



Department of Economic and
Community Development

State Historic Preservation Office

March 18, 2020

Mr. David R. George
Heritage Consultants
PO Box 310249
Newington, CT 06131

Subject: Phase IA Cultural Resources Assessment Survey
Proposed Boombridge Solar Facility
233 Boombridge Road
North Stonington, Connecticut
ENV-20-0570

Dear Mr. George:

The State Historic Preservation Office (SHPO) has reviewed the archeological survey report prepared by Heritage Consultants, LLC (Heritage), dated June 2019. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). The proposed facility includes the installation of an 54 acre solar photovoltaic (PV) electric generating facility located within an approximately 130 acre parcel, bounded by Interstate 95 and forested land to the north, to the east by additional forested areas, and to the south and west by cleared land. The submitted report is well-written, comprehensive, and meets the standards set forth in the *Environmental Review Primer for Connecticut's Archaeological Resources*.

The proposed facility includes solar panels on racking, buried electrical lines, inverters, transformers, access road, and fencing around the perimeter of the facility. The reconnaissance survey consisted of a contextual overview of the area's prehistory, history, and natural setting, literature to identify previously completed cultural resource surveys and recorded sites, review of historic maps, pedestrian survey of the study area, and preparation of a current archaeological assessment report.

The Phase IA assessment survey identified that the majority of the project area possesses low potential to retain intact archeological deposits, due to steep slopes, poorly drained soils, and previous ground disturbance, including tree clearing, stumping, and soil stripping. However, a 2.4 acre portion of the study area, an agricultural field located in the southwest portion of the subject area, is characterized by low to moderate sloping terrain and well drained soils. This type of setting retains a moderate to high degree to contain intact archaeological deposits.

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We therefore recommend that a Phase IB professional cultural resources assessment and reconnaissance survey that includes subsurface testing techniques be completed in the 2.4 acre area identified as having moderate to high archaeological sensitivity and will be impacted by the proposed solar project prior to construction. All work 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 the opportunity to review and comment upon this project. These comments are provided in accordance with the Connecticut Environmental Policy Act. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,

A handwritten signature in blue ink that reads "Mary B. Dunne". The signature is fluid and cursive, with a long horizontal line extending from the end.

Mary B. Dunne
State Historic Preservation Officer

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JUNE 2019

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF THE
PROPOSED BOOMBRIDGE SOLAR CENTER IN
NORTH STONINGTON, CONNECTICUT

PREPARED FOR:



180 JOHNSON STREET
MIDDLETOWN, CONNECTICUT 06457

PREPARED BY:



P.O. Box 310249
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ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for the proposed Boombridge Solar Center at 233 Boombridge Road in North Stonington, Connecticut. The project area associated with this solar center encompasses approximately 54 acres of land. The current investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historic maps and aerial imagery depicting the project area to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project area to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report. The results of the survey indicate that a 2.4 acre portion of a corn field located along the western half of the project area retains a moderate/high sensitivity for intact archaeological deposits. The remaining 51.6 acres possess a no/low archaeological sensitivity. Phase IB cultural resources survey is recommended for the identified 2.4 acre moderate/high sensitivity area prior to construction of the proposed solar center. No additional archaeological examination of the remainder of the project area is recommended.

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CHAPTER I

INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for the proposed Boombridge Solar Center in North Stonington, Connecticut (Figure 1). Vanasse Hangen Brustlin, Inc., (VHB) requested that Heritage Consultants, LLC (Heritage) complete the assessment survey as part of the planning process for the proposed solar center, which will occupy approximately 54 acres of land within a larger 130-acre parcel of land at 233 Boombridge Road. The proposed 54 acre development area is hereafter referred to as the project area. The project area is bordered to the north by Interstate 95 and forest, to the east by more mixed forest, and to the south and west by cleared land and agricultural fields. Heritage completed this investigation on behalf of VHB in June of 2019. All work associated with this project was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987) promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The proposed project will include the installation of a proposed solar center, which will include solar panel on racking, buried electrical lines, inverters, transformers, an access road leaving to the facility, and fencing around the project parcel. This Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the region encompassing the project area; 3) a review of readily available historic maps and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project area in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Project Results and Management Recommendations Overview

The review of historic maps and aerial images of the project area, files maintained by the CT-SHPO, as well as pedestrian survey of the project area, resulted in the identification of four previously identified archaeological sites in the vicinity of the project area (Sites 102-5, 102-6, 102-7, and 102-10). All four sites are prehistoric sites where lithic artifacts were recovered, and their presence demonstrates archaeological resources exist in the region containing the project area. The four prehistoric sites are discussed further in Chapter V of this document. In addition, Heritage combined data from the historic map and aerial image analysis, and the pedestrian survey to stratify the project area into zones of no/low and/or moderate/high archaeological sensitivity. Upon completion of the above-referenced analysis and pedestrian survey, it was determined that 2.4 ac of land within the project area contained low slopes and well-drained soils in proximity to wetlands to the north. As a result, it was determined that this 2.4 ac area may contain intact archaeological deposits. The remaining 51.6 ac were considered to possess a no/low sensitivity for containing intact archaeological deposit due to steep slopes, poorly drained soils and previous ground disturbing activity including tree-clearing, stumping and soil stripping. Phase IB cultural resources survey is recommended for the identified 2.4 acre moderate/high sensitivity

area prior to construction of the proposed solar center. No additional archaeological examination of the remainder of the project are is recommended.

Project Personnel

Key personnel for this project included Mr. David R. George, M.A., R.P.A, who served as Principal Investigator for this effort; he was assisted by Mr. Antonio Medina, B.A., (Field Director) who completed the field work portion of the project and who assisted with report preparation. Dr. Kristen Keegan completed this historic background research of the project and contributed to the final report, while Mr. Stephen Anderson completed all GIS tasks associated with the project. Finally, Ms. Elizabeth Correia assisted in the compilation of the report and the associated figures.

Organization of the Report

The natural setting of the region encompassing the project area is presented in Chapter II; it includes a brief overview of the geology, hydrology, and soils, of the project region. The prehistory of the project region is outlined briefly in Chapter III. The history of the region encompassing the project region and project area is chronicled in Chapter IV, while a discussion of previous archaeological investigations in the vicinity of the project area is presented in Chapter V. The methods used to complete this investigation are discussed in Chapter VI. Finally, the results of this investigation and management recommendations for the project area and the identified cultural resources are presented in Chapter VII.

CHAPTER II

NATURAL SETTING

Introduction

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

Ecoregions of Connecticut

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

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

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

Eastern Coastal Ecoregion

The Eastern Coastal ecoregion region is characterized by level to rolling topography that varies from sea level to 122 m (400 ft) above mean sea level; topographic relief reaches its maximum in this ecoregion where substantial rock outcrops occur (Dowhan and Craig 1976). The bedrock of the ecoregion is composed of metamorphic and igneous gneisses, schists, and granites dating from the Paleozoic Period (Bell 1985; Dowhan and Craig 1976:40). Soils in this ecoregion are developed on glacial till in the uplands, on local deposits of stratified sand, gravel and silt in the valleys, and on coastal and tidal deposits on the shores and estuaries (Dowhan and Craig 1976).

Hydrology in the Vicinity of the Project area

The project area is situated within a region that contains to several sources of freshwater, including the Pawcatuck River and Lewis Pond, as well as unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction areas for Native American and historic populations.

Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources.

Soils Comprising the Project area

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

A review of the soils within the project area is presented below. The project area is characterized by the presence of three major soil types which are Canton/Charlton, Sutton, and Charlton/Chatfield (Figure 2). A review of these soils shows that they consist of well drained sandy loams; they are the types of soils that are typically correlated with prehistoric and historic use and occupation. Descriptive profiles for each soil type are presented below; they were gathered from the National Resources Conservation Service.

Canton and Charlton Soils

Oi -- 0 to 5 cm; slightly decomposed plant material; (0 to 13 cm thick). **A** -- 5 to 13 cm; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; common fine roots; 5 percent gravel; very strongly acid (pH 4.6); abrupt smooth boundary. (3 to 10 cm thick). **Bw1** -- 13 to 30 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; very strongly acid (pH 4.6); clear smooth boundary. **Bw2** -- 30 to 41 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent gravel; strongly acid (pH 5.1); clear smooth boundary. **Bw3** -- 41 to 56 cm; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky; friable; common fine and medium roots; 15 percent gravel; strongly acid (pH 5.1); abrupt smooth boundary. (Combined thickness of the Bw horizons is 43 to 84 cm). **2C** -- 56 to 170 cm; grayish brown (2.5Y 5/2) gravelly loamy sand; massive; friable; 25 percent gravel; moderately acid (pH 5.6).

Sutton Soils:

A typical profile associated with Sutton soils is as follows: **Oe** -- 0 to 2 cm; black (10YR 2/1) moderately decomposed forest plant material. (0 to 8 cm thick). **A** -- 2 to 15 cm; very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; 5 percent gravel; strongly acid; clear wavy boundary. (2 to 25 cm thick). **Bw1** -- 15 to 30 cm; brown (7.5YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine and medium roots; 10 percent gravel and cobbles; moderately acid; gradual wavy boundary. **Bw2** -- 30 to 61 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; few medium roots; 10 percent gravel and cobbles; common fine and medium prominent light brownish gray (2.5Y 6/2) iron depletions and yellowish red (5YR 5/6) masses of iron accumulation; moderately acid; gradual wavy boundary. **Bw3** -- 61 to 71 cm; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent gravel and cobbles; common medium prominent light

brownish gray (2.5Y 6/2) iron depletions and reddish brown (5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation; moderately acid; gradual wavy boundary. (Combined thickness of the Bw horizon is 35 to 92 cm.) **C1** -- 71 to 91 cm; brown (10YR 5/3) gravelly fine sandy loam; weak thick platy structure; firm; 15 percent gravel and cobbles; common medium distinct light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron concentrations; moderately acid; gradual wavy boundary. (15 to 51 cm thick). **C2** -- 91 to 165 cm; light olive brown (2.5Y 5/4) gravelly sandy loam; massive; friable; 25 percent gravel and cobbles; moderately acid.

Charlton and Chatfield Soils:

A typical profile associated with Charlton/Chatfield soils is as follows: **Oe** -- 0 to 4 cm; black (10YR 2/1) moderately decomposed forest plant material; **A** -- 4 to 10 cm; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent gravel; very strongly acid; abrupt smooth boundary; **Bw1** -- 10 to 18 cm; brown (7.5YR 4/4) fine sandy loam; weak coarse granular structure; very friable; many fine and medium roots; 5 percent gravel; very strongly acid; clear wavy boundary; **Bw2** -- 18 to 48 cm; yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; 10 percent gravel and cobbles; very strongly acid; clear wavy boundary; **Bw3** -- 48 to 69 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; massive; very friable; few medium roots; 15 percent gravel and cobbles; very strongly acid; abrupt wavy boundary; and **C** -- 69 to 165 cm; grayish brown (2.5Y 5/2) gravelly fine sandy loam with thin lenses of loamy sand; massive; friable, some lenses firm; few medium roots; 25 percent gravel and cobbles; strongly acid.

Summary

The natural setting of the area containing the proposed Boombridge Solar Center is common throughout the Eastern Coastal ecoregion. Streams and rivers of this area empty into the Pawcatuck River, which in turn drains into the Long Island Sound. Further, the landscape in general is dominated by sandy loamy soil types with some wetland soils intermixed. In addition, low slopes dominate the region. Thus, in general, the project region was well suited to Native American occupation throughout the prehistoric era. As a result, archaeological sites have been documented in the larger project region, and additional prehistoric cultural deposits may be expected within the undisturbed portions of the proposed project area. This portion of North Stonington was also used throughout the historic era, as evidenced by the presence of numerous historic residences and agricultural fields throughout the region; thus, archaeological deposits dating from the last 350 years or so may also be expected near or within the proposed project area.

CHAPTER III

PREHISTORIC SETTING

Introduction

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

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

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals.

While there have been numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only two sites, the Templeton Site (6-LF-21) in Washington, Connecticut and the Hidden Creek Site (72-163) in Ledyard, Connecticut, have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980). The Templeton Site (6-LF-21) is located in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of graters, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The only other Paleo-Indian site studied in detail in Connecticut is the Hidden Creek Site (72-163) (Jones 1997). The Hidden Creek Site is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut. While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, graters, and end-scrapers.

Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

While archaeological evidence for Paleo-Indian occupation is scarce in Connecticut, it, combined with data from the West Athens Road and King's Road Site in the Hudson drainage and the Davis and Potts Sites in northern New York, supports the hypothesis that there was human occupation of the area not long after ca. 12,000 B.P. (Snow 1980). Further, site types currently known suggest that the Paleo-Indian settlement pattern was characterized by a high degree of mobility, with groups moving from region to region in search of seasonally abundant food resources, as well as for the procurement of high-quality raw materials from which to fashion stone tools.

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

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

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

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

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

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is located in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville

Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740 \pm 280 and 7,015 \pm 160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910 \pm 180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

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

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

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m² (5,383 ft²). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

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

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

The Terminal Archaic, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for

regional archeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the “coeval” Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several BROADSPEAR projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna BROADSPEAR, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984; Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna BROADSPEAR projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

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

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

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

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

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

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

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence

remains, including specimens of White-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

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

The Middle Woodland Period is marked by an increase in the number of ceramic types and forms utilized (Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types indicative of the Middle Woodland Period includes Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

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

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

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

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac

Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For the majority of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV

HISTORIC OVERVIEW

Introduction

As is discussed in Chapter I of the document, the project area consists of a 54-acre area within a large hectare 130-acre parcel situated in the southeastern corner of the town of North Stonington in New London County, Connecticut. This is a largely rural area in a largely rural small town, despite the construction of Interstate 95 and some housing development. The remainder of this chapter provides an overview history of the region, as well as historical data specific to the proposed solar center area.

Contact Era and Native American History of the Town of Stonington

The town of North Stonington lies within the region taken from the Pequot Tribe in the Pequot War of 1636-1637. This war was waged against them by an alliance of the Massachusetts Bay Colony, Connecticut Colony, and the Mohegan Native Americans. At that time, the main settlements of the Pequots were located in the what is now the neighboring town of Groton. One of their fortifications was on the Groton heights “a little southeast of Fort [G]riswold,” where the sachem Sassacus resided. The other was positioned near the Mystic River, and was the location of the famous battle during which the Pequots were attacked in an assault led by Captain John Mason in 1637 (Barber 1837:311). According to historical reports, Sassacus and his people destroyed the fort on Groton heights and fled after this incident; however, Sassacus was eventually captured and killed.

At the close of the war, the surviving members of the Pequot tribe were divided among the victorious participants, including both colonists and Mohegans. The colonists sold many of the prisoners into slavery in the Caribbean. Although the colonists expected the Pequot community to cease to exist at the close of the war, two groups of Pequots reconstituted themselves. Eventually, Connecticut granted them reservation lands in what are now the towns of Ledyard and North Stonington and they became known as the Mashantucket and Eastern Pequots, respectively. During the later twentieth century, the Mashantucket Pequot group in Ledyard successfully took advantage of federal laws regarding Native Americans to secure federally recognized status, and established a casino in Ledyard (Hauptman and Wherry 1990).

At the time of the Pequot War, the Mohegan tribe of Native Americans was based in what is now the town of Montville and areas further to the north. After the war their leader, Uncas, successfully used English ideas concerning monarchical sovereignty to claim much of northern New London County as his personal property. In 1659, he sold approximately nine square miles of this land to English colonists; this area was developed into the town of Norwich and its daughter towns (Crofut 1937; Guilette 1979). Although over time he and his heirs also sold or lost most of the remaining land, the Mohegans managed to hold on to some of it. In the late twentieth century, like the Mashantucket Pequots, the Mohegans succeeded in gaining federal recognition and also established a casino and related commercial activity in Montville, where their reservation is also located. Southern New London County and the Stonington area, however, were divided between the colonial governments after the war. Nevertheless, it is likely that small groups of Native Americans continued to use parts of the territory for some time afterward, since colonial occupation of the land did not occur for many years.

Colonial Period History of the Town of North Stonington (to 1790)

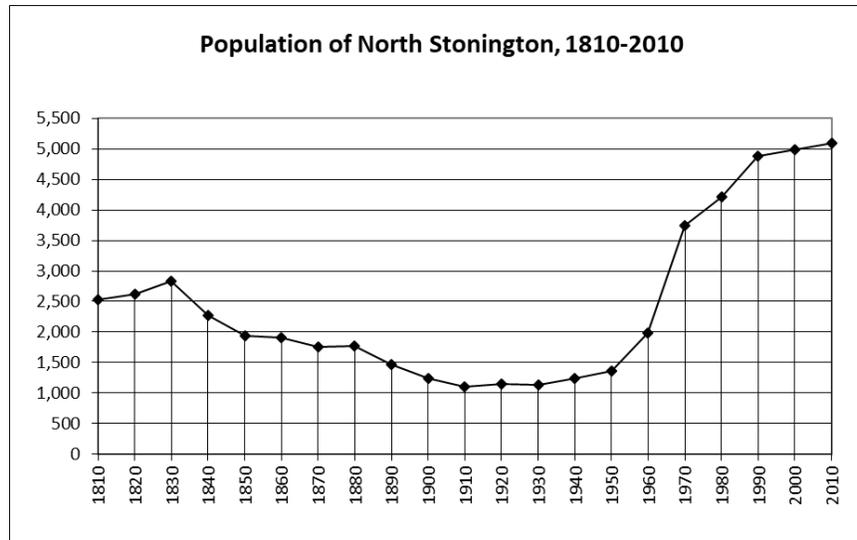
As a result of the joint nature of the Pequot War, the question of which party would have jurisdiction over the conquered area was a problem. The Connecticut and Massachusetts Colonies resolved their claims to the territory in 1658 by dividing the coastal land between themselves at the Mystic River, with Connecticut keeping the west side and Massachusetts Bay reserving the east side. Thus, North Stonington's parent town of Stonington was part of the Massachusetts Bay Colony for several decades and known as Southerton, and some of its earliest land records are recorded in the records of Suffolk County, Massachusetts. An additional complication was that in 1641, before the inter-colony agreement was established, Connecticut surveyed the conquered land and made several grants of land in it to individuals. One of these people was a man named William Chesebrough who received what is now the borough of Stonington in 1652 (incorporated 1801). The royal charter granted to Connecticut 10 years later in 1662 extended the colony's boundary eastward to the Pawcatuck River, thus bringing the section to the east of the Mystic River back within Connecticut Colony's control. In 1665, the General Court of Connecticut changed the name of the town from Southerton to Mistick, then changed it again in 1666 to Stonington (Crofut 1937).

Early colonization of Stonington was focused on the coastal parts of town, especially on the Mystic River and Long Point (now known as Stonington Point). As of 1668, a local census recorded 43 heads of families who were admitted inhabitants (thus, it omitted people who did not have that official residential status) (Wheeler 1900). In 1753, Benjamin Franklin laid out the Lower Post Road (later Route 1) through Old Mystic (Greenhalgh 1999). In northern Stonington, colonization was advanced enough by the second decade of the eighteenth century that the residents there began to seek local and legislative permission to set up a separate Congregational ecclesiastical society (a legal entity that had the right to impose church taxes on residents within its designated territory). The process began in 1715, with a sequence of town meetings and petitions to the legislature, and was technically completed in 1721. It was called the North Stonington society. Due to disagreement over the North Society's boundary, over the location of the meeting house, and over the choice of pastor, however, the church society still was not formally organized until 1727. The first meeting house had already been built by that time. A Separatist congregational church (created because of doctrinal differences with the official church) was founded in 1746. Residents also founded a Baptist church in 1743 and a second one in 1765 (Crofut 1937; Wheeler 1900). By 1782, Stonington was an even more substantial town, with a population of 5,245 residents that made it the sixth-largest in Connecticut (see the population chart below; Keegan 2012).

Early National and Industrializing Period History of the Town of North Stonington (1790 to 1930)

Unfortunately, due to historical loss of parts of the census documents, town-level population returns for Stonington in 1790 are not available. In 1800, however, Stonington reported 5,437 residents; then, in the 1810 census, there were only 3,043 residents. This can be accounted for by the separation of North Stonington in 1807, which had 2,524 residents in 1810. North Stonington's population continued to rise for two decades, reaching 2,840 residents in 1830. Thereafter, however, the town saw a continual decline in population, until in 1910 there were only 1,100 residents. The population then remained fairly steady for the next two decades, ending the period with 1,135 residents in 1830 (see the population chart below; Keegan 2012). Reportedly, the division of Stonington into northern and southern halves resulted from northern residents' discontent over the expense of building a new road and bridge through the southern part. At the town's vote to divide along the ecclesiastical society line, the name chosen for the northern town was Jefferson. The legislature, however, preferred to adhere to the name of the ecclesiastical society, so it became North Stonington instead. In 1827, the original and the

Separatist Congregational churches reunited, having shared the same church building since 1817, and their doctrinal differences having faded away over several generations. The third Baptist church was organized in 1828 (Crofut 1937; Wheeler 1900).



During the pre-railroad days, turnpikes were an important part of early U.S. efforts to promote road improvement for the benefit of travel and trade; by granting franchises to private companies, state governments did not have to spend any money, and users of the roads paid tolls to the companies. In addition to the Old Post Road, Stonington and North Stonington had the Groton and Stonington Turnpike, incorporated in 1818. Its route extended from Groton Ferry to Old Mystic, then northeastward across Stonington and the southeastern corner of North Stonington where it met a Rhode Island turnpike at Hopkinton, Rhode Island. It displaced the more southerly route in transport importance and continued in operation until a railroad route connecting New York and Boston was completed in 1852; it was shut down the next year (Wood 1919). As the 1833 county map in Figure 3 shows, this turnpike passed to the north of the project area. As far as can be determined, the placement of the north to south trending Boom Bridge Road passing through the project area on 1833 map (with a schoolhouse nearby, on the west side of the road) was an error; it should have been located further to the west (Figure 3; Lester 1833).

North Stonington's declining population trend of between 1830 and 1930 is consistent with that of a town whose economy remained almost entirely dependent on agriculture. In 1819, a gazetteer reported that the town had two textile mills, as well as two each of wool carding machines and fulling mills, yet it also pointed out that most of the townspeople were engaged in agriculture. The focus of that agriculture was on dairy products, meat, and wool. There were a total of 16 dry goods and grocery stores in town, which was substantial for that time. There also were four public inns and a library in the area (Pease and Niles 1819). The 1833 county map recorded one village in town, labeled with the name Milltown. This village contained a Congregational and a Baptist church, as well as multiple buildings and two agricultural processing mills; a woolen textile mill was located to the north of the village (Lester 1833). In 1837, the village was described as containing between 20 and 30 houses, five stores, and the two churches reference above. Although the 1819 gazetteer noted the presence of good waterpower sources in the area, the only economic activity it mentioned was agricultural grazing (Barber 1837). Although the 1850 federal industrial census identified 19 industrial firms in North Stonington that made

at least \$500 in products, seven of them had only one employee and 10 employed between two and five people. These businesses included sawmills, grist mills, a house carpenter, blacksmiths, carriage and cabinet makers, and tanners. The two larger firms in town were listed as a woolen textile mill that employed 10 men and 12 women, and a cotton mill that employed 11 men and nine women. Altogether, in a town of not quite 2,000 residents, 75 were employed in industry (United States Census 1850b).

The 1854 county map shown in Figure 4 placed the cotton mill to the north of Milltown (which was also given the label North Stonington Village), and a handful of other businesses in the village and elsewhere in town. The map also noted the continued presence of the Pequot Native American community in the southwest corner of the town. In the vicinity of the project area, the roads depicted in this map appear to be roughly consistent with their actual locations. The project area was, on this map, over 152 m (500 ft) from any cultural features except for part of the road to the east. Although this road does not match the more easterly, straight-line course that is shown on later maps, it will be seen that it was later relocated. Thus, one of the buildings closest to the project area was the one shown on the far side of this road, which was labeled with the names J. E. and W. C. Allen. On the east side of the project area, the 1854 map suggests that one of the buildings labeled with the name S. Merritt Sr. was within the larger parcel that the project area is part of. Other buildings in the vicinity were further away (Figure 4; Walling 1854).

The last nineteenth-century map, which dates from 1868, shows that the easterly road had been relocated by that time. The building referenced above, however, remained, labeled with the name "I. Partlow." On the east side of the project area, the label attached to the building that was within the larger parcel had changed to the name R. Merritt. The other Merritt building, to the northeast, was labeled with the name I. P. Merritt and also, apparently, the name Spring Farm. To the south, the map seems to show that the larger parcel nearly enclosed buildings labeled with the names E. A. Brown and A. Hoxie; in addition, the title Truman Farm appeared between them. Other buildings in the area were located further away. Of particular interest in this area is the fact that to the north and east, several areas were labeled with the terms "Cranberry Marsh" or "Cranberry Meadow." No mention of cranberry farming has been found in the other sources consulted, except in a casual mention by Stone when discussing this part of town (1986:107). Overall, the 1868 map suggests that North Stonington had developed two villages, one being the older North Stonington village and the other identified as Clarke's Falls, which was situated to north of the project area. The map indicates that the latter village contained a woolen mill and a combined grist mill and sawmill. Several other factories were noted on the map, including one labeled "Weaving Fac." that was located to the southeast of the project area. A few other factories shown on the map demonstrated the persistence of small manufacturing enterprises in town; there were also several other cranberry marshes. The Native American community's persistence was also noted in the southeastern corner of the town (Figure 5; Beers 1868).

The spatial proximity of certain mapped buildings, especially the Allen/Partlow place to the east and the Merritt place to the west, suggests that research on these families may illuminate potential uses of the project area. The elder Samuel Merritt (age 73) was a farmer who owned \$1,500 in real estate and, like many of his neighbors, was born in Rhode Island, as had his presumed wife Nancy (age 59). Also in the household was an 18-year-old woman surnamed Champlin, perhaps Nancy's daughter from a previous marriage. Samuel's son Oliver I. (age 33) gave his occupation as carpenter; his wife, Sarah A., and their two children completed the family. The neighbors listed on the census page were not typical of farming areas, however; although there were three other farmers and two laborers, there were also a dyer, a merchant, an English machinist, a blacksmith, and another carpenter. Two of the other farmers owned real estate valued at \$2,000, while the third had only \$300 (United States Census 1850a). In the 1860

census, Samuel and Nancy Merritt were sharing a house with the substantial family of Isaac P. and Mary E. Merritt. Samuel, at 84, still gave his occupation as farmer, and claimed to own \$4,000 in real estate and \$500 in personal estate. Isaac, presumably a son who had moved away temporarily, had five children between the ages of three and 19 (United States Census 1860). In the 1870 agricultural census, Isaac P. Merritt claimed to own only 30 acres of land, which he valued at \$1,500. He kept few farm animals and grew modest amounts of corn, oats, potatoes, and hay (United States Census 1870b). The 1870 population census, however, says he owned \$4,200 in real estate and \$800 in personal estate. One of his adult sons was still in the household but unlike his farmer father, worked as a grocery store clerk. Also, at the ages of 63 and 46, Isaac and Mary were the parents of a 3-year-old son. The household also included a teen girl with a different surname (United States Census 1870a). He cannot be found in the 1880 census. However, in his verbal tour of North Stonington, Stone refers to “a cartpath which, at one time, led to Spring Farm, home of I. P. Merritt,” marked by stone bar posts (1986:107).

William C. Allen, age 25, probably the W. C. Allen located across the fields from Samuel Merritt in the 1854 map, was also a farmer. He was one of five apparently-unmarried adult siblings (three women and two men) living in the household of Green Allen. Aged 70, Green was a farmer who owned \$2,200 in real estate, and his elder son John R. was also a farmer. One of his neighbors was the younger Samuel Merritt (spelled Maryott), who was a farmer owning \$2,500 in real estate and also had a son who was a carpenter. The farmers around the Allen family, like them, were somewhat more prosperous than those near the elder Merritt (United States Census 1850a). The only William Allen in the 1860 census was the wrong age to be this one. Nor can an I. Partlow be found in that year’s census in North Stonington. There was one in Hopkinton, Rhode Island, however – a 43-year-old dyer who also owned \$2,400 in real estate; his wife Sophronia worked as a weaver. Their two adult sons were a dyer and a sailor, and they also had three younger children (United States Census 1860). The family likewise appeared in Hopkinton in the 1865 state census, without the eldest son, sharing a house with the Franklin and Mary Partlow family. Both men worked as operatives in a woolen mill, as did Franklin’s wife Mary (despite having two small children) and Isaac’s daughter Lucinda (Rhode Island Census 1865). Given that the 1868 map shows I. Partlow attached to not only the building near the project area, but also another to the south, with a third nearby marked with the initials I. P., it is not surprising that he appears in the 1870 federal agricultural census for North Stonington. There, he reported owning 50 acres of land valued at \$2,500, with a small herd of cattle on it. He also grew corn, oats, and hay, and produced butter (United States Census 1870b). He was not found in the 1880 census, however.

These details about families who lived or owned property adjacent to the project area indicate that while the area was arguably a farming region, the farms were small and many residents sought out additional work opportunities that were close by. In the 1880s, a description of the town was still able to refer to an existing factory at Clark’s Falls and one other woolen mill, but no substantial centers of manufacturing (Hurd 1882). Despite active farming interests, the town continued to lose population because during the mid to late nineteenth century, farming became an increasingly uneconomical proposition in Connecticut. Most farmers switched away from meat and grains, which could be purchased more cheaply from the Midwest, to butter, cheese, and perishable fruits and vegetables. In the 1880s, refrigerated railroad cars were developed, which allowed the production of fresh milk to become important as well. Overall, however, the farming population fell and marginal lands were abandoned. Towns with industrial activity managed to keep their populations stable, while wholly agricultural places lost population through the 1930s. The number of farms continued to fall through the twentieth century, but because of suburbanization, a result of the rise of the automobile, the population of many towns began to grow again (Rossano 1997).

Modern History of the Town of North Stonington (1930 to Present)

Without a railroad connection or proximity to a major industrial city, North Stonington was disadvantaged and had a very low population between ca., 1900 and 1950; it had only 1,367 residents in the latter year. The town's suburban growth spurt began after 1950, with the fastest growth period falling between 1960 and 1970; in the latter year, the population had reached 3,748 residents. The growth rate slowed for the next two decades, and was even more slow in the following three, so that by 2010, North Stonington still had only 5,093 residents (see the population chart above; Keegan 2012). In 1932, the state reported that North Stonington's industries included only agriculture, it had post offices in North Stonington and Clark's Falls, and its public transportation was limited to a bus route passing through from Norwich to Westerly, R.I. (Connecticut 1932). Although its lack of ocean coastline was a disadvantage, during the automobile era the town did attract some summer residents, as evidenced by a report of a forest fire near Billings Pond in 1944 that destroyed 600 acres of forest, eight summer cottages, and an abandoned farmhouse (Haynes 1949).

In 1913, a topographic map showing land cover was published. It indicated that the project area, and most of the larger parcel, was wooded at that time. In addition, while a number of buildings were shown in the area, neither the Allen/Partlow nor the nearer Merritt place were depicted (Figure 6; ACOE 1913). Consistent with that map's information, the 1934 aerial photograph indicates that the project area was entirely forested. Moreover, although a field system and farmyard were visible to the east, and within the larger parcel, the Merritt house seen on the 1854 and 1868 maps was no longer present. To the west, where the Allen/Partlow place once stood, not even the outline of a farmyard could be seen in this image, despite the fact that most of the area beyond the former road was still in agricultural use. In the general vicinity, many of the farmsteads shown on those historic maps were still present, surrounded by fields – although the I. P. Merritt farm's buildings to the west appear to have been taken down (Figure 7; Fairchild 1934).

The 1951 aerial photograph shows extension of housing along Anthony Road, as well as some areas of reforestation in the vicinity. The project area itself was still forested at that time (Figure 8; USDA 1951). The 1957 and 1962 aerial photographs showed no notable change (USGS 1957; RIGIS 1962). In the 1970 aerial photograph, however, Interstate 95 had been built immediately to the north of the project area. To the east, in Hopkinton, additional housing and the beginnings of a sand and gravel operation were visible. Aside from the highway, however, the project area and its immediate vicinity had not seen any notable changes (Figure 9; USGS 1970). Part of a road construction project that had begun in 1954, this segment of I-95 opened in 1964 (Oglesby 2014). In the 1986 aerial photograph, there was some additional housing and an extension of the sand and gravel mine to the east, while closer to the project area, a new agricultural field had been cleared at Boom Bridge Road (CT DEP 1986).

In the 1990 aerial photograph, there was an additional cleared field that may have reached into the current project area. To the west, the amount of agricultural activity in some areas had fallen substantially; to the south, on Anthony Road, a row of small houses had been built. In general, however, the area to the south was still largely agricultural (Figure 10; USGS 1990). By 2016, a substantial change had occurred within the project area: the entire space had been cleared of trees and showed bare earth. To the west, a cell phone transmission tower had been built, and further to the west, a large new house. To the east, the sand and gravel operation had been abandoned. The farms to the south were still clearly in operation (Figure 11; Capitol Region 2016). The purpose of this clear-cutting and scouring of the ground surface is unknown.

As noted above, North Stonington witnessed considerable population growth during the latter part of the twentieth century, although ultimately it still qualified as a small town in 2010. Its agricultural past was still represented, in 2005, by 2.7 percent of the town's workers being employed in that sector; another 6.1 percent were working in construction and mining, 18.3 percent in manufacturing, and 44.1 percent in services. According to a 2000 survey, many workers also commuted to Groton and Stonington for their jobs (CERC 2011). The aerial photography shows that in the vicinity of the project area, the impact of the town's population growth was not large, leaving substantial areas of forest and some farm areas as well, along with the presence of some new housing along the old roads.

Conclusions

The documentary record indicates that it is unlikely that the proposed solar development will impact any significant historical resources in this project area. Although it may have been used for agricultural purposes at some point in the more distant past, by the early twentieth century the project area was entirely forested.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in North Stonington, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites, National/State Register of Historic Places properties, and inventoried historic standing structures situated in the project region (Figures 12 and 13). The discussions presented below are based on information currently on file at the Connecticut State Historic Preservation Office in Hartford, Connecticut. In addition, the electronic site files maintained by Heritage also were examined during the course of this investigation. Both the quantity and quality of the information contained in the original cultural resources survey reports and State of Connecticut archaeological site forms are reflected below.

Previously Recorded Archaeological Sites, National/State Register of Historic Places Properties/District, and Inventoried Historic Standing Structure in the Vicinity of the Project area

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage identified one historic property listed on the State Register of Historic Places situated within 1.6 km (1 mi) of the project area (Figure 13). This review also revealed that four archaeological sites (Sites 102-5, 102-6, 102-7, and 102-10) have been previously identified within 1.6 km (1 mi) of the project area (Figure 12). The State Register property and four archaeological sites are described below.

Pious Hill House

The Pious Hill House is a listed Connecticut State Register of Historic Places and Properties item located along State Route 184 to the west of State Route 216 in North Stonington, Connecticut. This historic home was recorded by Mary Lohmann and Jane Lange of the Connecticut Historic Commission. Characteristically, it was a Colonial style home constructed in 1750 and maintained a wooden frame construction, two and one-half stories, a central brick chimney, and six-over-six sash windows. The original deed for the property notes that the home was purchased from the King of England. At an unknown date, the house was demolished or moved. The Pious Hill House will not be impacted by the construction associated with the Boom Bridge Solar project because the dwelling is no longer in its original location.

Site 102-5

Site 102-5 is located on Boombridge Road approximately 762 meters (2,500 feet) to the southwest of the project area in North Stonington, Connecticut. This site is a prehistoric occupation where lithic artifacts were found in cornfields. Artifacts were surface collected by Mr. Louis Bayer, a retired game warden and local artifact collector, who described the site to Kathryn C. Hoy of the University of Connecticut in 1991. A description of the artifacts Bayer recovered is not provided on the site form for 102-5; therefore, the use and age of the site has not been determined. It was reported to be

undisturbed in 1991; however, it is on private property. Site 102-5 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). It will not be impacted by the construction of the Boombridge Solar Center.

Site 102-6

Site 102-6 was named the Beriah Lewis Farm Site in 1991 when it was recorded by Kathryn Hoy. It was identified and surface collected by Mr. Louis Bayer, who recovered lithic artifacts from the site area, including Levanna projectile points. The site is located within a cornfield off of Boombridge Road in North Stonington and approximately 1,100 meters (3,609 feet) to the southwest of the project area. It appeared to be undisturbed in 1991 and at that time was within a farm owned by the Lewis family. No other information is contained on the site form. Site 102-6 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]), and it will not be impacted by the proposed solar center.

Site 102-7

Site 102-7 is also on Boombridge Road in North Stonington, approximately 880 meters (2,887 feet) to the southwest of the project area. It too consists of a prehistoric occupation that was collected by Mr. Louis Bayer and reported to Kathryn Hoy in 1991. Lithic artifacts recovered from Site 102-7 were not discussed on the site form and no information about the site's use or age was included either. The site is located within cornfields owned by the Lewis family and appeared to be undisturbed below the plow zone when it was recorded. Site 102-7 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) and it will not be impacted by the proposed solar center construction.

Site 102-10

Site 102-10, also known as the Arnold Site, consists of a prehistoric site recorded by Kathryn Hoy on June 24, 1991. It was surface collected by an unknown person, and Hoy described this collection as including diagnostic lithics that constitute a large scale camp site. The site is situated within privately owned cornfields at 74 Arnold Road in North Stonington, approximately 572 meters (1,875 feet) to the south of the project area. Hoy was not allowed onto the site but reported that it had fair integrity. No other information is recorded on the site form for Site 102-10 and it has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). This site will not be impacted by the proposed Boombridge Solar Center project.

Summary and Interpretations

The review of previously identified cultural resources in the vicinity of the proposed project area indicates that the larger project region contains prehistoric Native American deposits, as well as possibly historic cultural resources. Archaeological sites occupied within the study region likely date from the prehistoric era (ca., 12,500 to 350 B.P). This suggests that additional archaeological sites may be situated within the project area. There are no historic resources in the vicinity of the project area that will be impacted by the proposed solar center.

CHAPTER VI

METHODS

Introduction

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

Research Framework

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

Archival Research & Literature Review

Background research for this project included a review of a variety of historic maps depicting the proposed project area; an examination of USGS 7.5' series topographic quadrangles; an examination aerial images dating from 1934 through 2016; and a review of all archaeological sites and National and State Register of Historic Places on file with the CT-SHPO, as well as electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated within and immediately adjacent to the project area, and to provide a natural and cultural context for the project region. This information then was used to develop the archaeological context of the project area, and to assess its sensitivity with respect to the potential for producing intact cultural resources.

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

Field Methodology and Data Synthesis

Heritage also performed fieldwork for the Phase IA cultural resources assessment survey of the project area associated with the solar project in North Stonington, Connecticut. This included pedestrian survey, photo-documentation, and mapping of the areas containing the proposed development area. During the completion of the pedestrian survey, representatives from Heritage photo-documented all potential areas of impact using digital media.

CHAPTER VII

RESULTS OF THE INVESTIGATION & MANAGEMENT RECOMMENDATIONS

Introduction

This chapter presents the results of the Phase IA cultural resources assessment survey of the project area in North Stonington, Connecticut. As stated in the introductory section of this report, the goals of the investigation included completion of the following tasks: 1) a contextual overview of the region's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded cultural resources in the project region; 3) a review of readily available historic maps and aerial imagery depicting the project area in order to identify potential historic resources and/or areas of past disturbance; 4) pedestrian survey and photo-documentation of the project items in order to determine their archaeological sensitivity; and 5) preparation of the current Phase IA cultural resources assessment survey report.

Results of Phase IA survey

The project area is situated at elevations ranging from approximately 45.7 m (150 ft) NGVD in the north to 6.10 m (200 ft) NGVD in the south, and it contains a total of 54 acres of land. The predominant soil type located throughout the project area is Canton/Charlton fine sandy loam, which is found on slopes of 3 to 8 percent. At the time of survey, an area located at the northwest portion of the project area contained an agricultural field planted with corn (Figure 14). The remaining area consists of poorly drained, uneven, recently cleared, and possibly stripped land covered in thick brush (Figure 15). A stone wall covers much of the perimeter of the project area (Figure 16, and 17). The southern half of the project area contains a deep ravine and the remnants of a stone wall that appears to have been recently removed (Figure 18). Heritage personnel conducted pedestrian survey of the project area on June 26, 2019. During pedestrian survey an agricultural field located in the southwest portion of the project area was identified as having a moderate/high sensitivity for containing intact archaeological deposits. The field is situated on a slight rise with good drainage (Figure 19); it measures 2.4 acres in size. The remainder of the area had been cleared of vegetation and may have also been stripped of soil in the recent past. This part of the project parcel appears to retain little, if any potential to yield intact archaeological deposits.

Overall Sensitivity of the Proposed Project area

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

buried, and predicting their locations relies more on the analysis and interpretation of environmental factors that would have informed Native American site choices.

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

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

The combined review of historic maps, aerial images, land deeds, and pedestrian survey indicates that the project area has undergone extensive tree-clearing, stumping, and possibly soil stripping. Stone walls located in the interior portion of the project area have been impacted by previous land-clearing activities. The project area contains a deep ravine, rocky and uneven ground and some areas with very poor drainage. Based on the landform, as well as previous impacts to the project area, the vast majority, of the area (ca., 51.6 acres of land) retains a no/low sensitivity for yielding archaeological deposits. The remaining 2.4 acres includes an agricultural field that is currently planted in corn, is relatively flat, well drained, and retains a moderate/high archaeological sensitivity (Figure 20). Phase IB cultural resources survey is recommended for the identified 2.4 acre moderate/high sensitivity area prior to construction of the proposed solar center. No additional archaeological examination of the remainder of the project area is recommended.

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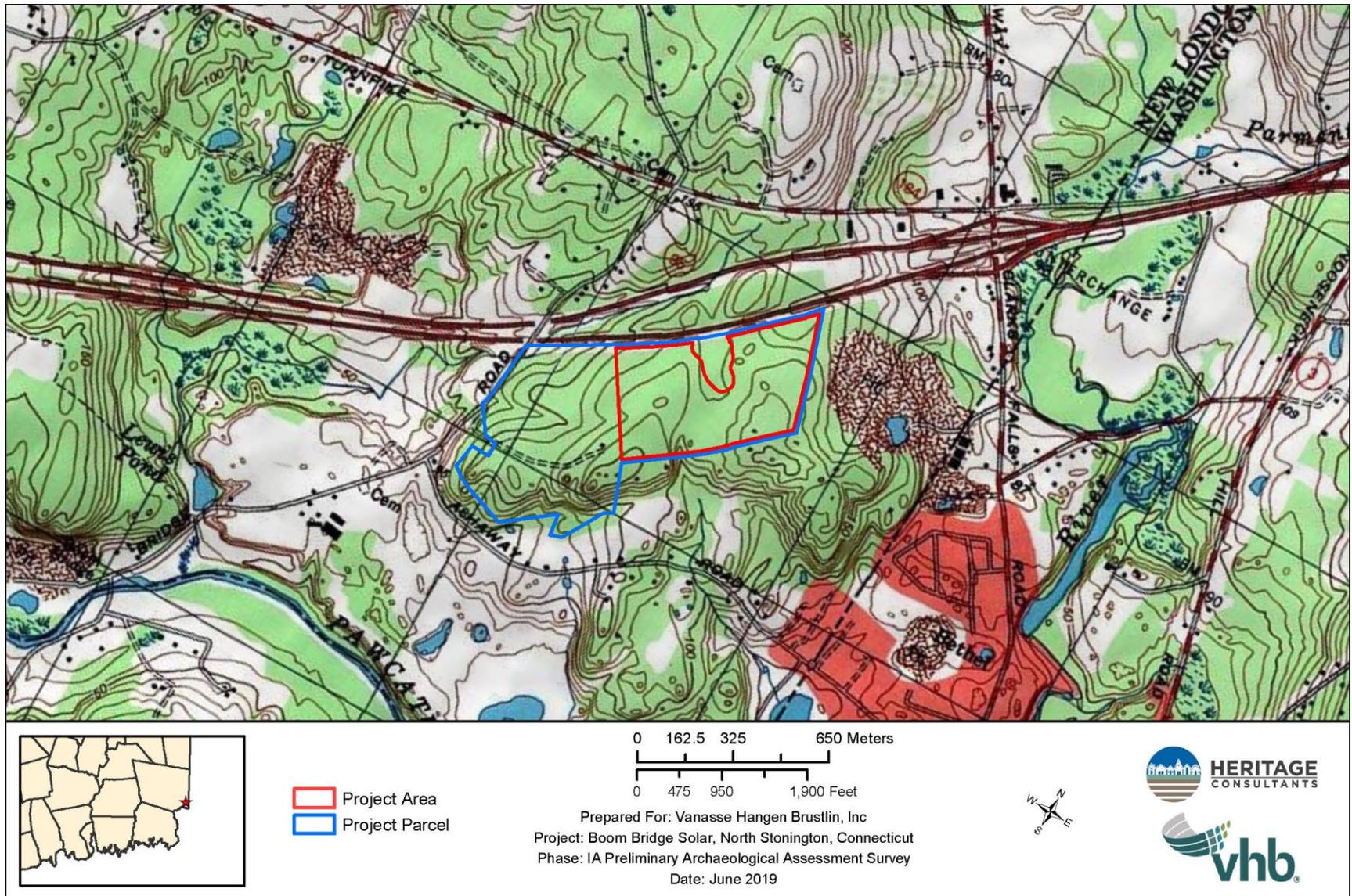


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project parcel in North Stonington, Connecticut.

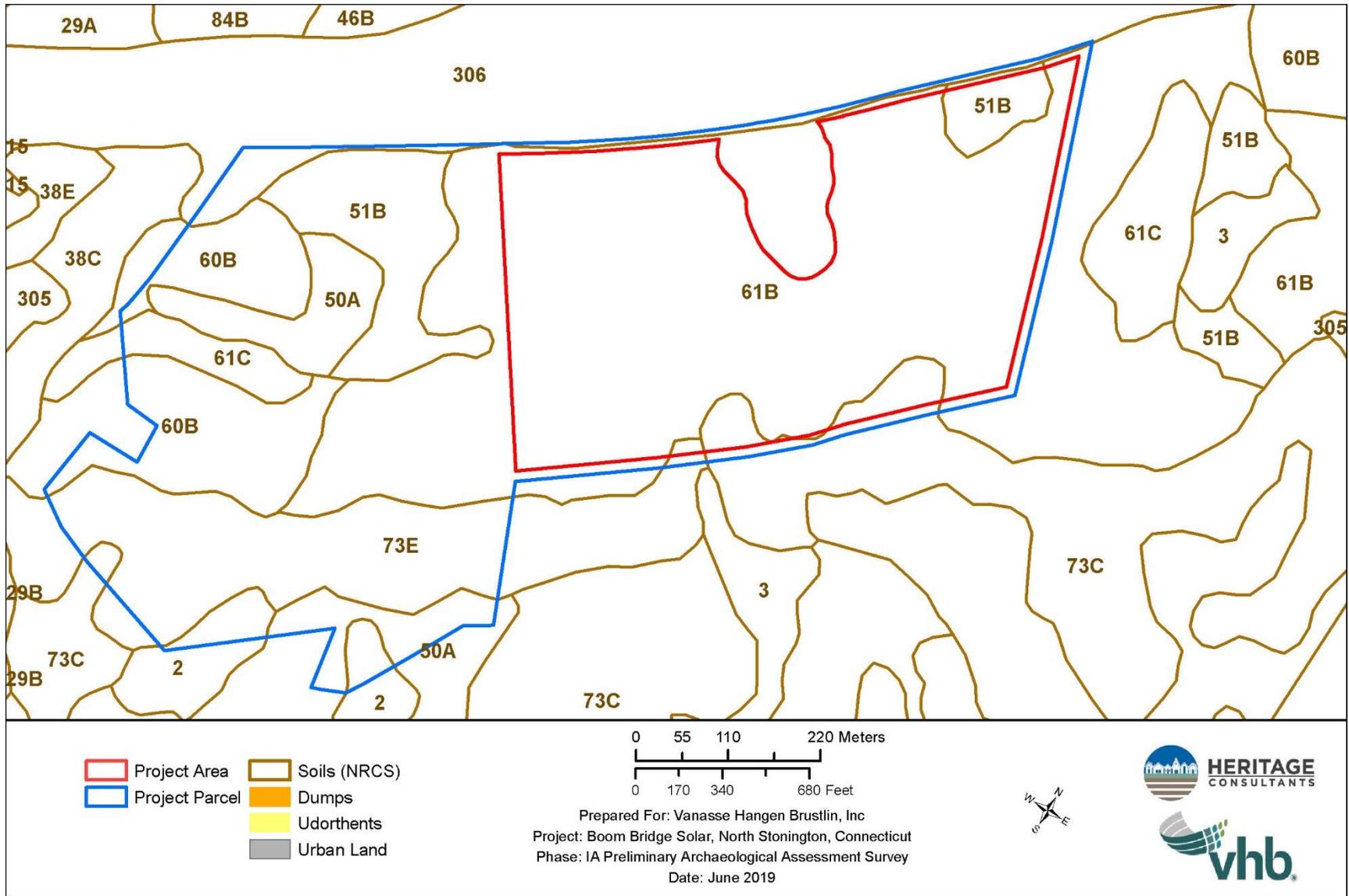


Figure 2. Map of soils located in the vicinity of the project parcel in North Stonington, Connecticut.

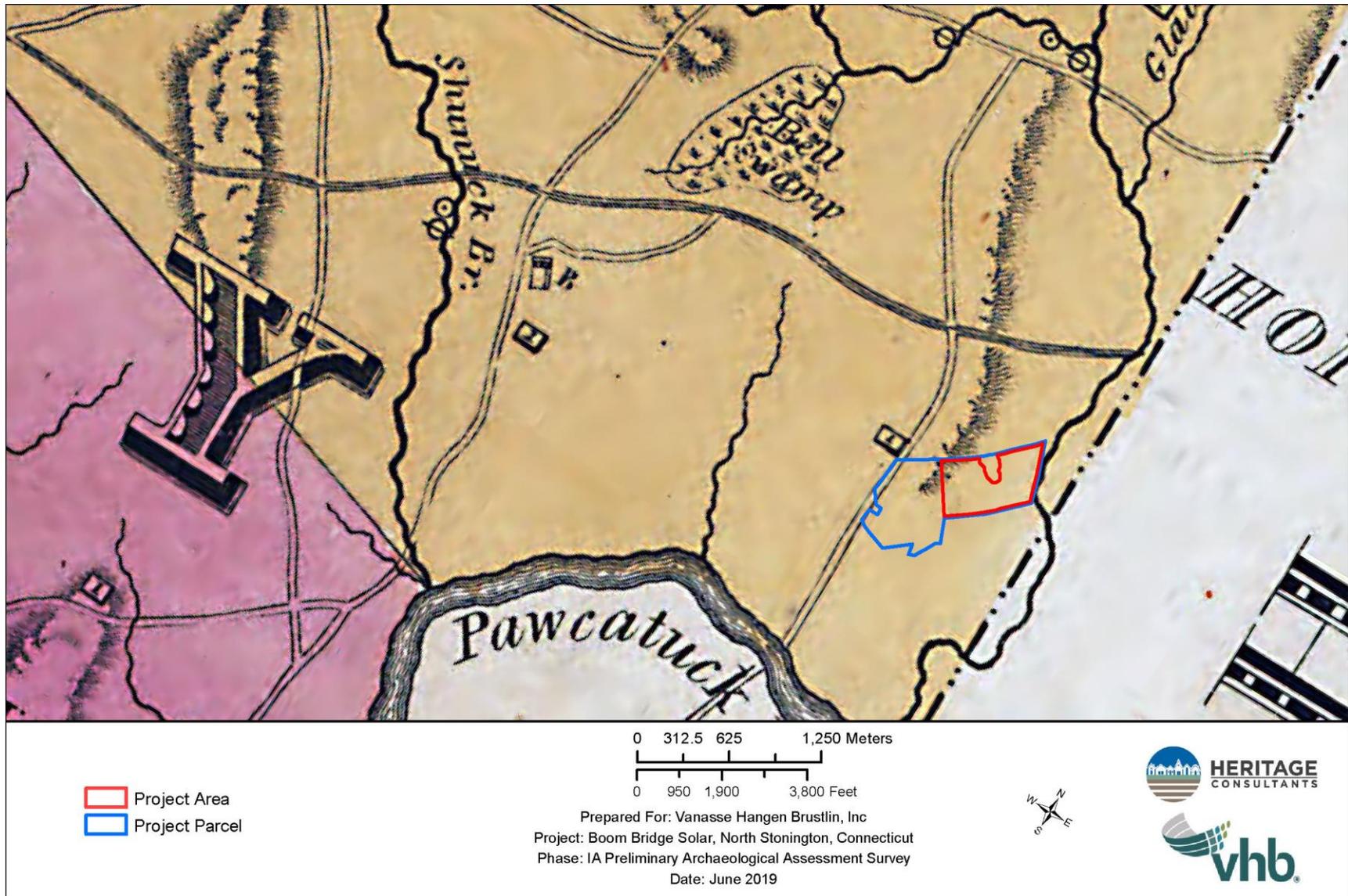


Figure 3. Excerpt from an 1833 historic map showing the location of the project parcel in North Stonington, Connecticut.

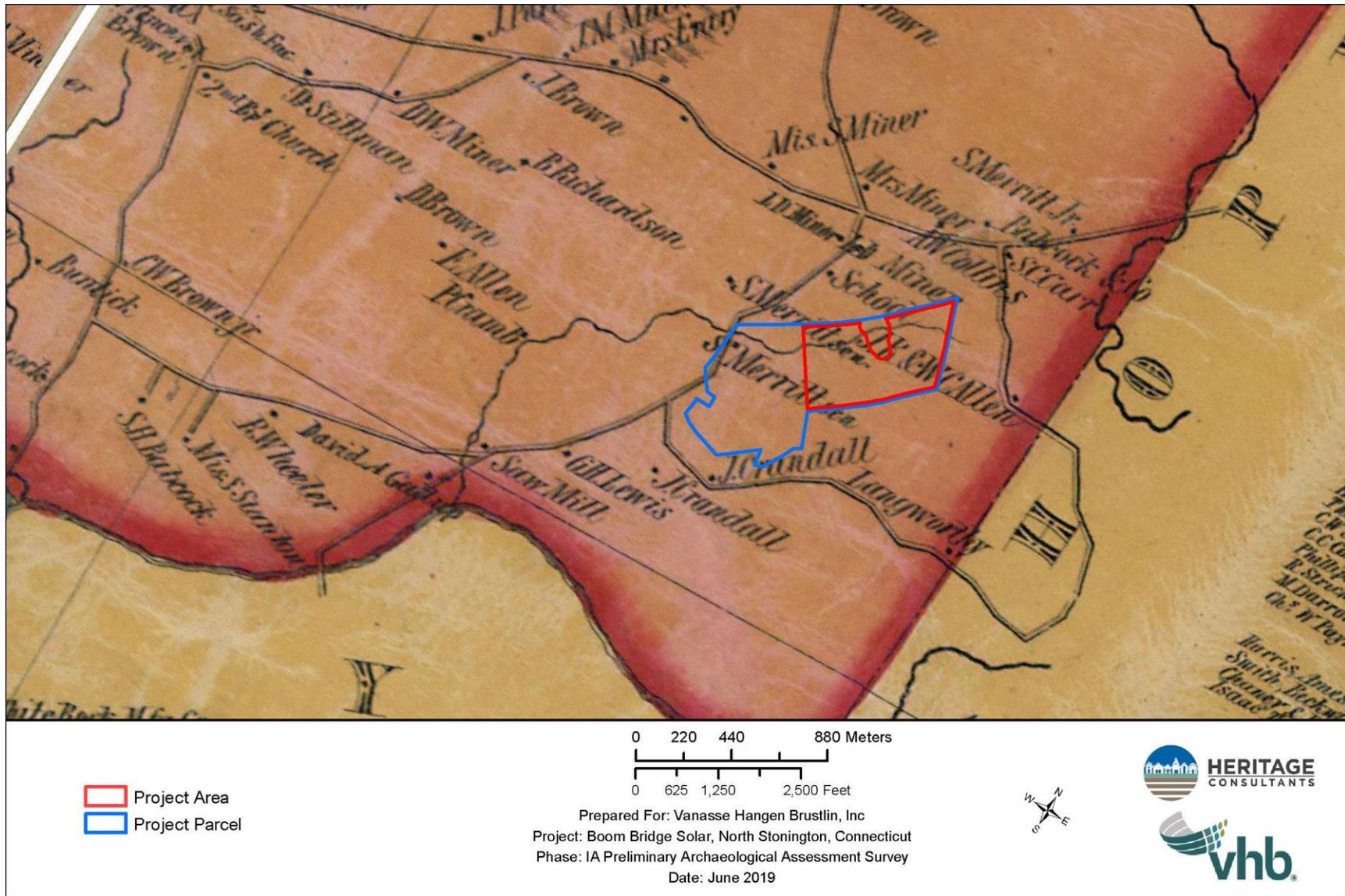


Figure 4. Excerpt from an 1854 historic map showing the location of the project parcel in North Stonington, Connecticut.

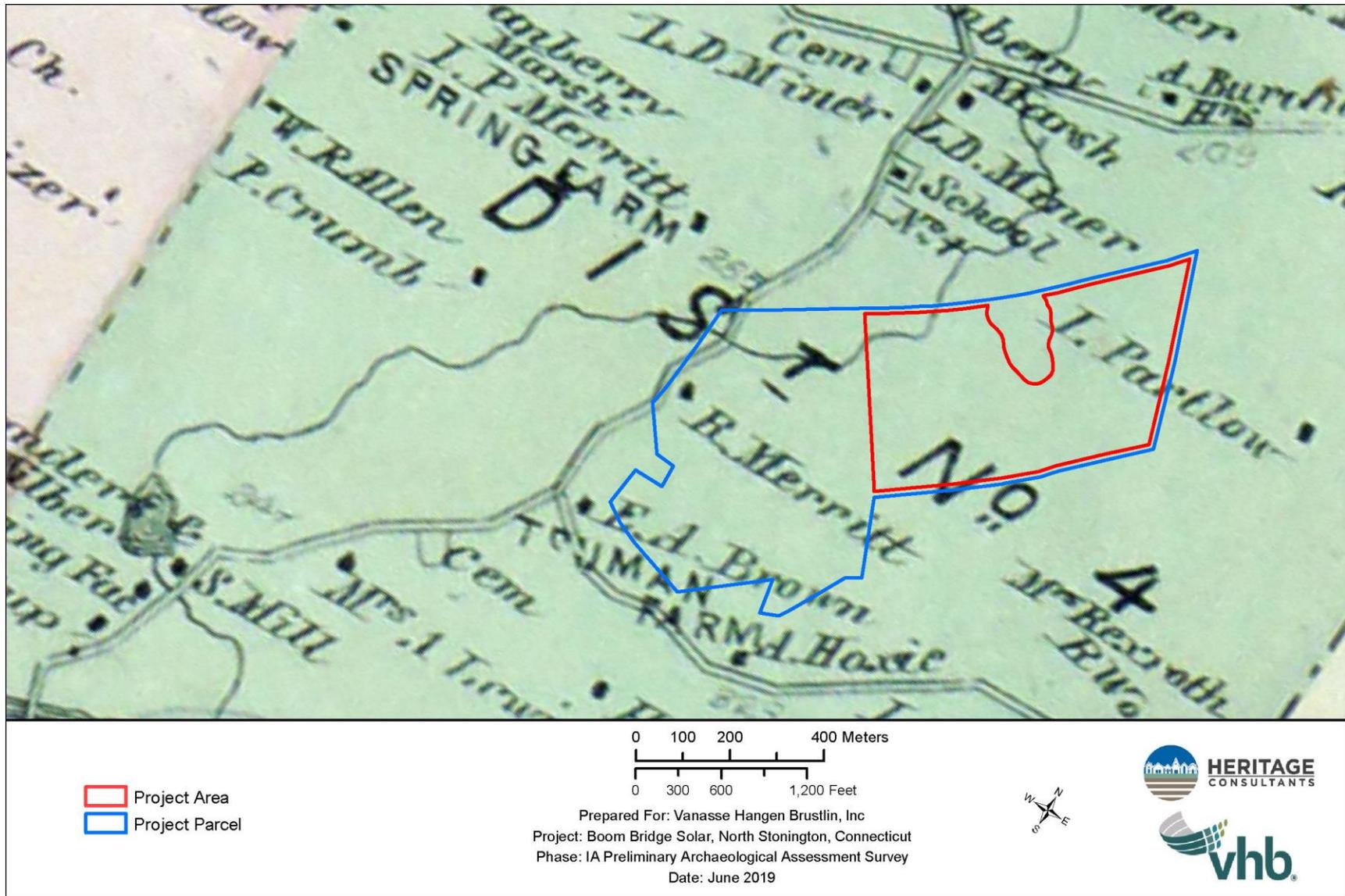


Figure 5. Excerpt from an 1868 historic map showing the location of the project parcel in North Stonington, Connecticut.

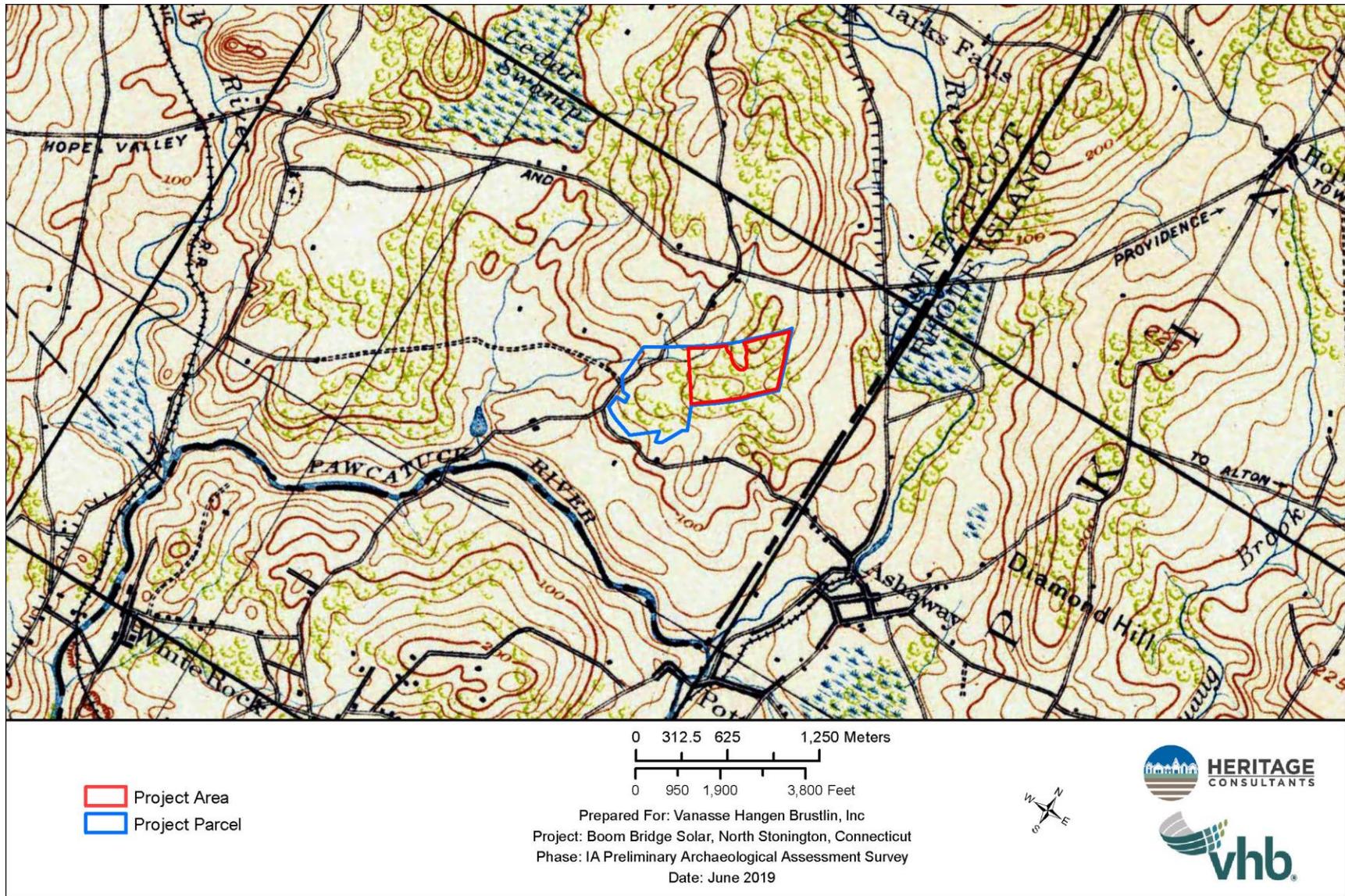


Figure 6. Excerpt from a 1913 map showing the location of the project parcel in North Stonington, Connecticut.

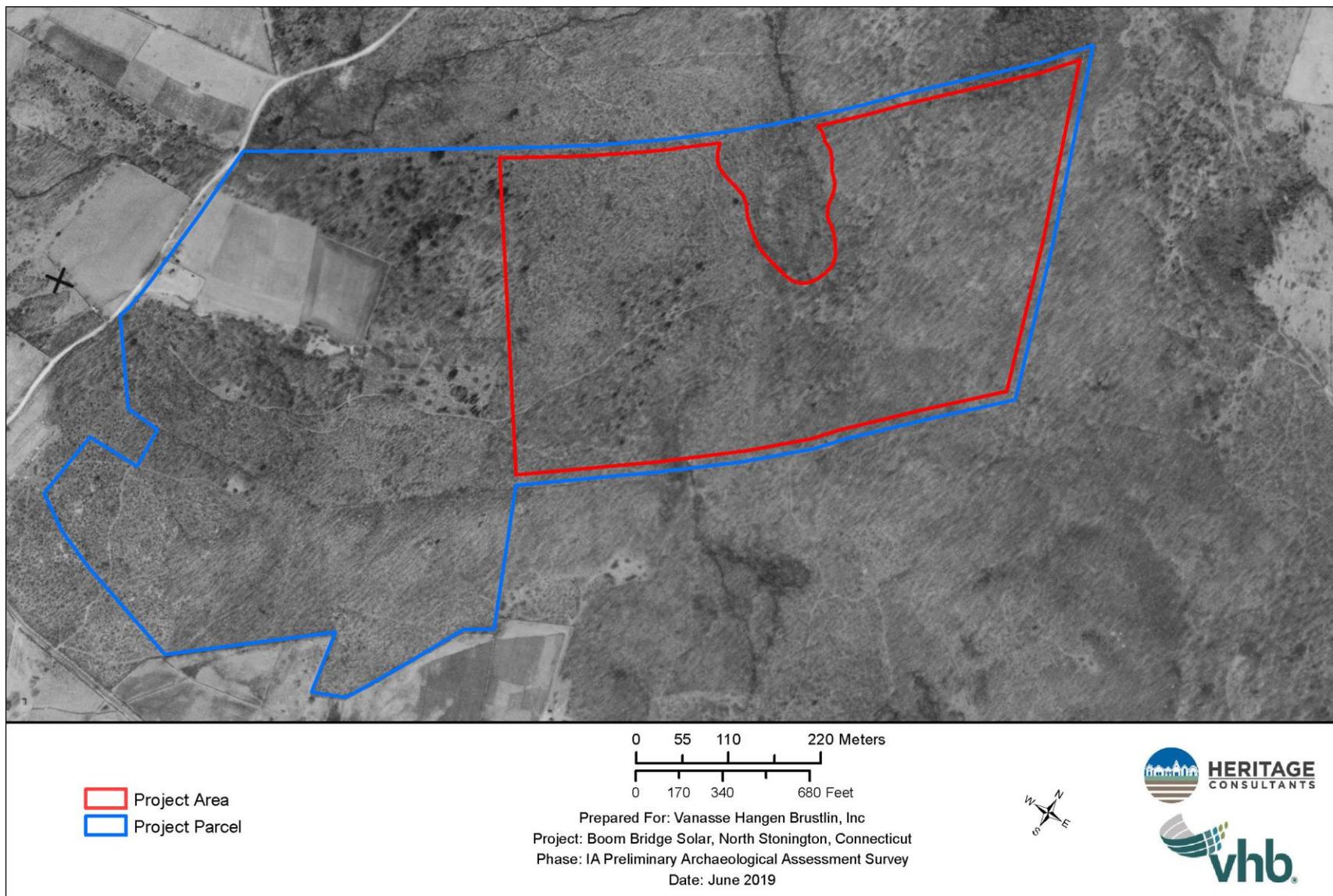


Figure 7. Excerpt from a 1934 aerial photograph showing the location of the project parcel in North Stonington, Connecticut.

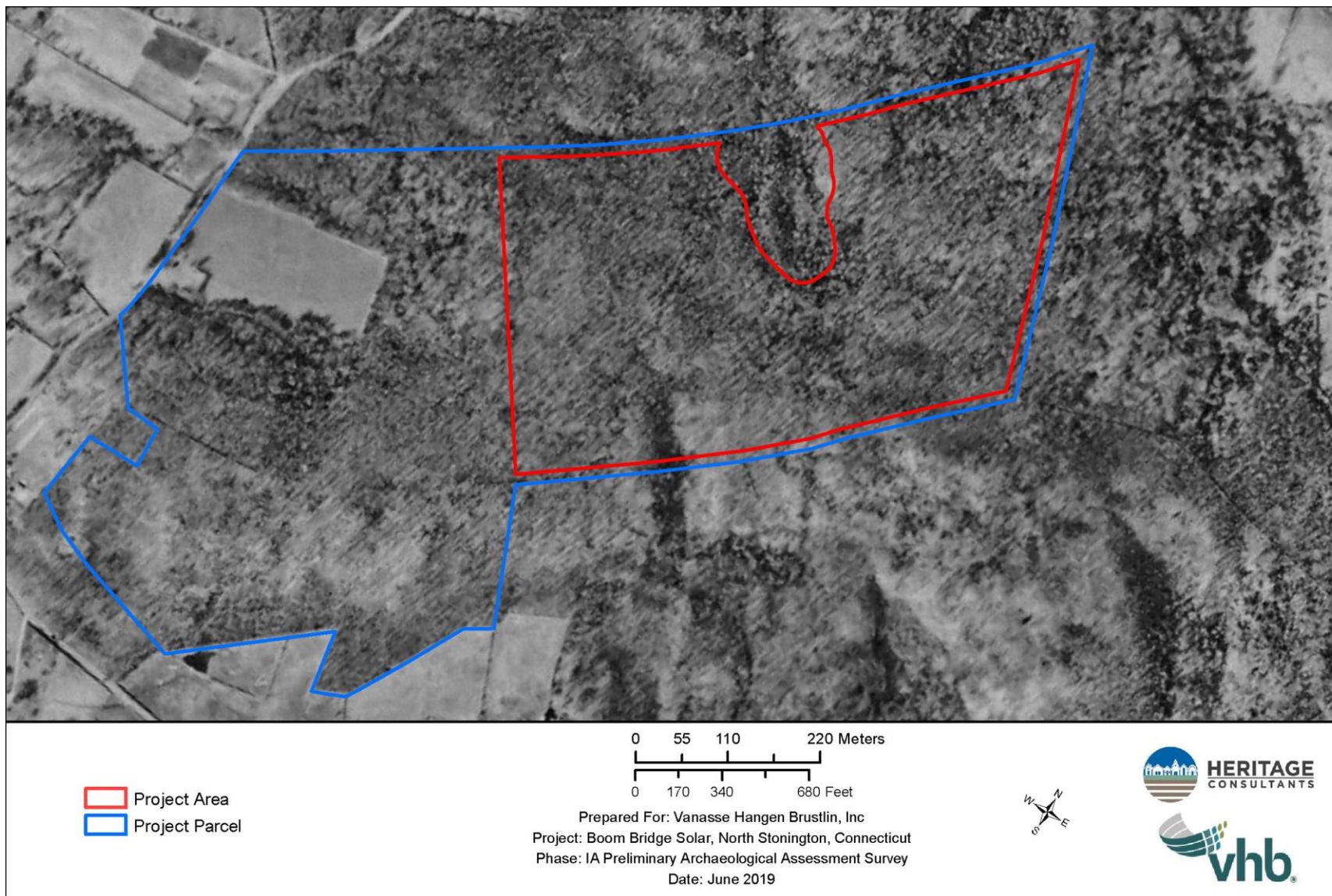


Figure 8. Excerpt from a 1951 aerial photograph showing the location of the project parcel in North Stonington, Connecticut.

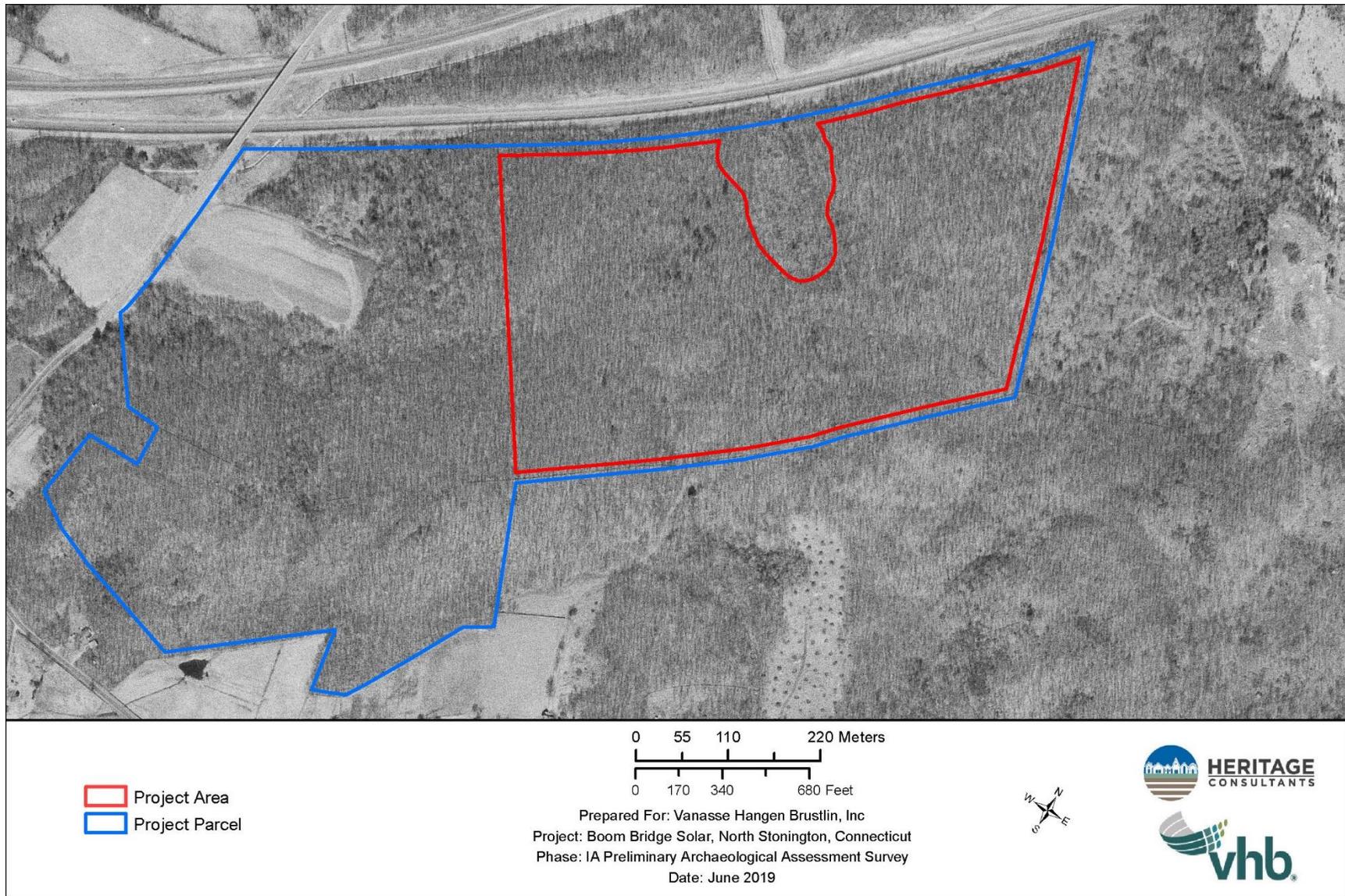


Figure 9. Excerpt from a 1970 aerial photograph showing the location of the project parcel in North Stonington, Connecticut.

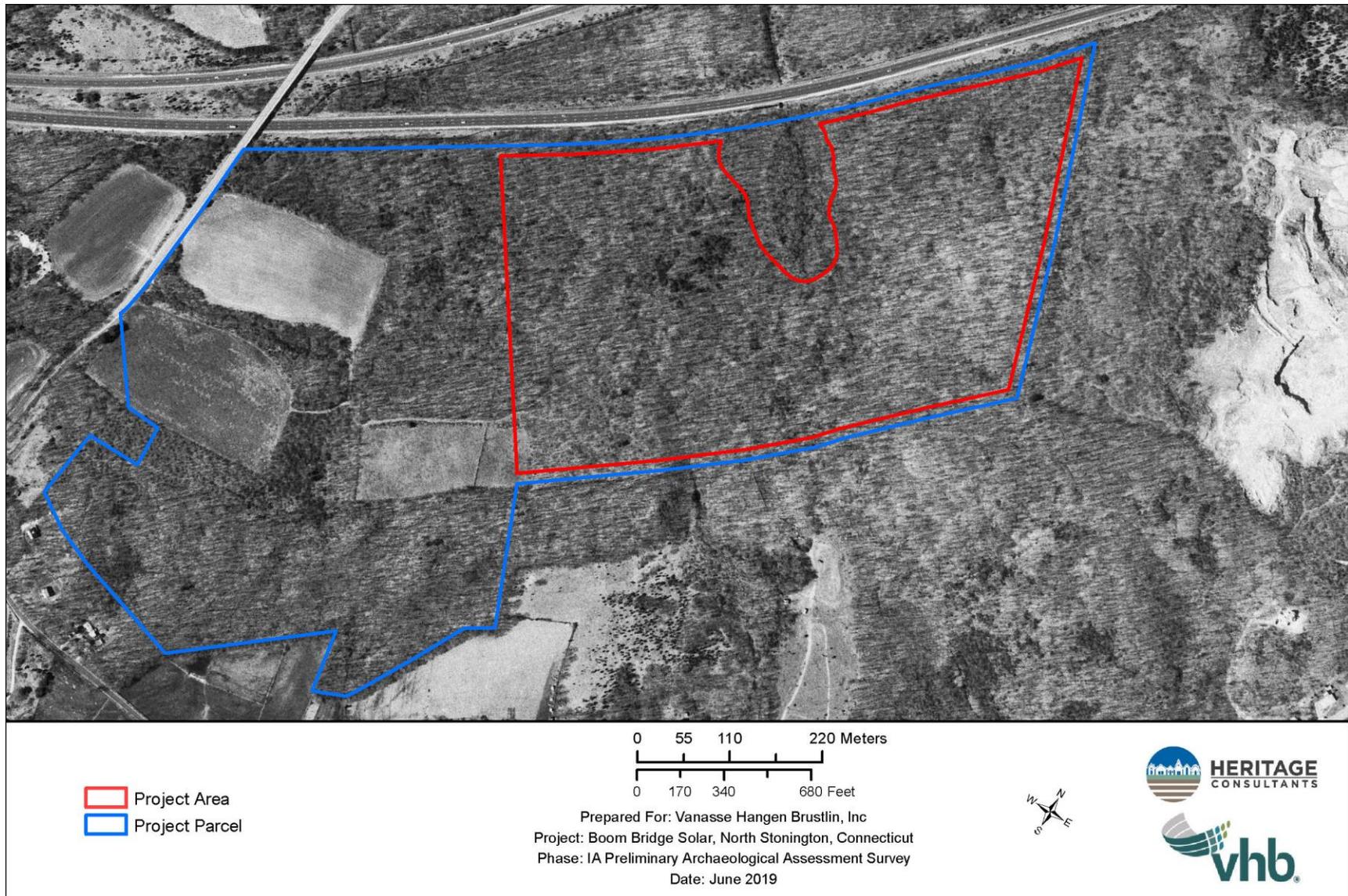


Figure 10. Excerpt from a 1990 aerial photograph showing the location of the project parcel in North Stonington, Connecticut.

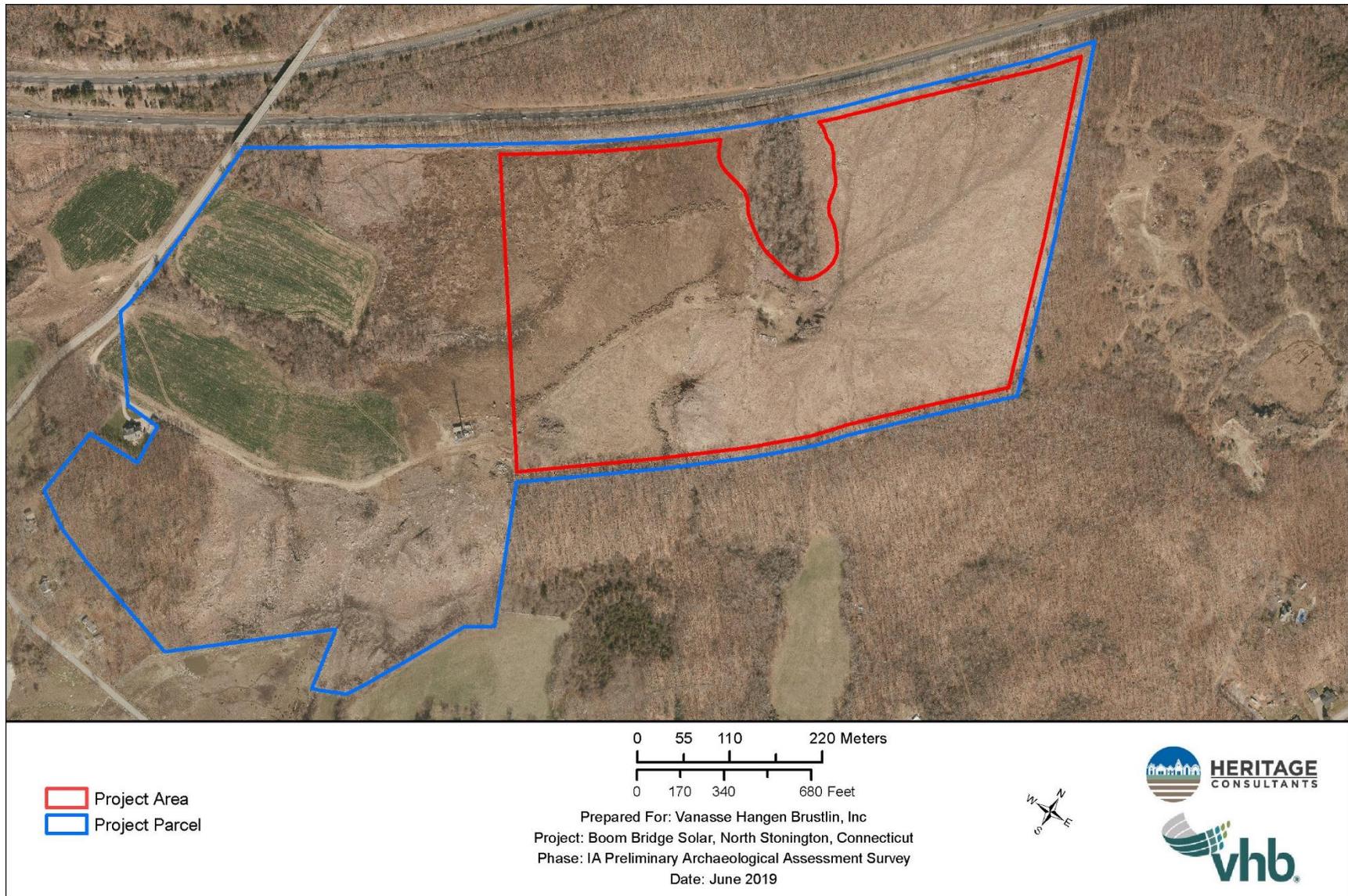


Figure 11. Excerpt from a 2016 aerial photograph showing the location of the project parcel in North Stonington, Connecticut.

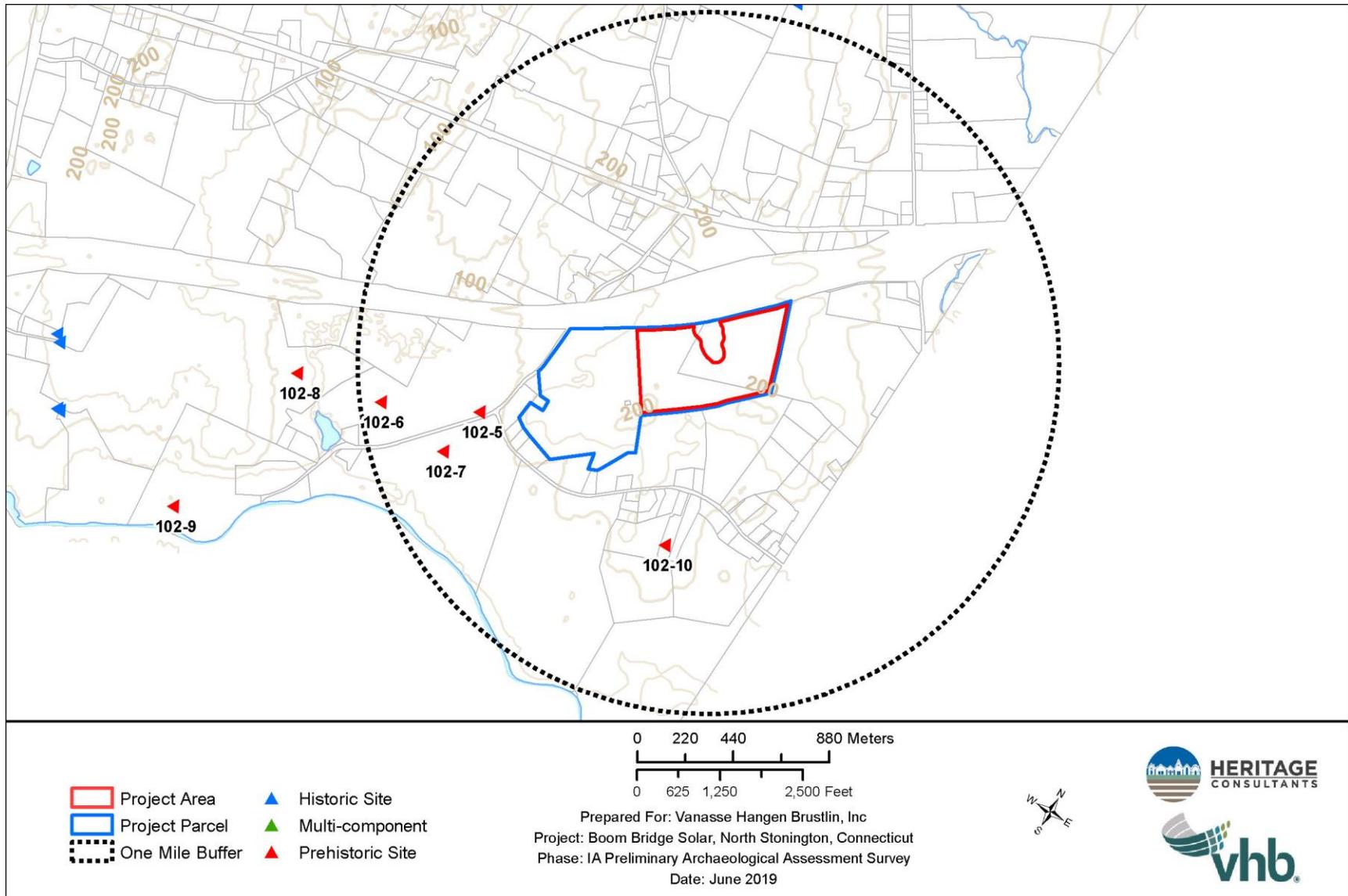


Figure 12. Digital map showing the location of previously identified archaeological sites in the vicinity of the project parcel in North Stonington, Connecticut.

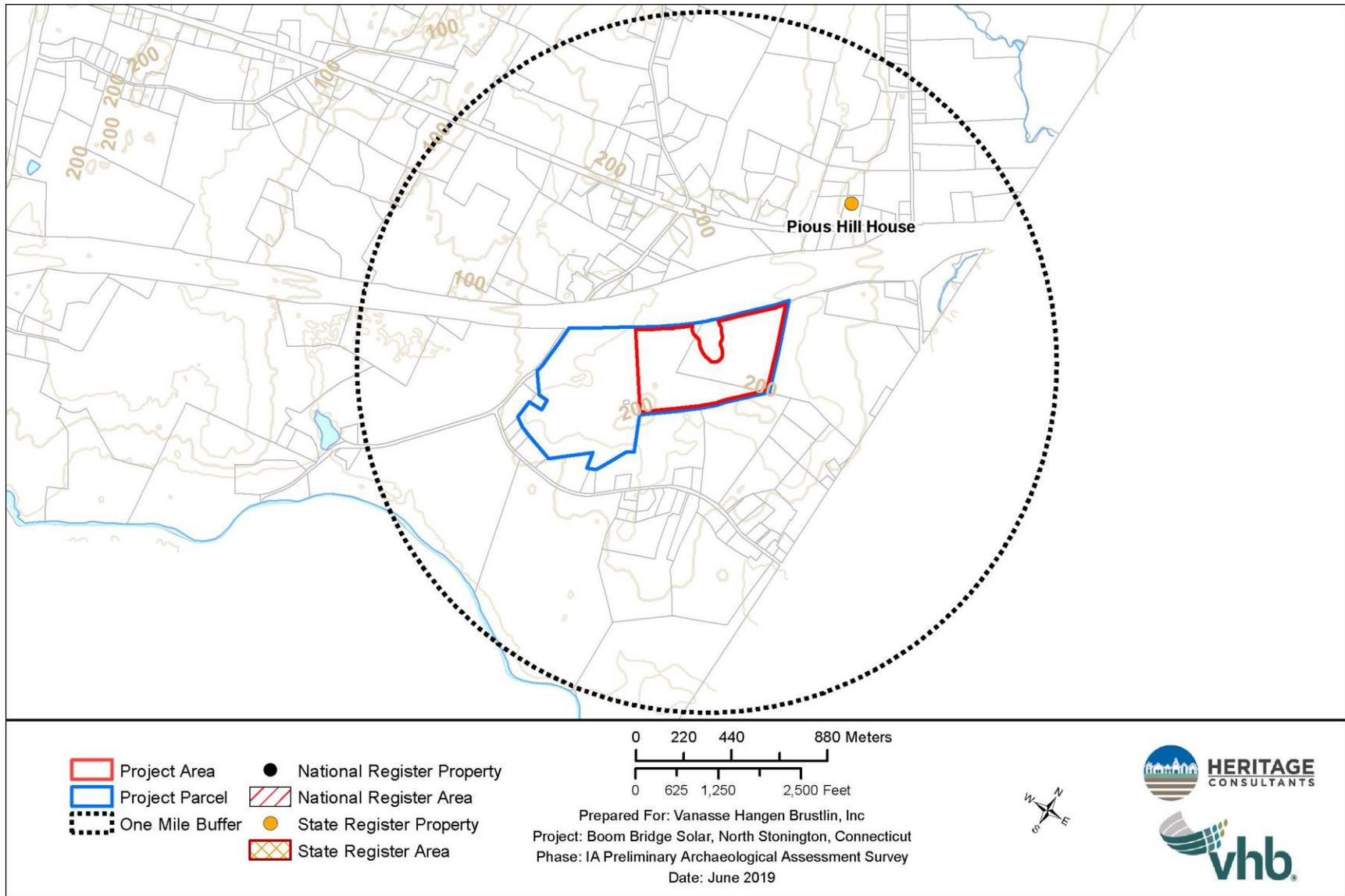


Figure 13. Digital map depicting the locations of previously identified National/State Register of Historic Places properties and inventoried Historic Standing Structures in the vicinity of the project parcel in North Stonington, Connecticut.



Figure 14. Overview photo looking south of agricultural field planted in corn.



Figure 15. Overview photo showing uneven topography in southern half of project area. The view is southwest.



Figure 16. View west of stone wall bordering southern project boundary.



Figure 17. View north of stone wall marking the southern project boundary.



Figure 18. Overview photo facing southeast. Tree line in background represents the eastern and southern project boundaries



Figure 19. Overview photo facing east of agricultural field identified as retaining moderate/high archaeological sensitivity.

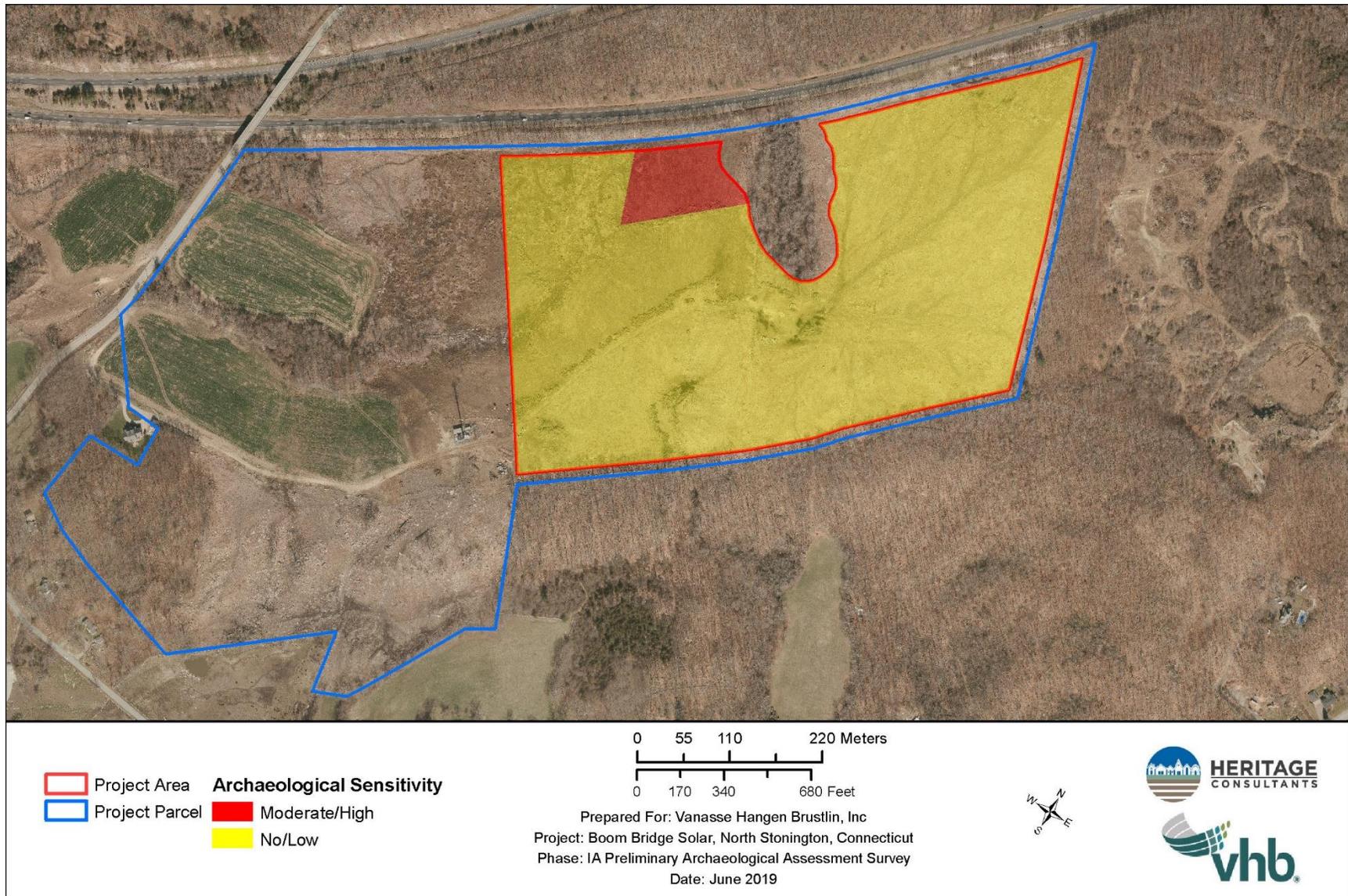


Figure 20. Archaeological sensitivity areas associated with the Boombridge Solar Center.



August 30, 2019

Mr. Steve Kochis
Senior Project Manager
Vanasse Hangen Brustlin, Inc.
100 Great Meadow Road, # 200
Wethersfield, Connecticut 06109

RE: Addendum to the Phase IA Cultural Resources Assessment Survey of the Proposed Boombridge Solar Center Project in North Stonington, Connecticut

Mr. Kochis:

During July of 2019, Heritage Consultants, LLC (Heritage) completed a Phase IA cultural resources assessment survey of the project area associated with the Proposed Boombridge Solar Center Project in North Stonington, Connecticut. The results of the assessment survey were prepared and submitted to VHB in a report entitled *Phase IA cultural resources assessment survey of the proposed Boombridge Solar Center in North Stonington, Connecticut*. While completing that initial effort, Heritage personnel examined historic maps, aerial images, and the distribution of known cultural resources in the region, as well as completed pedestrian survey, in order to stratify the project parcel into zones of no/low and moderate/high archaeological sensitivity. That effort resulted in the identification of a small (ca., 2.4 ac) area of moderate/high sensitivity situated in the northwestern part of the project parcel (see Figure 1). Heritage further recommended that if construction plans for the proposed solar center called for ground disturbing activities within the identified moderate/high sensitivity area, Phase IB cultural resources reconnaissance survey was indicated.

Heritage recently has been contacted by VHB and the project sponsor, and has been informed that the ground disturbing activities associated with the proposed solar center will be confined to acreage located to the east of the previously identified moderate/high sensitivity. That being the case, and after review of the modified design plan for the solar facility as depicted in Figure 1, Heritage has determined that no areas of archaeological sensitivity or known cultural resources will be adversely effected by construction of the planned facility. Thus, it is the professional opinion of Heritage personnel that no additional archaeological examination (Phase IB cultural resources reconnaissance survey) of the project parcel is warranted prior to construction of the proposed solar center.

If you have any questions regarding this addendum letter, or if we can be of additional assistance with this or with any other project you may have, please do not hesitate to contact me at dgeorge@heritage-consultants.com or on my cellular phone at (860) 299-6328. We are at your service.

Sincerely,

A handwritten signature in cursive script that reads "David R. George".

David R. George, M.A., R.P.A.
Heritage Consultants, LLC

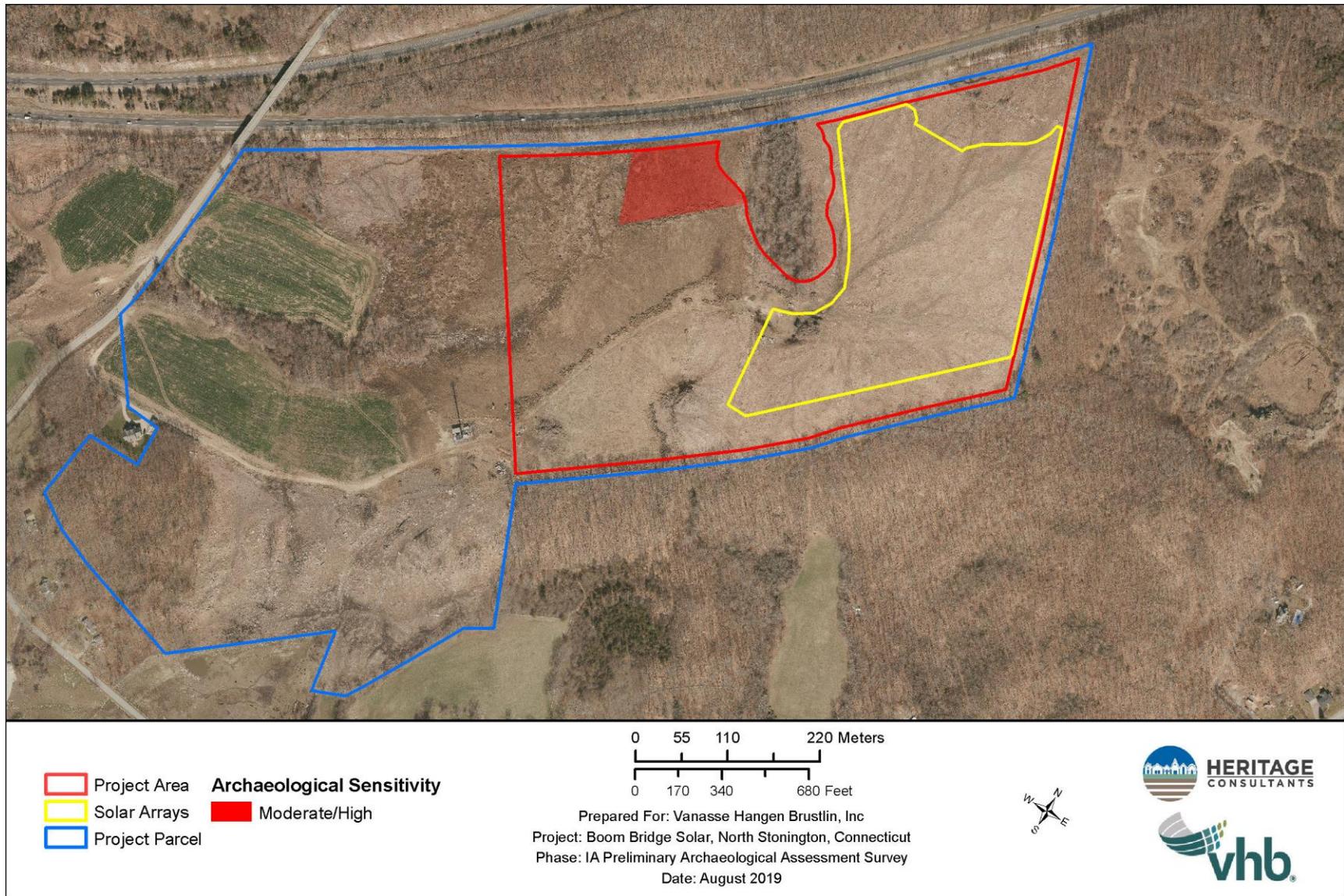


Figure 1. Plan view of the proposed project parcel, proposed location of solar arrays, and the previously identified moderate/high archaeologically sensitive area.