FEBRUARY 2020

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF THE PROPOSED VEROGY SOLAR CENTER IN BRISTOL, CONNECTICUT

PREPARED FOR:

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION, SUITE 311
WATERFORD, CONNECTICUT 06385

PREPARED BY:

HERITAGE CONSULTANTS
55 EAST CEDAR STREET
NEWINGTON, CONNECTICUT 06111

ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for the proposed Verogy Solar Center in Bristol, Connecticut. The project area associated with this solar center encompasses approximately 17.4 acres of land and it situated within a larger 28.6acre parcel; it will be accessed from Minor Road. 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 all 17.4 acres of the project area retain moderate/high sensitivity for intact archaeological deposits.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey for the proposed Verogy Solar Center in Bristol, Connecticut (Figure 1). All-Points Technology Corporation (All-Points) 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 17.4 acres of land. The proposed development area is hereafter referred to as the project area. The project area is situated in the central portion of a larger 28.6 acre parcel of land located at 399 Hill Street. The project area consists of an open agricultural field surrounded by wooded areas and industrial/commercial facilities to the north and west, as well as agricultural fields, wooded areas and a residential community to the south. An electric distribution utility easement borders the north side of the project parcel. A farmhouse and several farm buildings are located toward the northeast end of the project parcel adjacent to Hill Street. Heritage completed this investigation on behalf of All-Points in February of 2020. 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 consist of a 370-watt solar center that will include the installation of rows of solar panels spaced 3.65 m (12 ft) apart across the entirety of the above-referenced project area. The solar array will interconnect with an existing powerline corridor that extends from east to west adjacent to the northern edge of the project area. 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 development area, failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties within 1.6 km (1 mi) of the project area. However, this is more likely due to a lack of professional surveys have been conducted in the area rather than an actual absence of cultural resources.

In addition to the cultural resources overview discussed above, 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 all 17.4 acres of the project area contain low slopes and well-drained soils in proximity to the Pequabuck River and the Birge Pond Brook. As a result, it was determined that the entirety of the project area has the potential to contain intact archaeological

deposits. Thus, Phase IB survey of the project area is recommended prior to construction of the proposed solar center.

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 Ms. Kelsey Tuller, M.A., and Mr. Matthew Denno, B.A., who completed the field work portion of the project. Dr. Kristen Keegan completed this historic background research of the project and contributed to the final report, while Mr. Stephen Anderson, B.A., completed all GIS tasks associated with the project. Finally, Ms. Elizabeth Correia, M.A., helped to 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: Northwest Hills 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.

<u>Northwest Hills Ecoregion</u>

The Northwest Hills ecoregion region consists of a hilly upland terrain characterized by "a moderately hilly landscape of intermediate elevation, with narrow valleys and local areas of steep and rugged topography" (Dowhan and Craig 1976:31). Elevations in the Northwest Hills ecoregion range from 228.6 to 304.8 m (750 to 1,000 ft) above sea level. The bedrock of the region is composed of schists and gneisses deposited during the Paleozoic (Dowhan and Craig 1976; Bell 1985). Soils in these uplands areas have developed on top of glacial till in upland locales, and on top of stratified deposits of sand, gravel, and silt in the local valleys (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 Pequabuck River, Birge Pond Brook, Birge Pond, Marsh Brook, and Old Marsh Pond, as well as numerous unnamed streams, ponds, and wetlands. These freshwater sources may have served as resource extraction

areas for Native American and historic populations alike. 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 four major soil types: Woodbridge, Paxton/Montauk, and Leicester soils (Figure 2). A review of these soils shows that the majority of them consist of well drained 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.

<u>Woodbridge Soils:</u>

A typical profile associated with Woodbridge soils is as follows: **Ap**--0 to 18 cm; very dark grayish brown (10YR 3/2) fine sandy loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine and medium roots; few very dark brown (10YR 2/2) earthworm casts; 5 percent gravel; moderately acid; abrupt wavy boundary; **Bw1**--18 to 46 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; moderately acid; gradual wavy boundary. **Bw2**--46 to 66 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; few very dark brown (10YR 2/2) earthworm casts; 10 percent gravel; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary; **Bw3**--66 to 76 cm; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; clear wavy boundary; **Cd1**--76 to 109 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; 20 percent gravel; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation and light brownish gray (10YR 6/2) areas of iron depletion; moderately acid; gradual wavy boundary; and **Cd2**--109 to 165 cm; light olive brown (2.5Y 5/4) gravelly fine sandy loam; weak thick plates of geogenic origin; very firm, brittle; few fine prominent very dark brown (10YR 2/2) coatings on plates; 25 percent gravel; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid.

<u>Paxton/Montauk Soils:</u>

A typical profile for Paxton and Montauk soils is described as follows: **Ap**--0 to 20 cm; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable;

many fine roots; 5 percent gravel; strongly acid; abrupt smooth boundary. **Bw1**--20 to 38 cm; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 5 percent gravel; few earthworm casts; strongly acid; gradual wavy boundary; **Bw2**--38 to 66 cm; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent gravel; strongly acid; clear wavy boundary; and **Cd**--66 to 165 cm; olive (5Y 5/3) gravelly fine sandy loam; medium plate-like divisions; massive; very firm, brittle; 25 percent gravel; many dark coatings on plates; strongly acid.

Leicester Soils:

A typical profile associated with Leicester soils is as follows: **Oe**--0 to 3 cm; black (10YR 2/1) moderately decomposed plant material; **A**--3 to 18 cm; black (10YR 2/1) fine sandy loam; moderate medium granular structure; friable; common fine and medium roots; 10 percent gravel and cobbles; strongly acid; clear wavy boundary; **Bg1**--18 to 25 cm; grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent gravel and cobbles; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **Bg2**--25 to 46 cm; light brownish gray (2.5Y 6/2) fine sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; 10 percent gravel and cobbles; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary; **BC**--46 to 61 cm; pale brown (10YR 6/3) fine sandy loam; massive; friable; few fine roots; 10 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) and yellowish red (5YR 4/6) masses of iron accumulation; strongly acid; clear wavy boundary. (0 to 20 cm thick). **C1**--61 to 84 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation and prominent pinkish gray (7.5YR 6/2) iron depletions; strongly acid; gradual wavy boundary; **C2**--84 to 155 cm; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; massive; friable; 15 percent gravel and cobbles; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid. This is a minor soil type on the project parcel and it does not extend into the area planned for solar center construction.

Summary

The natural setting of the area containing the proposed Verogy Solar Center is common throughout the Northwest Hills ecoregion. Streams and rivers of this area empty into the Naugatuck or Farmington Rivers, which in turn, drain into the Long Island Sound. Further, the landscape in general is dominated by 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 Bristol 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 gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The 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, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden

Creek Site represented a short-term occupation, and that separate stone tool reduction and rejuvenation areas were present.

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±280 and 7,015±160 B.P. (Dincauze 1976).

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

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

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

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

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

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 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 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 stated in Chapter 1, the project area consists of a 17.4 acre area within a larger 28.6 acre parcel of land in the town of Bristol in Hartford County, Connecticut. The parcel is in the northwestern quarter of Bristol, on the west side of Hill Road and a short distance to the south of James P. Casey Road. As discussed below, however, older maps and aerial photographs indicate that the northern boundary of the parcel was formerly defined by a now-abandoned section of Minor Road. This chapter presents of overview history of the larger region, as well as historical data specific to the project area.

History of the Town of Bristol

Hartford County was the site of one of the two earliest loci of colonial settlement in Connecticut, with three of its towns dating to the 1630s. It extends southward from the Massachusetts border and flanks the Connecticut River. The earliest colonial development of the region depended on the agricultural and transportation advantages of the river and its valley; areas further from the Connecticut River Valley were colonized later and usually grew more slowly through the early nineteenth century. Thereafter, the main source of differentiation in Hartford County towns' development was, first, whether they had significant levels of industrialization, and, later, whether they had significant levels of suburbanization. Bristol, being located at the western edge of the county, was later-colonized and slow to develop. During the nineteenth century, however, the Pequabuck River provided waterpower that allowed the development of a steadily growing amount of industry in the town, especially in the later part of the century and the early twentieth century. After the 1930s, suburbanization caused an additional population boom. The following discussion outlines the history of Bristol in more detail and discusses the presence or absence of historical resources in the vicinity of the project area.

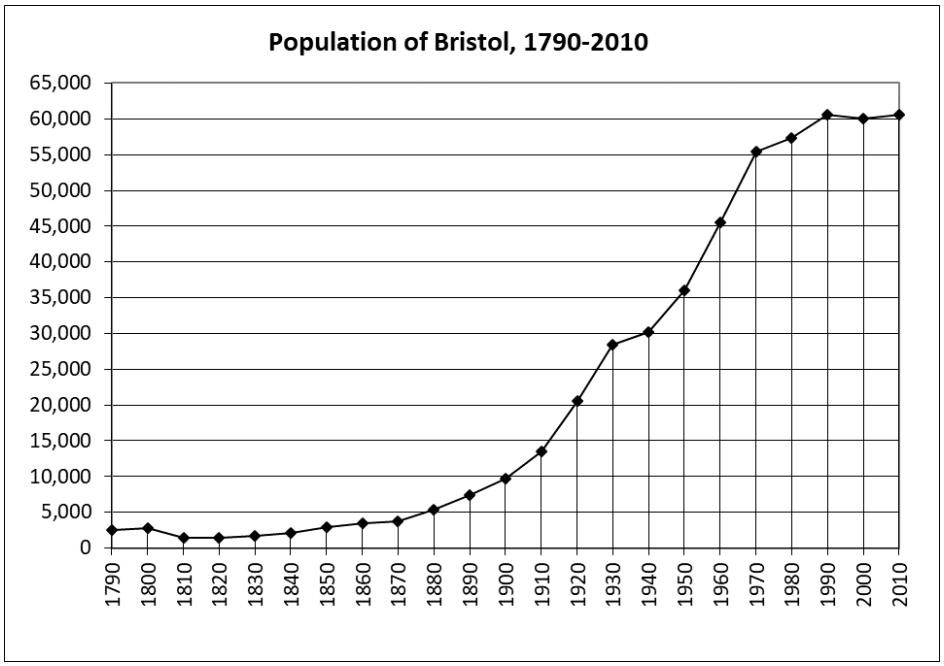
<u>Colonial Era (to 1790)</u>

The town of Bristol was created out of the town of Farmington in 1785. Farmington, in turn, can be considered the first daughter town of Hartford; it was established by Hartford colonists in 1645. Both legal and historical tradition holds that when the Hartford colonists purchased land from an Indian sachem known as Sequassen in 1636, they bought a very large area extending westward to the Mohawk territory (Bickford 1982). The description of the purchase was so vague that it could be, and sometimes was, argued to extend to the Housatonic River, although it is very doubtful that whatever authority Sequassen had really extended so far. As with many other purchases from Native American, the Sequassen document imagined, quite unrealistically, that Native American leaders had the same kind of ownership of their territory as the British monarchs did. Notwithstanding such assertions of sovereignty by or on behalf of Sequassen, once the newly constituted General Court decided, in 1640, to permit a new settlement at "Tunxis Sepus," the governor secured an additional deed from the Tunxis Native American community there. This deed was confirmed by another deed in 1650, in which it was claimed that the land had already been purchased from Sequassen; however, it once again included a new agreement with the actual Native American residents of the region. A group of Native Americans remained on a reservation in Farmington for many years, but over time most departed for regions less subject to encroachments by the colonists, leaving only a few holdouts who eventually passed away (Bickford 1982).

The new colonial settlement at Tunxis received the official name of Farmington in 1645. In addition to the initial purchases, the town was granted additional areas of land by the legislature between 1645 and 1677, so that its final size measured approximately 15 miles (24 km) from north to south and 11 miles (18 km) from east to west. The future site of Bristol was situate in the middle-western part of this large area. It was not until 1721 that the Farmington-based colonial owners of the area that would become Bristol and Burlington divided it into five tiers of lots to be distributed among themselves. These lots were considered part of the New Cambridge Society, an ecclesiastical subdivision of Farmington, until Bristol was incorporated and named in 1785. The northern part had developed a further ecclesiastical subdivision, known as West Britain, in 1774. It became known as Burlington when that town separated from Bristol in 1806 (Crofut 1937). During the Revolutionary War, some 92 men from Bristol (then known as New Cambridge) saw military service. The town also produced the noted Loyalist Moses Dunbar, who became a captain in British service and who was executed in Hartford in 1777 for treason (Clouette and Roth 1984).

Early National and Industrializing Eras (1790-1930)

In the first federal census, which was recorded in 1790, Bristol reported 2,642 residents (see the population chart below; Keegan 2012). A gazetteer of the state published in 1819 reported that it was "uneven and hilly," the soil was good for growing grain, grass, and fruit. More notably, many of its residents were "engaged in manufacturing employments and pursuits," especially tinware and clocks. The town already had five tinware factories, one firm making brass clocks, and several making wooden clocks, along with two button factories, two textile mills, eight cider distilleries, and six tanneries, in addition to the usual grist mills and sawmills. The town's cultural needs were met by one Congregational and one Baptist church, common schools, "one small Academy for Misses," and three public membership libraries (Pease and Niles 1819:58-59). In 1837, Bristol received only a short description from John Warner Barber, who repeated the agricultural information from the earlier source. By the 1830s, however, Bristol had 16 clock factories and button manufacturing, and had added a Methodist church (Barber 1837:69).



Bristol's first clockmaking boom lasted from 1820 to 1837, and was due to the efforts of local merchants who convinced Chauncey Jerome, a clockmaker trained by Eli Terry of Plymouth, to move there. Jerome was far from the only clockmaker in Bristol, but he was more famous than most of the rest (Clouette and Roth 1984). The population figures shown in the population chart above, however, do not indicate any precipitous change over the first 40 years of the century, but rather a slow and steady growth from a low point of 1,362 residents in 1820. The decline between 1800 and 1810 was due to the loss of territory to the new town of Burlington (Keegan 2012). These numbers indicate that the town's industrial firms remained small during this period. The Panic of 1837 brought the enterprises of Bristol, as well as many other places, to a temporary halt. Jerome switched production from wooden to brass clocks, and by 1850 Bristol factories were producing large numbers of clocks. Jerome moved his works to New Haven in 1843, but the town's industries included other clockmakers, as well as foundries, textile mills, saws, and machinery, so the town was more than ready to take advantage of the arrival of the railroad in 1850 (Clouette and Roth 1984). At that time, the town's population had been growing steadily for decades and reached 2,884 residents (see the population chart above; Keegan 2012). In towns that, unlike Bristol, did not have an industrial base, the population trend across the nineteenth century was often stagnation or decline.

The railroad was only one of several efforts to improve transportation in Bristol and the region. In 1803, the East Middle-West Middle turnpike was chartered by the state, and eventually passed on an east-west course across the center of Bristol. The road remained in operation, with some changes, through the 1840s (Wood 1919). Prominent men of Bristol also were involved in the chartering and construction of the Farmington Canal, which opened in 1828 and gave Bristol manufacturers and merchants relatively easy access to a more efficient means of transporting goods, until the railroads displaced the canal (Clouette and Roth 1984). The initial railroad company that served Bristol was chartered in 1845, then merged with a pre-existing firm to create the Hartford, Providence, & Fishkill Railroad, whose goal was to complete a line between Providence, Rhode Island and Fishkill, New York through Hartford. In 1850 service began between Hartford and Bristol, and after various vicissitudes the road did reach New York (Turner and Jacobus 1989). The 1850 census of manufactures reported 11 clock manufacturers in Bristol, all but two of which had fewer than 50 employees; in fact, the largest employer in Bristol was the Bristol Mining Co., which was engaged in mining copper in the northeastern part of town and employed 100 men. In total, there were approximately 600 people employed in manufacturing (U.S. Census 1850c).

During the Civil War, loss of southern markets caused a slowdown in Bristol's clock industry. However, the local economy recovered in the postwar years, and various other industries arrived and flourished. These included the making of toys, musical instruments, steel tools, springs, and brass products. As for the war itself, many Bristol men saw service in the Sixteenth Regiment, and their Company K was captured at Plymouth, North Carolina in 1864. The troops were sent to prison camps, including the infamous Andersonville, Georgia camp (Clouette and Roth 1984). The increase in business is reflected in the steadily increasing population after 1870; by 1900, it was approaching 10,000, which made Bristol the nineteenth largest town in the state at that time (although the four largest municipalities each held over 50,000 people) (See population chart above; Keegan 2012).

According to nineteenth-century maps, the project area was well outside the developing industrial centers. In 1852, a map of the town showed the "Centre" and the "South Village" areas as more densely settled, with the railroad looping through them and extending eastward to the smaller village of Forestville (Figure 3). Another village, Polkville, was located in the northeastern part of town. The project area and its vicinity were sparsely settled at the time, indicating that the local economy was agricultural in nature. This map, unlike most others of the period, sought to depict all the buildings of

each farmstead. Thus, it showed the house of D. Hills on the east side of Hill Road, opposite the project area parcel, and a cluster of farm buildings on the west side of Hill Road, within the larger parcel. The project area proper, being set back from Hill Road, does not incorporate these buildings, although they were within 152 m (500 ft) of it. The other nearby farmsteads were those of S. H. Carrington, to the north and on the east side of the road (note, however, that the same name was attached to two other farmsteads to the south of this area), and C. L. Tuttle, to the south and on the west side of the road (Figure 3; Woodford 1852). The 1869 map of the town did not portray the farms' outbuildings, and the names of the nearby farmers had changed to Bill Gaylord, M. Minor, and Calvin Blanchard (Figure 4; Baker & Tilden 1869).

Although it is not certain which, if any, of these neighbors owned the larger parcel during the nineteenth century, information concerning them provides information about the neighborhood and its economic activities. According to the 1850 federal census, Daniel Hill, Silas H. Carrington, and Constant L. Tuttle were all farmers; it is possible that the farmstead to the north of Hill's was occupied by Julius Carrington, who may have been a brother to Silas. Hill and Tuttle were both older men, aged 64 and 75, and each claimed a farm worth $5,000. Their wives were both younger (Betsey Hill was 50 years old, and Hymenia Tuttle was 64). The Tuttles had an unmarried adult daughter living with them, and the Hills had an unmarried adult son, and each had a young, probably unrelated teenager in the household (a 13-year-old-boy for the Tuttles and an 11-year-old Irish girl for the Hills). In contrast, neither Carrington family gave a value for their farm, and both households were younger couples; Julius and Betsey had young children, while Silas H. and Jane C. had his probable mother and sister, plus an unrelated teenaged boy, in their household. Compared to most other farms in the area, those of Hills and the Tuttles were more valuable than usual for the neighborhood. Most of the heads of household were middle-aged or older, and all but a few were born in Connecticut (United States Census 1850a). Only the Tuttle and Hill farms' details were reported in the agricultural census for that year. There were few variations in the farming activities listed on the entire page of this agricultural census, however. The Tuttles had 110 improved acres and 40 unimproved, while the Hills had 135 improved acres and 15 unimproved; these numbers seem to have been above the median. Like their neighbors, these farmers had one horse, fewer than 10 milk cows (for butter and cheese production), one or two yokes of oxen, a handful of other cattle, and a few swine. Some farmers had up to 30 sheep, though not these two. For crops, they grew rye, corn, oats, potatoes, and buckwheat. The Hills and Tuttles, like some others, also produced tree fruit (United States Census 1850b).

The 1870 federal census recorded Calvin and Anna Blanchard (whose house was shown to the south of the project area in the 1869 map) as a couple in their twenties with no children; their farm was worth $6,000 and they had $1,175 in personal property as well. Calvin had been born in Massachusetts. Marcus Miner, located across Hill Road from the project area, was a 78-year-old farmer who owned $9,000 in real estate and $3,500 in personal estate; he shared his house with Edson and Josephine L. Downes, their small daughter, what are presumed to be Edson's teenaged siblings (the boy worked on the farm like his brother), and an older woman named Marcia Mills. Next door to them, possibly the household to the north of the project area, were Ira (not Billy) and Chloe M. Gaylord, whose farm was valued at $5,000 and who owned $1,000 in personal estate. They were in their thirties and had two young children, and a schoolteacher boarded with them (United States Census 1870a). There was more variety in the agricultural efforts of the farmers in the 1870 census than in 1850. This began with the size of the farms; the Blanchards had 64 improved acres and 10 acres of woodland, the Miner/Downes farm had 140 acres of improved land and 40 acres of woodland, and the Gaylords had 75 acres of improved land. Other farms in the area ranged from eight acres to 415 acres of improved land. Some farmers in the area were clearly specializing in dairy production, though not these three. As in 1850, most farms

had one or two horses, fewer than 10 milk cows, some oxen, some other cattle, and some swine. The Miner/Downes farm was among the few who kept sheep (14 of them). The Blanchards grew no grains, while the other two, and most other farms, grew rye and corn; far fewer grew oats and buckwheat. At least two farms in the town were growing tobacco. The three families near the project area also grew potatoes and orchard products – the Blanchards seemed to be specializing in that, with a much larger dollar value ($265) than other farms. A few farmers were apparently engaged in market gardening (United States Census 1870b). The presence of young farm families in this area in 1870 suggests that at least in parts of Bristol, farming was still considered a viable way to make a living, even as industrial employment in the town and elsewhere continued to increase.

Modern Era (1930-Present)

At the beginning of the twentieth century, Bristol's industry continued to be a strong component of the economy, adding products such as bicycles and (briefly) the original "yellow cabs." World War I produced another industrial boom for the town, and unlike in many textile-dependent manufacturing towns in Connecticut, most of these industries did not decline due to southern competition (Clouette and Roth 1984). According to a 1932 description of all the towns' vital statistics, businesses in town manufactured thirty-one different types of articles, ranging from clocks and related items (especially brass) to grain elevators, wood boxes, fishing rods, and knit underwear; agriculture was also mentioned, and there were tramway cars running every twenty minutes (Connecticut 1932). The 1934 aerial photography shows that the project area and its vicinity were, as expected, in an agricultural area with large expanses of cleared fields, as well as nearby areas that appear to have been in the process of reforestation. A cluster of connected barns stood within the larger project area parcel, at the corner of Hill Road and Minor Road, as was suggested by the 1852 map. More houses than just the old farmsteads were present along both sides of Hill Road. The project area proper included areas that might have been pasture, and also a section with regular dots suggesting an orchard (Figure 5; Fairchild 1934). The Great Depression affected Bristol's industries and finances as severely as it did every other town. World War II brought recovery, but it was short-lived in Bristol, as it was throughout the Northeast region. Industrial activity in town was reduced, though not entirely eliminated, while suburbanization slowly took root as elsewhere in the state (Clouette and Roth 1984). As the population chart above shows, the number of residents in Bristol rose steeply during the twentieth century to nearly 30,000 people in 1930, then leveled off during the Depression before beginning an even steeper climb to nearly 55,000 people by 1970. Growth was slower after that, so that by 1990 the increase had only just passed 60,000 residents and essentially stopped there through 2010 (Keegan 2012). The 1952 aerial photograph shows that the population increases had not yet had major effects on the area, although another house had been built in a piece cut out from the larger project area parcel, on the south side of Minor Road. There were still large areas of cleared fields and also large areas of forest in the vicinity. Part of the project area proper was taken up by a large orchard, while another part was a cleared field (Figure 6; USDA 1951).

The late-twentieth-century population figures reflect both a combination of Bristol's continuing business activity, and an influx of commuting householders who left the urban centers of Hartford and New Britain for suburban life. According to a 2015 economic survey of the city, 13 percent of the 22,307 jobs in Bristol were provided by 135 manufacturing firms, although the modern economy was also represented in the 19 percent of jobs in 17 firms in the category "Information," with a similar number in health care and social assistance; retail, interestingly, offered a smaller proportion of jobs than any of these three. In 2014, the three largest employers were ESPN (an "Information" firm), the local hospital, and the city itself (CERC 2017). The city's plan of conservation and development, adopted in 2015, stressed preservation of open space and enhancement of the community's character; the latter included farms, open space, historic resources, and sustainability (Bristol 2018). The 2019 aerial photograph

shows that the project area was still partly a cleared field, although the western end of the area had begun to reforest, and that several barns still stood inside the northeastern corner of the larger parcel. The project area was surrounded by a mix of the land uses that was very representative of Bristol's economy: other surviving cleared fields in most directions, housing developments representing several periods of suburban housing styles to the east and south, and industrial or commercial buildings to the north and west (Figure 7; CT ECO 2019).

Conclusions

The documentary record indicates that it is unlikely that the proposed development will impact any inventoried historical resources. The project area was farmed at least as far back as 1934, and no doubt for many years before that, but there is no indication that farm buildings were located anywhere but near the road to the east, outside the project area. Other evidence of historic farming activity, such as stone walls and fences, may be present, but such remains are not considered to be historically significant.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents an overview of previous archaeological research completed within the vicinity of the project area in Bristol, Connecticut. This discussion provides the comparative data necessary for assessing the results of the current Phase IA cultural resources assessment survey, and it ensures that the potential impacts to all previously recorded cultural resources located within and adjacent to the project area are taken into consideration. Specifically, this chapter reviews previously identified archaeological sites and National/State Register of Historic Places properties situated in the project region (Figures 8 and 9). 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 and National/State Register of Historic Places Properties/Districts in the Vicinity of the Project Area and Interpretations

A review of data currently on file at the Connecticut State Historic Preservation Office, as well as the electronic site files maintained by Heritage failed to detect any previously identified archaeological sites or National/State Register of Historic Places properties situated within 1.6 km (1 mi) of the project area (Figures 8 and 9). Though no archaeological sites have been previously identified in the area, the natural setting discussed in Chapter II suggests Native Americans may have once inhabited the area, and sites may yet be discovered. In addition, the larger project region has been in use as agricultural land since Bristol's settlement and there may be evidence of this historic occupation in the project area.

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 Bristol, 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 2019; 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 Bristol, 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 Bristol, 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 measures approximately 402 m (1,320 ft) in length from east to west by 134 m (440 ft) in width from north to south and is bordered on its north side by a dirt access road known as "Minor Road." An electrical distribution line located along this road will serve as the interconnect for the proposed 370 watt AC solar facility (Figures 1, 7 and 14). At the time of survey, the project area was characterized by open farmland (Figures 7, and 10 through 17). It is situated at elevations ranging from approximately 210 m (690 ft) NGVD in the west to 234 m (770 ft) NGVD in the east, and contains a total of 17.4 acres of land. The predominant soil types located throughout the project area are Woodbridge, Paxton/Montauk loams, which are found on slopes of 3 to 15 percent. As discussed in Chapter II of this report, these soil types are well-drained.

Heritage personnel conducted pedestrian survey of the project area on February 14, 2020. During pedestrian survey a gated, two-track dirt road was identified running along the northern border of the project area, which has a distribution line paralleling it (Figure 14). The project area sits on a flat terrace that slopes down to the south and west. Overall the project area appeared dry at the time of survey and consisted mainly of open fields (Figures 10 through 17). Besides its agricultural use, there were no signs of previous disturbance.

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, and National and State Register of Historic Places properties 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 or a National or State Register of Historic Places district/individually listed property also may be deemed to retain a moderate/high archaeological sensitivity. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties would be considered to retain a no/low historic period archaeological sensitivity.

The combined review of historic maps, aerial images, land deeds, and pedestrian survey indicates that the 17.4 acre project area contains low slopes and well drained soils situated in proximity to the Pequabuck River, which is located immediately to the west. Soils found throughout the project area are mainly attributed to the Woodbridge and Paxton/Montauk series, which consist of well drained loams that generally extend to ca., 165 cm (65 in) below surface. In addition, this area has been relatively undisturbed over the years. Based on the landscape type, proximity to freshwater, and the presence of well-drained loamy soils, the entire project area appears to retain a moderate/high sensitivity for yielding archaeological deposits. Thus, it is recommended that Phase IB cultural resources reconnaissance survey of the project area be completed prior to construction of the proposed solar center.

BIBLIOGRAPHY

Adams, Sherman W. and Stiles, Henry R.

1904 *The History of Ancient Wethersfield Connecticut, Comprising the Present Towns of Wethersfield, Rocky Hill, and Newington; and of Glastonbury prior to its Incorporation in 1693, from Date of Earliest Settlement Until the Present Time*. Vol. 1. New York: The Grafton Press; reprint ed. Somersworth, New Hampshire: New Hampshire Publishing Company, 1974.

Baker & Tilden

1869 *Atlas of Hartford and Tolland Counties: With a Map of Connecticut: From Actual Surveys*. Hartford, Connecticut: Baker & Tilden.

Barber, John Warner

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

Barry, Ann P.

1985 Connecticut Towns and Their Establishment. Hartford, Connecticut: Connecticut State Library.

Bendremer, J.

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

Bendremer, J. and R. Dewar

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

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

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

Bickford, C. P. and Farmington Historical Society

1982 *Farmington in Connecticut*. Canaan, New Hampshire: Phoenix Pub.

Brandegee, Emily S.

1913 *The Early History of Berlin, Connecticut*. [Berlin, Connecticut: The Emma Hart Willard Chapter, D.A.R.]

Bristol, City of

2018 *Bristol: 2015 Plan of Conservation and Development*. Accessed May 18, 2018. http://www.ci.bristol.ct.us/DocumentCenter/View/6668/Bristol-POCD-Effective-063015-RFS.

CERC
2017 Bristol, Connecticut, CERC Town Profile 2017. Accessed May 18, 2018. https://s3-us-west-2.amazonaws.com/cerc-pdfs/2017/bristol-2017.pdf.

Clouette, Bruce, and Matthew Roth
1984 *Bristol, Connecticut: A Bicentennial History, 1785-1985*. Canaan, New Hampshire: Phoenix Publishing by The Bristol Public Library.

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

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

Connecticut Environmental Conditions Online (CT ECO)
2019 Connecticut 2019 Orthophotography. Storrs, Connecticut: University of Connecticut, Connecticut Environmental Conditions Online. http://www.cteco.uconn.edu/data/flight2019/index.htm.

Crofut, F. S. M.
1937 *Guide to the History and the Historic Sites of Connecticut*. 2 volumes. New Haven, Connecticut: Yale University Press.

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

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

Deitrick, Barbara, comp.
1965 *The Ancient Town of Lyme*. [Lyme, Connecticut]: Lyme Tercentenary, Inc.

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

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

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

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

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

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

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

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

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

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

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

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

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

Guilette, Mary E.
1979 *American Indians in Connecticut: Past to Present*. [Hartford, Connecticut]: State of Connecticut, Department of Environmental Protection, Connecticut Indian Affairs Council.

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

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

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

Keegan, Kristen Noble, comp.
2012 Historical Population Data of Connecticut. Dataset on file, Manchester, Connecticut.

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

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

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

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

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

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

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

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

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

1983 *Prehistory of the Lower Connecticut River Valley.* Ph.D. Dissertation, Department of Anthropology, University of Connecticut, Storrs, Connecticut.

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

Oglesby, Scott
2013 I-691. *Connecticut Roads*. Accessed October 15, 2018. http://www.kurumi.com/roads/ct/i691.html.

2015 I-84. *Connecticut Roads*. Accessed October 15, 2018. http://www.kurumi.com/roads/ct/i84.html.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Shelford, V.E.
1963 *The Ecology of North America*. University of Illinois Press.

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

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

Turner, G. M., and M. W. Jacobus
1989 *Connecticut Railroads: An Illustrated History*. Hartford, Connecticut: Connecticut Historical Society.

United States Census
1850a Seventh Census of the United States. Schedule 1 – Free Inhabitants. HeritageQuest Online. Ann Arbor, Michigan: ProQuest LLC.

1850b Seventh Census of the United States. Schedule 4 – Productions of Agriculture. HeritageQuest Online. Ann Arbor, Michigan: ProQuest LLC.

1850c Seventh Census of the United States. Schedule 5 – Products of Industry. Washington, DC: Bureau of the Census.

1870a Ninth Census of the United States. Schedule 1 - Inhabitants. HeritageQuest Online. Ann Arbor, Michigan: ProQuest LLC.

1870b Ninth Census of the United States. Schedule 3 - Productions of Agriculture. HeritageQuest Online. Ann Arbor, Michigan: ProQuest LLC.

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

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

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

Wood, Frederic J.
1919 *The Turnpikes of New England and Evolution of the Same Through England, Virginia, and Maryland*. Boston: Marshall Jones Company.

Woodford, E. M.
1852 Map of the Town of Bristol, Hartford County, Connecticut. Philadelphia: Richard Clark.

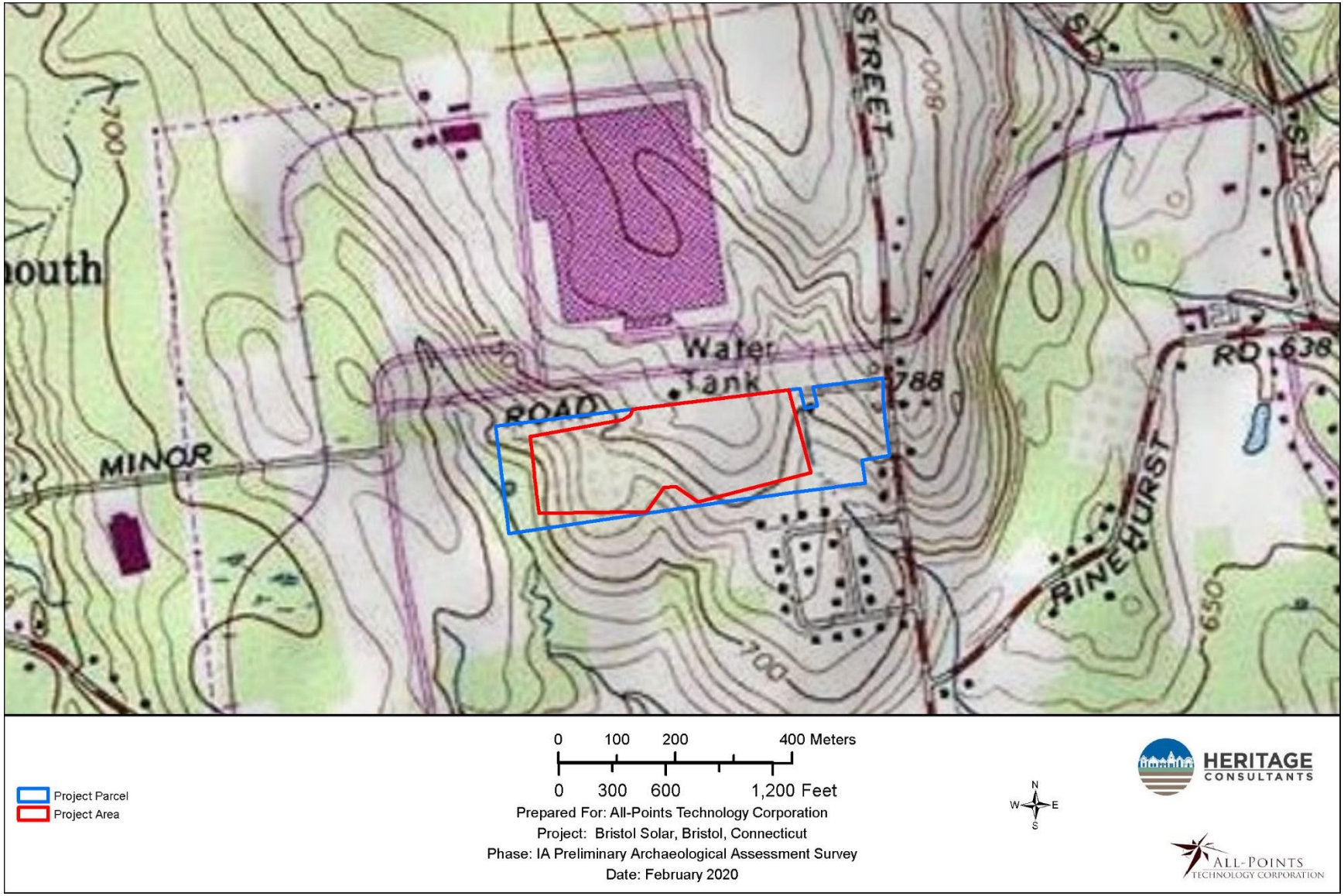


Figure 1. Excerpt from a USGS 7.5' series topographic quadrangle image showing the location of the project area in Bristol, Connecticut.

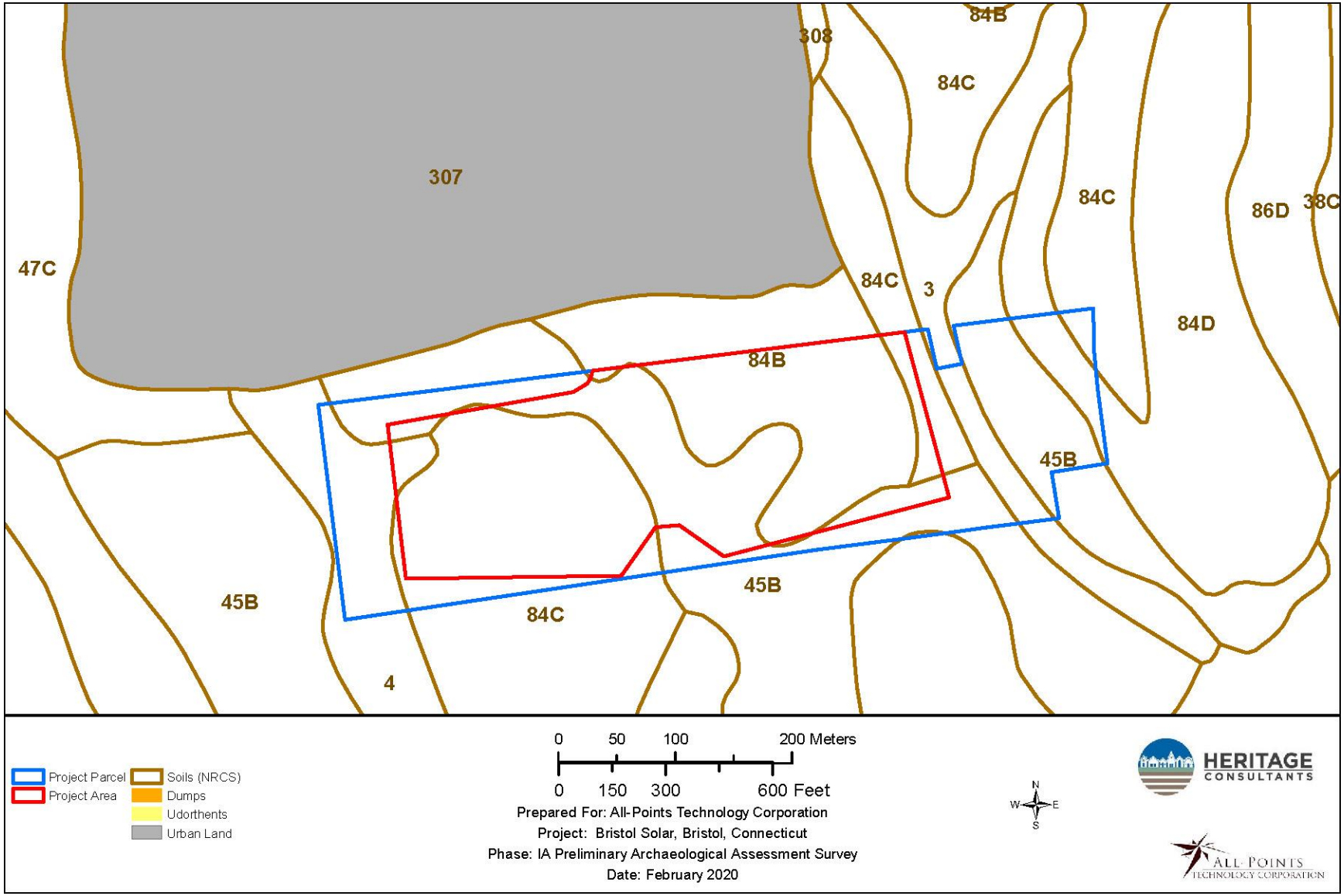


Figure 2. Map of soils located in the vicinity of the project area in Bristol, Connecticut.

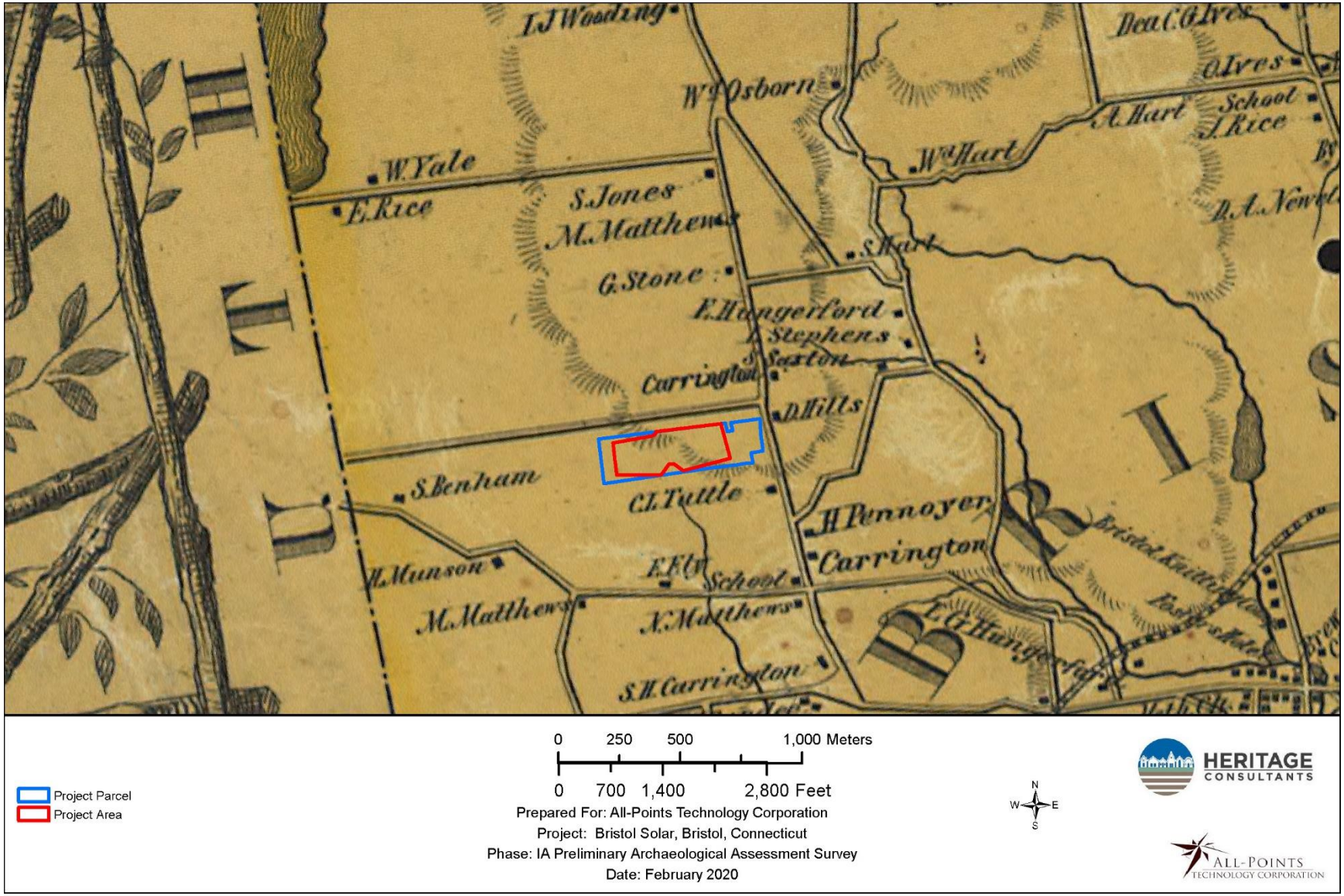


Figure 3. Excerpt from an 1852 historic map showing the location of the project area in Bristol, Connecticut.

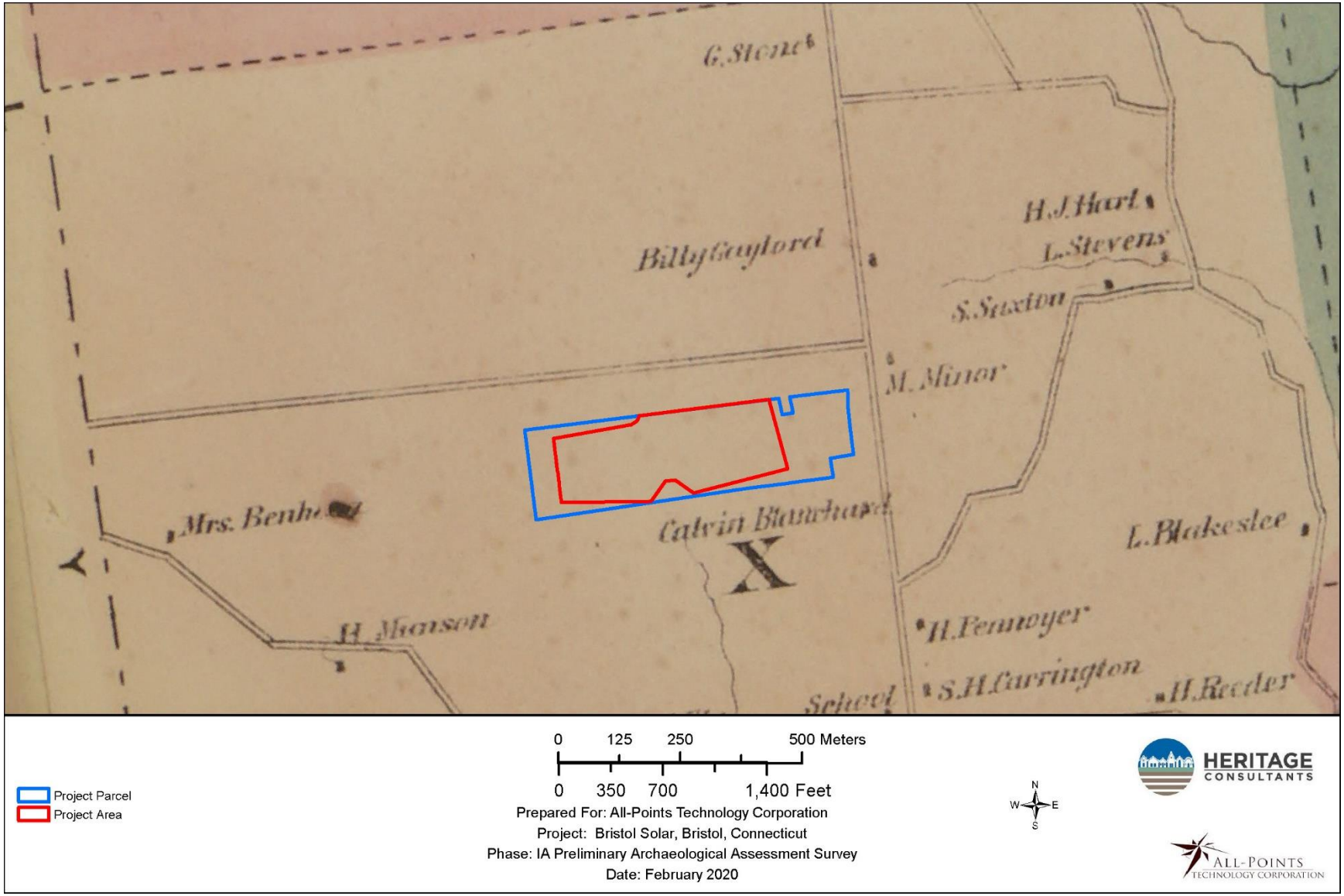


Figure 4. Excerpt from an 1869 historic map showing the location of the project area in Bristol, Connecticut.

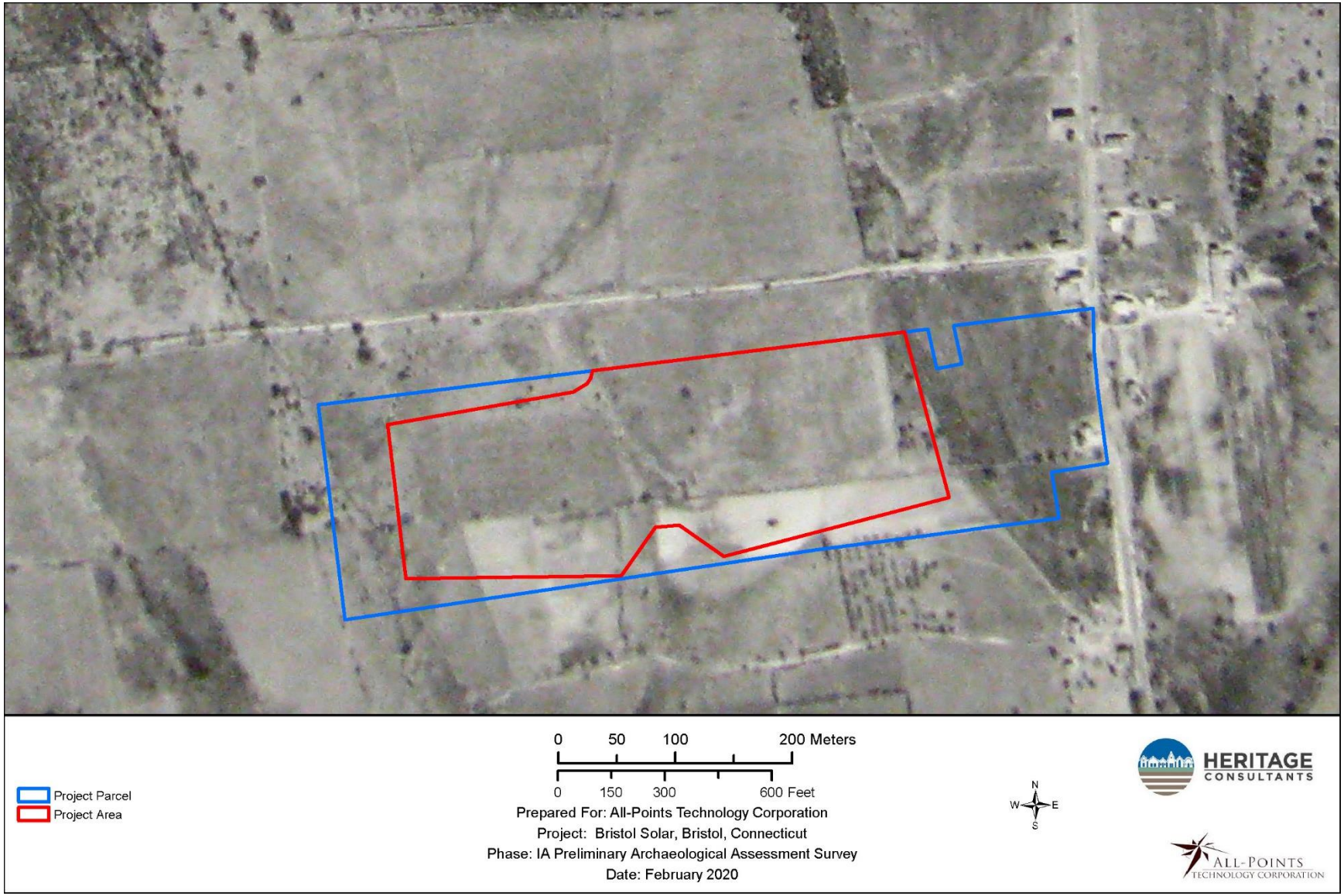


Figure 5. Excerpt from a 1934 aerial photograph showing the location of the project area in Bristol, Connecticut.

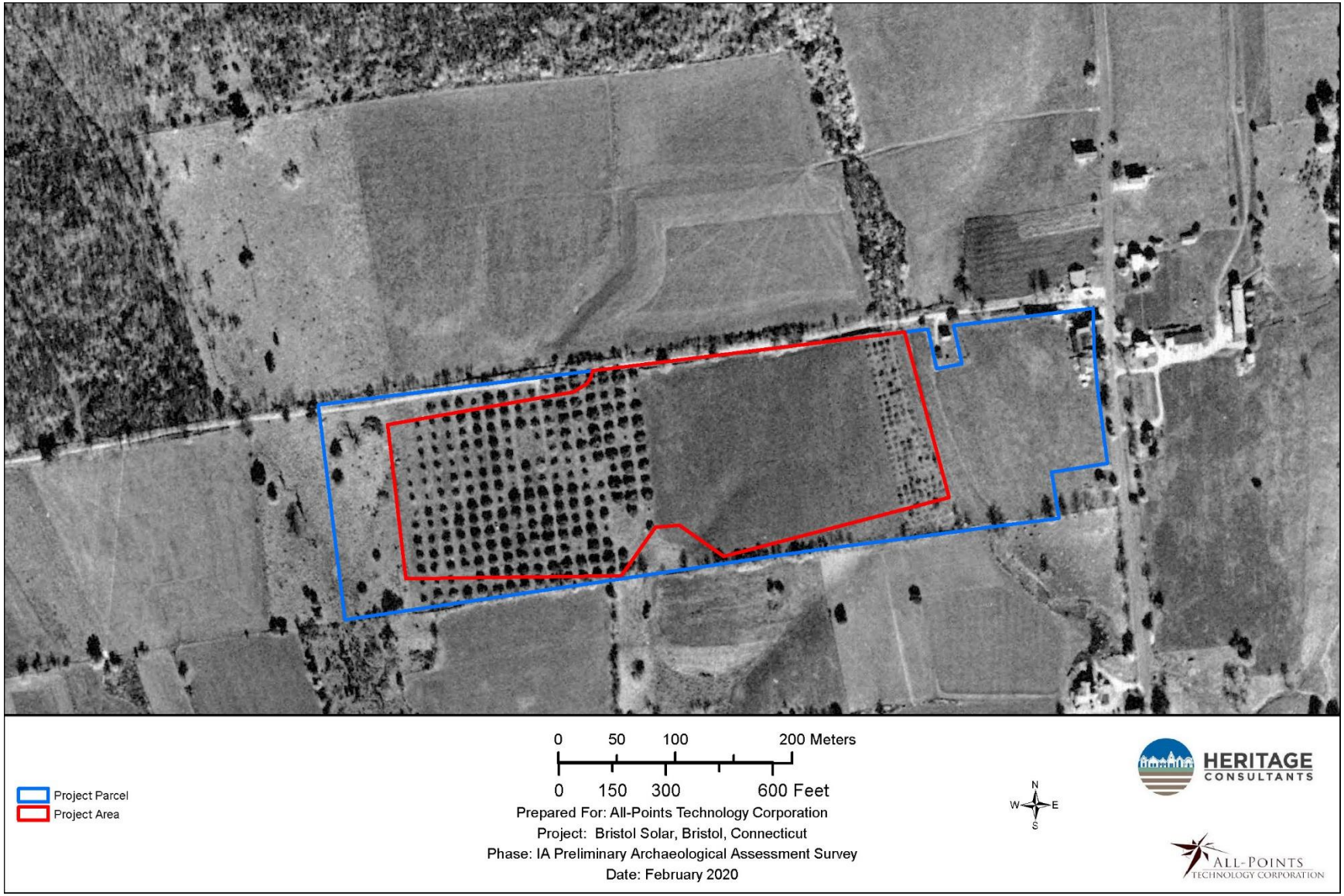


Figure 6. Excerpt from a 1951 aerial photograph showing the location of the project area in Bristol, Connecticut.

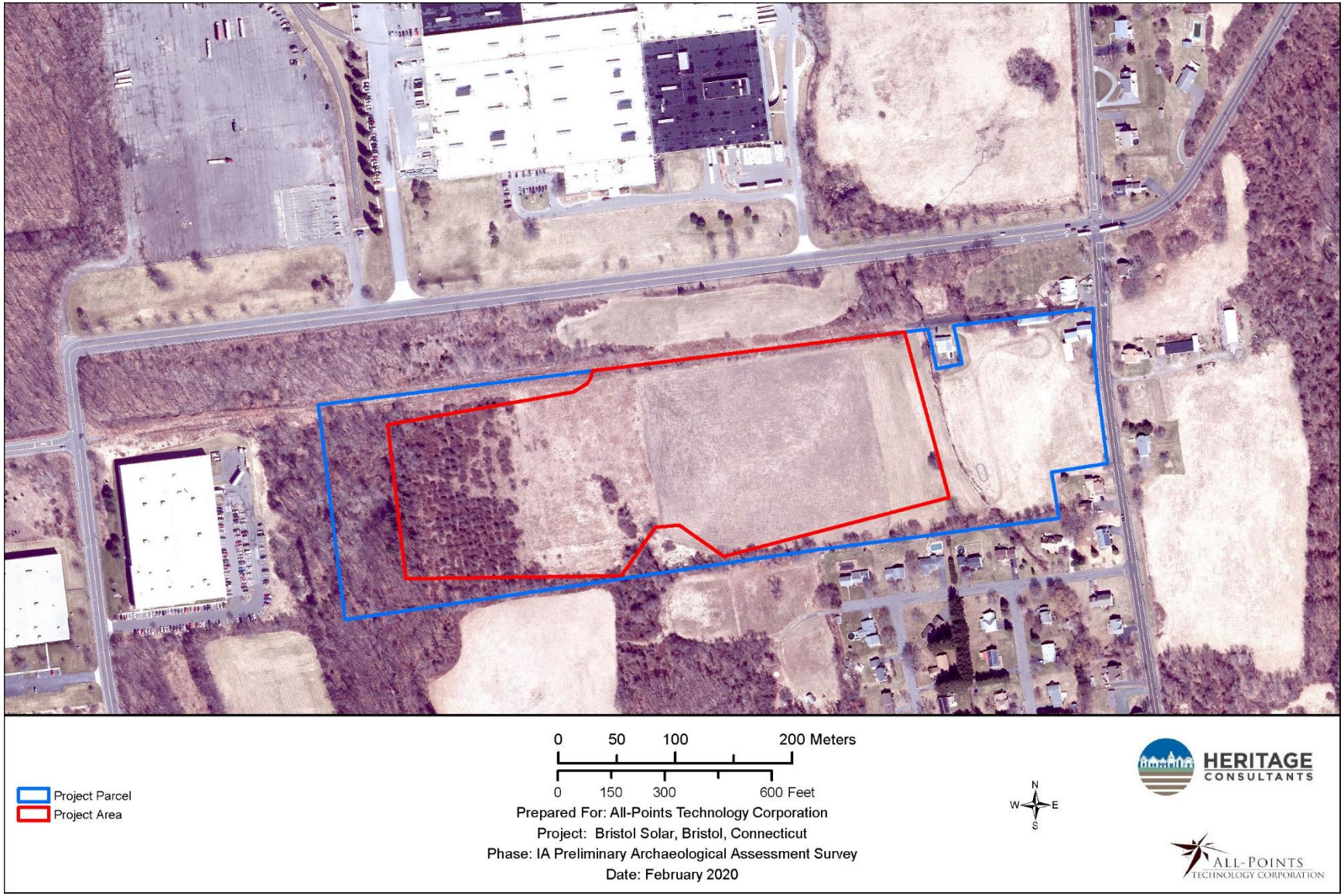


Figure 7. Excerpt from a 2019 aerial photograph showing the location of the project area in Bristol, Connecticut.

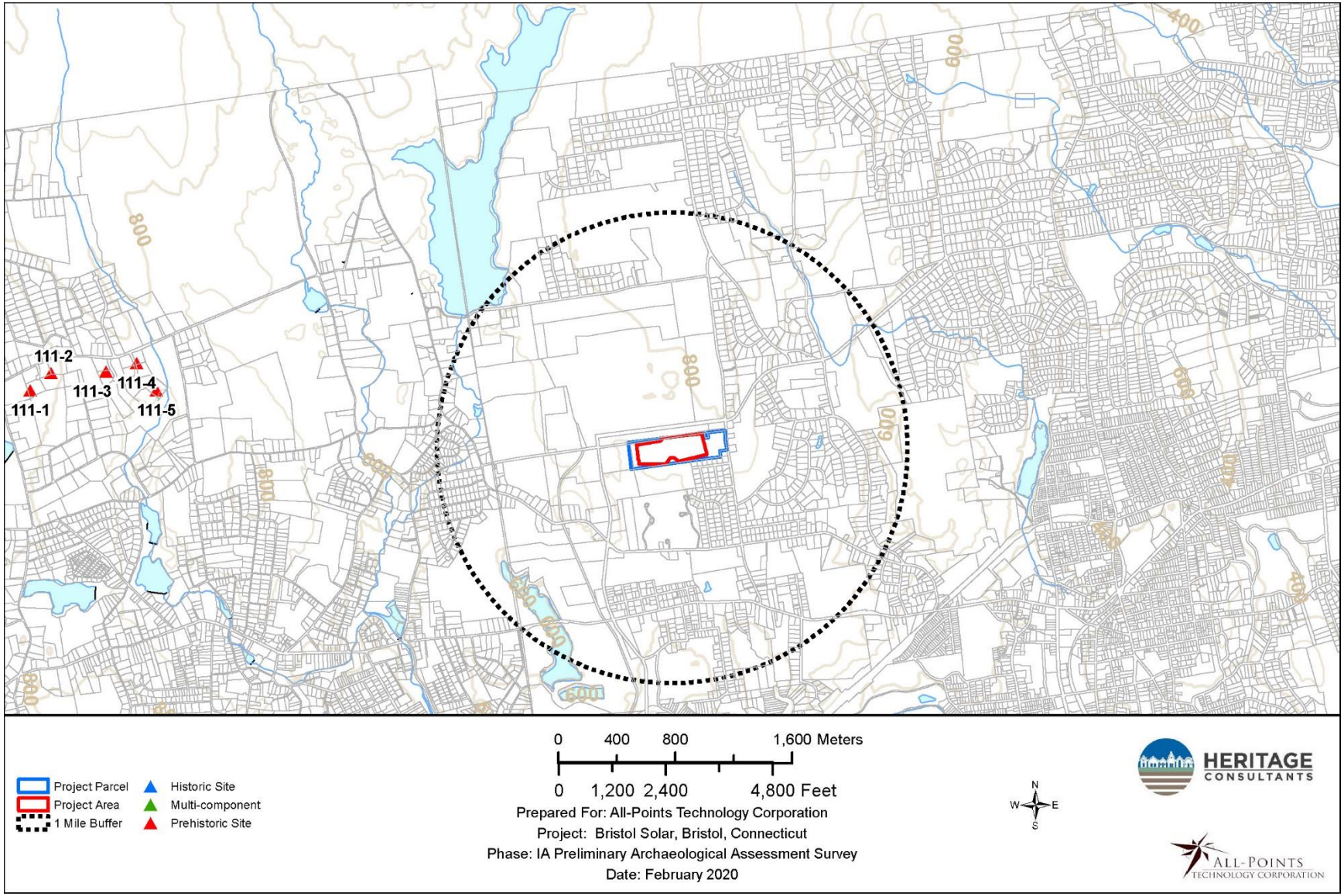


Figure 8. Digital map showing the location of previously identified archaeological sites in the vicinity of the project area in Bristol, Connecticut.

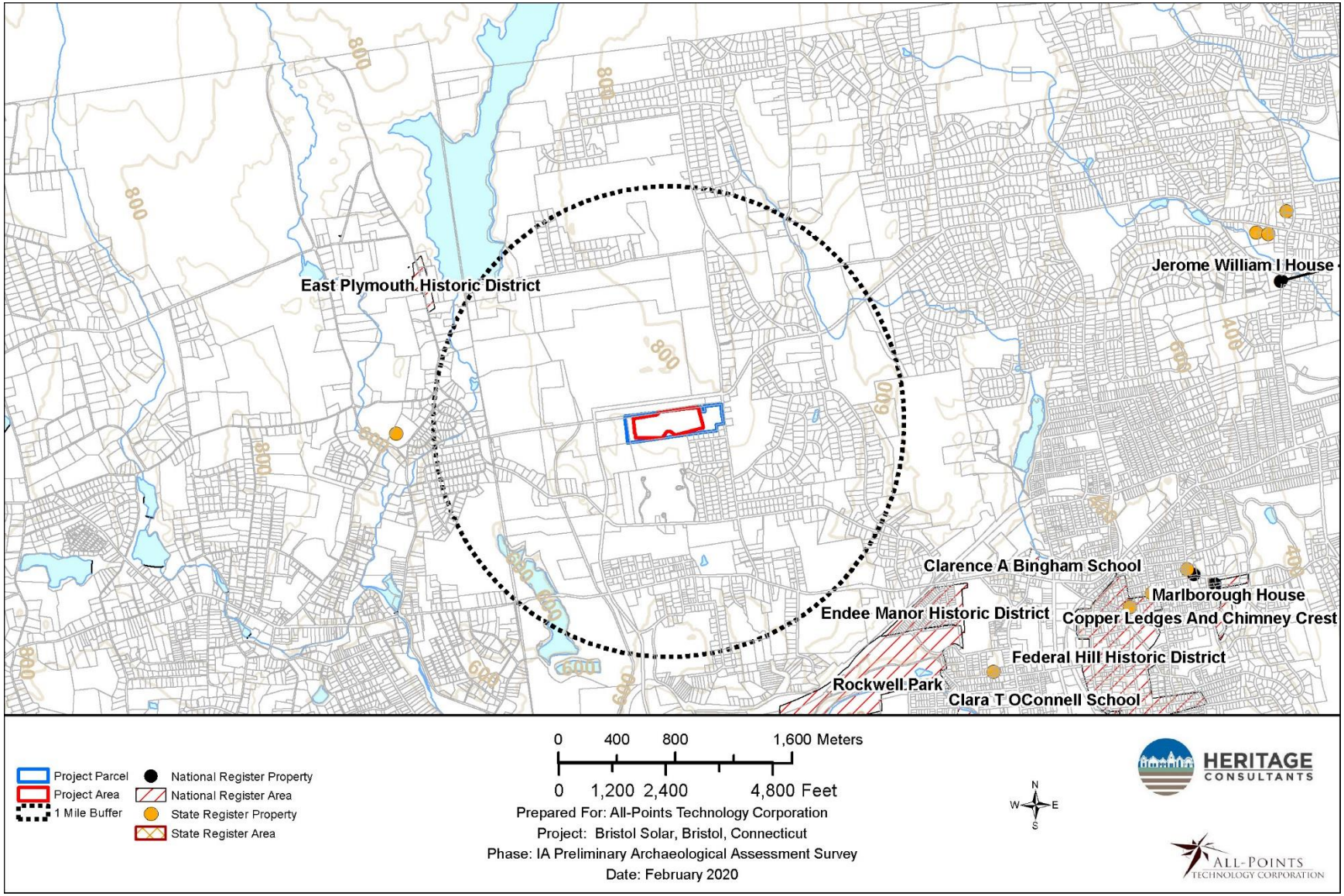


Figure 9. Digital map depicting the locations of previously identified National/State Register of Historic Places properties in the vicinity of the project area in Bristol, Connecticut.

Figure 10. Overview photo of the northeast corner of the project area facing southwest.

Figure 11. Overview photo of the southeast corner of the project area facing northwest.

Figure 12. Overview photo of the southwest corner of the project area facing northeast.

Figure 13. Overview photo of the northwest corner of the project area facing southeast.

Figure 14. Overview photo of the central portion of the project area facing north with powerline visible in the background.

Figure 15. Overview photo of the central portion of the project area facing east.

Figure 16. Overview photo of the central portion of the project area facing south.

Figure 17. Overview photo of the central portion of the project area facing west.