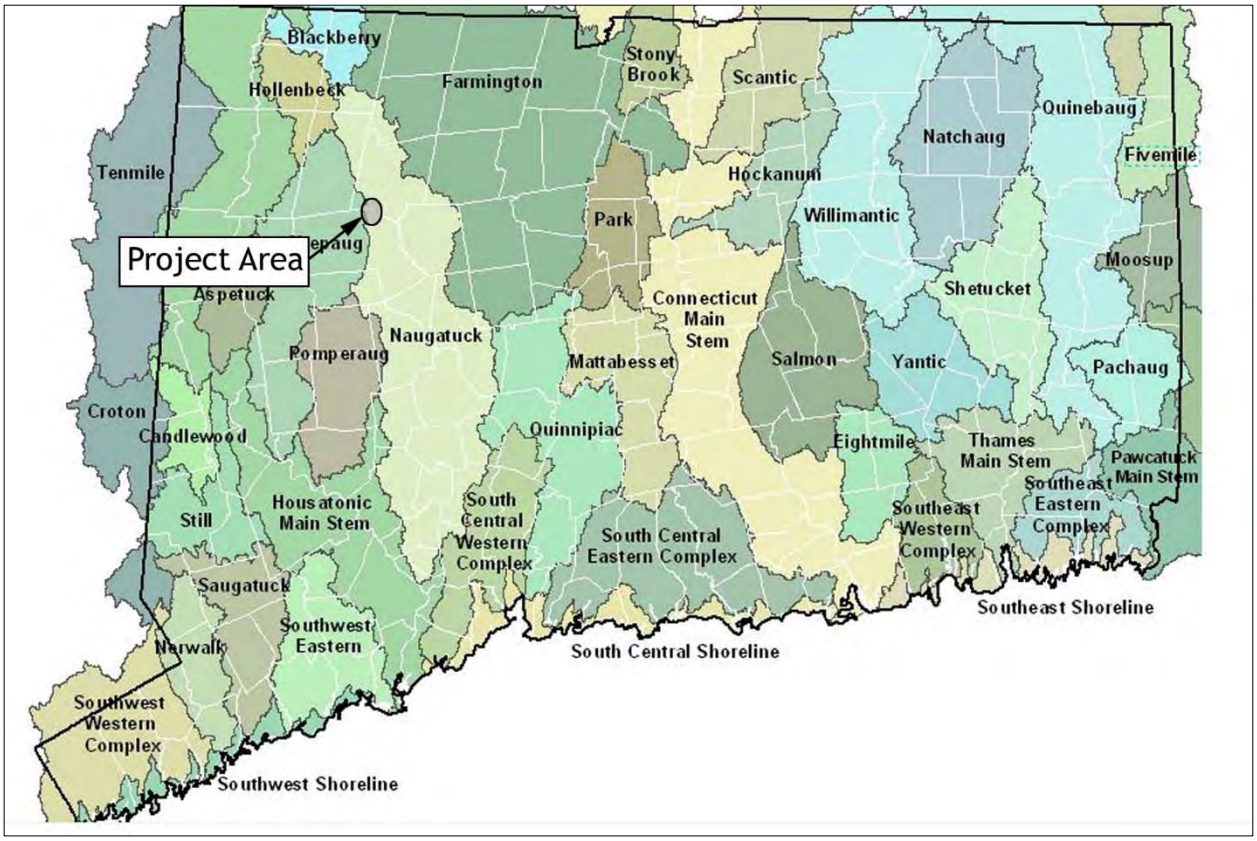

Figure 3-2. Location of Litchfield and Torrington within the Naugatuck River Watershed.

Soil

Soil within the majority of the project area consist of Paxton and Montauk well drained fine sandy loams with 3 to 25 percent slopes (Figure 3-3) (NRCS 2020). Paxton and Montauk soils are associated with dense lodgment tills on drumlins, till plains and ground moraines. Paxton and Montauk loams are found primarily within the open hay fields and hilltops within the project area. The steep slopes along the wetland drainages that separate these hills and ridges consist of Canton and Charlton, extremely stony, fine sandy loams with 3 to 15 percent slopes. Cobbles and rock fragments typically account for 25 percent of the soil volume in these areas. Smaller areas of Woodbridge fine sandy loam with 3 to 15 percent slopes are identified along the norther portion of the project area. Elevations within the project area range from approximately 1000 to 1240 feet above mean sea level.

Existing Conditions

The walkover survey of the project area was conducted to assess the integrity of the ground surface and to collect data on current environmental settings and, together with the background research, to assess the archaeological sensitivity of the project area. The majority of the project area is open fields (Figures 3-4). Wooded sections to the south were generally open, with limited under brush, providing clear views of the ground surface.

Hillside slopes in the northeastern and northwestern sections of the project are moderate below the hilltops, with steeper margins along the streams. Lower elevations within approximately 50 meters of the streams appeared to be poorly drained or prone to seasonal saturation. The streamlined character of the hills within the northern section of the project area changes near the southern boundary of the existing fields. The hillsides to the south are generally steeper, with several schist outcrops and less regular topography. The lower slope margins in the southern sections east of Wilson Road are steep and moderately rocky, as were the surfaces of several small benches or kame terrace sections overlooking the small stream drainages. Vegetation in this area is dominated by Eastern Hemlock interspersed with White Pine and Yellow Birch. The flora is consistent with generally moist soils within ravines and the lower stream valley flanks. Flat schist cobbles are moderately abundant on the ground surface in these sections. PAL staff inspected the outcrops and large boulders for overhangs that may have been suitable as rockshelters; no such features were identified. None of the exposed bedrock ledge observed by PAL contained visible steatite veins or other stone which may have been quarried during the Pre-Contact Period.

Surficial stone within the agricultural fields was relatively scarce, likely due to mechanical or hand removal. Discontinuous treelines separated the agricultural fields in the eastern section of the project. Each of these treelines contains variable deposits of small to medium sized cobbles, apparently taken from the cultivated or mown sections or former stone walls and dumped at the margins of the current field system. The cobbles PAL observed were consistent with the underlying Rowe Schist bedrock and granitic gneiss, with irregular platy to blocky fracture. A small percentage of the cobbles are of a medium to coarse-grained quartzite or quartz, both minor elements in the local bedrock. The quartzite appears to be suitable for coarse stone tool manufacture; quartz was widely used throughout the Pre-Contact Period and more abundant in most parts of southern New England than any other tool stone. No worked stone or debitage, debris from stone tool manufacture, was observed by PAL during the survey.

Stone walls were identified throughout parts of the project along Wilson and Old Town Farm Roads, between open fields and in wooded areas. Two stone boundary markers for the town-line of Litchfield and Torrington were identified. One of the stone markers is located within the open field in the northeastern section of the project area appeared to have been damaged by a vehicle, and was clearly askew. Stone piles from possible field clearing were noted along the western project boundary and along the southern central

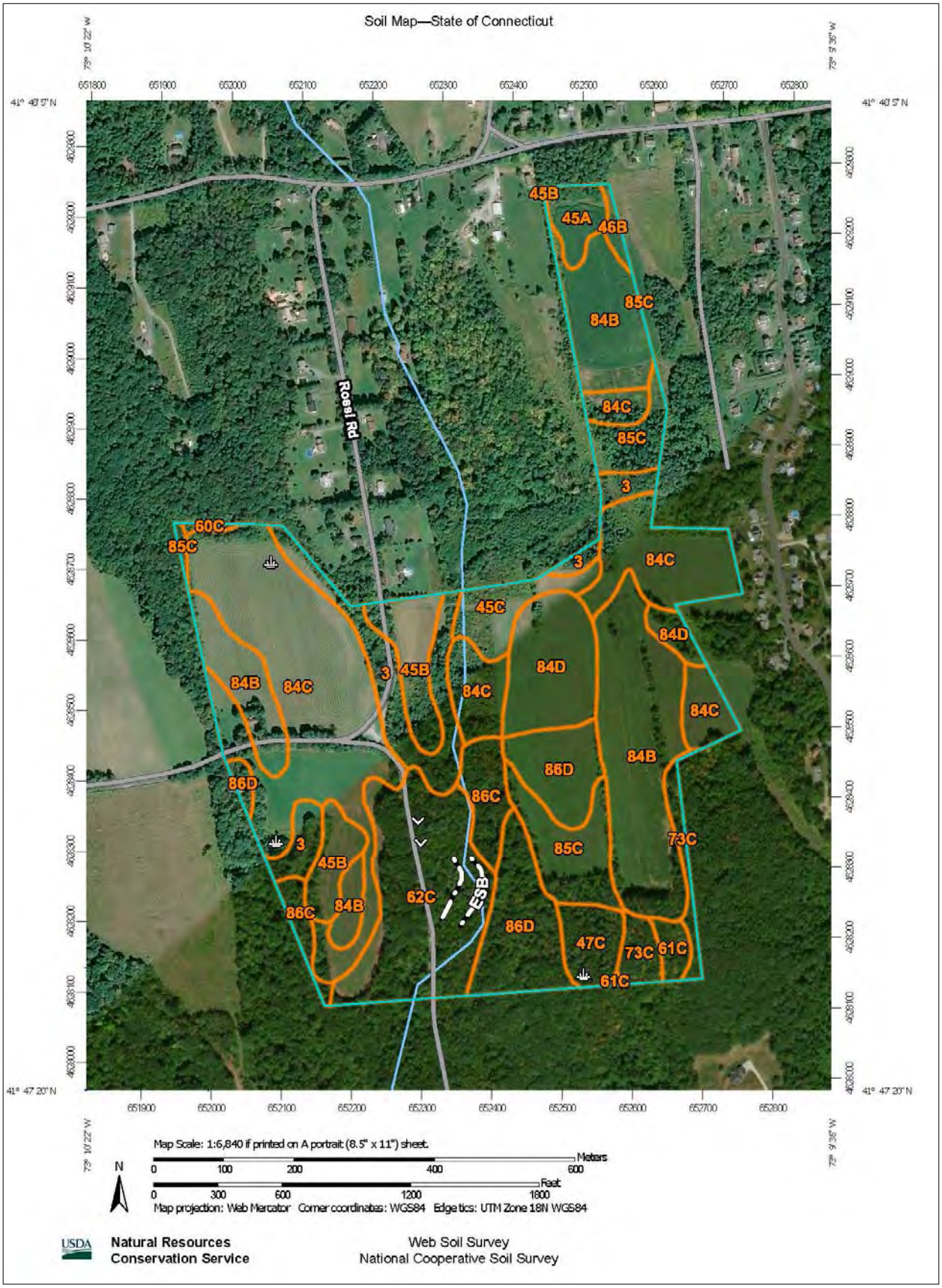

Figure 3-3. Representative soils, Litchfield Solar Project area (source: USDA 2020).

Figure 3-4. Representative photographs depicting vegetation within the Litchfield Solar Project area.

portions of the property. No evidence of the former “G.H. Smith” house depicted on the 1859 county map was observed during the walkover.

CHAPTER FOUR

CULTURAL CONTEXT

A regional understanding of long-term human settlement and subsistence practices is critical to understanding those same issues within a given area. This chapter provides an overview of human activity during the Pre- and Post-Contact periods, and provides a framework for predicting and interpreting the types of archaeological resources that could be located within the Project area. Cultural preservation movements supported by municipal, state, and federal legislation document nearly 12,000 years of human occupation in the region. Each of these periods is distinguishable on the basis of material culture, specific patterns of land use and, occasionally, by other indications of social organization such as mortuary/burial practices or traditions. The information for this context has been drawn from the results of professional CRM surveys, a review of state site files, general Pre- and Post-Contact Period cultural histories for the region, and primary and secondary sources concerning the land use history of the Project area.

Pre-Contact Period

The earliest archaeological evidence for human occupation in the region dates from the **PaleoIndian Period (12,500–10,000 B.P.)**, a time of dramatic climatic change in southern New England. The last glaciation to extend over Connecticut reached its maximum extent along the south shore of Long Island approximately 26,000 years ago. Southeastern sections of the state were ice-free by 21,000 years ago, but glacial ice likely persisted in the northwest hills for another 4,000 years. The climate of the early post-glacial period was quite harsh, with areas of permafrost extending southward of the retreating ice front. The vegetation colonizing the deglaciated areas was initially confined to sedges interspersed with willows and other hardy shrub species. By 12,500 years ago when archaeological evidence suggests the earliest Native American settlements were established, there was a mix of open, spruce parkland habitats and woodlands of spruce and cold-hardy oaks (McWeeney 1999). The PaleoIndian Period is sub-divided into Early, Middle, and Late sub-periods marked by changes in settlement patterns and lithic technology.

Sites from all three sub-periods are characterized by distinctive fluted projectile points and flaked stone tool assemblages containing end and side scrapers, gravers, splitting wedges, and drills. Most of the large and well-documented sites from this period are located outside of Connecticut, particularly in northern New England and New York State. To date, only a handful of small, intact PaleoIndian sites have been subject to professional archaeological investigation in Connecticut. They include the Templeton Site (6-LF-21) located in the Housatonic River drainage in Washington, the Hidden Creek Site (72-163), located on the Mashantucket-Pequot Reservation in Mashantucket, and the Baldwin Ridge Site located on a ridge overlooking the Thames River valley in Groton. The Templeton Site has a radiocarbon date of 10,190 ± 300 B.P. (Moeller 1980, 1984) and appears to have been the site of a small seasonal camp at which a wide range of stone tool manufacturing, tool maintenance, and domestic activities were carried out. The Great Hill Site in Seymour contained quartz debitage and a complete chert fluted point dating from the Early to Middle PaleoIndian Period (Heitert et al. 2000).

The Hidden Creek site provides evidence of yet another small, seasonal PaleoIndian camp (Jones 1997). Tentatively dating from 9000 to 10,000 B.P., the 100-square foot site is nestled on a kame terrace within the Cedar Swamp Basin, and is characterized by a lithic assemblage dominated by chert unifaces and end scrapers. The Hidden Creek Site yielded a small but diverse lithic stone tool assemblage that includes several lanceolate points and a large number of scrapers (Jones 1997). The small size of the site and its

temporary nature suggest that it was occupied by a highly mobile PaleoIndian population using few durable artifacts. The Baldwin Ridge Site, located within the 10-mile terrestrial Long Island Sound study area, yielded the base of a fluted point, end scrapers, and a resharpening flake, a tool assemblage suggestive of a special-purpose location for the hunting and processing of animal resources (McBride 1984; Soulsby et al. 1981). Additionally, the Allens Meadows Site in Wilton contained two fluted points and several dozen artifacts (Wiegand 2008).

The **Archaic Period (10,000–3000 B.P.)** is subdivided into Early, Middle, and Late periods on the basis of changes in environmental conditions, projectile point styles, and apparent settlement patterns (Lavin and Mozzi 1996; McBride 1984; Snow 1980).

The **Early Archaic Period (10,000–8000 B.P.)** coincided with the first two millennia of the Holocene epoch. The early Holocene was marked by warmer and drier conditions than the preceding Pleistocene epoch. Early Archaic peoples likely had a more generalized subsistence base relative to preceding populations in the region, drawing on a wider variety of small to large game, harvesting woodland plants (particularly hickory and hazelnuts), and exploiting wetland roots and tubers (Dumont 1981; Forrest 1999; Kuehn 1998; Meltzer and Smith 1986; Nicholas 1987). Identifying The most commonly recovered artifacts clearly associated with Early Archaic peoples in the region are bifurcate-based projectile points. Concentrations of Early Archaic bifurcate-based projectiles have been identified around the perimeters of ponds, marshes, and wooded wetlands and along major rivers such as the Connecticut (Pfeiffer 1984) and the Housatonic (Moeller 1984). Early Archaic sites are more widely distributed than PaleoIndian sites within both riverine and upland zones, but still quite rare (McBride 1984, Forrest 1999). The majority of known Early Archaic components in Connecticut are represented by isolated projectile point finds within multi-component sites. The concentration of known Early Archaic sites near large inland marsh and swamp locations suggests wetland resources were important elements of Early Archaic subsistence economies (Jones and Forrest 2003; Nicholas 1988).

Although best-known for its PaleoIndian component, the Templeton Site in Washington also yielded one of the largest Early Archaic assemblages in western Connecticut (Moeller 1980). The Dill Farm Site in East Haddam yielded a substantial assemblage of stone tools including five bifurcate-based projectile points and a hearth feature radiocarbon dated to 8560±270 BP (Pfeiffer 1986:31). Pfeiffer interprets Dill Farm as a short-term encampment along the margins of a shallow water lake or marsh. Excavations at the Sandy Hill Site (72-97) at Mashantucket have uncovered a large and stratigraphically complex Early Archaic occupation manifested as a series of semi-subterranean pit structures excavated into a sandy, south-facing hillside. Hugging the edge of the Great Cedar Swamp, a former glacial lake basin of roughly 500 acres, Sandy Hill has yielded a large quartz assemblage associated with pit features and very few formal stone tools (Forrest 1999). Radiocarbon analysis of charred hazelnut, cattail, and wood charcoal fragments recovered from the well-stratified living surfaces within the pit houses dates the site between 8,400 and 9,000 B.P. (Forrest 1999; Jones and Forrest 2003) Lithic analysis of the site assemblage suggests affinities with the Gulf of Maine Archaic tool tradition in the form of steeply retouched quartz unifaces, small oval cores, and the marked absence of formal bifaces (Forrest 1999).

During the **Middle Archaic Period (8000–5000 B.P.)**, pollen evidence indicates an expansion of mast (nut-bearing) tree species in the region (Dincauze and Mulholland 1977; McWeeney 1999). The rapid increase in oak forest communities may have allowed for a concurrent expansion of important game species in southern New England, including White Tailed Deer and turkey (Dincauze and Mulholland 1977:447). New tool classes associated with this period include grooved axes and other heavy groundstone tools used in woodworking. The presence of net sinkers and plummets indicates the growing importance of marine and riverine resources, particularly anadromous fish (Dincauze 1976; Snow 1980). Typical projectile point types include Neville, Stark, and Merrimack varieties (Dincauze 1976; Dincauze and Mulholland 1977; Jones 1999). Stone used in the manufacture of tools varied by region, with chert examples more common

in western sections of Connecticut and quartzite and rhyolite examples more common in the east (e.g. Jones 1999). Multiple sites with Middle Archaic components are located in southeastern Connecticut, the majority of which are clustered around Pequot Cedar Swamp on the Mashantucket Pequot tribal reservation (Jones 1999). Neville points have also been recovered from the multicomponent Harland-Cobb Farm (104-26), Lake of Isles Boyscout Camp (102-33) sites and Site 114-06 in Norwich, North Stonington and Preston respectively. In the case of the Harland-Cobb Farm Site, the pre-contact materials were recovered from disturbed contexts (Jones and Forrest 2004). Comparable numbers of Middle Archaic components are reflected in CT SHPO's site files for northwestern Connecticut, with a strong clustering of known sites around Robbins Swamp in Canaan, where the Institute for American Indian Studies undertook a long-term survey program in the early 1980's (Nicholas 1988; Jones 1999). Investigations of the Robbins Swamp area suggest that former glacial lake basins were focal points in Native American settlement and subsistence patterns before 5,000 B.P.). Larger sites associated with longer-term occupations are expected along the margins of these basins and near large streams and rivers that supported anadromous fish runs.

Late Archaic Period (5000–3000 B.P.) archaeological sites are very well represented in Connecticut. The period is traditionally considered to be a time of cultural fluorescence, as reflected in the elaboration of burial ritual, inferred population increases, and long-distance exchange networks (Ritchie 1969; Snow 1980). The density of Late Archaic sites and the almost exclusive reliance on locally available lithic materials such as quartz suggests increased Native American residency and the development of territories during the period (Dincauze 1975; McBride 1984). The climate continued to be warm and dry, creating an environment that was generally similar to the present day. The relative abundance of fire-adapted trees (pines, oaks, and hickories) during this period suggests natural or anthropogenic forest fires were more common.

Three archaeological traditions, Laurentian, Narrow Stemmed, and the Susquehanna, are identifiable in the regional archaeological record between 5000 and 3000 B.P. The Laurentian Tradition is the earliest cultural expression of the Late Archaic in the Northeast, which flourished and subsequently waned prior to the end of the period. Materials associated with Laurentian occupations include woodworking tools (hones and adzes), ground slate points and knives, ulus, simple bannerstones, and broad-bladed and side-notched Otter Creek, Vosburg, and Brewerton type projectile points (Ritchie 1980:79). Lithic materials recovered from Laurentian Tradition components in northwestern Connecticut are dominated by high-quality cryptocrystalline materials derived from quarries to the west. Cassedy noted that Brewerton and Vosburg type projectile points recovered from a very large survey along the Housatonic River Valley were made exclusively from Hudson Valley cherts (Cassedy 1999: 134), suggesting strong ties between communities in Connecticut's northwest hills and their contemporaries to the west.

Laurentian Tradition site distributions suggest an interior upland settlement focused on large lakes and wetlands associated with a hunter-gatherer subsistence economy (Ritchie 1980; Snow 1980). The Bahsan Lake Site, a Laurentian campsite, was identified in East Haddam (Pfeiffer 1983). The site yielded hunting and fishing implements, and hearths. The Bliss-Howard Site in Old Lyme contained 21 cremation burials associated with Laurentian diagnostic points and a habitation site (Pfieffer 1984). These sites suggest that larger groups congregated for at least a portion of the year with smaller, highly-mobile family groups following seasonally abundant resources in the intervening months. The mortuary features at Bliss-Howard show several striking similarities to better documented Susquehanna Tradition cemeteries, leading Pfeiffer to suggest that the Susquehanna Tradition in Connecticut developed directly from local Laurentian antecedents (Pfeiffer 1984).

Laurentian Tradition components are well-represented in western Connecticut, though the majority of reported locations appear to have larger Narrow Stemmed Tradition assemblages (Cassedy 1999). Site 270A-4-1 in Newtown was excavated in the 1990's and likely represents a Laurentian Tradition base camp

with multiple features, stone tools, and ten Brewerton projectile points. Two Laurentian hearths at the site have been radiocarbon dated to 4500±110 B.P. and 4290±70 B.P. (Cassedy 1999:130).

Diagnostic elements of Narrow Stemmed Tradition occupations include Squibnocket Stemmed, Wading River, Lamoka, and a host of small, narrow-bladed, stemmed projectile points, sometimes in association with woodworking tools, plummets, or choppers (Ritchie 1971; Dincauze 1975). The database of Late Archaic Narrow Stemmed tradition archaeological sites in Connecticut is quite extensive, consisting of thousands of projectiles. Narrow Stemmed projectile points are nearly ubiquitous in archaeological assemblages throughout the region, and are typically recovered five to ten times more frequently than Laurentian Tradition points in large surveys (e.g. McBride 1984, Cassedy 1999). Doucette (2011) recently compared the large narrow stemmed point assemblage from the Tower Hill Road Site (104-28) in Norwich with several other assemblages from eastern Connecticut, resulting in typological clarification of previously established Narrow Stemmed point types, including Burwell (Lavin and Russel 1985), Lamoka (Ritchie 1971), Squibnocket Stemmed (Ritchie 1969), and Wading River (Ritchie 1971; Dincauze 1976). Narrow Stemmed Tradition sites are widely distributed across multiple environmental settings, suggesting that subsistence patterns for this period included intensive use of many different plant and game animal species (e.g. Dincauze 1976; McBride 1984). This pattern is consistent with the increased use of a broad range of resources within constrained territories. Large sites potentially associated with longer term habitations appear to be clustered near major interior wetlands. There is less evidence for large sites along major rivers relative to the Laurentian (McBride 1984). The intensive use of locally available lithic materials, particularly cobble quartz, further suggests that Narrow Stemmed Tradition populations may have lived in circumscribed territories coinciding with watershed boundaries (Dincauze 1975, 1976; Ritchie 1980).

The earliest expression of the Susquehanna Tradition in Connecticut includes the Salmon Cove Phase dated to 3900 and 2900 B.P. (McBride 1984). The tradition terminates with the Orient Phase (ca. 2600 B.P.), which extended into the early part of the Early Woodland Period (Ritchie 1980). Susquehanna Tradition materials are characterized by broad-bladed points or knives such as Susquehanna Broad and Snook Kill, and narrower Orient Fishtail points, as well as steatite (soapstone) vessels. The earliest uses of mineral-tempered, cord-marked Vinette I pottery in the region appear to be associated with Orient Phase occupations (e.g. McBride 1984; Cassedy 1999). M Susquehanna Tradition mortuary ceremonialism was elaborate, with individual graves often including large drilled, burned, or broken ("ritually killed") knives and projectile points. Multiple large Susquehanna cremation cemeteries have been identified in Massachusetts and Connecticut (e.g. Dincauze 1968; Pagoulatos 1988; Leveillee 1998). Large Susquehanna Tradition sites appear to cluster on terraces overlooking major rivers, suggesting seasonal aggregation to exploit anadromous fish runs in the Spring (McBride 1984; Pagoulatos 1988).

The **Woodland Period (3000–450 B.P.)** in southern New England is characterized by an increased use of ceramic vessels and the eventual introduction of cultigens (maize, beans, and squash). Site size and complexity also increased throughout the Woodland Period, suggesting a trend toward increased sedentism and social complexity in eastern North America (Dragoo 1976). The Woodland Period is usually subdivided into Early, Middle, and Late periods on the basis of projectile point styles, ceramic types and political and social developments (Lavin and Mozzi 1996; Ritchie 1969; Snow 1980).

Early Woodland Period (3000–2000 B.P.) archaeological deposits in Connecticut have traditionally been identified through the presence of Meadowood, Lagoon, Adena and Rossville type projectile points, as well as grit-tempered, cord-marked Vinette I ceramics (McBride 1984; Lavin 1984). Early Woodland sites and components are notably rare relative to those associated with the preceding Late Archaic Period and subsequent Middle Woodland Period (Lavin 1984; McBride 1984). Settlement and subsistence patterns and some projectile point types for the Early Woodland Period in Connecticut show strong similarities with the Narrow Stemmed Tradition, suggesting continuity of Late Archaic cultures with the additions of stone tobacco pipes, and expansion in the use of pottery, and the possible adoption of the bow and arrow. Exotic

trade items appear in greater frequency at Early Woodland sites in the region, suggesting southern New England populations were participating in exchange networks that extended to the Southeast and Midwest regions. Evidence for substantial horticulture during the Early Woodland Period in southern New England is generally lacking (e.g. Lavin and Mozzi 1996; McBride 1984), though some cultivation of oily seeds plants, such as Chenopodium, appears to have supplemented the foraging economies (e.g. McBride 1984).

Middle Woodland Period (2000–1000 B.P.) site distributions suggest a more focal use of coastal or riverine ecosystems. Interior Middle Woodland sites were often located at major river bends and confluences. Small hunting camps were contrasted with larger residential habitations, and small "nodal" sites specialized in the circulation of cultural materials through a formalized trade network may have been part of the regional Middle Woodland settlement system (Hecker 1995). Artifacts diagnostic of the period include Jack's Reef Pentagonal and Corner-Notched and Fox Creek type projectile points and rocker- and dentate-stamped and net-impressed ceramics. Middle Woodland occupations in southern New England are commonly marked by a high occurrence of non-local chert and jasper. The relative frequency of "exotic" raw materials from Middle Woodland sites implies the existence of long-distance exchange networks extending from Labrador to Pennsylvania and beyond (Dragoo 1976; Fitting 1978; Snow 1980). Through established trade networks the southern New England Native American cultures remained peripheral to, though influenced by, the prominent Hopewell culture situated in the Midwest (Kostiw 1995).

Two Middle Woodland sites are recorded in Ledyard in the Cedar Swamp area, a small number relative to sites from many other time periods. Along with components dating to the Late and Transitional Archaic periods, material from the Museum Parking Site yielded a radiocarbon date of 1700 ± 70 providing an early Middle Woodland dated component for the site. Site 72-88 also yielded material with a Middle Woodland chronological affiliation. A Jack's Reef Corner-Notched point manufactured from Pennsylvania jasper was recovered from the Susquetonscut Brook Pre-Contact Site 12 (53-11) in Franklin (Doucette et al. 2015). Large scale surveys in the Housatonic River drainage suggest the density of Early and Middle Woodland sites on the landscape in the western Connecticut is consistent with other sections of the state; Early Woodland sites are quite rare and Middle Woodland sites are generally more common, though the latter are identified less frequently than those of the preceding Late Archaic Period.

The **Late Woodland Period (1000–450 B.P.)** is associated with an improvement in ceramic technology and production. Late Woodland Period artifact assemblages include Levanna and Madison point forms and finely made brushed, stamped, incised and cord-marked ceramics (Lavin and Mozzi 1996; Ritchie 1969; Snow 1980). The introduction of maize horticulture in Connecticut coincided with the Late Woodland Period (McBride 1984). Most Late Woodland sites in the region show similarities in site selection and function with earlier periods and degree to which maize cultivation influenced overall subsistence patterns remains subject to debate (Ceci 1980; McBride 1984; Bendremer 1993; Chilton 1996). The distribution of Late Woodland Period archaeological sites appears to be a continuation of the Middle Woodland pattern with Late Woodland archaeological components common within coastal environments, around interior freshwater ponds and wetlands, and adjacent to large tributary streams and rivers (e.g. McBride 1984).

The Iron Foundry Site consists of a historical iron foundry, as well as a pre-contact lithic scatter containing quartz debitage, and points diagnostic to the Middle Archaic and Late Woodland periods. Late Woodland diagnostic materials from the site consisted of a Madison projectile point. The Smith Cove Shell Heap was identified in Niantic, and yielded pottery with a pointed-collared rim and impressed design (OSA site files). Few distinct Late Woodland components have been excavated in northwestern Connecticut. The Meadow Road Site near the confluence of the Farmington and Pequabuck rivers in Farmington yielded several Levanna projectile points, scrapers, and a small pottery assemblage. Pottery from the site is very thin-walled with no visible temper and infrequent decoration, and is broadly similar to Hackney Pond type pottery recovered from coastal southeastern Connecticut.

Contact and Post-Contact Period Context

At the time of the establishment of the earliest European settlements in Connecticut (ca. 1635), land use patterns were strongly influenced by the complex relationships among Eastern Algonquian tribes inhabiting the area, and is referred to as the **Contact Period (450–300 B.P.)**. The social organization and settlement systems of these groups was affected by contact, trade, and conflict with Europeans, although the degree of change is difficult to assess. During the late pre-contact and contact periods (prior to 1635), tribes generally were organized in groups of small households, banding together along territorial and ethnic lines in spring and summer and dispersing in other seasons. Hunting, fishing, the gathering of wild plant foods, supplemented with maize horticulture, formed the basis of subsistence. Native American settlements were concentrated on the floodplains of the major river valleys and their tributaries, while wetlands and upland areas were used as seasonal hunting grounds. Sites of seasonal aggregation were located near agricultural lands and fishing points (McBride and Soulsby 1989). Palisaded Indian villages were situated in commanding positions, such as Fort Shantok and Mystic in southeastern Connecticut.

The Litchfield area was inhabited by Native Americans with cultural and historical ties to both the Tunxis Indians along the Farmington River Valley to the east and Mahikan tribal communities in the Hudson and Housatonic river valleys to the west and southwest (Lavin 1998). Relationships among the historically-identified tribes in northwestern Connecticut is complex and attributions can be confounded by the cascading effects of post-contact changes to tribal populations, land bases, economies, and settlement amalgamations drawing from multiple Native communities. Principal settlements of seventeenth century Native Americans in the region appear to have centered near the confluence of the Pequabuck and Farmington rivers in present-day Farmington and along the lower Pootatuck River drainage in Newtown, with smaller settlements at Bantam Lake.

By the mid-seventeenth century, hostilities among the dominant coastal tribes in southeastern New England entangled the Native people of interior Connecticut and Massachusetts. The Pocomtuck to the northeast and Tunxis allied with the Narragansett Tribe against the Mohegans in 1658 (DeForest 1852:254). Although the relative remoteness of Connecticut's northwest hills provided for some greater degree of Native independence from colonial strictures, the great upheavals caused by epidemic disease, dispossession of lands, christianization, and near-constant conflicts roiled local Native communities. Segments of the Tunxis and Pootatuck tribes moved to northwestward from large colonial settlements in the late 1600's and early 1700's; first to Schaghticoke (Kent), then to Stockbridge (DeForest 1852; Lavin 2002). Smaller communities, such as the Lighthouse Village on Ragged Mountain in Barkhamsted, comprising Native Americans from several tribes and other "outcasts" formed in the Litchfield Hills in the eighteenth century (Feder 2009).

English colonial settlement of the Connecticut coast continued after the Pequot War. Having gained control of most coastal areas, the English incrementally settled the interior, upriver sections of southeastern Connecticut. In 1650, trading posts were established at Mohegan (Norwich) and at Poquetanuck Cove in North Groton (Ledyard), across the Thames River from the Mohegan stronghold at Fort Shantok. The town of Litchfield established in the early eighteenth century although a land sale was recorded in 1658. The Tunxis Tribe in Farmington area sold a tract to William Lewis and Samuel Steele called Mattatuck. This transaction may have included parts of Litchfield. The majority of town was part of a sale in 1716 by Pootatuck Indians (Crofut 1937). Settlement remained slow in the Litchfield area until the early eighteenth century (Youngken and Lutke 1997:9). Native American settlements were centered around Pine Island or Bantam Lake, approximately 5-miles south of the project area (Kilbourne 1856).

Many of these developments occurred prior to the formation of the Connecticut Colony itself. This occurred in 1662, with the granting of a charter by King Charles II. Prior to that time, issues of land title and township formation had been regulated by a General Court, guided by the Fundamental Orders of Connecticut (1639)

and the 1650 Code. The establishment of the chartered Connecticut Colony led to the consolidation of New Haven and Saybrook with the greater colony.

In the **Colonial Period (1675 – 1775)** because farming was pivotal to the colonial economy, local geography dictated the social and economic development of colonial townships within the Litchfield area and in its vicinity. The first English settlements were oriented around suitable agricultural land, and waterways. Settlement in Litchfield County was restricted until 1732 by legal ownership disputes between the legislature, and the towns of Hartford and Windsor (Crofut 1937).

The economy of the project area was based primarily upon agriculture during the Colonial Period. On large subsistence family farms, grain crops were harvested from newly cleared fields, and livestock grazed in rocky areas less suitable for farming. While the bulk of agricultural produce had been consumed locally prior to 1675, improvements in transportation routes afterward allowed farmers to move products to the growing trade centers of Norwich and New London (Spencer 1993). Mixed husbandry continued throughout the period. Some specialization did occur, however, especially where land was better suited to grazing (Spencer 1993:13, 14).

Ancient Indian trails became colonial cart paths, and with the establishment of new townships, they became main roads, linking farmsteads and mills to village centers. Throughout the period, new thoroughfares were laid out and maintained through taxes on proprietors.

As township populations increased, and generations of descendants subdivided the lots of the original proprietors, the average acreage available to each English family decreased by 1700. Consequently, agricultural activity shifted from grain production to livestock and dairy production. The preparation of goods for the West Indies trade eventually surpassed grain production for local use (Herzan 1997).

Often, younger settlers gravitated to outlying sections of the large townships in the area. Poor roads and increased distances from town centers made it difficult for some to attend Sabbath services. The General Court frequently received petitions calling for the formation of new ecclesiastical societies and local ministries. These satellite villages often evolved into new townships in their own right. This process is reflected in the founding of Torrington. Disputes between the Towns of Hartford and Windsor over divisions of western Connecticut lands were settled in 1726, with Windsor taking control over present-day Torrington, Colebrook, Barkhamsted, and western Harwinton (Orcutt 1878:7). The general assembly approved allotment of Torrington lands to individual owners from Windsor in 1732, and settlements were established in the following decade. The early locus of colonial settlement in the vicinity of the Project was along present-day Highland Avenue (Orcutt 1887). The mid-eighteenth-century Jacob Strong, Jr. House (1167 Highland Avenue) is believed to be oldest standing house in Torrington and was erected during the initial phase of English settlement in the immediate area.

By the time of the American Revolution, the English people inhabiting the townships within the area had established a rural, agrarian way of life. The establishment of Litchfield as the county seat in 1751 brought an increase in population (Kilbourne 1859). Litchfield served as a storage depot and military workshop during the Revolutionary War with Oliver Wolcott, Jr. as quartermaster (Crofut 1937). Oliver Wolcott, Jr. later became Secretary of the United States Treasury, governor of Connecticut, and eventually the owner of woolen mills near Torrington (Crofut 1937).

By the **Federal Period (1775 - 1830)**, the number of new towns in Connecticut proliferated after the American Revolution. Improvements to roads was slow throughout the eighteenth century. The Post Road from New York to Hartford passed through the town by 1792 with at least six toll roads terminating at Litchfield Village. By 1830, a network of turnpikes, ferry crossings and steamboat routes permitted

comparatively speedy travel between the regional centers of New York, New Haven, Hartford, New London, Providence, and Boston (Spencer 1993).

The surrounding towns maintained their agricultural orientation, generally foregoing the industrialization, even as they realized the benefits of proximity to the trade centers of Norwich and New London. The economy of the project area continued to be oriented around mixed husbandry. Marshes and tidal river peripheries were sources of fish, peat, and marsh grasses provided feed for livestock (Herzan 1997).

Descendants of the local Native American tribes continued to occupy vestiges of their traditional homelands throughout the nineteenth century. Pequot and Mohegan tribal members were subject to the deprivations of the landless underclass with which they were associated. Many left the area entirely. Those who remained maintained social organizations and aspects of Native culture even while participating in the economic system of white New England society. The Mashantucket Pequots and the Mohegans gained federal recognition as tribal nations in the late twentieth century.

By the **Industrial Period (1830 - 1915)**, the agricultural economy within the area was in decline. Construction of inter-regional railroads presented Connecticut farmers with stiff competition from agricultural producers to the west, and many farmers switched over to dairy and fruit production and market gardening (Herzan 1997). Transportation was especially important in moving agricultural products to market and distributing goods to outlying farmsteads. Many younger people moved westward out of the region, or sought employment in the emerging mill towns of northeastern Connecticut. Litchfield had a wide variety of businesses as compared to surrounding towns, including printer/publishers, musical instrument and surgical instrument makers, and a tailor (U.S. Census 1850). The largest employer was a carriage maker.

Industry brought pervasive change to the region. While they had often proved unsuitable for farming, the rocky hinterlands of Connecticut contained numerous small rivers and watercourses that were harnessed by the new textile mills that nineteenth-century technological innovations had brought into being. A population decrease in the mid-nineteenth century was associated with the incorporation of the town of Morris in 1859, separating from the town of Litchfield. Modest factories were constructed in almost every town in the region, dedicated to the production of a wide variety of goods.

By 1910, the town of Litchfield had a declining population. Agriculture became less profitable as compared to western towns possibly due to the hilly terrain. The town attracted summer visitors around Bantam Lake, which eventually fueled a recovery of the town's local economy.

CHAPTER FIVE

RESULTS, INTERPRETATIONS, AND RECOMMENDATIONS

PAL conducted the archaeological reconnaissance survey within the Litchfield Solar Project area to identify and evaluate any potentially significant archaeological resources that may be impacted by the proposed Project. Archival research, a walkover survey, and subsurface testing were completed during the archaeological investigations. A catalog of cultural materials recovered during subsurface testing is included as Appendix A.

Archival Research

As part of sensitivity assessment, PAL conducted a review of the site files and survey reports maintained by the Office of the State Archaeologist in Storrs. The file review included both archaeological resources and historic above-ground resources that are listed or evaluated as eligible for listing in the State or National Registers and surveyed properties that have not been evaluated for registration. Relevant cultural resource management (CRM) reports and town histories and historic maps held at the Thomas J. Dodd Research Center at the University of Connecticut were reviewed.

The Litchfield Historic District, now listed in the National Register of Historic Places (NR), was established in 1959 as one of the first historic districts in Connecticut. Considered a significant example of an 18th century New England town, Litchfield Village and its surrounding borough consist of approximately 500 buildings, with a portion also designated as a National Historic Landmark District (site files). Five individual properties on the inventory for the district are located south of the Project along Route 202.

Although there are no pre-contact sites within the project area, there is one pre-contact and one post-contact archaeological site located within a 1-mile radius of the project area; both sites are along Lovers Lane Brook. The Hewitt Site (143-04) was identified approximately 1-mile north of the Project on a low terrace overlooking Lovers Lane Brook in Torrington (site files). The site yielded artifacts diagnostic of the Late Archaic and Woodland periods including steatite and clay pottery. The site form also noted that a colonial era fort was located on the property but not professional excavated or evaluated. One 19th to 20th century domestic site with a short-term pre-contact component (74-12) was identified approximately 1.3 miles south of the Project by a professional survey in 2010. The archaeological survey was conducted on a small section of approximately 12 acres along Torrington Road encompassing previously cut and graded terrain and wetlands (Heritage 2010).

Five pre-contact site were identified within a 5-mile radius of the Project. AIAI identified several sites approximately 1.75 miles south of the Project at the confluence of Spruce Brook and two smaller tributary streams. Three of the AIAI-recorded sites are on a small floodplain bounded by steep hillsides. Site 74-01 site yielded one flake. A 19th century trash pit and Native American camp site with quartz tools and charcoal (74-02) was recorded nearby, along with 74-3, an assemblage of historic and Native American quartz artifacts. A steatite quarry (74-5) was identified approximately 2.75 miles southeast of the Project by local artifact collectors and recorded by AIAI. Much of the site appears to have been destroyed by pothunters. Site 74-6 is a small rockshelter containing pottery and debitage, less than 0.5 miles east of 74-5; the site excavated by avocational archaeologists. Two post-contact sites were identified west of the Project along West Branch Brook. The South Goshen I Site (74-28) is a 18th and 19th century sawmill ruin. The Hervey Brooks Pottery Shop Archaeological Complex (55-77) is approximately 2.5 miles west of the Project and

included multiple early to mid-nineteenth century structures, buildings and features, including a pottery kiln and shed (site files). The site was excavated by Old Sturbridge Village in the 1980s. The production shed superstructure from the former Hervey Brooks Pottery was moved to Old Sturbridge Village and reconstructed as part of the museum's exhibits.

Two surveys were conducted around Bantam Lake southwest of the Project. The AIAI survey identified the Ripley 1 and 2 sites which yielded evidence of a Native American site and a 19th century farmstead (Handsman 1992). The High Bridge Road Bridge Project identified a nineteenth century railroad alignment and historic farmstead features (Raber 2005). South of the Project, a small survey for sewer improvements for Litchfield Village identified a stone wall segment within the Litchfield Historic District but was not considered eligible for NR (Schneiderman-Fox et al. 1997). A more recent survey was conducted north of the project area in Torrington and yielded late historic or modern artifacts (Walwer and Walwer 2015).

A review of historic maps identified the "G.H. Smith" house within the Project on the west side of Wilson Road in Litchfield. The 1859 Map of Litchfield County depicts the house on the west side of a distinct kink in Wilson Road at the road's crossing over a stream (Figure 5-1; Hopkins 1859). No house is depicted at the same location in 1869, though the same westward kink in the roadway was still present. Little change in the road alignment or houses is visible between the 1868,1892, and 1904 USGS maps. Comparison of aerial images taken between 1941 and 1991 indicate that multiple stone walls which once defined a series of smaller fields in the eastern half of the project area were gradually removed, consolidating the farmland into the fields present today. The cleared lands in 1944 extended over a larger percentage of the subject property than they do today; woodlands were then largely confined to the southern margins of the property where the terrain is the steepest. A small orchard is also visible in the southwestern field on the 1944 aerial. By 1969, Wilson Road appears to have been realigned slightly to the east, possibly to remove the deviation at the stream crossing, and a small gravel quarry was in place in the south-central portion of the project on the west side of Wilson Road.

Figure 5-1. Portion of 1859 map of Litchfield County with the approximate location of the Litchfield Solar Project area (source: Hopkins 1859).

PAL's archival research suggests the post-contact land use history of the Project was primarily agricultural. Actively tilled fields, orchards, hayfields, woodlots and "unimproved" woodlands comprised the majority the land area after 1750. Residential use appears to have been confined to the southern margins of Highland Avenue in the northern section with a shorter-period of potential residential use in the southern section, west of or within the current alignment of Wilson Road. No mills or other industrial uses were identified within or adjacent to the Project.

Subsurface Testing

A total of 117 50-x-50-cm shovel test pits were excavated during the reconnaissance survey. The study area was divided into subareas that coincided with the different areas of sensitivity identified during the sensitivity assessment (Figure 5-2a, 2b, 2c, Table 5-1). Test pits were placed within two 30m-x-30m sampling blocks, 18 linear transects with test pits placed at a 15-m interval, six judgmental test pits, and one array of four test pits placed at the cardinal directions at a 2.5m.

Table 5-1. Summary of subsurface investigations, Litchfield Solar Project.

Area	Acres	Sensitivity	Transects/JTPS	# of Pits	Results	Comments
1	0.73	Low to Moderate	TA, TB	11	Isolated post-contact material	
2	0.48	Moderate to High	TB,JTP-01,02	4	NCM	
3	2.60	Low to Moderate	TD,TE, JTP-03, 04	11	NCM	
4	0.50	Moderate to High	TC	4	NCM	
5	4.00	Low to Moderate	BK-02, TK	16	Isolated post-contact material	
6	0.32	Moderate to High	TJ, JTP-06	4		
7	0.50	Low to Moderate				
8	3.23	Low to Moderate	TF	14	NCM	
9	0.07	Moderate to High				Steep slope
10	1.03	Low to Moderate				
11	0.19	Moderate to High	TQ	2	NCM	
12	3.70	Low to Moderate	BK-01, TH	16	Isolated post-contact material	
13	0.60	Moderate to High	TG, AR-01	9	Chipping debris	Wilson Road Find Spot
14	0.29	Moderate to High	TI, JTP-05	4	Isolated post-contact material	
15	0.33	Low to Moderate	TL, TM	6	Isolated post-contact material	
16	0.47	Moderate to High	TP	6	NCM	
17	0.90	Low to Moderate	TO	4	NCM	
	61.00	Low	TN, TR	6	NCM	
Total	**80.94**			**117**		

Areas 1 and 2

Areas 1 and 2 correspond to areas of moderate to high sensitivity south of 255 Rossi Road, an 1800s farmhouse. The area is comprised of gentle to severe sloping agricultural fields. The owners of the farm house indicated their grandfather collected "arrowheads" from this area. Two transects (TA-01–06; TB- 01–07) oriented north to south were placed across a gently southern-sloping knoll. Two JTPs (01 and 02) were placed along the eastern edge of the field along an unnamed tributary stream to Gulf Stream (see

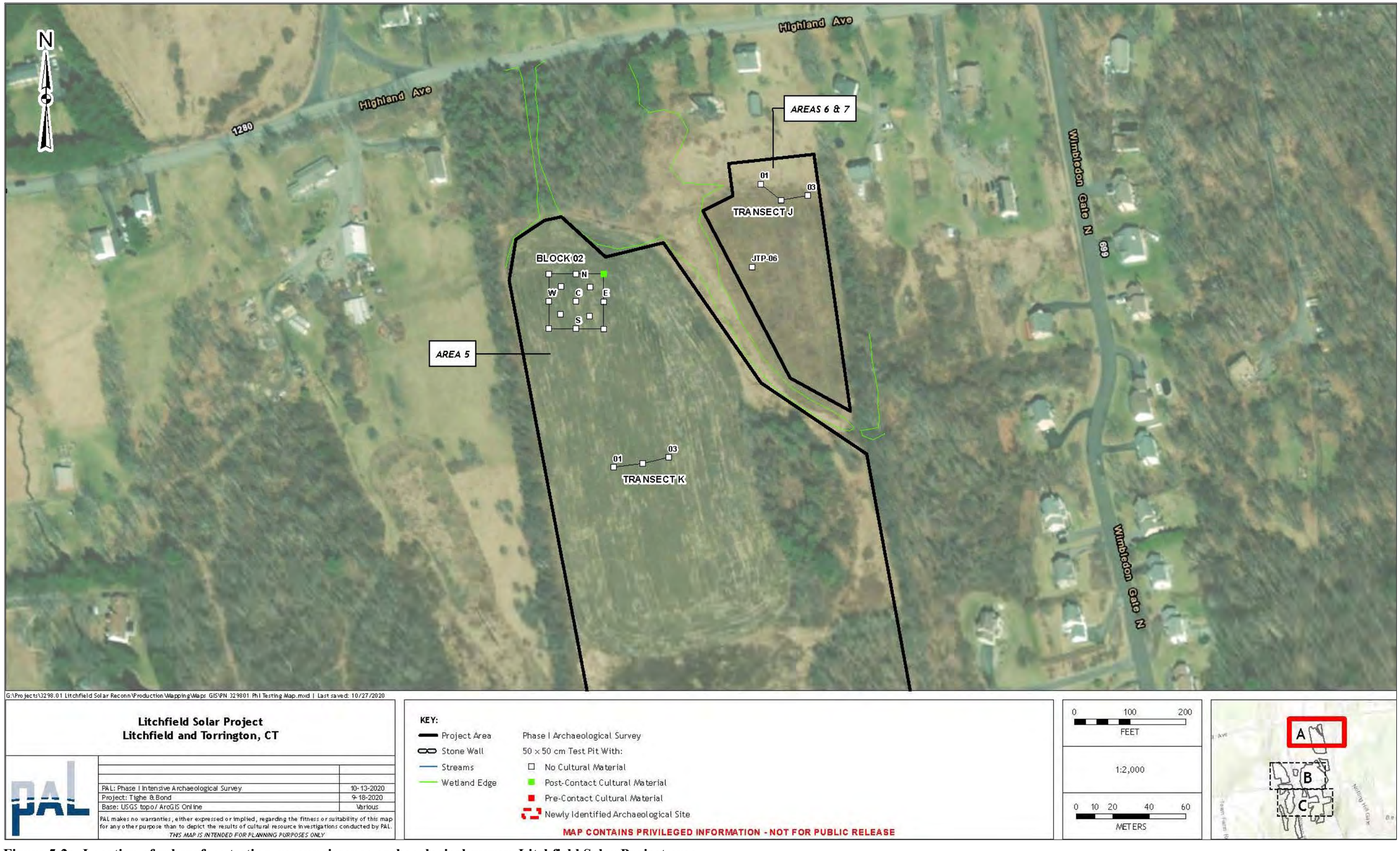

Figure 5-2a. Location of subsurface testing, reconnaissance archaeological survey, Litchfield Solar Project area

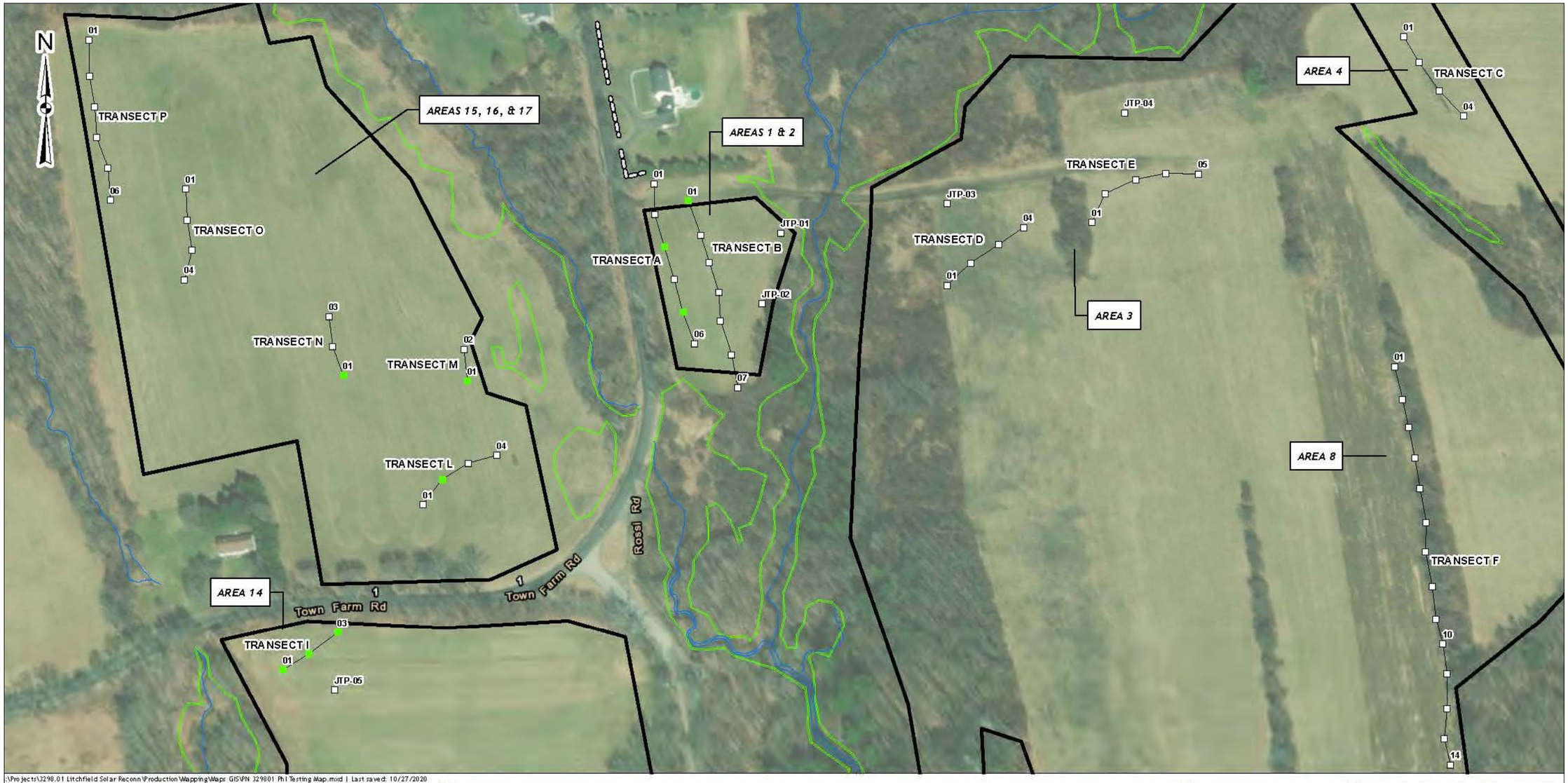

Figure 5-2b. Location of subsurface testing, reconnaissance archaeological survey, Litchfield Solar Project area

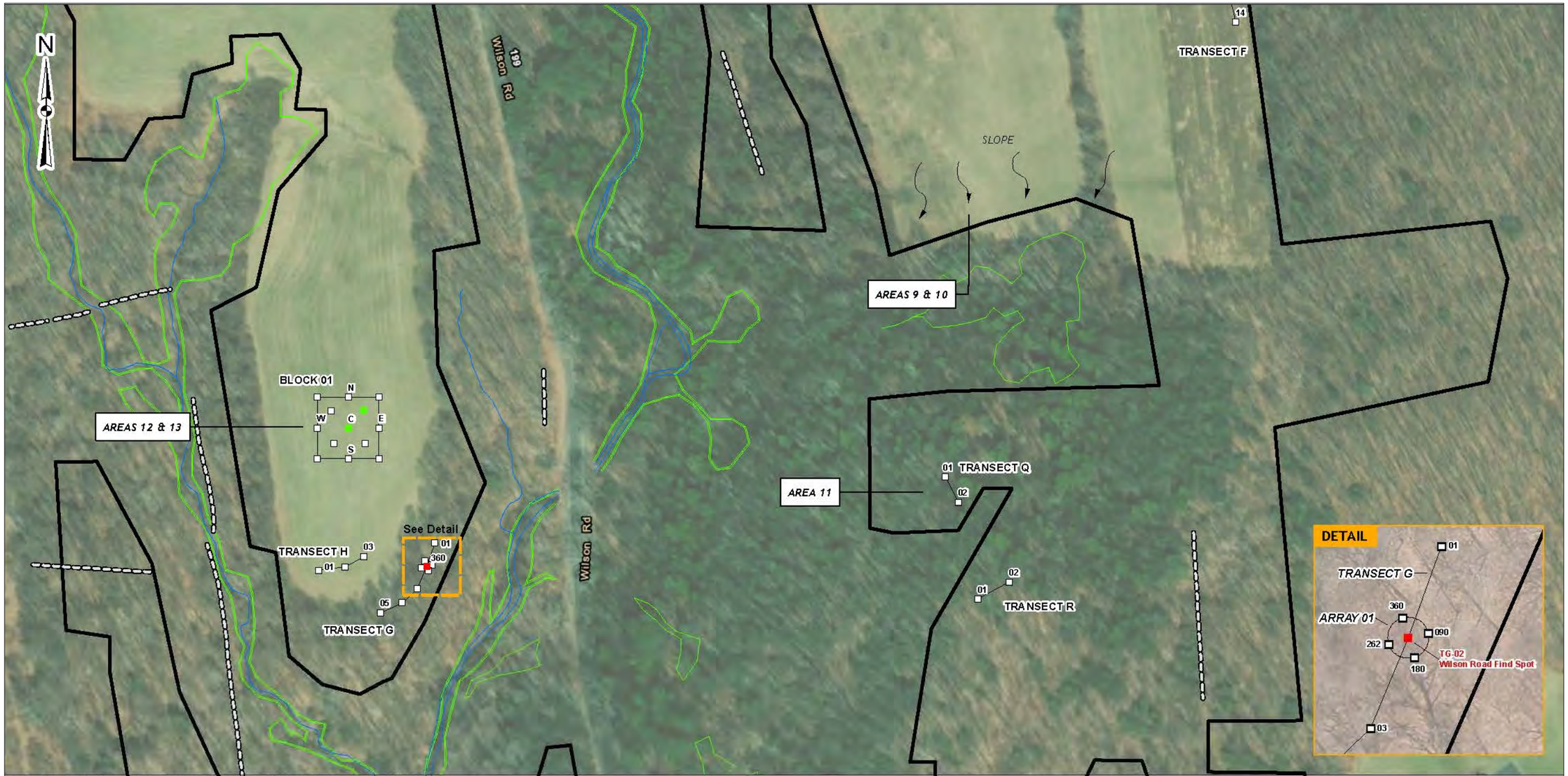

Figure 5-2c. Location of subsurface testing, reconnaissance archaeological survey, Litchfield Solar Project area

Figure 5-2b). Soils are very compacted and stony (broken rock and cobbles). Soil profiles revealed evidence of past agricultural activity. A typical soil profile consisting of a natural duff (A_o) over a plow zone (A_{pz}) of brown (10YR 4/3) medium sand and silt to an average depth of 10 centimeters below surface (cmbs) over a B_2 Horizon of yellow brown (10YR 5/6) medium sand and silt with rock to a depth of 40 cmbs. Where present, the B_1 soils consisted of a strong brown (7.5YR 4/6) medium sand and silt with rock, cobbles, and gravel. The C Horizon was a light brown gray (10YR 6/2) silt and coarse sand with gravel and rock (Figure 5-3).

Area 3

Area 3 corresponds to an area of low to moderate sensitivity. The topography of the area is very similar to Areas 1 & 2, a rolling hill landscape divided north south by an unnamed stream and east west by a farm/utility corridor access road. Two transects (TD-01–04; TE-01–05) and two JTPs (03 and 04) were placed in Area 3 (see Figure 5-2b). Both transects were placed south of the access road at the base of a moderate to severely sloped knoll. The JTPs were placed north of the access road in a low-lying area 40 to 50m south of another unnamed stream. Soil profiles are similar to those in Areas 1 and 2 and consist of a duff (A_o) over a plow zone (A_{pz}) of brown (10YR 5/3) silt and fine to medium sand to an average depth of 20 cmbs. The B_1 Horizon consists of an olive yellow (2.5 6/6) medium sand and silt with cobbles and gravel to an average depth of 30 cmbs over a B_2 Horizon of light yellow brown (2.5Y 6/4) very compact fine to medium sand with gravel and cobbles. The C Horizon ids a light brown gray (10YR 6/2) very compact silt and fine to medium sand with gravel. Both the B_2 and C Horizon soils showed evidence of oxidation, suggesting that this area is subject to seasonal flooding (see Figure 5-3).

Area 4

Area 4 abuts the powerline easement and is the highest elevation in the project area. Transect C (TC-01–04) was oriented northwest to south east (see Figure 5-2b). Soils consisted of a duff (A_o) over a plow zone (A_{Pz}) of brown (10YR 4/3) medium sand and silt to an average depth 22 cmbs over a B_1 Horizon of strong brown (7.5 YR 4/6) medium sand and silt with rock, cobble, and gravel to an average depth of 40 cmbs. The B_2 Horizon is a yellow brown medium to coarse sand and silt with rock and the C Horizon is a light brown gray (10YR 6/2) silt and fine sand with gravel (see Figure 5-3).

Areas 5, 6 and 7

Areas 5, 6, and 7 are located at the northern end of the project area in areas of moderate and moderate to high sensitivity. One block, two transects, and one JTP were placed in these areas. Block-02, Transect J (TJ-01–03) and JTP-06 were placed on a flat, level terrace overlooking a gentle down slope to the south. Transect K (TK-01–03) was placed on the slope (Figure 5-2a). Soils consisted of a plow zone (A_{pz}) of brown (10YR 4/3) fine to medium sand and silt to an average depth of 23 cmbs over a remnant B_2 Horizon of brown yellow (10YR 6/6 medium to coarse sand with rock and gravel and a C Horizon of light yellow brown (2.5Y 6/3) very compact silt and fine sand with rock and gravel. The B_1 Horizon, when present consisted of a strong brown (7.5YR 4/6) fine to medium sand and silt with rock. The subsoil in many of the test pits exhibited oxidation and the C Horizon was hydric (Figure 5-4).

Area 8

Area 8 corresponds to an area of moderate sensitivity and includes a narrow strip of planted corn, a tree line and a farm access road. The extreme southern portion of Area 8 shows signs of recent black bear activity and was avoided. Transect T (TF-01–14) was placed between the field and the tree line, oriented north/south (see Figure 5-2b). Soil profiles revealed evidence of past agricultural activity. A typical soil profile consisting of a natural duff (A_o) over a plow zone (A_{pz}) of brown (10YR 5/3) silt and fine sand to

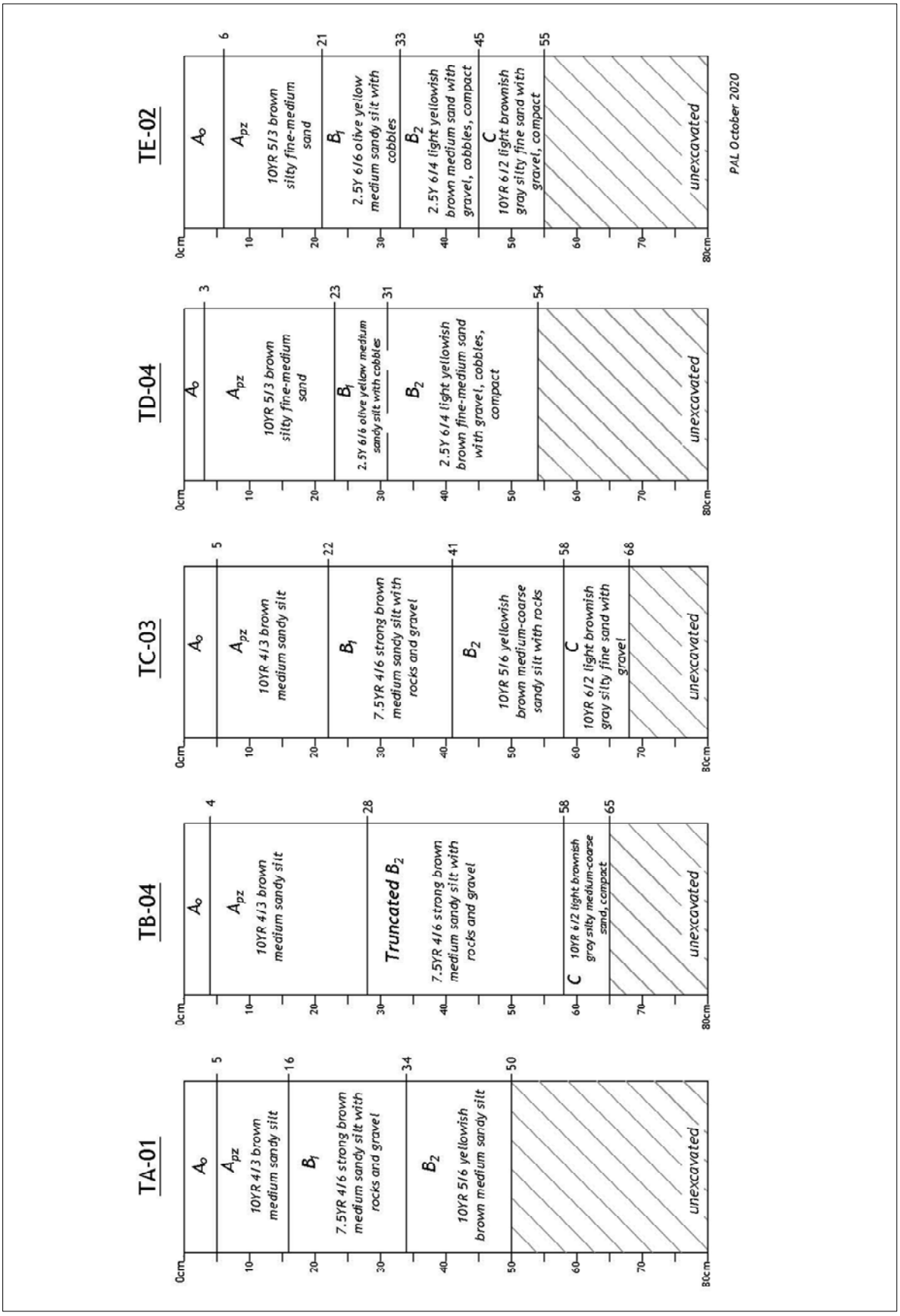

Figure 5-3. Representative soil profiles, Areas 1, 2, 3, and 4, Litchfield Solar Project area

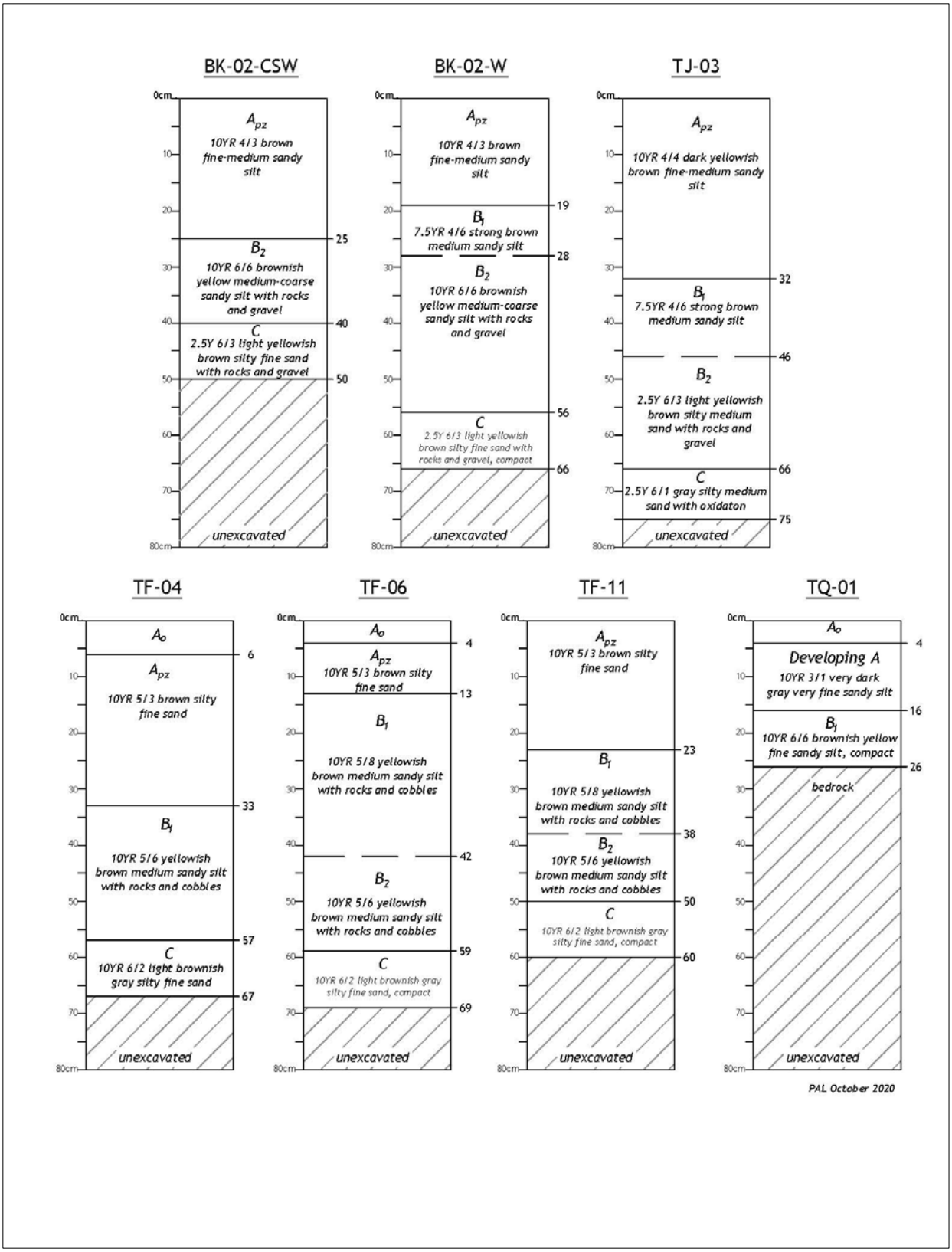

Figure 5-4. Representative soil profiles, Areas 5, 6, 7, 8, 9, 10, and 11 Litchfield Solar Project area.

an average depth of 23 cmbs over a B_2 Horizon of yellow brown (10YR 5/6) medium sand and silt with rock to an average depth of 50 cmbs. Where present, the B_1 soils consisted of a yellow brown (10YR 5/8) silt and fine sand with rock and cobbles. The C Horizon was a pale brown (10YR 6/5) to light brown gray (10YR 6/2) very compact silt and fine sand (see Figure 5-4).

Areas 9, 10 and 11

Areas 9 and 10, assess as low to moderate in sensitivity exhibited steep slopes and were not tested. Area 11 is a small area assessed as moderate to high sensitivity. Transect Q (TQ-01–02) (see Figure 5-2c), placed in Area 11 revealed a developing A Horizon of very dark gray (10YR 3/1) very fine sand and silt and B_1 Horizon of brown yellow (10YR 6/6) very compact fine sand and silt over bedrock (see Figure 5-4).

Areas 12, 13 and 14

Areas 12, 13 and 14 occupy an open grassy field with gentle to moderately severe rolling topography. Area 12 was assessed as moderately sensitive and Areas 13 and 14 as moderate to highly sensitive. Block (BK-01) was placed atop a flat terrace and Transect H (TH-01–03) was placed at the base of the terrace. A second transect (TG-01–05) and one array (AR-01) consisting of 4 test pits were placed on a flat terrace within the tree line south of the field (see Figure 5-2c). Transect I (TI-01–03) and JTP-05 were placed at the northern limits of the area (see Figure 5-2b). Soils within Block 01, Transect H, and Transect I consisted of a duff (A_o) over a plow zone (A_{pz}) of dark yellow brown (10YR 4/4) fine to medium sand and a B1 Horizon of strong brown (7.5YR 4/6) medium sand and silt. The B_2 Horizon consisted of a yellow brown (10YR 5/4) medium sand and silt and the C Horizon was a light brown gray silt and fine sand with rock and gravel. Within the tree line (Transect G) the soil profile consisted of an A Horizon of light olive brown (2.5 Y 5/4) fine to medium sand and silt with gravel over a B_1 of dark yellow brown (10YR 4/6) very compact medium sand and silt with rock and gravel. The B_2 consisted of a brownish yellow (10YR 6/8) very compact medium to coarse sand and silt with rock and gravel. Excavation of a number of test pits was impeded by rock. When present, the C Horizon was a light brown gray (10YR6/2) very compact silt and medium sand with rock and gravel (Figure 5-5).

Areas 15, 16, and 17

Areas 15, 16, and 17, assessed as moderate to high sensitivity are located in rolling grassy fields with area 16 on top of gently sloping knoll. Five transect (TL-01–04; TM-01–02; TN-01–03; TO-01–04; TP-01–6) were placed within various section of these areas (see Figure 5-2b). Soils in these areas exhibited evidence of agricultural activity. A typical soil profile consisted of a duff (A_o) over a plow zone (A_{pz}) of yellow brown (10YR 5/4) silt and fine sand over a B2 Horizon of yellow brown (1o YR 5/6) silt and fine sand and a C Horizon of very pale brown (10YR 7/3) silt and fine sand with oxidation. Where present, the B_1 Horizon consisted of a brown yellow (10YR 6/8) medium to very fine sand (Figure 5-6).

Cultural Material

Subsurface investigations recovered 19 pieces of post-contact cultural material (Appendix A). The post-contact materials included isolated brick fragments, flat and bottle glass, and various pieces of ceramic (pearlware, whiteware, and redware). Four pieces of pre-contact cultural material, designated the Wilson Road Find Spot, were recovered from the B1 Horizon in test pit TG-02. An array of four test pits (AR-01) placed at a 2.5 meter interval in the cardinal directions did not produce any additional cultural material. The Wilson Road Find Spot consists of two pieces of quartz debris and two pieces of argillite chipping debris.

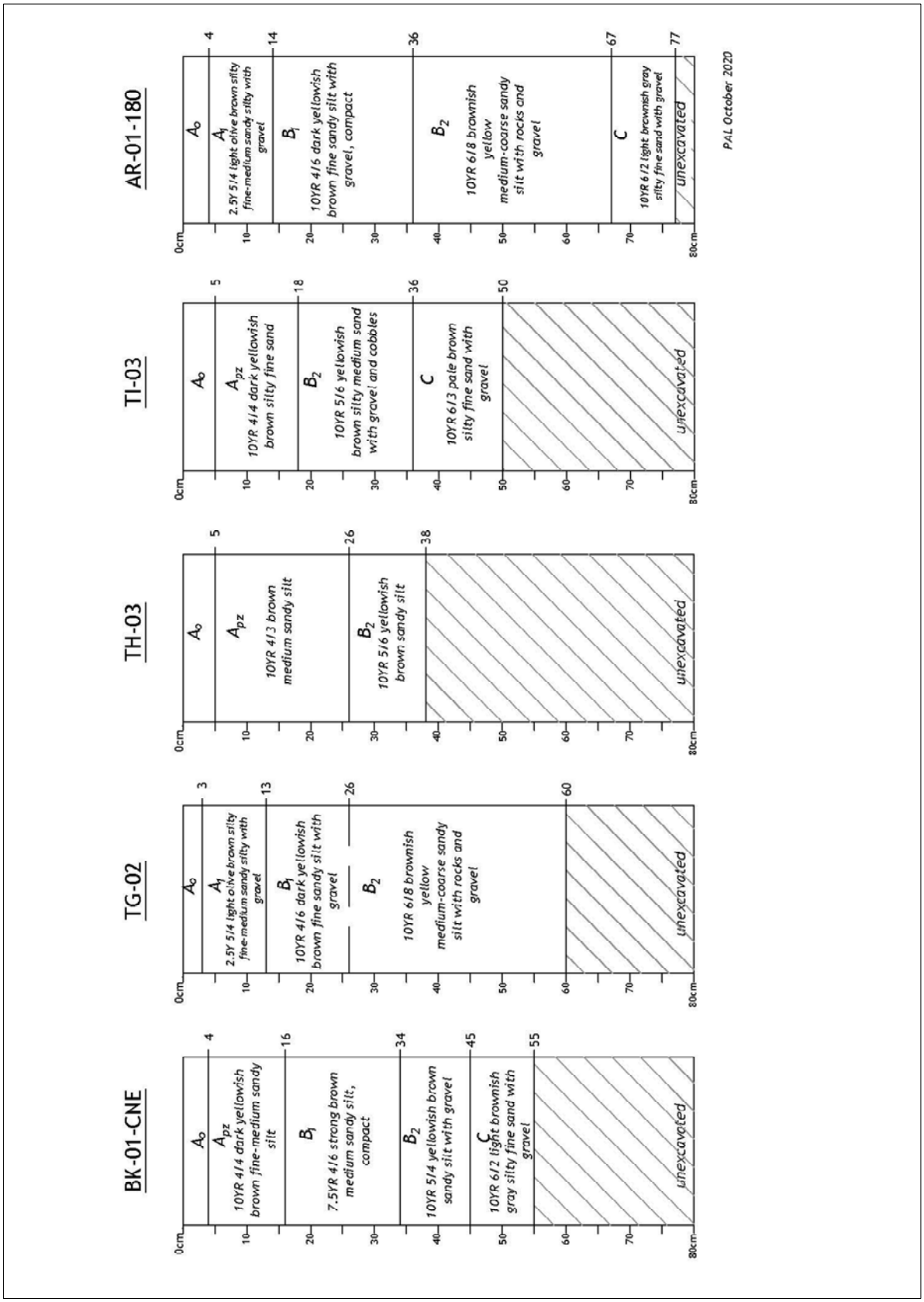

Figure 5-5. Representative soil profiles, Areas 12, 13, and 14 Litchfield Solar Project area.

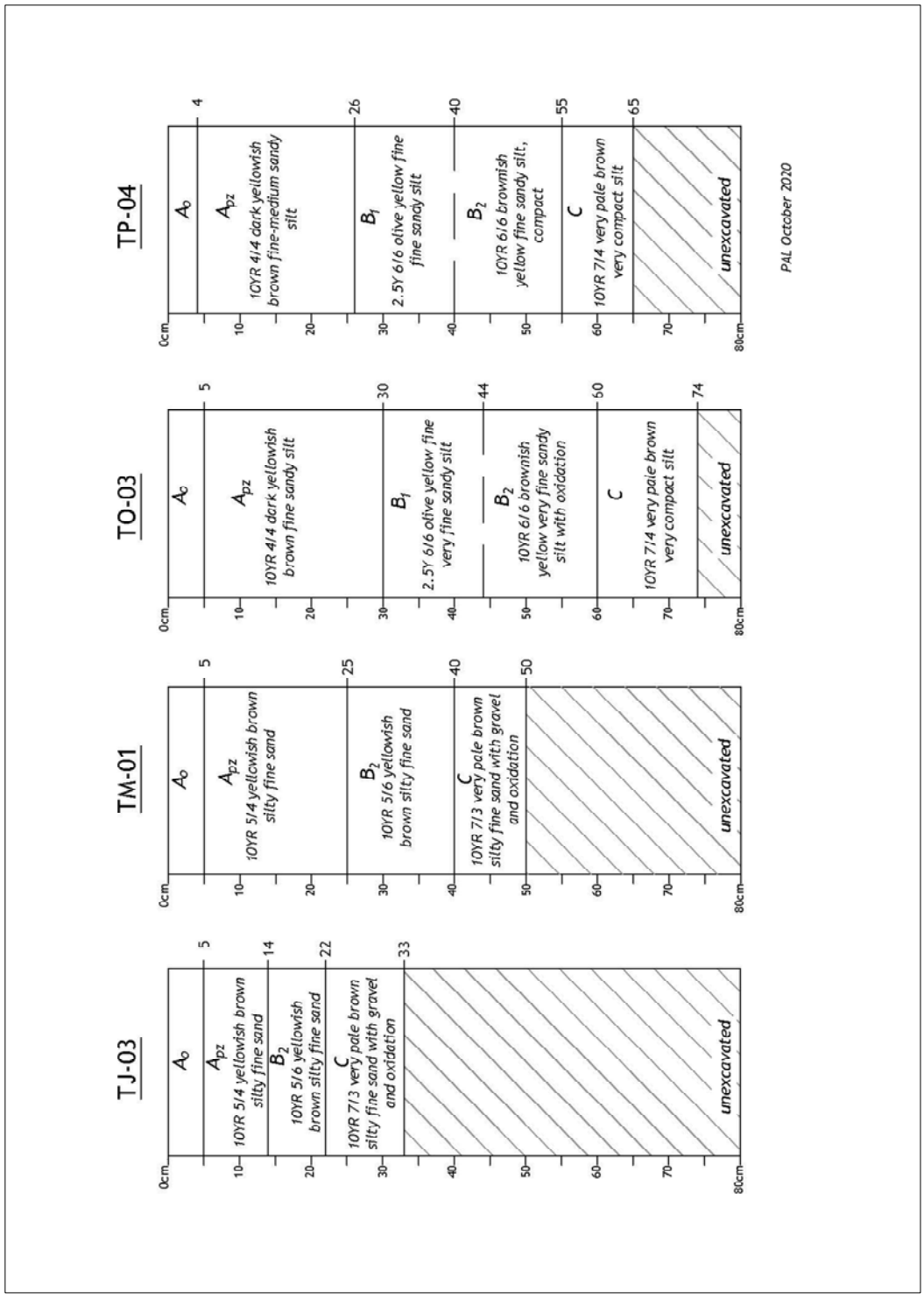

Figure 5-6. Representative soil profiles, Areas 15, 16, and 17 Litchfield Solar Project area.

Interpretations and Recommendations

The isolated pieces of post contact debris are interpreted as field trash representative of incidental disposal of debris. The pre-contact Wilson Road Find Spot identified within the project area is comprised of four pieces of chipping debris recovered from a single test pit. The recovery of pre-contact cultural materials provides locational information about the presence of Native Americans within the Naugatuck River drainage. However, no diagnostic artifacts were recovered and the lithic material recovered cannot be definitively attributed to a particular chronological period. Furthermore, the survey did not expose any evidence of subsurface features. The site is not a potentially significant archaeological site relative to National Register of Historic Places criteria and it is unlikely that further investigations will produce any new information. Accordingly, we recommend no further archaeological investigations are warranted and the proposed project will have no impact on potentially significant archaeological sites.

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APPENDIX A

CATALOG OF CULTURAL MATERIALS

Appendix A. Catalog of Cultural Materials, Litchfield Solar, Reconnaissance Survey.

Provenience	Material	Object	Size	Attributes	Color(s)	Manufacture Date	Makers Mark	Count
Wilson Road Find Spot								
TG-02 20-30, B1	Argillite	Chipping Debris Flake	1-3cm	Complete	Lt Gray, Tan		☐	1
	Argillite	Chipping Debris Flake	0-1cm	Complete	Tan		☐	1
	Quartz	Chipping Debris Flake	1-3cm	Complete	Colorless, White		☐	2
						Total: Wilson Road Find Spot		4
Non-Site								
BK-01-C 10-20, Apz	Pearlware	Ceramic Sherd		Body Burned		1779 1830	☐	1
BK-01-CNE 10-20, Apz	Pearlware Hand Painted, Polychrome	Holloware		Body	Blue, Brown	1795 1830	☐	1
BK-02-NE 20-30, Apz	Whiteware	Ceramic Sherd		Body		1820 Present	☐	1
TA-03 0-10, Apz	Glass	Flat Glass Window Glass		Fragment	Aqua Tint		☐	1
TA-05 0-10, Apz	Ferrous	Nail Machine Cut Nail		Fragment		1790 1900	☐	2
TB-01 10-20, Apz	Ferrous	Nail Machine Cut Nail		Fragment		1790 1900	☐	1
	Tombac Alloy	Button Shank Button		Fragment		1760 1785	☐	1
TI-01 20-30, Apz	Earthenware	Brick		Fragment			☐	1
	Redware Lead Glaze	Ceramic Sherd		Body	Brown	1600 Present	☐	1
TI-02 10-20, Apz	Pearlware	Ceramic Sherd		Body Burned		1779 1830	☐	1
	Pearlware	Ceramic Sherd		Body		1779 1830	☐	1
TI-02 20-30, Apz	Earthenware	Brick		Fragment			☐	1
	Glass	Bottle/Jar Case Bottle		Body	Dk Green		☐	1
TI-03 10-20, Apz	Pearlware	Ceramic Sherd		Body		1779 1830	☐	1
TL-02 10-20, Apz	Whiteware	Ceramic Sherd		Body		1820 Present	☐	2
TM-01 0-10, Apz	Glass	Bottle/Jar		Body Solarized	Colorless	1880 1920	☐	1
TN-01 0-10, Apz	Ferrous	Nail Wire Nail		Complete		1890 Present	☐	1
						Total: Non-Site		19
						Total: All Sites		**23**

APPENDIX B

PROJECT CORRESPONDENCE

Connecticut®

Department of Economic and Community Development

State Historic Preservation Office

July 25, 2019

Mr. A. Peter Mair
Public Archaeology Laboratory, Inc.
26 Main Street
Pawtucket, RI 02860

Subject: Litchfield Solar Project – Cultural Resources Assessment Report
Wilson Road
Litchfield and Torrington, Connecticut

Dear Mr. Mair:

The State Historic Preservation Office (SHPO) has reviewed the potential effects of the referenced project on historic properties. SHPO understands that the proposed project plan consists of constructing a ground mounted solar array facility with associated improvements. The project parcel covers approximately 185 acres on both sides of Wilson Road with additional access from Highland Avenue to the north and Litchfield Town Farm Road to the west. The proposed project will require a Stormwater Discharge permit issued by the Department of Energy and Economic Protection through the delegated authority of the United States Department of Environmental Protection and approval by the Connecticut Siting Council. Therefore, the proposed activities are subject to review by this office pursuant to both Section 106 of the National Historic Preservation Act and the Connecticut Environmental Policy Act (CEPA).

As noted in your submission, although no archaeological sites have been recorded within the project parcel, several sites have been previously recorded in its vicinity. Based on the known historic resources in the vicinity and the environmental characteristics of the project parcel, SHPO concurs that intact and well-drained soils within the project area have an elevated potential to contain significant archaeological resources. An archaeological reconnaissance survey for areas identified as having a low-moderate to high probability for cultural deposits that will be impacted by the proposed project is warranted. SHPO understands that these areas encompass approximately 35 acres. Subsurface testing should be in compliance with our *Environmental Review Primer for Connecticut's Archaeological Resources* and no construction or other project-related ground disturbance should be initiated until SHPO has had an opportunity to review and comment upon the requested survey.

During the assessment survey, the historic Jacob Strong, Jr. property also was identified adjacent to the northern extent of the project parcel. The property, listed on the State Register of Historic

Places, represents the early settlement of Torrington, as well as association with the 20th century artist Paolo Abbate. SHPO requests additional information regarding potential project impacts on this resource because the landscape is identified in the nomination as an important feature and the depicted project boundaries appear to encompass the listed boundaries. In addition, while we understand that there are no planned ground disturbing activities to this property or its immediate vicinity. If construction plans change, our office requests additional consultation regarding the potential need for additional archaeological surveys or evaluation.

This office appreciates your cooperation and we look forward to continuing consultation. For additional information, please contact me at (860) 500-2329 or catherine.labadia@ct.gov.

Sincerely,

Catherine Labadia
Deputy State Historic Preservation Officer

APPENDIX C

CONNECTICUT PREHISTORIC SITE FORM

HISTORIC RESOURCES INVENTORY
PREHISTORIC ARCHAEOLOGICAL SITES
HIST-7 NEW 9/7

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION
59 SOUTH PROSPECT STREET, HARTFORD, CONNECTICUT, 06106

FOR OFFICE USE ONLY			
Town No.:		Site No.:	
UTM			
QUAD			
NR: ☐ ACT ☐ ELIG. ☐ NO			DISTRICT ☐ Yes ☐ No
SR: ☐ ACT ☐ ELIG. ☐ NO			

IDENTIFICATION

1. SITE NAME: Wilson Road Find Spot | STATE SITE NO. | CAS NO.
2. TOWN/CITY: Litchfield | VILLAGE | COUNTY: Litchfield
3. STREET AND NUMBER *(and/or location)*: Wilson Road
4. OWNER(S): Silicon Ranch Corporation ☐ Public ☑ Private
5. ATTITUDE TOWARD EXCAVATION: Favorable
6. USE *(Present)*: Tree line adjacent to agricultural field | *(Historic)*: Agricultural

DESCRIPTION

7. PERIOD
☐ Paleo ☐ Early Archaic ☐ Early Woodland ☐ Contact
☐ Middle Archaic ☐ Middle Woodland ☑ Unknown
☐ Late Archaic ☐ Late Woodland ☐ Other *(Specify)* _____

8. DATING METHOD: C-14 ☐ Intuition ☐ Other *(Specify)* _____
COMPARATIVE MATERIALS

9. SITE TYPE
☐ Quarry ☐ Camp ☐ Rockshelter ☐ Shell Midden ☐ Cemetery ☐ Village ☑ Unknown — Other *(Specify)*

10. APPROXIMATE SIZE AND BOUNDARIES
4 pieces of chipping debris from single 50-x-50-cm test pit.

11. STRATIGRAPHY
☐ Surface finds ☐ Plowed ☐ Not stratified ☑ Stratified ☐ Major disturbance ☐ Other *(Specify)* _____

ENVIRON

12. SOIL
USDA SOIL SERIES: Paxton & Montauk | CONTOUR ELEV.: 1,050 ft asl
SLOPE %: ☐ 0-5 ☑ 5-15 ☐ 15-25 ☐ over 25
TEXTURE: ☐ sand ☐ clay ☐ silt ☐ sandy silt — other *(Specify)*
ACIDITY: ☐ less than 4.5 ☐ 4.5-5.5 ☐ 5.6-6.5 ☑ 6.6-7.3 ☑ 7.4-8.4

13. WATER
NEAREST WATER SOURCE: unnamed stream | SIZE AND SPEED | DISTANCE FROM SITE: 150 feet | SEASONAL AVAILABILITY

14. VEGETATION
PRESENT: trees | PAST: trees/agricultural field

CONDITION

15. SITE INTEGRITY
☐ Undisturbed ☑ Good ☐ Fair ☐ Destroyed ☐ Unknown

16. THREATS TO SIT
☐ None known ☐ Highways ☐ Vandalism ☐ Developers ☑ Other *(Specify)* Solar Project
☐ Renewal ☐ Private ☐ Deterioration ☐ Zoning ☐ Unknown

17. SURROUNDING ENVIRONMENT
☑ Open land ☑ Woodland ☐ Residential ☐ Scattered buildings visible from site
☐ Commercial ☐ Industrial ☑ Rural ☐ High building density
☐ Coastal ☐ Isolated

18. ACCESSIBILITY TO PUBLIC-VISIBLE FROM PUBLIC ROAD
☐ Yes ☑ No

RESEARCH POTENTIAL

19. PREVIOUS EXCAVATIONS	BY WHOM/AFFILIATION	DATE
☐ Surface Collected		
☐ "Pot hunted"	BY WHOM/AFFILIATION	DATE
☑ Tested	BY WHOM/AFFILIATION The Public Archaeology Laboratory, Inc.	DATE 9/24/2020
☐ Excavation	BY WHOM/AFFILIATION	DATE

20. PRESENT LOCATION OF MATERIALS

The Public Archaeology Laboratory, Inc., 26 Main Street, Pawtucket, RI 02860

21. PUBLISHED REFERENCES

Mair, A. Peter, II, and Jess Horn
2020 Phase I Reconnaissance Archaeological Survey, Litchfield Solar Project, Litchfield and Torrington, Connecticut. The Public Archaeology Laboratory, Inc. Report No. 3298.01. Submitted to Silicon Ranch Solar, Inc., c/o Provost & Rovero, Inc., Plainfield, CT.

22. RECOVERD DATA (Identify in DETAIL, incl. features, burials, faunal material, etc.)

2 pieces of quartz chiping debris and 2 pieces of argillite chipping debris from a single test pit. Material recovered from B1 Horizon of very compact dark yellow brown (10YR 4/6) medium sand and silt with rock and gravel.

23. ARCHAEOLOGICAL SIGNIFICANCE OR HISTORICAL IMPORTANCE

The pre-contact Wilson Road Find Spot identified within the project area is comprised of four pieces of chipping debris recovered from a single test pit. The recovery of pre-contact cultural materials provides locational information about the presence of Native Americans within the Naugatuck River drainage. However, no diagnostic artifacts were recovered, and the lithic material recovered cannot be definitively attributed to a particular chronological period. Furthermore, the survey did not expose any evidence of subsurface features.

The site is not a potentially significant archaeological site relative to National Register of Historic Places criteria and it is unlikely that further investigations will produce any new information. Accordingly, we recommend no further archaeological investigations are warranted.

PHOTOGRAPH

PHOTOGRAPHER	Place 35mm contact print here
DATE	
VIEW	
NEGATIVE ON FILE	

ADDL INFO

REPORTED BY:	NAME A. Peter Mair, II	ADDRESS 26 Main Street, Pawtucket, RI 02860
	ORGANIZATION The Public Archaeology Laboratory, Inc.	DATE 10/26/2020

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FIELD EVALUATION

COMMENTS

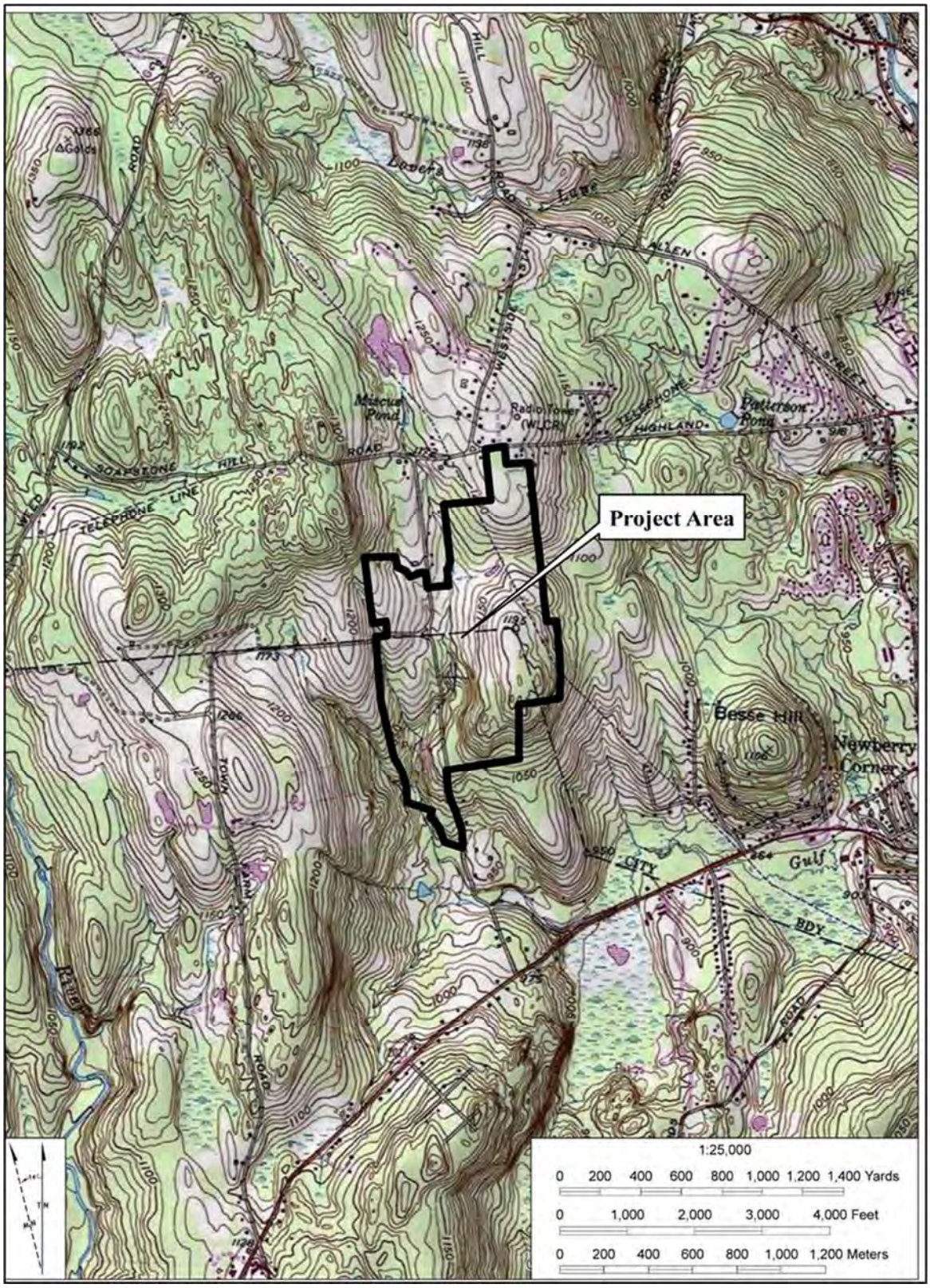

Figure 1. Location of the Litchfield Solar Project area on the West Torrington, CT, USGS topographic map