TECHNICAL REPORT

PHASE I RECONNAISSANCE ARCHAEOLOGICAL SURVEY
NORTH STONINGTON SOLAR PROJECT

North Stonington, Connecticut

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Submitted to:

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PAL Report No. 3299.01 November 2020

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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 158 acres along CT Route 184 (Providence – New London Turnpike) in North Stonington, 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 202 50-x-50-centimeter (cm) test pits were excavated, providing even coverage over the Project area. The investigations recovered isolated pieces of post-contact material interpreted as field trash and not representative of a potentially significant archaeological site. The proposed North Stonington Solar 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 North Stonington Solar Project (the Project) in North Stonington, 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 41.58 acres within an approximately 157-acre area along the Providence-New London Turnpike Road in North Stonington, Connecticut (Figure 1-3).

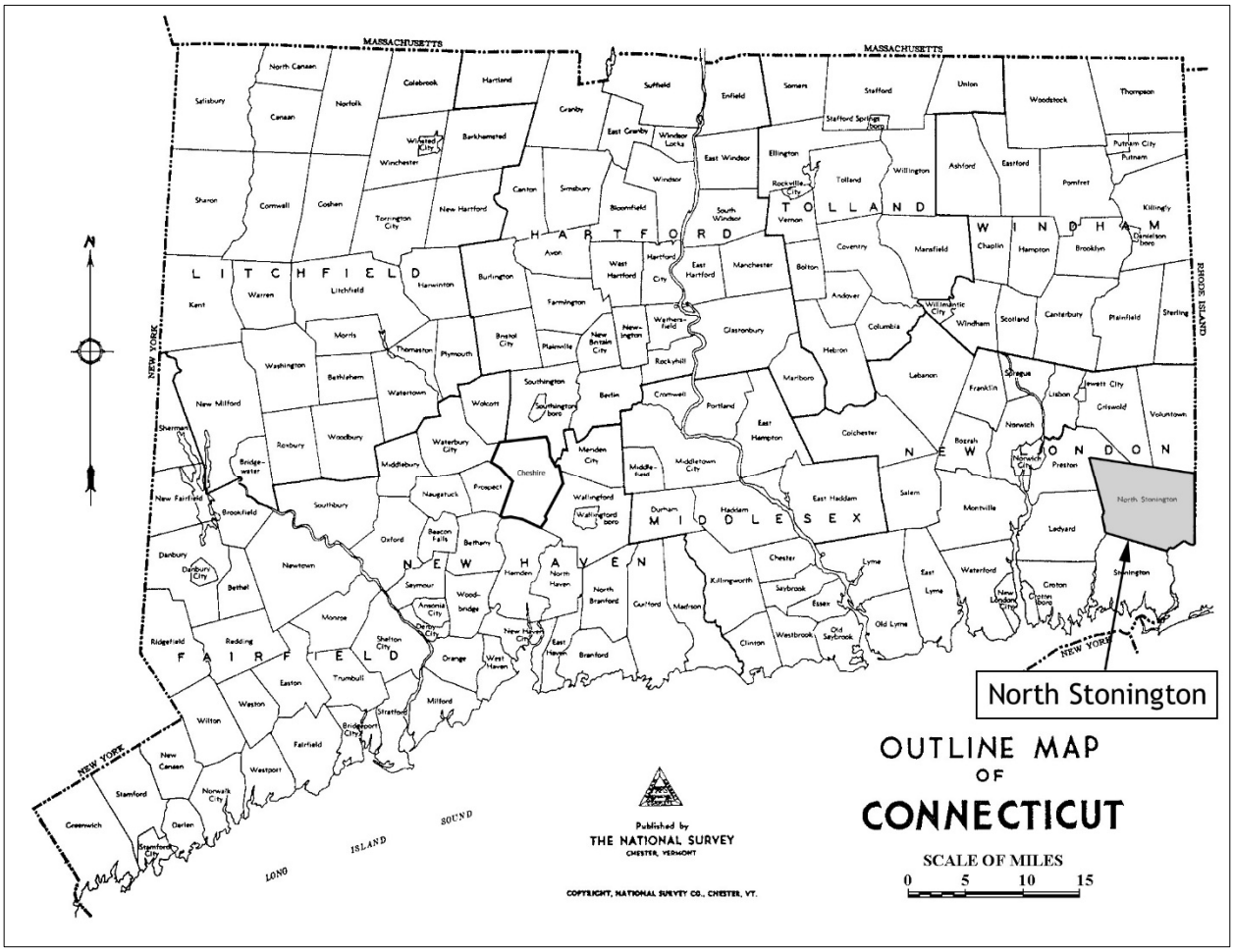

Figure 1-1. Location of North Stonington in the State of Connecticut.

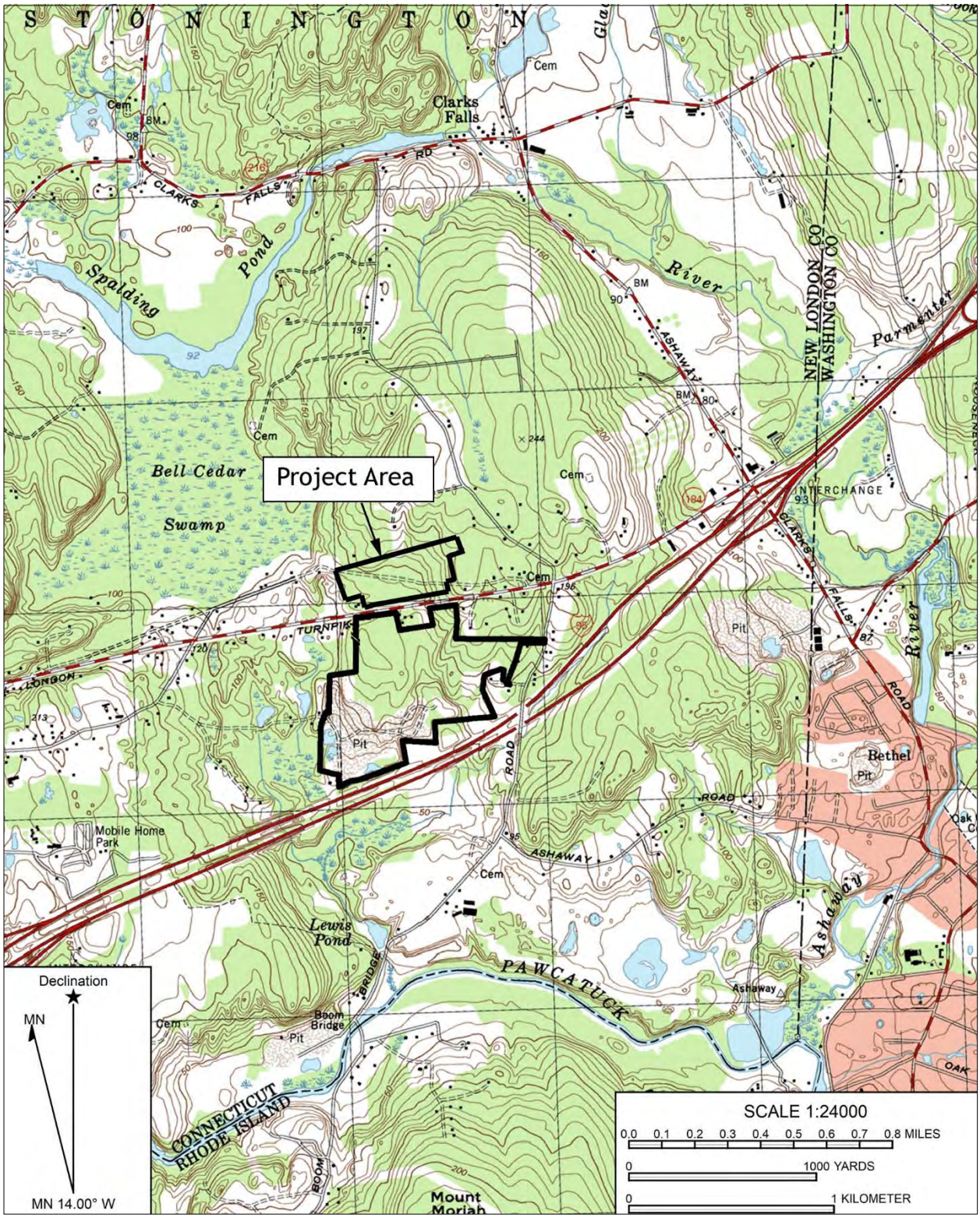

Figure 1-2. Location of the North Stonington Solar Project area on the Ashaway, RI, USGS topographic map.

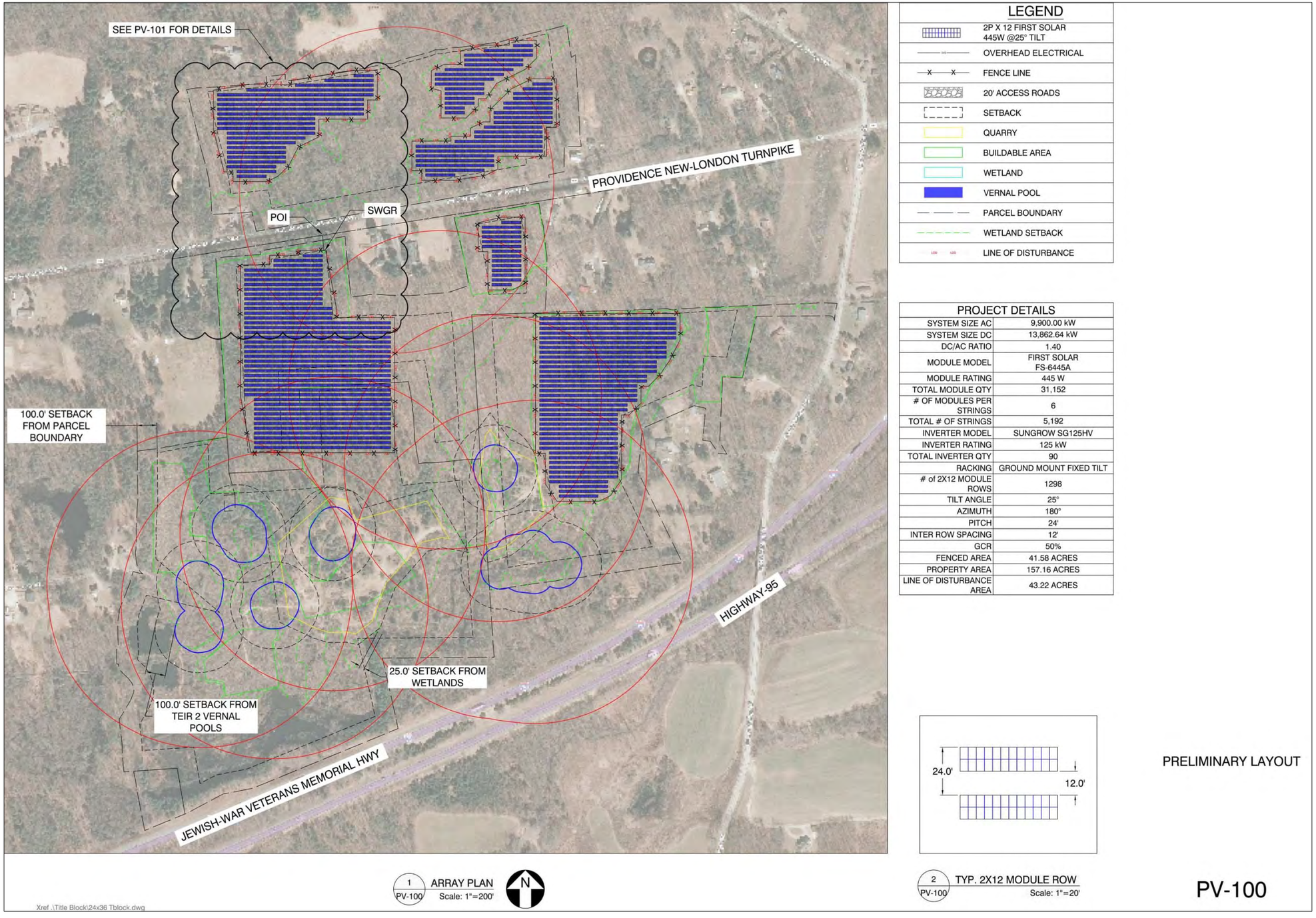

Figure 1-3. Preliminary layout of the North Stonington Solar Project.

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.

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 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), Nate Orsi (project archaeologist), and Seth Biehler, Mechelle Gardner, Jessica Nowak, and Audrey Swift, (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 Pawcatuck 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 North Stonington 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 et al. 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).

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; Hurd 1882) and historical maps and atlases (Beers 1868; Hopkins 1859; Hurd 1893; Lester 1833; Walling 1854) 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).

Informant Interview

During the field investigations, PAL staff was contacted by Edgar Wood, a neighboring property owner who had information about a grave within the project area. Staff accompanied Mr. Wood to the location of the grave which was in fact, the Allen Cemetery (#96) identified during the sensitivity assessment. The Allen Cemetery is not within the proposed solar project and will not be impacted.

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 North Stonington 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.

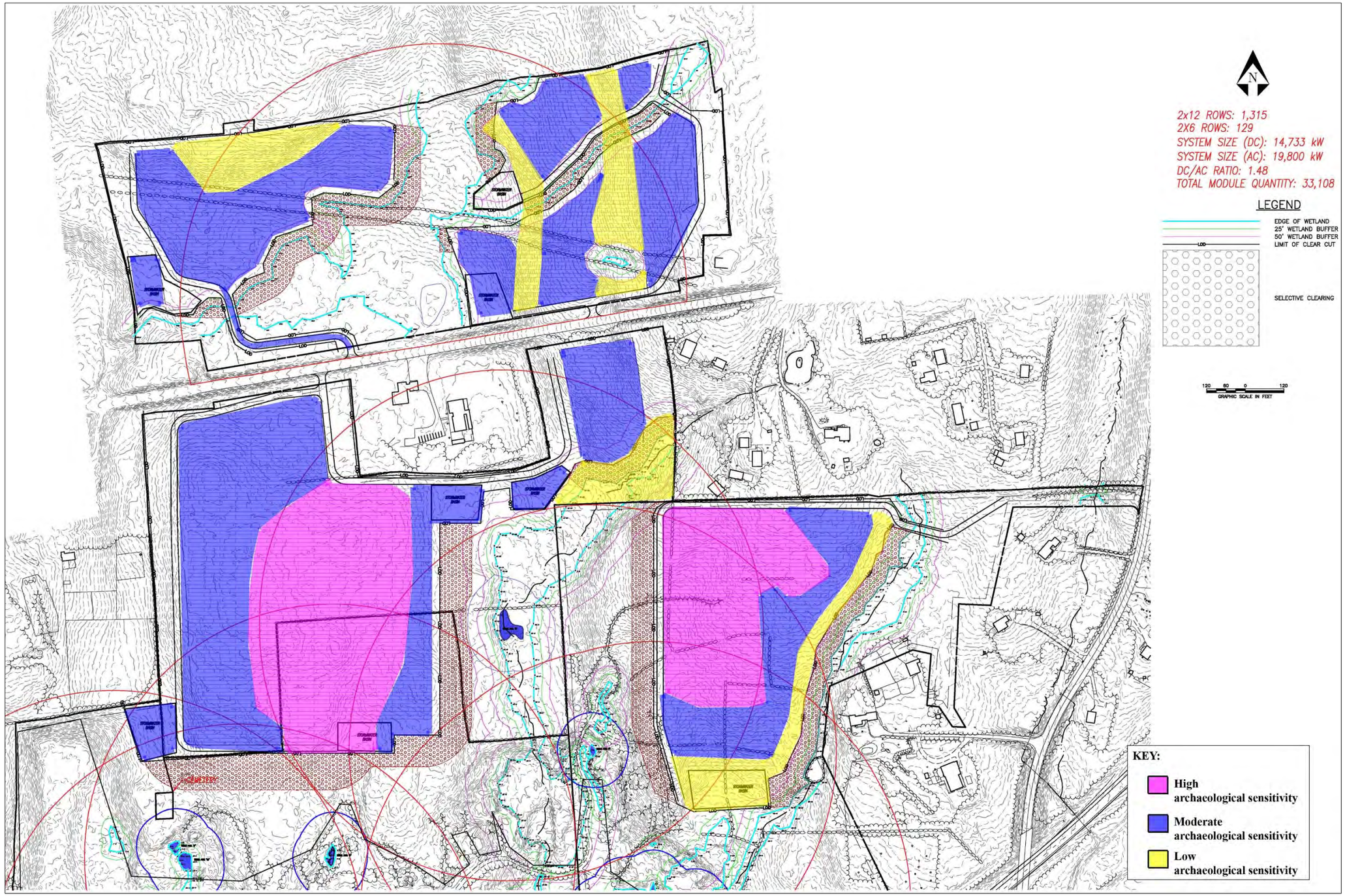

Figure 2-1. Archaeological sensitivity of the Noorth Stonington Solar Project area .

Table 2-1. Archaeological Sensitivity Rankings Used for the North Stonington 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
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	•		•		•			Moderate
	•		•			•		Moderate
	•		•				•	Low
	•			•	•			Moderate
	•			•		•		Low
	•			•			•	Low

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 202 50-x-50-cm test pits were excavated within the Project area during the reconnaissance archaeological survey. The test pits were distributed along test pit transects at a 15 meter interval and isolated judgmental test pits.

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.

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.

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.

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 North Stonington Solar Project area is situated in the Avalonian (Continental) Terrane of the Eastern Uplands (Figure 3-1). Much of Eastern Connecticut is bisected by chains of north-south oriented hills and ridges. Irregular moraines consisting of east/west ridges of boulders and coarse gravels intersection the streamlined hills, marking stable positions of the retreating Wisconsin glaciers. The abundance of moraines in the area is largely responsible for the excessively rocky terrain for which Stonington and North Stonington are named. Relative to terrain to the north and west, the coastal sections of southeastern Connecticut are rich with marshes and swamps of varying size. Many of these wetlands occupy the topographic lowlands once inundated by proglacial ponds and lakes. Prominent examples in the area surrounding the Project are Bell Cedar Swamp, approximately 0.5 miles to the north-northwest, and Assekonk Swamp, roughly 4 miles to the west. Approximately half of the project area coincides with a series of smaller sediment dammed pro-glacial ponds which once extended from the upper Wyassup Brook drainage southeastward to the Pawcatuck River. Higher elevations at the northeastern and north-central sections of the project area are underlain by sandy to gravelly glacial outwash and lodgment tills.

Bedrock Geology

The metamorphic bedrock underlying the Eastern Uplands formed millions of years ago through the forces created by movement of the massive continental plates. Schists and gneiss are the dominant rock type found throughout the area; however, other softer rock types are also present. Schist and gneiss are relatively hard and erosion resistant, while the softer rocks have been greatly eroded by wind, water, and successive stages of glaciation.

Eastern Connecticut straddles the Honey Hill Fault, which separates the Avalonian Terrain to the east from the Merrimack Synclinorium to the west (Rodgers 1985). Bedrock on both sides of the fault is composed

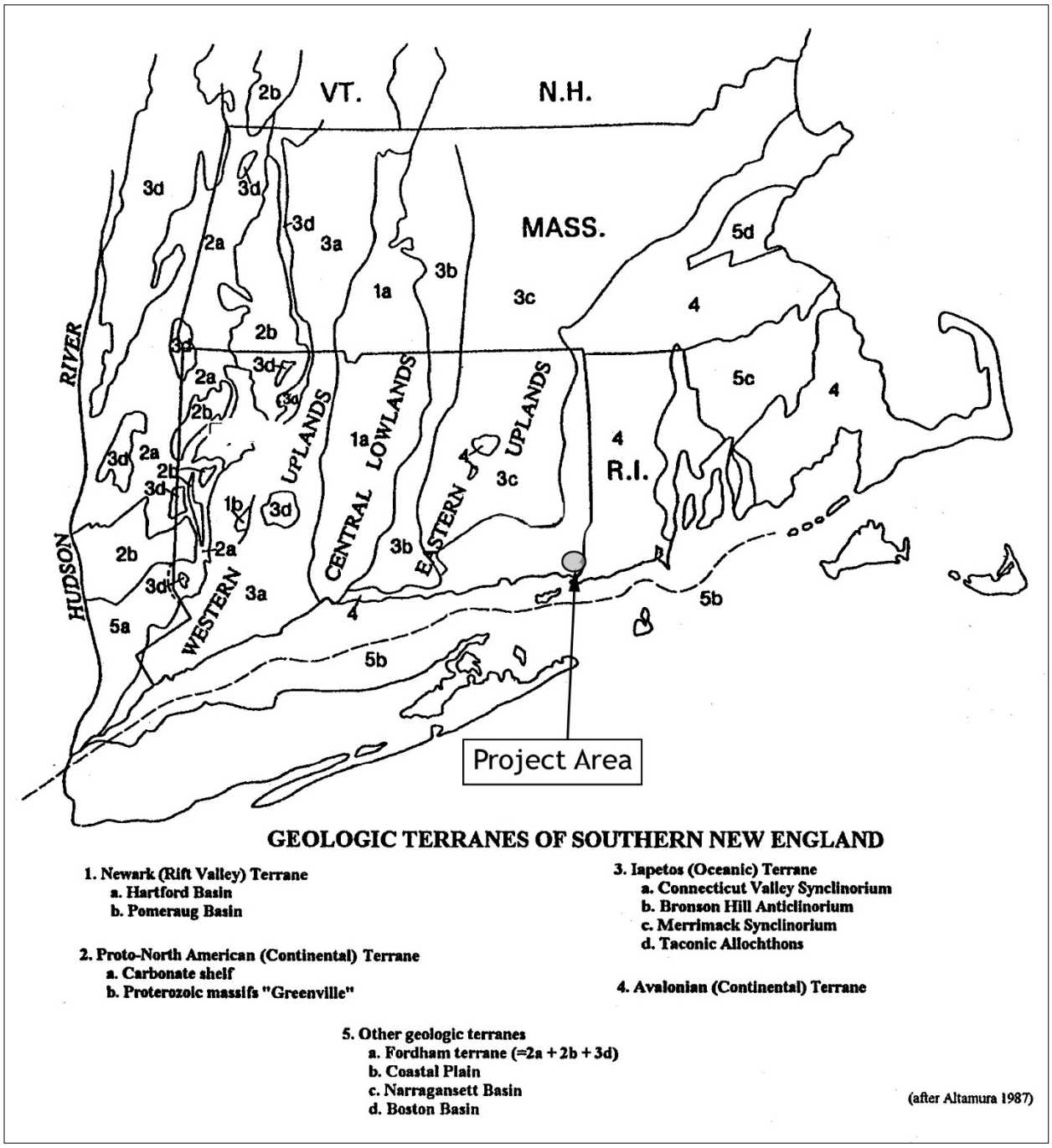


Figure 3-1. Location of North Stonington Solar Project within the Avolonian Terraine of the Eastern Uplands.

of complexly folded metamorphic rocks including quartzite, schist, gneiss, and greenstone. Plainfield Formation quartzite outcrops, varying in color from tan to dark green, are visible along much of the length of the fault and were quarried extensively throughout the Pre-Contact Period by groups living in present-day eastern Connecticut and western Rhode Island. Plainfield quartzite has been found at Terminal Archaic Period sites (approximately 3,400 years ago) from Rhode Island westward to the Connecticut River valley

(McBride 1984a; McBride and Soulsby 1989). The quality of Plainfield quartzite is highly variable, but often superior to other locally available materials (Raber 2008:12).

The surficial geology of the Project area is composed of deposits of glacial till, mixed sands and gravels, and more stratified alluvial sands and gravels, and alluvial soil. Areas containing till, sand, and gravel deposits are typically situated on upland terraces or side slopes. Alluvial soil deposits of sand and gravel are located within the floodplains. Quartz cobbles are common in outwash and glacial tills.

Hydrology

The Project is located approximately 1-mile west of the Connecticut/Rhode Island state line in the Pawcatuck River drainage (Figure 3-2). Two small streams drain the eastern half of the project area. The easternmost of the two streams is spring fed and is the larger. It flows from a small rocky basin at the toe of lodgment till terrain, and drains a small north-south oriented basin extending towards the southeastern corner of the project limits. The smaller stream to the west crosses a corner of the proposes development area onto the abutting property before turning southward and re-entering the Project and draining into the former gravel pit. The lower, southern section of this drainage has been altered by the gravel mining, as has the drainage pattern within the entire western half of the project area.

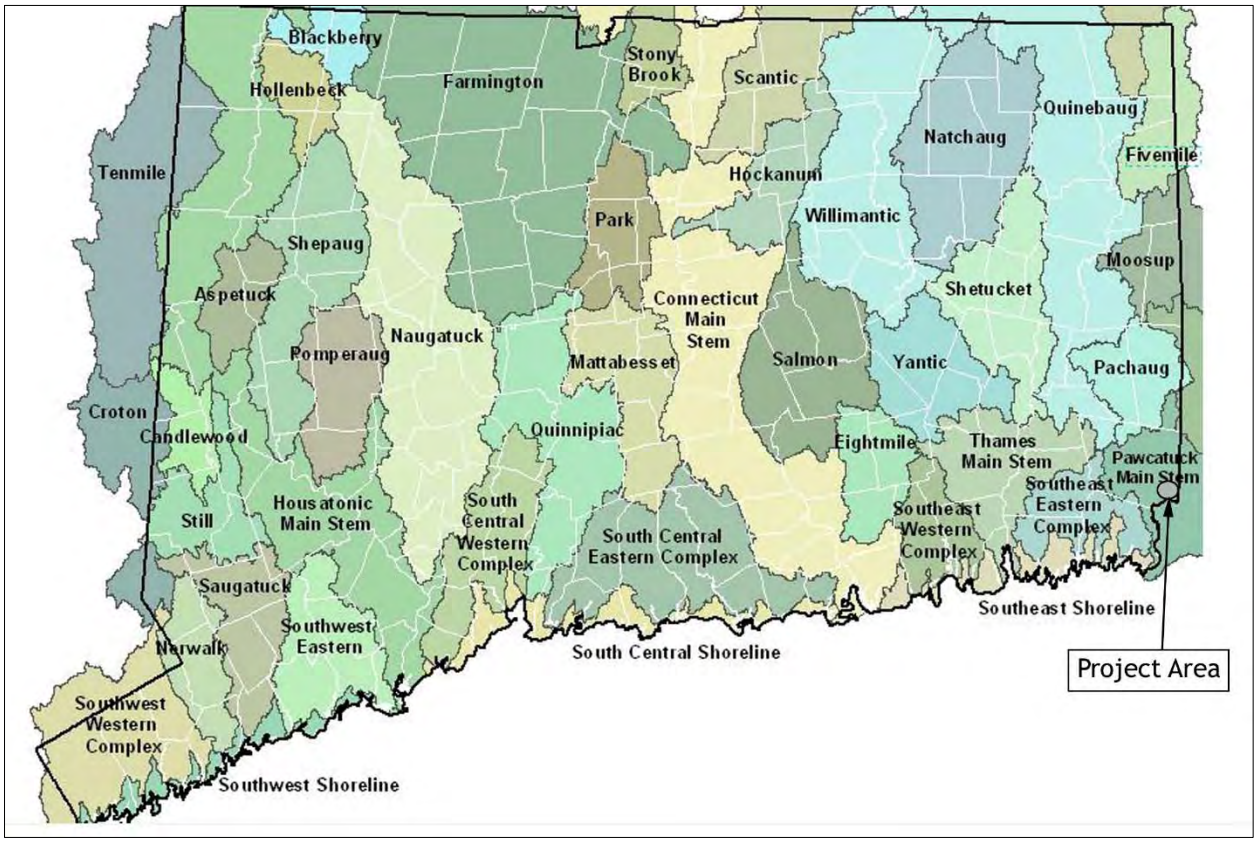


Figure 3-2. Location of North Stonington within the Pawcatuck River Watershed.

Soil

Soil is produced as a result of "physical and chemical processes acting upon geological materials" (USDA 1981). Glacial ice picked up and ground bedrock, which it then transported and deposited as a jumbled mixture of fresh unweathered rock particles of varying sizes. These sediments were separated and sorted by glacial meltwater and strong winds that distributed fine particles. Vegetation became established, chemical processes of weathering increased, and rock sediments developed into soils. Differences in regional soils are primarily attributed to the interaction of the five factors of soil formation: the parent material, climate, living organisms, relief, and time. The soils in the region, including the Project area, have developed over approximately 15,000 years since the final retreat of the glaciers. Soils within river valleys are generally developed on Wisconsin-age glacial outwash sediments. The river valley land system of eastern Connecticut is distinguished by relatively flat to undulating topography underlain by stratified sands and gravels deposited during the melting of the glacier. Outwash sediments are primarily restricted to valleys along present-day streams and rivers.

The predominant soils in the Project area include Canton and Charlton (60B, 61B and C), Charlton-Chatfield complex (73C), Paxton and Montauk (85B and C, 86C), and Sutton (51B) moderately to well-drained, fine sandy loams, very stony to very rocky, with 0 to 15 percent slopes. In general, these soils are not considered prime farmland. Elevations within the project area range from approximately 50 to 140 feet above mean sea level. (Figure 3-3) (USDA 2020).

Existing Conditions

The eastern and northern portions of the project area is a mix of deciduous trees and conifers, with a mostly open understory (Figure 3-4). The ground surface is generally stony, with a variable density of small to medium sized boulders visible above the leaf litter. Dense brush and brambles are present in the southeastern sections. The eastern half of the Project is traversed by several dirt trails which appear to be used for ATVs and other vehicles. Stone walls correlating to the former farm fields visible on historical aerial surveys are present in many sections. North of the Providence New London Turnpike parallel stone walls mark the former route of Stillman Road before it was truncated (Figures 3-5 and 3-6).

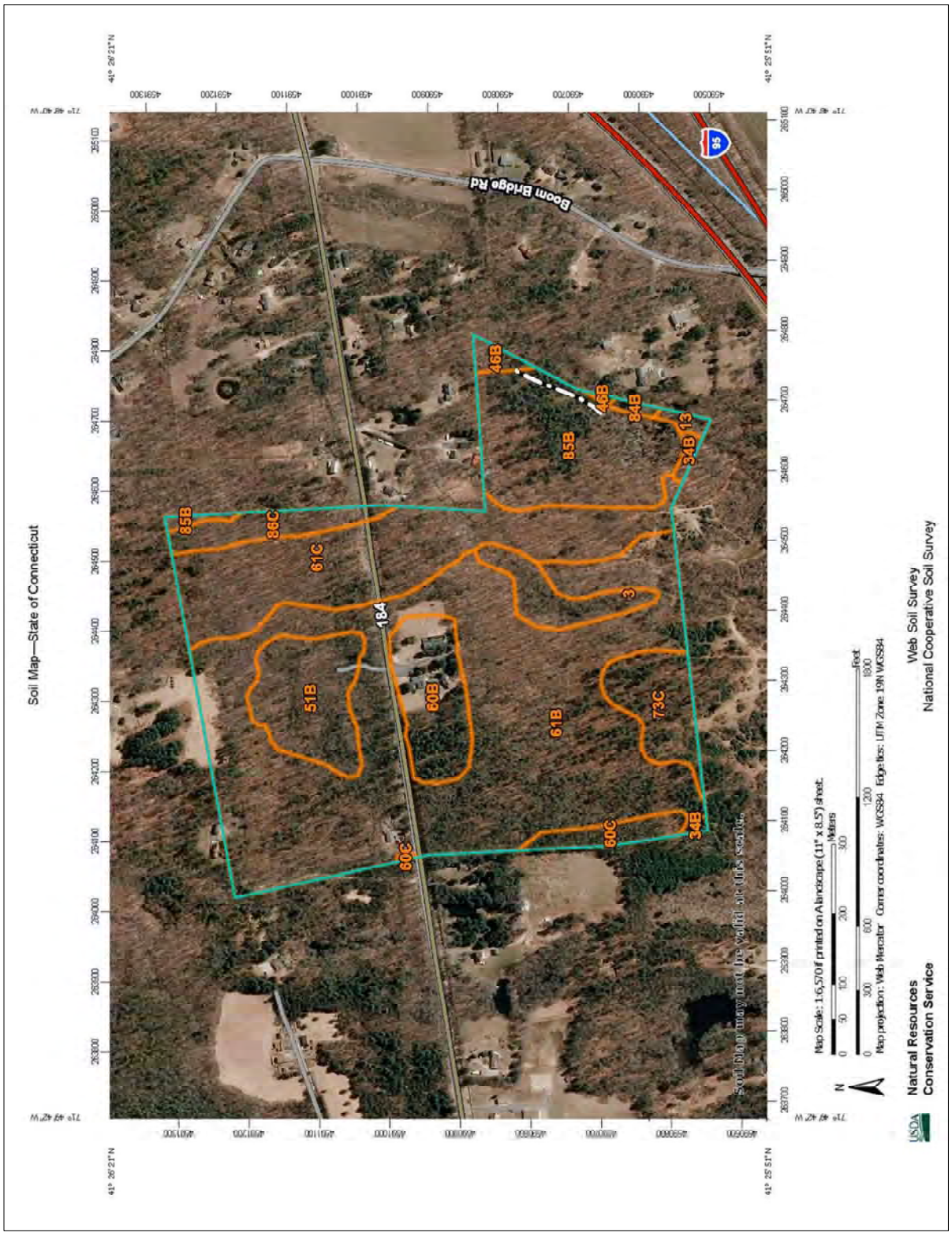


Figure 3-3. Representative soils, North Stonington Solar Project area

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

Figure 3-5. LiDAR image depicting general terrain, numerous stone walls and paths within the North Stonington Solar Project area.

3-6b.Stone wall in Area D, view looking north

Cobble paved road in Area D leading to former quarry, view looking north.

3-6a. Stone wall in Area C, view looking south.

3-6c. Abandoned portion of Stillman Road in Area B, view looking east/southeast.

Figure 3-6. Representative photographs of stone walls and former roads/paths through the North Stonington Solar Project area.

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 retreat of the Laurentide Ice Sheet exposed the Northeastern land mass to colonization first by plants and animals and eventually by people. The timing of the initial population of the Eastern Seaboard is presently debated by archaeologists in light of the discovery of cultural strata and artifacts in South Carolina, Virginia, Wisconsin, and Pennsylvania, which apparently predate the PaleoIndian "Clovis Culture" or fluted point tradition. However, the presence of glacial ice in the Northeast until around 15,000 to 13,000 years ago would have precluded settlement in the region and no such "pre-Clovis" finds are presently known from New England. The earliest unequivocal evidence for human occupation in New England is associated with the PaleoIndian Fluted Point Culture at the Vail Site in Maine (Gramly 1982; Reimer et al. 2009). However, current research places the King's Road Site in New York and the Whipple Site in New Hampshire, followed by the Vail/Debert Sites, and Bull Brook/West Athens Hill sites as representing the oldest occupations in the Northeast based on a projectile point morphology that appears to have been derived directly from Clovis points. The Clovis assemblage is traditionally representative of the earliest occupations in North America such that the absence of these sites in the Northeast is speculated as meaning that it was not occupied during the Clovis Period (Bradley et al. 2008; Spiess et al. 1998).

Archaeologists have traditionally interpreted PaleoIndian peoples as mobile hunters employing a specialized tool kit geared toward the exploitation of large migratory game such as mastodon, caribou, bison, or elk (Dragoo 1976; Kelly and Todd 1988; Snow 1980; Waguespack and Surovell 2003). PaleoIndian subsistence data from both the New England-Maritimes (Meltzer and Smith 1986; Spiess et al. 1998) and the Great Lakes (Stothers 1996) regions are consistent with the specialized subsistence hypothesis with PaleoIndians relying on migratory game, chiefly caribou. The relative absence of extinct megafaunal remains at some Northeastern PaleoIndian sites has caused some to question the specialized subsistence model for southern New England (Dincauze 1993; Ogden 1977). The changing environment of the Late Pleistocene in the Northeast would have allowed for more adaptive strategies that may have ranged from the interception of caribou herds and migratory birds to more opportunistic strategies that would have exploited the available local resources (Dincauze 1993; Stork and Spiess 1994). Jones and Forrest (2003) concur, arguing that the apparent relatively higher occurrence of small PaleoIndian encampments as opposed to larger base camps in the region may reflect a PaleoIndian settlement system whereby mobile

foragers adjusted to resource unpredictability by becoming more generalized in the types of resources to exploit. Resource-rich freshwater glacial ponds and wetlands were widely distributed across the recently deglaciated New England landscape and likely supported a diversity of plant and animal species available for human consumption. According to Jones and Forrest, smaller groups would have been better equipped to exploit available resources in southern New England than larger groups. However, large gatherings could have been formed on a seasonal basis for communal hunts if the herd sizes allowed for an aggregation of people to gather in one location. These locations would be dependent upon an intercept point as well as being situated in proximity to other resources that could be exploited. This theory has been attributed to sites like the Vail Site in Maine and the Bull Brook Site in Massachusetts (Bonnichson et al. 1985; Gramly 1982; Spiess et al. 1998; Robinson et al. 2009) as well as other multi-loci sites outside of New England (Ellis and Deller 2000; MacDonald 1985).

Settlement strategies during the PaleoIndian Period are poorly understood as the materials and sites are quite rare, but their locations strongly correlate with glacial features that include sand and gravel kame deltas or outwash terraces. The rarity of these sites is often attributed to the possibility of sites being located in areas exposed by the Late Pleistocene low-stand, when the sea was (on average) 60 meters below modern sea-levels (Roman et al. 2000). This would include coastal areas as well as river systems which would have been much narrower and more incised than present. The onset of the Holocene and subsequent sea-level rise submerged much of the Late Pleistocene landscape and effectively removed traces of the previous landforms, which would have been possible locations for archaeological sites (Anderson 2001; Kelley et al. 2012). Regionally, known PaleoIndian sites include large multi-loci sites (Vail, Maine; Bull Brook, Massachusetts), small residential camps (Reagan, Vermont; Whipple and Israel River complex sites, New Hampshire; Templeton, Connecticut), and very small task-specific loci (Hidden Creek, Connecticut). The recently discovered Sands of the Blackstone Site in the Upper Narragansett Bay drainage basin, includes a suite of PaleoIndians tools including raw materials from northern New England and Hudson River Valley source areas. Dating to 11,240–11,120 B.P. (callibrated), the deposits constitute the first *in-situ* PaleoIndian site in the formative Narragansett Bay region (Leveillee and Cox 2011). Diagnostic PaleoIndian artifact assemblages typically include fluted Clovis-like projectile points (Early PaleoIndian: Bull Brook/Whipple, Debert/Vail; Mid-PaleoIndian: Michaud/Neponset, Crowfield-related, and Cormier-Nicholas; Late PaleoIndian: Agate Basin-related and Ste. Anne Varney) (Bradley et al. 2008; Spiess et al. 1998) side and end scrapers, gravers, limaces, and drills and are characteristically dominated by non-local lithic materials such as chert and jasper but will also include regionally and extra-regionally available rhyolites (e.g. Mount Jasper rhyolite, Lynn volcanic suite, Saugus Jasper, etc.).

Evidence for PaleoIndian occupation in Connecticut is primarily limited to isolated surface finds of diagnostic fluted projectile points, several which are reported from the Glastonbury/Rocky Hill area (Brennan 1982; Curran and Dincauze 1977; Forrest et al. 2006). Among Connecticut's most well-known PaleoIndian sites are 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.)** represented a period of increased diversification of food resources, the generalized exploitation of faunal and floral species, and the establishment of tribal territories. This cultural shift also coincided with close of the Younger Dryas Period and the onset of the Hypsithermal Climate Optimum (geologically, the end of the Pleistocene Epoch and the beginning of the Holocene Epoch) with a general warming and mean annual temperatures higher than present day (Deevey and Flint 1957). Pollen core analyses indicate that conditions were moister than later in the Holocene, coupled with climatic fluctuations that created an environment of resource instability. These analyses also show that along with sea level rise, there was an increase in water levels in open ponds during the transition from the Late Pleistocene into the Holocene (McWeeney and Kellogg 2001). This change in climate is also characterized by an increase in seasonality, the extinction of the mega fauna, and the northward migration of other cold-loving fauna like caribou. This meant that subsistence strategies also had to change with the environment, as game previously hunted was no longer a viable resource that could be scheduled into seasonal hunting. This brought on a shift to subsistence patterns that relied more on locally available resources (Stoltman et al. 1978). In general, Archaic Period peoples are conceptualized as having had a hunting and gathering subsistence economy with a settlement pattern characterized by wandering or seasonal relocations within circumscribed territories (Dincauze 1975). The Archaic has been subdivided into Early, Middle, and Late periods.

The **Early Archaic Period (10,000–7500 B.P.)** coincided with the end of the Pleistocene epoch and the commencement of the Holocene epoch, ca. 10,000 years ago. The Holocene epoch is still ongoing, and as opposed to the major climatic shifts that characterized the Pleistocene, has been punctuated by smaller scale and shorter duration climatic shifts (Roberts 1989). The early Holocene was marked by warmer and drier conditions than the preceding Pleistocene epoch. A change in climate precipitated a commensurate shift in forest type and composition, and in flora and fauna. This in turn resulted in a shift in social systems, subsistence strategies and settlement patterns was more prevalent, and after 8,000 B.P., exploitation of anadromous fish, freshwater fish, and coastal and ocean resources (Nicholas 1988). Early Archaic lithic technology reflects a more diversified subsistence economy relative to the PaleoIndian Period that included hunting game and harvesting woodland and wetland vegetation and nuts. This is evidenced by a shift from the highly formal, curated tool kit utilized by PaleoIndians to more expedient tool forms made from lower quality lithic materials (Anderson 2001; Dumont 1981; Forrest 1999; Kuehn 1998; Meltzer and Smith 1986; Nicholas 1987). This abandonment of a highly formal tool kit to one that relied on expedient tool forms is thought to be a response to the changing climate of the Early Holocene. As the climate was stabilizing during this period, resources were becoming more reliable, whereas before, the unpredictability of resources, due to the unstable climate of the Late Pleistocene, required a tool kit that was adaptable to any subsistence strategy (Anderson 2001). The association of many Early Archaic sites with wetland locations implies that wetland environments became increasingly important during the Early Archaic Period (Jones and Forrest 2003; Nicholas 1987). This may have been due to the lack of reliable water sources along coastal areas during this period such that subsistence resources and reliable surface water found at wetland locations were important for site location (McWeeney and Kellogg 2001).

Identifying Early Archaic archaeological deposits in much of New England has typically relied on the recovery of corner-notched, stemmed, and bifurcate-based projectile points in lieu of radiocarbon dates that had been identified south of New England as diagnostic tools (Forrest 1999). Recently documented Early Archaic artifact assemblages from the New England Maritimes and the interior of southern New England have raised the possibility that some Early Archaic occupations are being overlooked as they may be

difficult to discern from other, later archaeological components due to the ubiquitous occurrence of quartz throughout much of New England during the pre-contact past. Another factor that added to the "invisibility" of Early Archaic sites in New England was the lack of diagnostic projectile points that are so often the basis for temporal culture change in the archaeological record. However, a reexamination of site data, specifically from Northern New England has led to the identification of the Gulf of Maine Archaic tradition in which the emphasis is on the utilization of ground stone tools, steeply retouched unifacial tools, and a core technology that is possibly linked to a micro-blade tradition and the absence of diagnostic projectile points (Forrest 1999; Robinson 1992; Robinson and Petersen 1993). Archaeological investigation of the Sandy Hill Site in Ledyard, Connecticut (Forrest 1999) has attributed occupation there to the Gulf of Maine Archaic tradition based upon the recovery of numerous quartz micro-cores, steeply retouched unifaces, and the lack of bifaces. These data suggest that some early Holocene populations may have utilized a distinctive quartz lithic technology focused on the production of quartz "microliths" for use in composite tools as was proposed by Robinson (1992) (Forrest 1999). A preponderance of expedient tools and a nearly exclusive reliance on local or regional lithic materials as opposed to "non-local" or "exotic" lithic materials is a characteristic of each of these tool assemblages suggesting either a "restricted wandering" or a "central-based wandering" settlement system. A "restricted wandering" settlement system is defined as seasonal based group movement by small, residential groups within well-defined territorial limits, while a "central-based wandering" is defined as settlement at a place for an extended period of time by a modest population until such time as necessary for the entire community to move on, perhaps never to return (Ritchie 1980).

The identification of a semi-subterranean pit house associated with a LeCroy Bifurcate complex at the Weilnau Site in Ohio (Stothers 1996), several pit house features dated between 9300 and 8500 B.P. at the Sandy Hill Site in Connecticut (Forrest 1999), and more recently two pit houses dated to 7,830 ± 130 and 8110 ± 90 B.P. at the Whortleberry Site in Dracut, Massachusetts (Dudek 2005) imply a previously unrecognized degree of sedentism for Early Archaic populations in the Northeast and Great Lakes regions. Small, short-duration sites resulting from logistical forays undoubtedly supplemented larger residential sites in the Early Archaic settlement system. Jones and Forrest (2003) interpret the Early Archaic semi-residential settlement pattern in southeastern Connecticut as an adaptive response to predictable, readily abundant resources. The identification of a number of pit house structures and the recovery of various botanical remains from the Sandy Hill Site demonstrates that wetland environments were important during the Early Archaic Period (Jones and Forrest 2003).

Early Archaic archaeological sites and components, as with PaleoIndian sites, are infrequent in Connecticut. The most thoroughly excavated sites from this period in Connecticut are located in the Connecticut River valley and on the Mashantucket Pequot Reservation. The Dill Farm Site (Site 41-50) was radiocarbon dated to 8050 ± 90 B.P., and yielded bifurcate-base points, charred nuts and mammal bones, refuse pits, hearth areas, and evidence of stone tool manufacturing (McBride 1984a; Pfeiffer 1986). Two bifurcate-base projectile points were recovered during the Route 6/I-84 Relocation survey in the northeast highlands of Connecticut (McBride and Soulsby 1989). The Norris Bull Collection housed at the Museum of Natural History on the University of Connecticut Storrs campus also contains a number of bifurcate-based projectile points collected from the area of Windsor Locks (Forrest et al. 2008). As noted above, 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 5 acres, Sandy Hill has yielded two bifurcate point bases, neither of which can be confidently associated with the pit structures. Radiocarbon analysis of charred hazelnut fragments recovered from the well-stratified living surfaces within the pit houses, however, securely dates the site to 8920 ± 100 B.P. In Putnam, the River Road II Site assemblage is reported in State site files as including surface collected artifacts noted as representing a possible Early Archaic component there (Raber 2008).

Middle Archaic Period (7500–5000 B.P.) environmental dynamics included an increase in precipitation and an increased seasonality; more so than the preceding and succeeding climatic periods. There is also a slowing of sea level rise that is suggestive of minimal ice sheet melting (Sandweiss et al. 1999; Stoltman et al. 1978). Forest composition and vegetation changed in response to the increased rainfall as the pine-dominated landscape was replaced by a deciduous forest of oak, sugar maple, elm, ash, and beech, with smaller numbers of hemlock and white pine. Deer populations expanded and likely became a major subsistence focus with the emergence of the "mast" forest. Bear, wolf, otter, and wild turkey also emerged in greater numbers. The Middle Archaic regionally is also characterized by an increase in ceremonial mounds (made from either shell or earth), the beginning of long-distance trade networks, and the emergence of new tool forms, all which suggest that there was a growth in the scale and complexity of cultures (Anderson 2001).

An increase in the relative frequency of Middle Archaic sites in the Northeast suggests that colonizing peoples were firmly established in New England by 7500 B.P. Nevertheless, many more Middle Archaic sites are known from southern New England relative to the north. Resident populations continued their generalized subsistence regimes with Middle Archaic sites being common around ponds, lakes, rivers, and wetlands (Bunker 1992; Dincauze 1976; Doucette 2005; Doucette and Cross 1997; Maymon and Bolian 1992). Subsistence activities reflected at these sites included the harvesting of anadromous fish, hunting and foraging, and fishing. Base camps established along extensive wetland systems (Doucette 2005; Doucette and Cross 1997; Jones 1999) supplemented smaller logistical camps and exploitation sites within the Middle Archaic settlement system. An increase in the complexity of seasonal movements is conjectured on the broad range of resources available throughout the period (McBride 1984a).

Middle Archaic occupations in New England are typically identified by the presence of Neville, Neville-variant, Stark, and Merrimack style projectile points (Dincauze 1976; Dincauze and Mulholland 1977). Middle Archaic projectile points are found in association with steep-bitted scrapers, flake knives, perforators, adzes, axes, gouges, and choppers. Adzes, gouges, and axes suggest heavy woodworking and possibly the appearance of dugout canoes suggestive of the increased importance of river travel. A preference for regionally available lithic raw materials (e.g., quartzite and rhyolite) is reflected in the site database. The correlation between regional lithic material types and Middle Archaic materials has led Dincauze to theorize that Native American band or tribal territories were established within major river drainages, and that the scheduling of subsistence activities such as the seasonal pursuit of anadromous fish species may have developed in response to territoriality (Dincauze 1976; Dincauze and Mulholland 1977).

Middle Archaic archaeological sites in southern New England are both more numerous and larger in size than PaleoIndian and Early Archaic sites. Middle Archaic Stark and Neville type projectile points are more numerous than bifurcate-based forms at the Dill Farm Site in East Haddam (Pfeiffer 1986). Middle Archaic projectile points and a radiocarbon date of 5970 ± 250 B.P. were recovered from the Hatheway-Bugbee Site located within the Farmington River drainage (McBride 1984b). The Bolton Spring Site in Bolton contained a hearth feature and cultural materials scattered over an area of about 50 m^2. The material assemblage included two Neville-like projectile points along with quartz debitage, charcoal, and calcined bone (muskrat, gray squirrel, and woodchuck). Radiocarbon dates obtained from the charcoal and calcined bone indicate the site was occupied around 8,000 years ago (McBride and Soulsby 1989). In Putnam, the River Road II Site assemblage, noted above, is reported in State site files as including a surface collected Stark point reflecting a Middle Archaic presence there (Raber 2008).

Environmental conditions during the **Late Archaic Period (5000–3000 B.P.)** were marked by drier and warmer conditions with a significant decrease in precipitation relative to the preceding Middle Archaic Period. The Late Archaic climate, however, eventually cooled and became more wet by the end of the period. This period also marks the transition of sea level, vegetation, and climate that is analogous to modern times (Anderson 2001). Oak, pine, and beech reached their full extent, while hemlock declined.

Seasonal and multi-occupation Late Archaic campsites were associated with procurement of various resources. Shellfish exploitation, first observed during the Middle Archaic, intensified as the rate of coastal inundation decreased and estuaries, salt marshes, and tidal mud flats were established (Braun 1974; Lavin 1988a). The overlapping mosaic of archaeological sites created during generations of land use attest to intensive utilization of the southern New England's swamps and wetlands and occupation along regional waterways beginning approximately 4,200 years ago. The high density of Late Archaic sites dispersed across a wide range of habitats, coupled with the large number of artifacts attributed to the period, is suggestive of a substantial population exploiting an extremely broad spectrum of resources (Dincauze 1975; McBride 1984a). The density of Late Archaic deposits and the apparent reliance on locally available lithic materials at most of these sites indicates tribal territories and resource catchment zones were well-established during the period (Dincauze 1975).

The Late Archaic Period includes three identifiable cultural traditions: the Laurentian, the Narrow Stemmed (aka Small Stemmed or Narrow Point), and the Susquehanna. Each tradition is associated with specific periods of time, distinct lithic technologies, and/or ceremonial or cultural practices that can be discriminated archaeologically. The Laurentian tradition is the earliest expression of the Late Archaic in the Northeast. 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 Vosburg, Otter Creek, and Brewerton type projectile points (Ritchie 1980). Three sub-phases of the Laurentian tradition known as the Vergennes, Brewerton, and Vosburg represent regional variations within the larger Laurentian lithic tradition. Lithic materials used in Laurentian tradition tool manufacture include quartzites, volcanics, and some argillites. Laurentian tradition site distributions imply an interior settlement focus associated with a hunter-gatherer subsistence economy. A focus on the uplands led Ritchie (1980) to suggest an essentially interior riverine adaptation for Laurentian groups.

The Narrow-Stemmed lithic tradition may be a regional development out of the Middle Archaic Neville/Stark/Merrimack sequence (Dincauze 1976; McBride 1984b). Diagnostic elements associated with the tradition include Squibnocket Stemmed, Wading River, Bare Island, and a host of long and narrow bladed projectile points (Dincauze 1975). Points of these types are abundant in both southern and northern New England. Small, basally ground Squibnocket triangles appear to be contemporaneous with Small Stemmed occupations for southern New England (Ritchie 1969, 1971). Quartz cobbles from glacial outwash, riverbeds, or coastal contexts were the most common sources of raw material for use in Small Stemmed or Narrow Point chipped-stone tool manufacture (Dincauze 1975; McBride 1984a). The Small Stemmed/Narrow Point settlement pattern consists of large base camps concentrated along the well-drained, resource-rich banks of streams, ponds, and interior wetlands, supplemented by task-oriented, short-duration sites that targeted specific resources (McBride 1984a).

State site files indicate Late Archaic sites are abundant in Connecticut (Forrest et al. 2008). All three Late Archaic archaeological traditions (Laurentian, Narrow Stemmed/Narrow Point, and Susquehanna) are represented. Narrow Stemmed occupations are particularly prevalent. Numerous Late Archaic stemmed projectile points have been reported from such Connecticut sites as Long Knoll (54-53) in South Glastonbury, Philips Rockshelter (54-77) in Glastonbury, and Woodchuck Knoll (132-44) in South Windsor. The Long Knoll Site produced an array of Late Archaic points including Brewerton series, Narrow Stemmed, Squibnocket Stemmed, and Normanskill and yielded a radiocarbon age of 3995 ± 100 B.P. (McBride 1984a). Radiocarbon ages of 3690 ± 80 and 3220 ± 10 were associated with the Narrow-Stemmed occupation at the Woodchuck Knoll Site in South Windsor (McBride 1978). The Bliss Site, in Old Lyme, contains multiple Laurentian Tradition cremation burials, representing the earliest documented evidence of sophisticated mortuary practices in the region (Pfeiffer 1984).

The **Terminal/Transitional Archaic Period (3600–2500 B.P.)** bridges the Archaic and Woodland periods and is recognized in New England by Susquehanna tradition cultural materials and sites. An extensive trade

network, increased burial ceremonialism, and the development of technologies markedly different from the antecedent Late Archaic traditions characterized the Transitional Archaic. Radiometric and stratigraphic information from some southern New England archaeological sites indicate the Susquehanna tradition was temporally contemporaneous with the Late Archaic Small Stemmed tradition sites (Filios 1989, 1999). The Susquehanna tradition in southern New England commenced with the Snook Kill/Atlantic Phase (ca. 3600 B.P.) and terminated with the Orient Phase (ca. 2600 B.P.) coincident with the beginning of the Early Woodland Period (Dincauze 1972; Ritchie 1980). The peoples associated with these phases, although differing in some ways from one another, shared similar cultural commonalities (lithic technologies, cultural materials, and/or settlement and subsistence data) to place them within the collective Susquehanna archaeological tradition.

New technological developments associated with the Susquehanna tradition included the manufacture of steatite (soapstone) vessels and broad-bladed tool forms (Atlantic/Snook Kill, Susquehanna Broad, Coburn, and Orient Fishtail projectile points or knives), which either developed out of the local populations or were introduced to the region by peoples migrating to New England. Broad and thin Susquehanna tradition bifaces were ideally suited for knives and possibly woodworking implements and are in marked contrast to the more linear, elongated, narrow, and thicker piercing Small Stemmed projectiles. Susquehanna tradition chipped-stone tools were commonly manufactured from a variety of lithic materials that included regionally available rhyolites, quartzite, and non-local cherts. A reliance on readily available lithic materials such as quartz, argillite, and some rhyolites is apparent by the final Orient Phase of the Susquehanna tradition.

Steatite or soapstone bowl use, technology, and trade had its beginnings approximately 3,600 years ago following the Atlantic Phase, peaked between 3400 and 2900 B.P., and fell into disuse by the end of the Orient Phase (Sassaman 1999). Regionally available steatite outcrops are known from Connecticut at such places as the Ragged Mountain Rockshelter site in Barkhamsted, the Nepaug and Cotton Hill soapstone quarries in New Hartford, and additional quarry sites in Harwinton and East Litchfield. Regionally, soapstone outcrops are known from south-central Massachusetts and northern Rhode Island. Regional archaeological evidence suggests that some of the earliest fired ceramics may date to this time as well, as evidenced by the recovery of steatite tempered pottery sherds in associated context with broad-bladed projectile points at the Casley Site, Riverside Archaeological District, on the Connecticut River near Turners Falls, Massachusetts (Weeks 1971). The manufacture and use of heavy steatite vessels by Susquehanna tradition peoples may imply a trend toward increased sedentism by resident populations. However, the predominance of non-local lithic materials in Susquehanna tradition cultural assemblages implies a relatively mobile settlement strategy.

The Transitional Archaic settlement pattern was essentially oriented toward coastal or riverine settings with a subsistence base focused on the acquisition of riverine or estuarine flora and fauna that included fish, nuts, and small- to medium-sized mammals (Pagoulatos 1986, 1988). Documented Susquehanna tradition habitation sites include moderate-sized residential camps, shorter duration and smaller field camps, and logistical location special purpose sites (Pagoulatos 1986, 1988). Interior Upland Susquehanna Tradition sites include Site 32-59 in Coventry, along the Willimantic River, and Site 72-55 in Ledyard (Raber 2008). Susquehanna tradition ideology is reflected in regional cremation cemetery complexes such as the Vincent, Watertown Arsenal, and Millbury III cremation sites in Massachusetts (Dincauze 1968; Leveillee 2002). Late Archaic Laurentian and Susquehanna tradition cremation complexes are present at the Bliss and Griffin sites along the Connecticut River in Old Lyme, Connecticut (Pfeiffer 1980, 1984, 1990).

The **Woodland Period (3000–450 B.P.)** was a time of dynamic development for New England's indigenous peoples and generally involved a transition from a foraging way of life toward a more sedentary existence. The Woodland Period has traditionally been interpreted as reflecting an abandonment of the Archaic subsistence pattern of hunting/gathering/fishing, replacing or supplementing it with the adoption of horticulture and ceramic technology (Snow 1980). However, the transition from the Archaic to the

Woodland Period does not reflect a strictly linear evolution from one stage to the next. Regionally, the archaeological record supports a continued diversification of food resources, an increased reliance on shellfish and maritime resources, refinement in pottery manufacturing, the maintenance of long-distance trade and exchange networks, and eventually year-round coastal or riverine settlement with evidence for horticulture. Like the Archaic Period, the Woodland Period can be subdivided into Early, Middle, and Late periods.

The **Early Woodland Period (3000–1600 B.P.)** climate was essentially the same as that at the end of the Late Archaic. Cooler, wetter conditions encouraged the decline of nut-bearing vegetation in favor of hemlock, pine, and birch and imposed limits on the biotic carrying capacity of the region. Human populations responded to this change by continuing a broad-based hunting and gathering strategy, but one more explicitly oriented toward rivers, lakes, and ponds with limited seasonal use of upland settings.

Early Woodland Period occupations are generally underrepresented in the regional archaeological record and group sizes appear to have been relatively small. This has led to speculation that there was a population decline for the period (Dincauze 1974; Lavin 1988a). Fiedel (2001) hypothesizes that either climatic or environmental changes, sociocultural change, or epidemics may have contributed to the so-called "Early Woodland collapse." Conversely, others argue that the apparent underrepresentation of Early Woodland sites may stem from the difficulty in determining what constitutes diagnostic artifact assemblages for the period (Juli and McBride 1984). The positive association of some stemmed projectile points with Early Woodland radiocarbon dates indicates that some Early Woodland assemblages are being misidentified as older Late Archaic materials.

Early Woodland settlement patterns were characterized by limited use of upland areas and more intensive use of coastal and riverine resources and locales. Coastal habitation sites and shell midden deposits from along the saltwater and estuarine margins of Maine to New York reflect the increasing dependence on shellfish and other marine resources during the Early Woodland Period. Interior site locations that contain artifacts diagnostic of the Early Woodland Period are not as numerous as the preceding periods. This may be related to the problem of determining what constitutes diagnostic artifact assemblages for the period.

Early Woodland archaeological deposits have traditionally been diagnosed through the presence of Adena, Meadowood, Lagoon, and Rossville type projectile points, as well as grit-tempered, cord-marked and coil built Vinette I ceramic styles in the absence of radiocarbon assays. Lithic assemblages for this period comprise a high percentage of "exotic" lithic materials such as chert, which speaks to an expansion and elaboration of long-distance trade networks.

Raber notes differential land use and settlement patterns between the Susquehanna Tradition sites and those of the Narrow-stemmed Tradition peoples of the Early Woodland in Connecticut. He notes that Early Woodland Narrow-stemmed Tradition sites are seasonal while Susquehanna Tradition sites are more temporary and specialized. Accordingly, the Susquehanna Tradition peoples were focused along major rivers with seasonal and specialized use of uplands, the Narrow-stemmed tradition peoples of the Early Woodland stayed year-round in the uplands (Raber 2008).

Regionally, **Middle Woodland Period (1650–1000 B.P.)** site distributions suggest a continued focus on coastal or riverine ecosystems. Interior Middle Woodland sites particularly targeted 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).

Middle Woodland Period Native American archaeological sites are more numerous relative to the Early Woodland. Population expansion may have overtaxed the subsistence resources of the changing

environment and led to a more diffuse hunting and gathering strategy that saw a return to a more intensive exploitation of the uplands. Artifacts diagnostic of the Middle Woodland Period include Jack's Reef Pentagonal and Corner-Notched and Fox Creek type projectile points. Pottery also takes on an increasingly diverse stylistic profile, including grit-tempered coil-built vessels with a stamped, incised, and dentate decoration of varying quality. In addition to local materials, Middle Woodland assemblages 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).

Traditionally the introduction, adoption, and subsequent intensification of horticulture for the production of food in the Northeast has been perceived as substantially altering previously established settlement and subsistence patterns of Archaic Period hunters and gatherers (Snow 1980). Consequently, horticulture has been assumed to have had important impacts on the later Native American subsistence and settlement base especially for southern New England, as it was widely believed that it initially supplemented and later supplanted a pre-existing focus on hunting and gathering subsistence strategies sometime during the Middle Woodland Period. However, the earliest evidence of domesticated agricultural products in the region dates to around A.D. 1000, coincident with the end of the period suggesting a "late" reliance on horticulture (Bendremer and Dewar 1993). More recent analyses of food residences from cooking pots suggest that maize and squash were present in the Finger Lakes region of New York as early as A.D. 650 (Hart et al. 2003).

The distribution of **Late Woodland Period (1000–450 B.P.)** cultural materials and sites across a range of environmental settings attests to a generalized subsistence base that included hunting, fishing, resource acquisition and processing, and horticulture. Late Woodland archaeological sites are common within coastal environments, around interior freshwater ponds and wetlands, and adjacent to large tributary streams and rivers. Documented site types include specialized exploitation sites (shell middens, hunting and processing camps, lithic workshops, etc.), small domestic sites, and larger hamlets or villages.

Maize horticulture gained in importance during the Late Woodland Period especially along the Connecticut River and southern New England's coast. The situation of large settlements along major rivers reflects the desirability of floodplain environments for horticultural purposes. With intensive maize horticulture came advances in storage technology to ensure that ample maize would be available throughout the winter months and that a sufficient supply of seed crop would be available for the next season. The increased importance of stationary storage facilities contributed to the circumscription of populations within localized territories and fundamental changes in population mobility. Coastal sites were contrasted with interior hunting sites where individuals exploited and hunted terrestrial animal species such as deer and gathered predictable botanical resources such as nuts and berries.

Reduction in communal mobility influenced the development of Late Woodland territories and social structures. Social complexity, the formation of political alliances, and the establishment of tribal territories and identities appear to have developed during the period (Mulholland 1988). Many researchers believe the "intensive" maize horticulture was linked to population growth and the establishment of sedentary villages, reasoning that only such a productive subsistence strategy could have reliably supported such large, concentrated populations. McBride and Dewar (1987) have countered arguing that large settlements could have developed independently of horticulture, especially in ecologically rich settings such as coastal environments and estuaries, where there is a rich and reliable maritime or estuarine (fish and shellfish) base.

The Late Woodland Period is associated with an improvement in ceramic technology and production. Late Woodland artifacts represented in the regional archaeological record include triangular Madison and

Levanna type projectile points and cord-wrapped, stick-impressed, and incised ceramics. Grit or shell-tempered ceramic wares with incised line decoration are commonly discovered in this region. Levanna projectile points were most often manufactured out of locally available lithic materials. The Midwestern trade in cultural items continued into the Late Woodland. However, the importance of the Late Woodland's Midwestern trade had certainly diminished as compared with that of the preceding Middle Woodland Period.

Settlement appears to have been focused along the river valley and coast during the Woodland Period. By the Late Woodland Period, year-round settlements that included settlement villages were present in the lower Connecticut River valley. The Morgan Site is situated along the floodplain of the Connecticut River in the town of Rocky Hill. A wide range of cultural materials including Levanna type projectile points, pestles, mortars, celts, and numerous decorated clay pot sherds have been recovered from the site. Archaeological features such as hearths, refuse pits, and storage pits, as well as a diverse floral base that included more than 100 maize kernels, attests to the presence of a large, settlement community focused along the shores of the Connecticut River between 630 ± 70 and 590 ± 70 B.P. (Lavin 1988b). Forrest et al. (2008:11) suggest that a period of reduced flooding ca. 1000 A.D. along the Connecticut River contributed to the development of a stable floodplain whose fertile soil may have contributed to the early adoption of maize by foraging peoples in the lower Connecticut River valley.

Contact and Post-Contact Land Use

At the time of the establishment of the earliest European settlements in Connecticut (ca. 1615), land use was determined by members of the 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 had been affected by contact with Europeans, although the degree of change is difficult to assess. During the late pre-contact and contact periods (prior to 1615), 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, and maize horticulture formed the basis of subsistence, with the emphasis on particular resources varying by sub-region. Interior 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 and over-wintering camps for smaller family groups. Sites of seasonal aggregation were located near agricultural lands and fishing points (McBride and Soulsby 1989). Palisaded Indian villages were situated in commanding positions in present-day Montville (Fort Shantok) and Mystic, reflecting the importance of control over primary trade routes and defensibility during this tumultuous period.

Contact Period Native American sites include forts such as the Fort Shantok National Historic Landmark, occupied by Uncas and his descendants, and Monhantic Fort at Mashantucket, a contributing resource to the National Historic Landmark-listed Mashantucket Pequot Archaeological District. In Norwich, a small rise located at the Three Rivers Community College is believed by the Mohegan Tribal Nation to be the location from which Uncas instructed his followers during the 1643 battle with the Narrangansetts (Harper et al. 2006). Contact period sites located within the Mashantucket Pequot Indian Reservation and elsewhere in Ledyard include campsites in rockshelters, homesteads and cemeteries (McBride 1990). The Morgan Pond Rockshelter Site, for example, contained lithics, bone fragments, shell, and pottery resembling Hackney Pond Phase vessels. This type of pottery is associated with the terminal Late Woodland and possibly contact periods. Site 72-31, a campsite within a rockshelter, also contained ceramic types associated with late sixteenth and seventeenth century sites elsewhere (McBride 1990). Another campsite, Site 72-34a consists of a seasonal camp containing lithic artifacts, European artifacts such as musket balls and glass beads, and post molds surrounding a hearth (McBride 1990). Site 72-62, associated through written sources with members of the Pequot community, yielded cultural materials including older delft ceramics and evidence of orchards and gardens within stone-walled enclosures (Grumet 1995). Site 72-200

consists of a contact period burial ground. Grave goods included brass beads, arm, wrist and head bands, textiles of Euro-American origin, scissors, bottles and other seventeenth-century objects. A number of these sites are located within the Mashantucket Pequot Reservation Archaeological District.

English colonial settlement of the Connecticut coast continued after the Pequot War (1636 to 1638). Having gained control of most coastal areas, the English incrementally settled the interior, upriver sections of southeastern Connecticut; these included lands within the Route 2 / 2A / 32 area. 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 settlement of Stonington began in 1652. In the following year, the Poquetanuck Grants were apportioned in Ledyard and a saw mill was in operation on the Oxoboxo River (Montville). English colonists began settling the area of North Stonington in the mid-seventeenth century. As early as 1649, the Colony of Connecticut granted settlement in the areas now known as Stonington and North Stonington. The first documented settlers in North Stonington (then called Southerton) were Ezekial Main and Jeremiah Burch. Settlement remained slow in the North Stonington area until the early eighteenth century (Youngken and Lutke 1997).

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. Stonington, North Stonington, and Westerly, formerly claimed by Massachusetts, also were embraced. By 1667, all the land in the project area was located within one of the newly founded Connecticut townships (Crofut 1937).

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 North Stonington area and in its vicinity**.** In southeastern Connecticut in general, the first English settlements were oriented around suitable agricultural land, waterways, natural harbors, and Long Island Sound. Among the towns in the general area, Norwich, Preston and Montville saw the earliest English settlement, being located on the Thames River. Other towns, including Ledyard and North Stonington, were more remote from the primary watercourses and seaports, and contained less arable land. In general, they were not extensively settled until after the American Revolution.

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).

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. The site of the present village of North Stonington was acquired by Samuel Richardson in 1682. In 1702, Richardson sold 30 acres, including what is now the center of the village to Nathaniel Ayres. A grist mill is mentioned in the deed recording this transaction. The mill and eastern portion of the village passed through several owners until Nathan Avery purchased it in 1766. The western portion of the village was bought by Captain John Swan in 1756 and 1757, and later sold to Elias Hewitt. Following Nathan Avery's death, his sons Luther and William operated the mills and the location was known as Avery's Mills by the late eighteenth century (Plummer 1981).

In 1720, Stonington divided into two ecclesiastical societies, called the North and South Societies of Stonington (Stone 1986). The North Society of Stonington built its first meeting house in 1723 at Meeting House Corner in the northern portion of Stonington. The Town of Stonington first proposed to politically split from the northern portion of town as early as 1717; a border was not agreed upon until 1807 when North Stonington was incorporated (Youngken and Lutke 1997). Prior to the industrialization that occurred in North Stonington in the early-to-mid-nineteenth century, most of the town's built environment consisted of scattered farms. The John Randall House (NR) on Route 2 is the only building in the town that is believed to have seventeenth-century fabric, although most of the structure was built in the early eighteenth century (Youngken and Lutke 1997). North Stonington began to experience increased residential and civic development throughout the period. Throughout the late eighteenth century lots within the village were sold and the village soon developed its present configuration.

By the time of the American Revolution, the English people inhabiting the townships within the area had established a rural, agrarian way of life. They diversified their economy through shipbuilding and simple industries. Through improved transportation and communication routes, they were linked to the more cosmopolitan trade centers of the Connecticut and Rhode Island coastline.

Based upon a comprehensive survey of North Stonington in 1997 (Youngken and Lutke 1997), it appears that a number of eighteenth-century homes are extant within the town. Several eighteenth-century residences exist within the area, including 189 Norwich Westerly Road and 684 Norwich Westerly Road in North Stonington. Both area good representative examples of the Georgian style as applied to residential buildings.

By the **Federal Period (1775 - 1830)**, the number of new towns in eastern Connecticut proliferated after the American Revolution. North Stonington was incorporated in 1806 out of Stonington. Improvements to roads was slow throughout the eighteenth century. In 1818, the Groton and Stonington Turnpike Company built a road in North Stonington (Crofut 1937). 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).

In 1814, large mills for the production of woolen goods were built by the Mystic Manufacturing Company in nearby Stonington (Crofut 1937). The other towns maintained their agricultural orientation, generally foregoing the industrialization seen in towns to the north, 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 seaweed used for fertilizer, 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.

A number of Federal-period homes exist within North Stonington, especially at North Stonington Village, which lies at the south-central portion of town, north of present-day Route 2. Buildings from this period exhibit modest classical details and proportions of the Federal period. Included within this group are 564 Norwich Westerly Road and 576 Norwich Westerly Road in North Stonington.

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. The railroads also affected aspects of the maritime industry by providing a more efficient means of shipping goods. Many younger people moved westward out of the region, or sought employment in the emerging mill towns of northeastern Connecticut.

Industry brought pervasive change to the region. While they had often proved unsuitable for farming, the rocky hinterlands of eastern Connecticut contained numerous small rivers and watercourses that were harnessed by the new textile mills that nineteenth-century technological innovations had brought into being. Modest factories were constructed in almost every town in the region, dedicated to the production of a wide variety of goods. North Stonington Village, containing the sources of the Mystic and Shunock rivers and the western branches of the Ashaway River, provided locations for various small factories. A number of industrial concerns soon began operating along the Shunock River, which was developed with both an upper and lower canal system. The village then became known as Milltown. Concurrent with the development of North Stonington Village as a manufacturing center, the village prospered as a mercantile center. Customers of the many shops were drawn from outlying farms in North Stonington and from nearby towns such as Stonington, Preston, and Westerly, Rhode Island (Plummer 1981).

Industrial development, shipbuilding and stone quarrying led to a dramatic population increase in southeastern Connecticut. This was most notable in New London and Norwich, as waves of European immigrants found employment in local industries and established residence in the urban centers. North Stonington's nineteenth-century population peaked in 1830, when a recorded 2,840 individuals were enumerated in the U.S. Census (Youngken and Lutke 1997). After 1830, the town's population decreased significantly despite the town's expanded industrial activity throughout the century. This decrease is probably due to the availability of richer farmland in the western United States and the growth of steam-powered manufacturing in areas with access to coal (Plummer 1981). By 1850, North Stonington had a total population of 1,936. Concentrated areas of settlement had begun to appear in North Stonington especially in three active industrial villages in the town: Clark's Falls, Laurel Glen, and North Stonington Village (Youngken and Lutke 1997). Along with increased residential development in North Stonington Village, commercial growth continued. A number of stores were constructed near the village center, primarily along Main Street (Plummer 1981). Industrial activity also increased, especially along the watercourse of the Shunock River. Industrial pursuits along the Shunock in North Stonington included both a grist and fulling mill, a woolen mill, a nail shop, a triphammer works, a dyehouse, and several cabinetmakers' shops which were powered by water (Plummer 1981).

By 1890, the population of North Stonington had reached 1,463, only to decline over the next two decades to 1,100 in 1910. This decline can be partially attributed to the availability of richer farmland to the west, which drew people away, and the closing of the town's major woolen factory during the 1880s (Plummer 1981).

Although industry in North Stonington Village declined in the early twentieth century, the completion of the Norwich-Westerly trolley line along the southern boundary of the village in 1906 helped revive the village. The trolley line also influenced the community to abandon the name Milltown in favor of the name of the trolley stop, North Stonington Village (Stone 1986). A small increase in population in the 1920s and the construction of a number of homes in this period, is indicative of the moderate success of the trolley route (Plummer 1981:8/2). The construction of the state highway (Route 2) in 1919 helped to counterbalance the trolley line abandonment in 1921.

CHAPTER FIVE

RESULTS, INTERPRETATIONS, AND RECOMMENDATIONS

PAL conducted the archaeological reconnaissance survey within the North Stonington 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 archaeological sensitivity of the project area is defined by the presence of favorable environmental conditions and the presence of known archaeological sites in similar environmental settings. Well-drained soils near freshwater resources, particularly marshes, river terraces, and stream confluences were preferred locations for Native American settlements. Although there are no pre-contact sites within the project area, there are six archaeological sites located within a 1-mile radius of the project area focused around the Pawcatuck River flood plains. Archaeological sites in this southeastern Connecticut have been identified in similar topographic and environmental settings as the project area, particularly on the Mashantucket Pequot tribal trust lands, where intensive archaeological surveys have been conducted since the early 1990's.

Table 5-1. Archaeological Sites Recorded within One Mile of the Proposed North Stonington Solar Project Area.

CHC #	Site Name	Town	Site Type	Period	NR Eligibility
102-5	Beriatt Lewis Farm	North Stonington	Unknown	Unknown	Unevaluated
102-6	Beriatt Lewis Farm	North Stonington	Unknown	Unknown	Unevaluated
102-7	Beriatt Lewis Farm	North Stonington	Unknown	Unknown	Unevaluated
102-8	Lewis Farm	North Stonington	Unknown	Unknown	Unevaluated
102-9	Moran Farm	North Stonington	Camp Site	Unknown	Unevaluated
102-10	Arnold	North Stonington	Camp Site	Unknown	Unevaluated

The majority of the pre-contact sites located within a two-mile radius of the project area are located around the Pawcatuck and Shunock Rivers, Lewis Pond, and associated wetlands. The project area is adjacent to wetlands associated with a tributary of the Pawcatuck River to the south and Bell Cedar Swamp to the north. Sites within a 1-mile radius of the project area were identified by surface collection and limited site specific information. A Phase I Reconnaissance and Phase II Intensive survey was conducted approximately 1.5 miles west of the project in 2002. The survey identified two pre-contact archaeological sites (102-97, 102-98), both low density lithic scatters (Forrest et al. 2002). Three archaeological sites (102-2, 102-3, and

102-4) were identified approximately 1.5-miles northwest of the project area along the Shunock River, which were surface collected with limited site specific information. Also 1.5-miles away, north along Spaulding Pond, 102-16, a pre-contact site was identified by surface collection with limited information. Along the Rhode Island state border, three pre-contact and two post-contact sites have been recorded at least 1.5 miles away from the project area. RI-205 was identified as an unknown pre-contact site from surface collection. RI-226, a Late Archaic to Woodland Period rockshelter, yielded diagnostic tools during an archaeological survey (Morenon 1997). Find Spot #3 (RI-2039), a quartz lithic scatter, was identified by an archaeological survey in 1992 (Rainey 1993). RI-303 consists of an eighteenth century saw mill that was identified from documentary research only. Old Westerly town center (RI-305), a seventeenth and eighteenth century habitation site, has not been surveyed (Figure 5-1).

Although very limited professional surveys have been conducted along the margins of Bell Cedar Swamp to the north-northwest of the Project, Pre-Contact Period land use patterns in the surrounding area suggest this setting would likely have been a focal area of settlement for people living in the area, particularly during the PaleoIndian through Middle Archaic periods.

Post-contact land use within or near the Project included several farmsteads to the southeast and west of the proposed development. Former farm fields once extended across portions of the Project and are still marked by stone walls. Although cranberries were likely cultivated in the marshes to the west of the Project, and perhaps within the southwestern sections of the subject property, extensive gravel mining in these sections has substantially altered the historic landscape and drainage patterns. Historic aerial surveys suggested it was highly unlikely intact structures or agricultural features would survive in these areas.

PAL also reviewed the North Stonington Plan of Conservation and Development (2013) to identify any other potentially significant historic resources or land uses within the project limits. The PCOD includes mapping of reported historic cemeteries identified within the town boundaries. One of these cemeteries is depicted near the former gravel pit south of the Project. The small burial ground was documented in the 1930's as the Allen Cemetery (#96) in the Charles R. Hale Collection of Connecticut Cemetery Inscriptions as part of a Works Progress Administration (WPA) effort (Hale 1935).

Subsurface Testing

A total of 202 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 5-2, Table 5-2). Test pits were placed within 43 linear transects with test pits placed at a 15-m interval and twelve judgmental test pits.

Table 5-2. Summary of subsurface testing, North Stonington Solar Project.

Area	Acres	Sensitivity	Transects/JTPS	# of Pits	Results	Comments
A	10.4	Low to Moderate	TAX, TAY JTP-08 to JTP-12	14	NCM	
B	12.1	Low to Moderate	TAR to TAW	20	Isolated post-contact material.	Non-site
C	30.1	Moderate to High	TA to TZ JTP-01 to JTP-06	108	Isolated post-contact material.	Non-site
D	14.5	Moderate to High	TAA to TAQ JTP-07	60	Isolated post-contact material.	Non-site
Total	**67.1**			**202**		

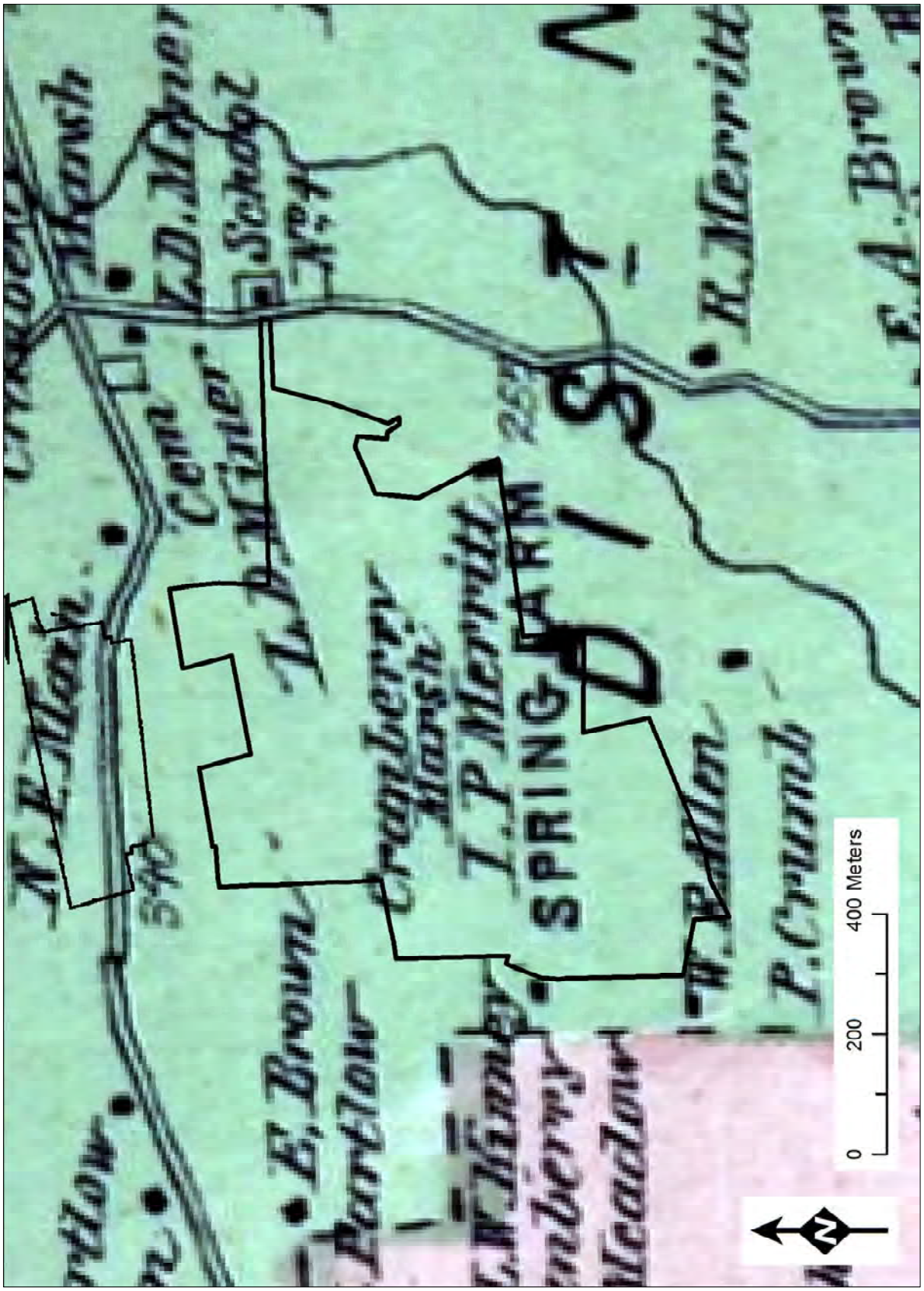
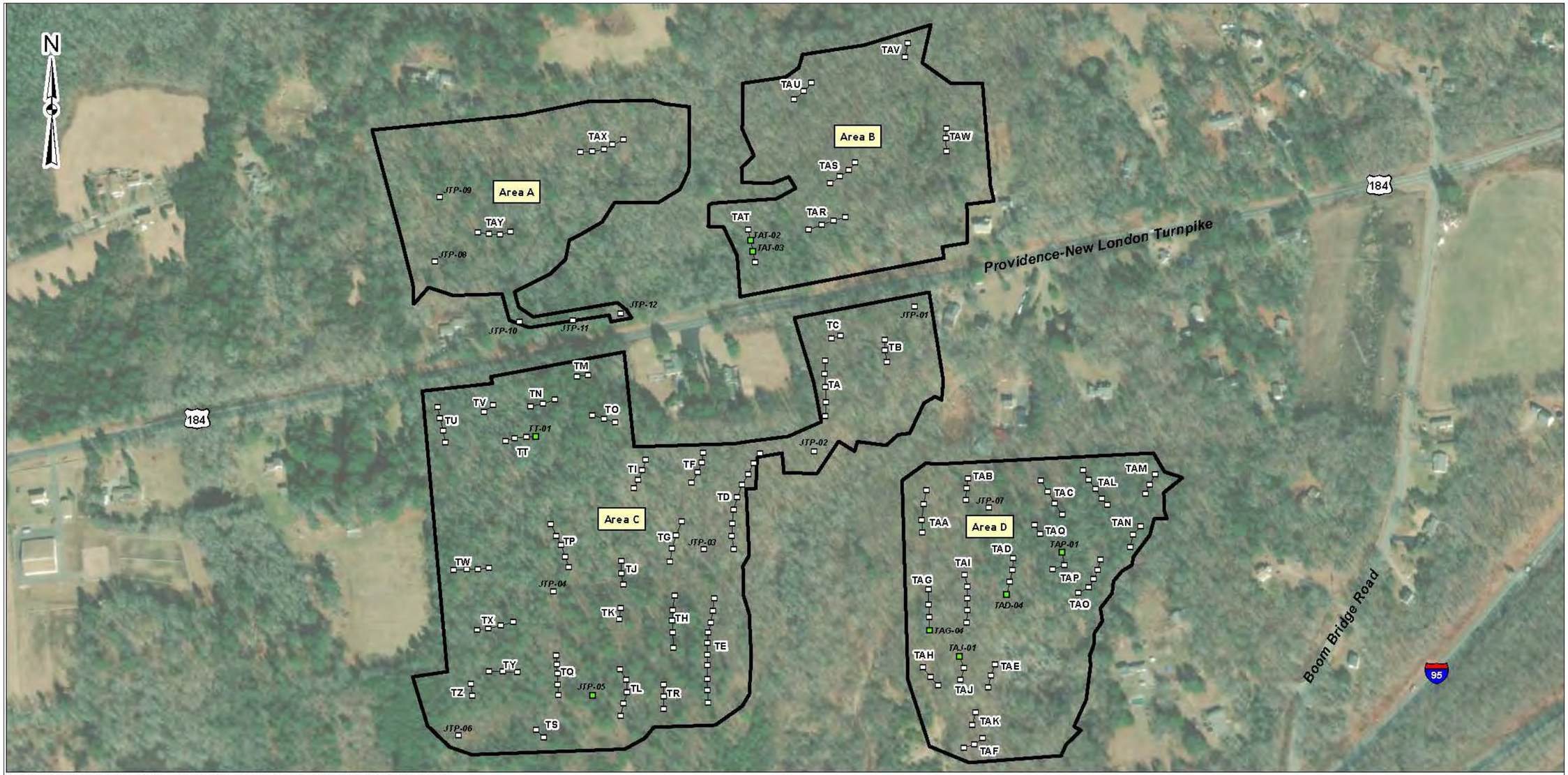


Figure 5-1. Portion of 1868 map of New London County with the approximate location of the North Stonington Solar Project area.



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North Stonington Solar Project
North Stonington, CT

PAL: Phase I Intensive Archaeological Survey	10-27-2020
Project: Tighe & Bond	9-29-2020
Base: USGS topo / ArcGIS Online	Various

PAL makes no warranties, either expressed or implied, regarding the fitness or suitability of this map for any other purpose than to depict the results of cultural resource investigations conducted by PAL.
THIS MAP IS INTENDED FOR PLANNING PURPOSES ONLY

KEY:
- Project Area
- Phase I Archaeological Survey 50 × 50 cm Test Pit With:
  - No Cultural Material
  - Post-Contact Cultural Material

MAP CONTAINS PRIVILEGED INFORMATION - NOT FOR PUBLIC RELEASE

0 200 400
FEET

1:4,000

0 30 60 120
METERS

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

Area A

Area a corresponds to an area of low to moderate sensitivity. Two transects (TAX and TAY and two JTPs) were placed in this area (see Figure 5-2). Soil profiles revealed a natural duff (Ao) over an A Horizon of dark brown (10YR 3/3) fine sand and silt to an average depth of 10 centimeters below surface (cmbs) over a B_1 Horizon of yellow (2.5Y 7/6) to yellow brown (10YR 5/6) silt and fine sand and a B_2 Horizon of brown yellow (10YR 6/6) to yellow (2.5Y 8/6) silt and fine sand. The C Horizon was a light gray (2.5Y 7/2) medium to coarse sand (Figure 5-3).

Area B

Area 3 corresponds to an area of low to moderate sensitivity. Six transects (TAR, TAS, TAT, TAU, TAV, and TAW) were placed in Area B (see Figure 5-2). Soil profiles in TAR were varied (see Figure 5-3), showing a developing A Horizon of dark brown (10YR 3/3) fine sand and silt over a C Horizon of oxidizedlight gray (2.5Y 7/2 medium to coarse sand. Where present, the B_1 Horizon consisted of a yellow brown (10YR 5/6) silt and fine sand and the B_2 Horizon consisted of a brown yellow (10YR 6/6) silt and fine sand. The remainder of test pits in Area B exhibited soil profiles similar to those encountered in Area A. These consisted of a doff (A_o) over an A Horizon of dark brown (10YR 3/3) fine sand and silt over a B_1 Horizon of silt and fine medium sand ranging in color from yellow brown (10YR 5/6) to gray brown (10YR 5/2) and yellow (10YR 7/6). The B_2 Horizon consisted of a yellow brown (10YR 6/6) to pale brown (10yr 6/3) silt and fine sand with rock. Many test pits ended in rock beneath the B2 Horizon. Where present, the C Horizon was light gray (2.5 7/2) medium coarse sand with gravel.

Area C

The majority of Area C is assessed as moderate to high sensitivity. Twenty-six transects (TA through TZ) and six judgmental test pits (JTP-01 to -06) provided even coverage of the area (see Figure 5-2). Soils were fairly consistent across the area and consisted of a duff (Ao) over an A Horizon of brown (10YR 4/3 to 10YR 5/3) to dark yellow brown (10YR 4/4) fine sand and silt that varied in depth from around 10 cmbs to 30 cmbs. The B_1 Horizon consisted of a yellow brown (10YR 5/6) to brown yellow (10YR 6/6) fine to medium sand over a B_2 Horizon of brown yellow (10YR 6/6) to pale yellow brown (2.5Y 7/4) medium sand with cobbles. Approximately half of the 108 test pits placed in Area C terminated in the B_2 Horizon because of rock. Where present, the C Horizon consisted of a light gray (10YR 7/2) to pale yellow (2.5Y 7/4) medium to coarse sand with cobbles (Figure 5-4).

Area D

The majority of Area C is assessed as moderate to high sensitivity. Seventeen transects (TAA to TAQ) and one JTP (JTP-07) provided even coverage of the area (see Figure 5-2). Soils were fairly consistent across the area, very similar to those encountered in Area C. A typical profile consisted of a duff (Ao) over an A Horizon of brown (10YR 4/3 to 10YR 5/3) to dark yellow brown (10YR 4/4) fine sand and silt that varied in depth from around 16 cmbs to 20 cmbs. The B_1 Horizon consisted of a yellow brown (10YR 5/6) to yellow (10YR 7/8) silt and fine to medium sand over a B_2 Horizon of brown yellow (10YR 6/6) to yellow (10YR 7/6) silt and fine sand with cobbles. Half of the 60 test pits terminated in the B_2 Horizon because of rock. Where present, the C Horizon consisted of a light gray (10YR 7/2) to pale yellow (2.5Y 7/4) medium to coarse sand with cobbles (Figure 5-5).

Cultural Material

Subsurface investigations recovered 14 pieces of post-contact cultural material (Appendix A). The post-contact materials included isolated flat window glass, various pieces of ceramic (pearlware, whiteware, and

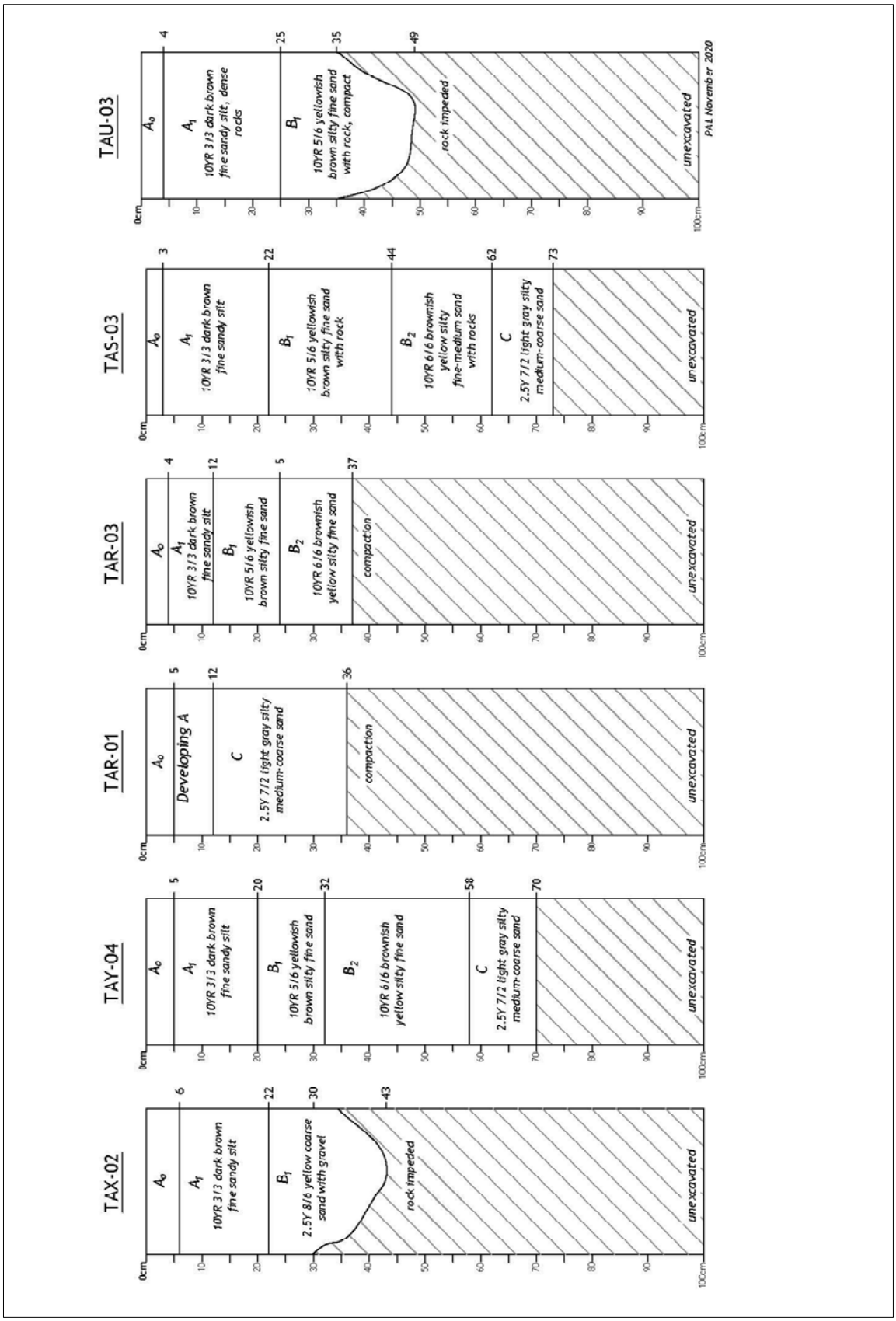

Figure 5-3. Representative soil profiles, Areas A and B, North Stonington Solar Project area

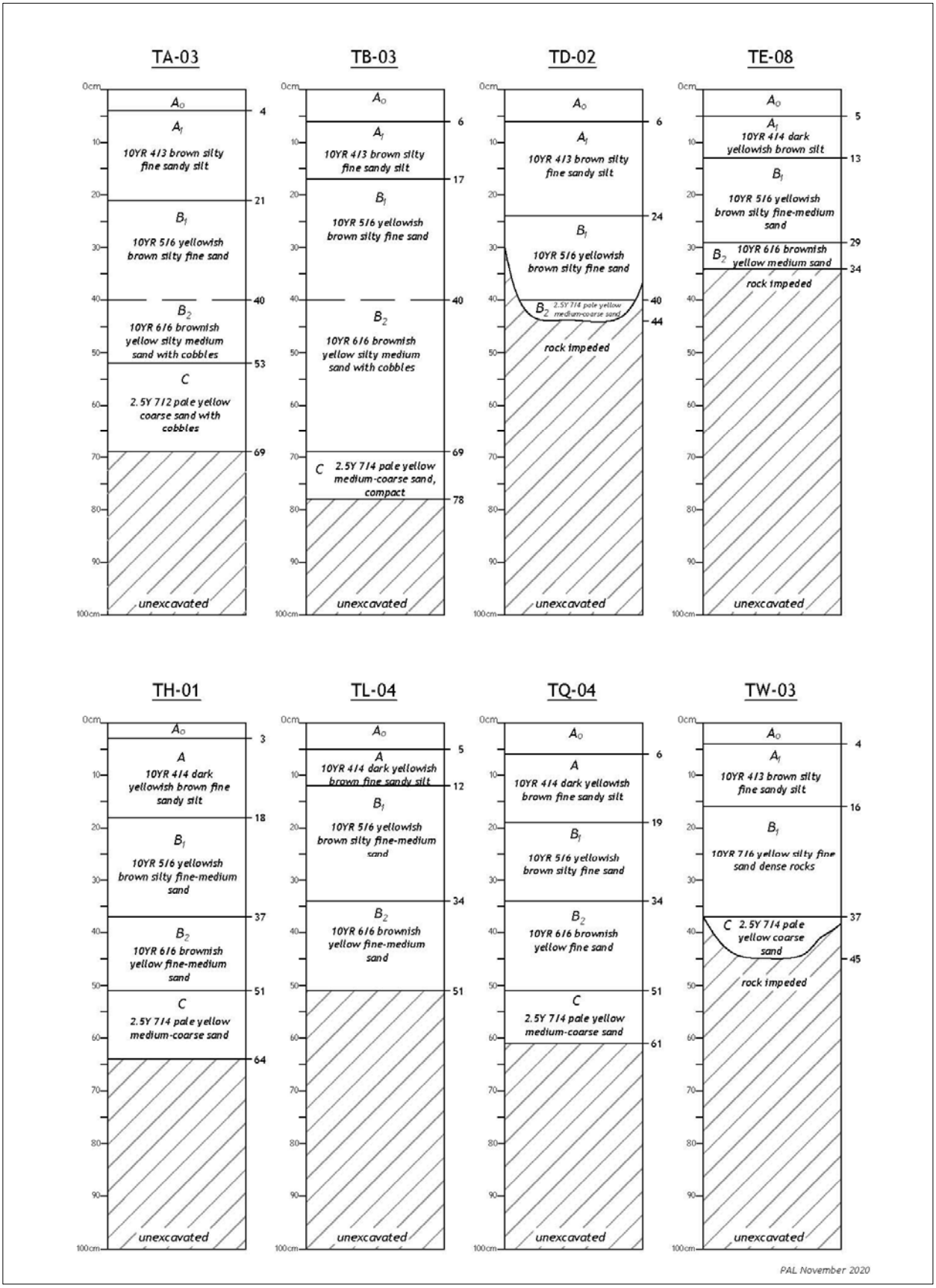

Figure 5-4. Representative soil profiles, Area C, North Stonington Solar Project area

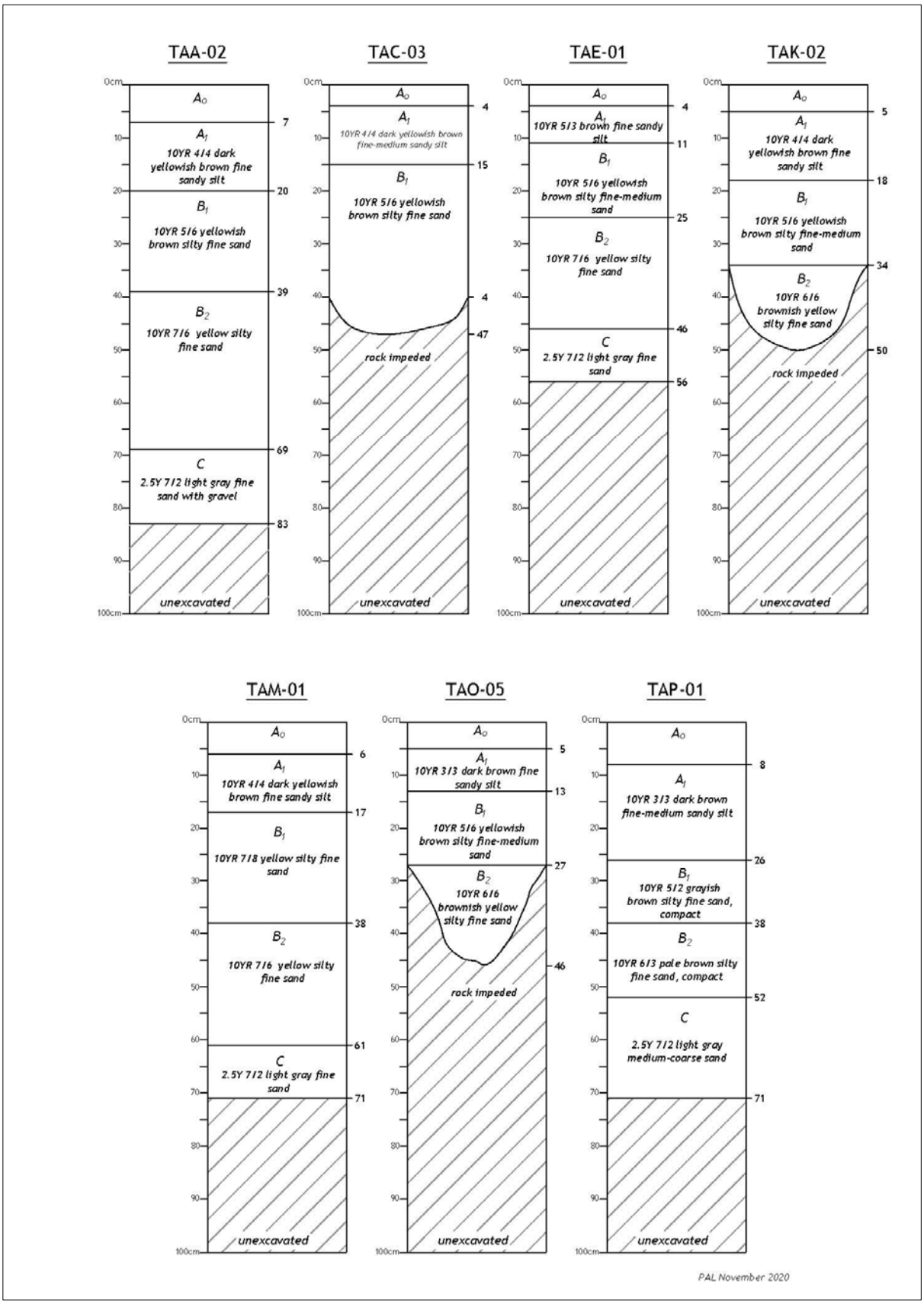

Figure 5-5. Representative soil profiles, Areas D and E, North Stonington Solar Project area

creamware), and a copper alloy bell.

Interpretations and Recommendations

The isolated pieces of post contact debris are interpreted as field trash representative of incidental disposal of debris and not representative of a potentially significant archaeological site. Accordingly, we recommend no further archaeological investigations are warranted and the proposed project will have no impact on potentially significant archaeological sites.

REFERENCES

Anderson, David. G.
2001 Climate and Culture Change in Prehistoric and Early Historic North America. *Archaeology of Eastern North America* 29:143-186.

Baron, Donna Keith, J. Edward Hood, and Holly V. Izard
1996 They Were Here All Along: The Native American Presence in Lower-Central New England in the Eighteenth and Nineteenth Centuries. *The William and Mary Quarterly* LIII(3):561–586.

Beers, F. W.
1868 *Atlas of New London County, Connecticut.* F.W. Beers and Company, New York, NY.

Bendremer, Jeffrey C. M., and R. Dewar
1994 The Advent of Maize Horticulture in New England. In *Corn and Culture in the Prehistoric New World*, edited by Sissel Johannssen and Christine A. Hastorf, pp. 369–393. Westview Press, Boulder, CO.

Bonnichsen, Robson, George L. Jacobsen Jr., Ronald. B. Davis, and Harold W. Borns Jr.
1985 The Environmental Setting for Human Colonization of Northern New England and Adjacent Canada in Late Pleistocene Time. In *Late Pleistocene History of Northeastern New England and Adjacent Quebec*, edited by Harold W. Borns, Jr., Pierre LaSalle and Woodrow. B. Thompson, pp. 151–160. The Geologic Society of America Special Paper 197, Boulder, CO.

Bragdon, Kathleen J.
1996 *Native Peoples of Southern New England, 1500–1650*. University of Oklahoma Press, Norman, OK.

Braun, David P.
1974 Explanatory Models for the Evolution of Coastal Adaptation in Prehistoric Eastern New England. *American Antiquity* 39(4):582–596.

Brennan, Louis A.
1982 Compilation of Fluted Points of Eastern North America by Count and Distribution: an ANEA Project. *Archaeology of Eastern North America* 10:27–46.

Bunker, Victoria
1992 Stratified Components of the Gulf of Maine Archaic Tradition at the Eddy Site, Amoskeag Falls. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Peterson, and Ann K. Robinson, pp. 135–148. Occasional Publications in Maine Archaeology, No. 9, Maine Historic Preservation Commission, Augusta, ME.

Cherau, Suzanne Glover
2001 Native Building Traditions in Southern New England: A Study of the Aquinnah Wampanoag Community, Martha's Vineyard. Paper presented at the 2001 Annual Meeting and Conference, Vernacular Architecture Forum, Mashantucket Pequot Museum and Research Center, Mashantucket, CT.

Cherau, Suzanne G., Ben Ford, and Matthew Kierstead
2003 *Historic/Archaeological Mapping and Testing, Ely Mine Site, Vershire, Vermont.* The Public Archaeology Laboratory Inc. Report No. 1386. Prepared for the U.S. Army Corps of Engineers, New England District, Concord, MA.

Crofut, Florence S. Marcy
1937 *Guide to the History and the Historic Sites of Connecticut.* Yale University Press, New Haven, CT.

Curran, Mary Lou, and Dena Dincauze
1977 PaleoIndians and Paleo-Lakes: New Data From The Connecticut Drainage. In *Amerinds and Their Paleoenvironments in Northeastern North America*, edited by W.S. Newman and B. Salwen, pp. 333–348. New York Academy of Sciences, New York, NY.

Deevey, Edward S., and Richard Foster Flint
1957 Postglacial Hypsithermal Interval. *Science*, Vol.125, pp. 182-184

Dincauze, Dena F.
1968 Cremation Cemeteries in Eastern Massachusetts. *Papers of the Peabody Museum of Archaeology and Ethnology* 59(1). Peabody Museum, Harvard University, Cambridge, MA.

1972 The Atlantic Phase: A Late Archaic Culture in Massachusetts. *Man in the Northeast* 4:40–61.

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

1975 The Late Archaic Period in Southern New England. *Arctic Anthropology* 12(2):23–34.

1976 *The Neville Site: 8,000 Years at Amoskeag, Manchester, New Hampshire.* Peabody Museum Monographs 4. Harvard University, Cambridge, MA.

1993 Fluted Points in the Eastern Forest. In *From Kostenki to Clovis: Upper Paleolithic–Paleo-Indian Adaptations*, edited by Olga Soffer and N. D. Praslov, pp. 279–292. Plenum Press, New York, NY.

Dincauze, Dena F., and Mitchell Mulholland
1977 Early and Middle Archaic Site Distributions and Habitats in Southern New England. *Annals of the New York Academy of Sciences* 288:439–456.

Doucette, Dianna
2005 Reflections of the Middle Archaic: A View from Annasnappet Pond. *Bulletin of the Massachusetts Archaeological Society* 66(1):22–33.

Doucette, Dianna, and John R. Cross
1997 *Annasnappet Pond Archaeological District, North Carver Massachusetts. An Archaeological Data Recovery Program*. The Public Archaeology Laboratory, Inc. Report No. 580. Prepared for US Department of Transportation, Federal Highway Administration and Massachusetts Highway Department, Boston, MA.

Doughton, Thomas L.
1997 Unseen Neighbors: Native Americans of Central Massachusetts, A People Who Had "Vanished." In *After King Philip's War: Presence and Persistence in Indian New England*. *England*, edited by Colin G. Calloway, pp. 207–230. University Press of New England, Hanover, NH.

1999 "Like the Shadows in the Stream": Local Historians, The Discourse of Disappearance and Nipmuc Indians of Central Massachusetts. Document on file, The Public Archaeology Laboratory Inc. (Abbreviated version presented at a meeting of the American Antiquarian Society, Worcester, MA, May 20, 1999.)

Dragoo, Don W.
1976 Some Aspects of Eastern North American Prehistory: A Review 1975. *American Antiquity* 41:3–27.

Dudek, Martin G.
2005 The Whortleberry Hill Site: An Early Holocene Camp in Dracut, MA. *Bulletin of the Massachusetts Archaeological Society* 66:12–21.

Dumont, John
1981 The PaleoIndian-Early Archaic Continuum: An Environmental Approach. *Archaeology of Eastern North America* 9:18–37.

Ellis, Christopher J., and D. Brian Deller
2000 *An Early Paleo-Indian Site near Parkhill, Ontario*. Canadian Museum of Civilization, Quebec, Canada.

Feder, Kenneth
1994 *A Village of Outcasts: Historical Archaeology and Documentary Research at the Lighthouse Site*. Mayfield Publishing Company, Mountain View, CA.

Fenneman, N. M.
1938 *Physiography of the Eastern United States*. McGraw-Hill, New York, NY.

Fiedel, Stuart J.
2001 What Happened in the Early Woodland? *Archaeology of Eastern North America* 29:101–142.

Filios, Elena L.
1989 The End of the Beginning or the Beginning of the End: The Third Millennium in Southern New England. *Man in the Northeast* 38:79–93.

1999 Critical Theory in the Backwater of New England: Retelling the Third Millennium. In *The Archaeological Northeast*, edited by Mary Ann Levine, Kenneth E. Sassaman, and Michael S. Nassaney, pp. 125–138. Bergin & Garvey, Westport, CT.

Fitting, James
1978 Regional Cultural Development, 300 B.C. to A.D. 1000. In *Handbook of North American Indians* Vol. 15:44–57.

Forrest, Daniel
1999 Beyond Presence and Absence: Establishing Diversity in Connecticut's Early Holocene Archaeological Record. *Bulletin of the Archaeological Society of Connecticut* 62:79–100.

Forrest, Daniel, Brian Jones, and Robert Thorson
2008 The Adriaen's Landing Project & the Development of the Connecticut River Floodplain at Harford. *Bulletin of the Archaeological Society of Connecticut* 70:5–16.

Forrest, Daniel, Michal S. Raber, Brian D. Jones, and Robert M. Thorson
2006 *Archaeological and Historical Resource Study Adriaen's Landing Project Hartford, Connecticut.* Archaeological and Historical Services, Inc., Storrs, CT.

Gibson, Susan G. (editor)
1980 *Burr's Hill: A Seventeenth Century Wampanoag Burial Ground in Warren, Rhode Island.* Haffenreffer Museum of Anthropology, Brown University, Providence, RI.

Gramly, Richard Michael
1982 The Vail Site: A Paleo-Indian Encampment in Maine. *Bulletin of the Buffalo Society of Natural Sciences* Vol. 30, Buffalo, NY.

Grumet, Robert Steven
1995 *Historic Contact: Indian People and Colonists in Today's Northeastern United States in the Sixteenth through Eighteenth Centuries*. University of Oklahoma Press, Norman, OK.

Harper, Mary, Bruce Clouette, and Daniel Forrest
2002 *Phase I Archaeological Reconnaissance Survey, Lowe's Regional Distribution Center Project, LAW Project No. 300720-5121, Plainfield, Connecticut*. PAST, Inc. CHPC Report No. 1103, Thomas J. Dodd Center, University of Connecticut, Storrs, CT.

Hart, John P., Robert G. Thompson, and Hetty Jo Brumbach
2003 Phytolith Evidence for Early Maize (Zea Mays) in the Northern Finger Lakes Region of New York. *American Antiquity* 68:619–640.

Hasenstab, Robert
1991 Wetlands as a Critical Variable in Predictive Modelling of Prehistoric Site Locations: A Case Study from the Passaic Basin. *Man in the Northeast* 42:39–61.

Hecker, Howard M.
1995 Jasper Flakes and Jack's Reef Points at Adams Point: Speculations on Interregional Exchange in Late Middle Woodland Times in Coastal New Hampshire. *The New Hampshire Archaeologist* 35(1):61–83.

Heitert, Kristen B., Duncan Ritchie, and Patricia Fragola
2000 *Archaeological Reconnaissance Survey, Realignment of Route 334, State Project 124-158, Seymour, Connecticut.* The Public Archaeology Laboratory, Inc. Report No. 1165. Submitted to State of Connecticut Department of Transportation, Newington, CT.

Herbster, Holly, and Suzanne G. Cherau
2002 *Archaeological Reconnaissance Survey, Town of Aquinnah, Martha's Vineyard Massachusetts*. The Public Archaeology Laboratory Inc. Report No. 1335. Submitted to the Massachusetts Historical Commission, Boston, MA, and Martha's Vineyard Commission, Martha's Vineyard, MA.

Herbster, Holly, and Deborah C. Cox
2002 *Archaeological Reconnaissance Survey, Town of Dartmouth, Dartmouth, Massachusetts*. The Public Archaeology Laboratory Inc. Report No. 1328. Submitted to Dartmouth Historical Commission, Dartmouth, MA, and Massachusetts Historical Commission, Boston, MA.

Herbster, Holly, and Kristen Heitert
2004 *Archaeological Reconnaissance Survey, Town of Westport, Westport, Massachusetts*. The Public Archaeology Laboratory Inc. Report No. 1494. Submitted to Westport Historical Society, Westport, MA.

Herzan, John
1997 *Historic Preservation in Connecticut, Volume V, Eastern Coastal Slope: Historical and Architectural Overview and Management Guide.* Connecticut Historical Commission, Hartford, CT.

Hopkins, G.M., Jr.
1859 *Clark's Map of New London County, Connecticut.* Richard Clark, Philadelphia, PA.

Hurd, D. Hamilton
1882 *History of New London County, Connecticut with Biographical Sketches.* J. W. Lewis & Co., Philadelphia, PA.

1893 *Atlas of the State of Connecticut.* D. H. Hurd & Co., Boston, MA.

Johnson, Eric S.
1999 Community and Confederation: A Political Geography of Contact Period Southern New England, pp. 155–168. In *The Archaeological Northeast*, edited by Mary Ann Levine, Kenneth Sassaman, and Michael S. Nassaney, pp. 155–168. Bergin & Garvey, Westport, CT.

Jones, Brian D.
1997 The Late Paleoindian Hidden Creek Site in Southeastern Connecticut. *Archaeology of Eastern North America* 25:45–80.

1999 The Middle Archaic Period in Connecticut: The view from Mashantucket. *Bulletin of the Archaeological Society of Connecticut* 62:101–124.

Jones, Brian D., and Daniel T. Forrest
2003 Life in a Postglacial Landscape: Settlement-Subsistence Change during the Pleistocene-Holocene Transition in Southern New England. In *Geoarchaeology of Landscapes in the Glaciated Northeast*, edited by David L. Cremeens and John P. Hart. University of the State of New York, Albany, NY.

Jones, Olive, and Catherine Sullivan
1989 *The Parks Canada Glass Glossary*. Revised edition. National Historic Parks and Sites Branch, Parks Canada, Environment Canada, Quebec, Canada.

Juli, Harold D., and Kevin A. McBride
1984 The Early and Middle Woodland Periods of Connecticut Prehistory: Focus on the Lower Connecticut River Valley. *Bulletin of the Archaeological Society of Connecticut* 47:89–98.

Kelley, Joseph. T., Daniel. F. Belknap and Alice. R. Kelley
2013 A Model for Drowned Terrestrial Habitats with Associated Archaeological Remains in the Northwest Gulf of Maine, USA. *Marine Geology* 338:1-16.

Kelly, Robert L., and Lawrence C. Todd
1988 Coming Into the Country: Early PaleoIndian Hunting and Mobility. *American Antiquity* 53(2):231–244.

Kerber, Jordan E. (editor)
2006 *Cross-Cultural Collaboration.* University of Nebraska Press, Lincoln, NE.

King, Marsha
1988 Historic Site Location in Large Project Areas. Paper presented at the 28th Annual Meeting of the Northeastern Anthropological Association, Albany, NY.

Kintigh, Keith
1992 *Tools for Quantitative Archaeology, Programs for Quantitative Analysis in Archaeology*. Department of Anthropology, Arizona State University, Tempe, AZ.

Kostiw, Scott F.
1995 A Fresh New Look at the Middle Woodland Period in Northeastern North America. *Bulletin of the New York Archaeological Association* 110:38–45.

Kuehn, Steven R.
1998 New Evidence for Late PaleoIndian-Early Archaic Subsistence Behavior in the Western Great Lakes. *American Antiquity* 63(3):457–476.

Lavin, Lucianne
1988a Coastal Adaptation in Southern New England and Southern New York. *Archaeology of Eastern North America* 16:101–120.

1988b The Morgan Site, Rocky Hill, Connecticut: A Late Woodland Farming Community in the Connecticut River Valley. *Bulletin of the Archaeological Society of Connecticut* 51:7–22.

Lavin, Lucianne, and Lyent W. Russell
1985 Excavations of the Burwell-Karako Site: New Data on Cultural Sequences and Artifact Typologies in Southern New England. *Archaeological Society of Connecticut Bulletin* 48:45–76.

Lester, William
1833 *Map of New London and Windham Counties in Connecticut*. Daggett & Ely, New Haven, CT.

Leveillee, Alan
1999 Transitional Archaic Ideology as Reflected in Secondary Burials at the Millbury III Cremation Complex. *Archaeology of Eastern North America* 27:157–183.

2002 *An Old Place, Safe and Quiet: A Blackstone River Valley Cremation Burial Site.* Bergin & Garvey, Westport, CT.

Leveillee, Alan, RPA, and Deborah C. Cox, RPA
2011 *Archaeological Site Examination New England East-West Solution Interstate Reliabillity Project 366 (MA) Line, Millbury, Sutton, Northbridge, Douglas, and Uxbridge, Massachusetts*. The Public Archaeology Laboratory, Inc. Report No. 2172.05. Submitted to New England Power Company d/b/a National Grid, Waltham, MA.

Little, Barbara, Erika Martin Seibert, Jan Townsend, John H. Sprinkle Jr., and John Knoerl
2000 *Guidelines for Evaluating and Registering Archeological Properties*. National Register Bulletin No. 36. U.S. Department of the Interior, National Park Service, National Register, History and Education, Washington, D.C.

MacDonald, George F.
1985 *Debert: A Paleo-Indian Site in Central Nova Scotia*. Persimmon Press, Buffalo, NY.

Massachusetts Historical Commission
1982a *Historic and Archaeological Resources of Southeast Massachusetts.* Massachusetts Historical Commission, Boston, MA.

1982b *Historic and Archaeological Resources of the Boston Area: A Framework for Preservation Decisions.* Massachusetts Historical Commission, Boston, MA.

1984 *Historic and Archaeological Resources of the Connecticut Valley.* Massachusetts Historical Commission, Boston, MA.

Maymon, Jeffrey H., and Charles E. Bolian
1992 The Wadleigh Falls Site: An Early and Middle Archaic Period Site in Southeastern New Hampshire. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Peterson, and Ann K. Robinson, pp. 117–134. Occasional Publications in Maine Archaeology, No. 9, Maine Historic Preservation Commission, Augusta, ME.

McBride, Kevin A.
1978 Archaic Subsistence in the Lower Connecticut River Valley: Evidence from Woodchuck Knoll. *Man in the Northeast* 5:124–131.

1984a Prehistory of the Lower Connecticut River Valley. Unpublished Ph.D. dissertation, Department of Anthropology, University of Connecticut, Storrs, CT.

1984b Middle and Late Archaic Periods in the Connecticut River Valley: A Re-Examination. *Connecticut Archaeological Society Bulletin* 47:55–71.

McBride, Kevin A., and Robert E. Dewar
1987 Agriculture and Cultural Evolution: Causes and Effects in the Lower Connecticut River Valley. In *Emergent Horticultural Economies of the Eastern Woodlands*, edited by William F. Keegan, pp. 305–328. Center for Archaeological Investigations, Occasional Papers No. 7, Southern Illinois University, Carbondale, IL.

McBride, Kevin A., and Mary G. Soulsby
1989 *Prehistory of Eastern Connecticut Phase I, II and III Archaeological Surveys—Relocation of Route 6/I-84 Project*. The Public Archaeology Survey Team, Inc. Submitted to the Connecticut Department of Transportation, Wethersfield, CT.

McGuire, Randall H., and Robert Paynter
1991 *The Archaeology of Inequality*. Basil Blackwell, Oxford, England.

McManamon, Francis P.
1990 A Regional Perspective on Assessing the Significance of Historic Period Sites. *Historical Archaeology* 24(2):14–22.

McWeeney, Lucinda and Douglas. C. Kellogg
2001 Early and Middle Holocene Climate Changes and Settlement Patterns Along the Eastern Coast of North America. *Archaeology of Eastern North America* 29:187-212.

Meltzer, David J., and Bruce D. Smith
1986 PaleoIndian and Early Archaic Subsistence Strategies in Eastern North America. In *Foraging, Collecting, and Harvesting: Archaic Period Subsistence and Settlement in the Eastern Woodlands*, edited by Sarah W. Neusius, pp. 3–31. Center for Archaeological Investigations Occasional Papers No. 6, Southern Illinois University, Carbondale, IL.

Miller, George L.
1980 Classification and Economic Scaling of Nineteenth Century Ceramics. *Historical Archaeology* 14(1):1–40.

1991 A Revised Set of CC Index Values for Classification and Economic Scaling of English Ceramics from 1787 to 1880. *Historical Archaeology* 25(1):1–25.

2000 Telling Time for Archaeologists. *Northeast Historical Archaeology* 29:1–22.

Moeller, Roger W.
1980 6LF21: A PaleoIndian Site in Western Connecticut. *American Indian Archaeological Institute, Occasional Paper, Issue No. 2.*

1984 Regional Implications of the Templeton Site for Paleo-Indian Lithic Procurement and Utilization. *North American Archaeologist* 5(3):235–245.

Mulholland, Mitchell T.
1984 Patterns of Change in Prehistoric Southern New England: A Regional Approach. Unpublished Ph.D. dissertation, Department of Anthropology, University of Massachusetts, Amherst, MA.

1988 Territoriality and Horticulture: A Perspective for Prehistoric Southern New England. In *Holocene Human Ecology in Northeastern North America*, edited by George P. Nicholas, pp. 137–164. Plenum Press, New York, NY.

National Park Service (NPS)
1983 *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716–44742). National Park Service, U.S. Department of the Interior, Washington, D.C.

2002 *National Register Bulletin – How to Apply the National Register Criteria for Evaluation.* U.S. Department of the Interior, National Park Service, Washington, D.C. Latest electronic version dated 2002: http://www.nps.gov/history/nr/publications/bulletins/nrb15/.

Nicholas, George P.
1987 Rethinking the Early Archaic. *Archaeology of Eastern North America* 15:99–123.

1988 *Holocene Human Ecology in Northeastern North America*. Plenum Press, New York, NY.

1991 Places and Spaces: Changing Patterns in Wetland Use in Southern New England. *Man in the Northeast* 42:75–98.

Noël Hume, Ivor
1969 *A Guide to the Artifacts of Colonial America*. Random House, New York, NY.

2001 *If the Pots Could Talk: Collecting 2,000 Years of British Household Pottery*. Chipstone Foundation, Milwaukee, WI.

Ogden, J. Gordon
1977 The Late Quaternary Paleoenvironmental Record of Northeastern North America. *Annals of the New York Academy of Sciences* 288:16–34.

Pagoulatos, Peter
1986 Terminal Archaic Settlement and Subsistence in the Connecticut River Valley. Ph.D. Dissertation, University of Connecticut.

1988 Terminal Archaic Settlement and Subsistence in the Connecticut River Valley. *Man in the Northeast* 35:71–94.

Parker, Patricia, and Thomas F. King
1998 *Guidelines for Evaluating and Documenting Traditional Cultural Properties.* National Register Bulletin No. 38. U.S. Department of the Interior, National Park Service, National Register, History and Education, Washington, D.C.

Paynter, Robert
1979 *Ecological Anthropology of the Middle Connecticut River Valley*. Department of Anthropology, University of Massachusetts, Amherst, MA.

Pfeiffer, John
1980 The Griffin Site: A Susquehanna Cremation Burial in Southern Connecticut. *Man in the Northeast* 19:129–133.

1984 The Late and Terminal Archaic Periods of Connecticut's Prehistory. *Bulletin of the Archaeological Society of Connecticut* 47:73–88.

1986 Dill Farm Locus I: Early and Middle Archaic Components in Southern New England. *Bulletin of the Archaeological Society of Connecticut,* 49:19–35.

1990 The Late and Terminal Archaic Periods of Connecticut Prehistory: A Model of Continuity. In *Experiments and Observations on the Terminal Archaic of the Middle Atlantic Region,* edited by Roger W. Moeller, pp. 85–104. Archaeological Services, Bethlehem, PA.

Plummer, Dale S.
1981 *North Stonington Village National Register of Historic Places Nomination.* On file at the Connecticut Historical Commission, Hartford, CT.

Poirier, David
1987 *Environmental Review Primer for Connecticut Archaeological Resources*. Connecticut Historical Commission, Hartford, CT.

Raber, Michael S.
2008 *Historical and Archaeological Assessment for the Connecticut Light & Power Company Interstate Reliability Project, Municipal Consultation Filing, Towns of Lebanon, Columbia, Coventry, Mansfield, Chaplin, Hampton, Brooklyn, Pomfret, Killingly, Putnam, Thompson, and Windham, Connecticut*. Submitted to Burns & McDonnell Engineering Company, Inc., Kansas City, MO.

Reimer, PJ, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell, C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes, TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer, FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo, CSM Turney, J van der Plicht, CE Weyhenmey
2009 *Radiocarbon* Intcal 109 and Marine 09 Radiocarbon age Callibration Curves, 0-50,000 years cal BP. 51:1111-1150

Rhode Island Historical Preservation Commission (RIHPC)
1982 *Standards for Archaeological Survey*. Rhode Island Historical Preservation Commission, Providence, RI.

Ritchie, William A.
1969 *The Archaeology of Martha's Vineyard*. Natural History Press, Garden City, NY.

1971 *A Typology and Nomenclature for New York Projectile Points*. Revised edition. New York State Museum and Science Service Bulletin 384, Albany, NY.

1980 *The Archaeology of New York State.* Harbor Hill Books, Harrison, NY.

Ritchie, Duncan, Marsha K. King, and Martha Lance
1988 *Archaeological Survey of Westville Dam and Reservoir in Southbridge and Sturbridge, Massachusetts*. The Public Archaeology Laboratory Inc. Report No. 158-2. Submitted to IEP, Inc., Northborough, MA and the Army Corps of Engineers, New England Division, Waltham, MA.

Roberts, Neil
1989 *The Holocene: An Environmental History*. Blackwell Publishers Inc., Malden, MA.

Robinson, Brian S.
1992 Early and Middle Archaic Period Occupation in the Gulf of Maine Region: Mortuary and Technological Patterning. In *Early Holocene Occupation in Northern New England,* edited by Brian S. Robinson, James B. Petersen, and Ann K. Robinson, pp. 63–116. Occasional Publications in Maine Archaeology No. 9, Maine Historic Preservation Commission, Augusta, ME.

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

Robinson, Brian S., Jennifer C. Ort, William A. Eldridge, Adrian L. Burke, and Bertrand G. Pelletier
2009 PaleoIndian Aggregation and Social Context at Bull Brook. *American Antiquity* 74(3):423–447.

Robinson, Paul, Marc Kelley, and Patricia E. Rubertone
1985 Preliminary Biocultural Interpretations from a Seventeenth-Century Narragansett Indian Cemetery in Rhode Island. In *Cultures in Contact: The European Impact on Native Cultural Institutions in Eastern North America, A.D. 1000–1800*. Smithsonian Institution, Washington, D.C.

Rogers, John
1985 *Bedrock Geologic Map of Connecticut*. Connecticut Geological and Natural History Survey, Department of Environmental Protection, Hartford, CT.

Roman, Charles T., Norbert Jaworski, Frederick T. Short, Stuart Findlay and R. Scott Warren
2000 Estuaries of the Northeastern United States: Habitat and Land Use Signatures. *Estuaries* 23(6):743-764.

Sandweiss, Danial H., Kirk A. Maasch, and David. G. Anderson
1999 Climate and Culture: Transitions in the Mid-Holocene. *Science* 283:499–500.

Sassaman, Kenneth E.
1999 A Southeastern Perspective on Soapstone Vessel Technology in the Northeast. In *The Archaeological Northeast,* edited by Mary Ann Levine, Kenneth E. Sassaman, and Michael S. Nassaney, pp. 75–95. Bergin & Garvey, Westport, CT.

Scott, Elizabeth M.
1994 *Those of Little Note: Gender, Race, and Class in Historical Archaeology*. University of Arizona Press, Tucson, AZ.

Simmons, William S.
1970 *Cautantowwit's House: An Indian Burial Ground on the Island of Conanicut in Narragansett Bay*. Brown University Press, Providence, RI.

Simon, Brona G.
1991 Prehistoric Land Use and Changing Paleoecological Conditions at Titicut Swamp in Southeastern Massachusetts*. Man in the Northeast* 42:63–74.

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

Soulsby, Mary G., Robert R. Gradie, and Kevin A. McBride
1981 *Phase II Archaeological Survey, U.S. Navy Housing Project, Groton, Connecticut.* Public Archaeology Survey Team, Inc. Submitted to the U.S. Department of the Navy. On file, Connecticut Historical Commission, Hartford, CT.

South, Stanley A.
1977 *Method and Theory in Historical Archaeology.* Academic Press, New York, NY.

Spencer, Linda S.
1993 *Historic Preservation in Connecticut, Vol. II, Eastern Uplands: Historical and Architectural Overview and Management Guide.* Prepared for the Connecticut Historical Commission, Hartford, CT.

Spiess, Arthur, Deborah Wilson, and James Bradley
1998 PaleoIndian Occupation in the New England-Maritimes Region: Beyond Cultural Ecology. *Archaeology of Eastern North America* 26:201–264.

Stoltman, James B., David S. Brose, Ian W. Brown, Robert C. Dunnell, L. S. Klejn,William Meacham, Dan F. Morse, George H. Odell, Mario A. Rivera and William A. Starna
1978 Temporal Models in Prehistory: An Example from Eastern North America [and Comments and Reply]. *Current Anthropology* 19(4):703-746.

Stone, George H.
1986 *Cracker Barrel Chronicle II.* North Stonington Historical Society.

Stork, Peter L. and Arthur Spiess
1994 The Significance of New Faunal Identifiacations Attributed to an Early PaleoIndian (Gainey Complex) Occupation at the Udora Site, Ontario, Canada. *American Antiquity* 59(1):121-142.

Stothers, David M.
1996 Resource Procurement and Band Territories: A Model for Lower Great Lakes PaleoIndian and Early Archaic Settlement Systems. *Archaeology of Eastern North America* 24:173–216.

Thorbahn, Peter F.
1982 *The Prehistoric Settlement Systems of Southern New England: Final Report of The Interstate 495 Archaeological Data Recovery Program,* Vol. I. Public Archaeology Laboratory, Department of Anthropology, Brown University Report. Submitted to the Massachusetts Department of Public Works, Boston, MA.

Thorbahn, Peter, F., Leonard Loparto, Deborah Cox, and Brona Simon
1980 *Prehistoric Settlement Processes in Southern New England: A Unified Approach to Cultural Resource Management and Archaeological Research.* Public Archaeology Laboratory, Department of Anthropology, Brown University Report. On file, Massachusetts Historical Commission, Boston, MA.

United States Department of Agriculture (USDA)
1981 *Survey of Windham County, Connecticut.* Soil Conservation Service. U.S. Government Printing Office, Washington, D.C.

2020 Natural Resources Conservation Service Web Soil Survey: Soils for Plainfield, Connecticut. Electronic document, http://websoilsurvey.nrcs.usda.gov/app/, accessed 2019.

Wadleigh, W.K Furbish, Kevin McBride, and Robert Dewar
1979 *The Northeast Highlands Archaeological Survey: Tolland, Mansfield and Willington, Connecticut*. Archaeological Research Monograph No. 2. Prepared for the Connecticut Historical Commission. PAST, Inc., Storrs, CT.

Waguespack, Nicole M., and Todd A. Surovell
2003 Clovis Hunting Strategies, or How to Make Out on Plentiful Resources. *American Antiquity* 68(2):333–352.

Walling, H.F.
1854 *Map of New London County, Connecticut.* William E. Baker, Philadelphia, PA.

Weeks, Janice
1971 Steatite Tempered Pottery in New England. *Man in the Northeast* 2:103–104.

Wiegand, Ernest A.
2008 *Archaeological Data Recovery for Connecticut Light & Power Company Wilton 35A Substation Project*, Raber Associates, CHPC no. 1636

Youngken, Richard C. and Jennifer M. Lutke
1997 *Historic Resources Survey: North Stonington, Connecticut.* On file at the Connecticut Historical Commission, Hartford, CT.

APPENDIX A

CATALOG OF CULTURAL MATERIALS

Appendix A. Catalog of Cultural Materials, North Stonington Solar, Reconnaissance Survey.

Provenience	Material	Object	Attributes	Color(s)	Manufacture Date	Makers Mark	Count
Non-Site							
JTP-05 0-0, Surface	Machine Made Glass	Bottle/Jar Toiletry Jar	Complete	White	1901+	☑	1
Surface 0-0, Surface	Copper Alloy	Bell	Complete	Silver		☐	1
TAD-04 10-20, A1	Glass	Flat Glass Window Glass	Fragment	Colorless		☐	2
TAG-04 10-20, A1	Glass	Flat Glass Window Glass	Fragment	Aqua Tint		☐	1
TAJ-01 0-10, A1	Whiteware	Ceramic Sherd	Body			☐	2
TAP-01 10-20, A1	Pearlware	Ceramic Sherd	Body		1779 1830	☐	3
TAT-02 20-30, A1	Whiteware	Ceramic Sherd	Body		1820 Present	☐	1
TAT-03 20-30, A1	Creamware	Ceramic Sherd	Body		1762 1820	☐	2
TT-01 10-20, A1	Whiteware	Ceramic Sherd	Body		1820 Present	☐	1
						Total	**14**

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: North Stonington Solar Project – Cultural Resources Assessment Report
Providence-New London Turnpike
North Stonington, 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 124 acres on the south side of the Providence-New London Turnpike with additional access from Cranberry Bog Road to the west and Boom Bridge Road to the east. 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).

SHPO appreciates the well-researched and written project assessment. As noted in your submission, although no archaeological sites or properties are listed on the National Register of Historic Places (NRHP) have been recorded within the project parcel, the area has never been subjected to a formal cultural resources survey. SHPO concurs with the assessment report that the identified dam is a common design that is not eligible for listing on the NRHP. During the assessment survey, the historic Allen Cemetery also was identified and documented. We understand that there are no planned impacts to this cemetery or its immediate vicinity. However, as noted in the assessment report, it is not uncommon for graves to exist outside of the boundary walls of cemeteries of this age. SHPO concurs with the 30 meter buffer and recommends that it is indicated on the ground to prevent construction related impacts and that the cemetery with buffer be marked as a sensitive resource area on construction maps. With these precautions taken into consideration, it is our opinion that no additional recordation of the cemetery is required. If, however, these conditions cannot be met, our office requests additional consultation regarding the potential need for additional surveys or monitoring.

Connecticut

Department of Economic and Community Development

State Historic Preservation Office

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. We are therefore requesting that a professional archaeological reconnaissance survey be completed prior to construction of those areas identified as having a moderate or high potential for containing intact archaeological deposits, totaling approximately 54 to 57 acres. This office recognizes that portions of the project area have been subjected to significant previous ground disturbing activities and no additional recordation of these areas or other locations characterized as having a low potential for containing significant archaeological sites is warranted. 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.

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