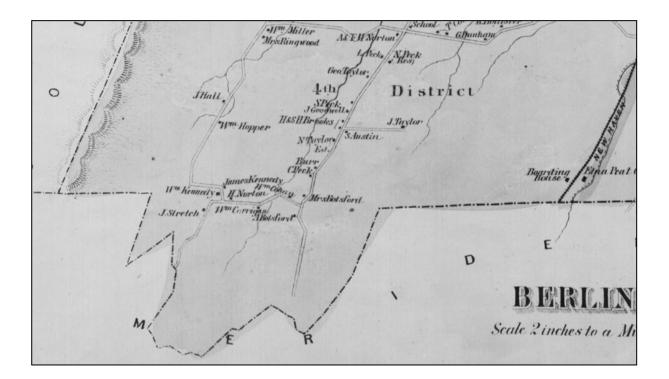
Appendix E: Cultural Resources



Phase Ia Archaeological Assessment Survey Proposed Solar Photovoltaic Array Chamberlain Highway Town of Berlin, Connecticut

June, 2023





Phase Ia Archaeological Assessment Survey Proposed Solar Photovoltaic Array Chamberlain Highway Town of Berlin, Connecticut

by

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June, 2023

ACS

Abstract

This report contains the results of a Phase Ia archaeological assessment survey conducted by ACS (Archaeological Consulting Services) during the month of June, 2023. The project calls for an evaluation of potential cultural resources to be affected by the construction of a solar farm on a property that measures about 27 acres in Berlin, Connecticut. The project property consists of one lot on the east side of Chamberlain Highway and just east of Butler Street. The project is being coordinated by Solli Engineering, a civil engineering firm based in Monroe, Connecticut. Solli supplied site plans which show the proposed development and existing conditions. The project is subject to review by the Connecticut Siting Council and the Connecticut State Historic Preservation Office (SHPO).

The project area lies in southern Berlin. Background research indicates a low sensitivity for potential prehistoric cultural resources, with a statistical prehistoric landscape sensitivity model developed and utilized by ACS indicating a high score of only 18.3 out of a potential 100.0, and therefore within the low sensitivity range (0-20). The low score can be attributed to considerable distance to the nearest major water source, which is Stocking Brook lying over 500 feet to the west. The property bears a moderate sensitivity for historic cultural resources, given its location within close proximity to Butler Street that was the historic precursor to Chamberlain Highway before it was straightened and renamed in the mid-20th century.

Land records and historic maps indicate the project property was part of the larger Botsford family farm since the mid-19th century. Early homesteads were located on the west side of Butler Street, with another farm house built on the east side of Butler Street near the project area, but on the west side of Chamberlain Highway. The Paneswich family acquired the original 120-acre farm lot in 1920, and held it for the next half century. While land records and historic maps do not reveal any developments on the project property, there is the possibility that previous historic occupations could have been located elsewhere along Butler Street. ACS therefore recommends a Phase Ib archaeological reconnaissance survey, limited to an area within the project area and 300 feet of Butler Street that was the original course of Chamberlain Highway, prior to any construction activities and subject to review by SHPO.

Project Summary

Project Name: Proposed Solar Photovoltaic Array, Chamberlain Highway, Berlin, Connecticut.

Project Purpose: To investigate possible cultural resources which may be impacted by the construction of a solar farm in Berlin, Connecticut, in compliance with requirements of the Connecticut Siting Council and the Connecticut State Historic Preservation Office.

Project Funding: The Nevar Company, Cheshire, Connecticut.

Project Location: Chamberlain Highway, Berlin, Connecticut.

Project Size: ~27 acres (project property).

Investigation Type: Phase Ia archaeological assessment survey.

Investigation Methods: Background research, pedestrian surface survey.

Dates of Investigation: June, 2023.

Performed by: ACS (Archaeological Consulting Services), 118 Whitfield Street, Guilford, Connecticut 06437, (203) 458-0550 (telephone), (203) 672-2442 (fax), acsinfo@yahoo.com.

Principal Investigators: Gregory F. Walwer, Ph.D. and Dorothy N. Walwer, M.A.

Submitted to:

Solli Engineering (Robert Pryor, Director of Site / Civil Engineering), 501 Main Street, Suite 2A, Monroe, CT 06468, (203) 880-5455.

Connecticut Office of State Archaeology (Dr. Sarah Sportman, State Archaeologist), University of Connecticut, 354 Mansfield Road, Storrs, Connecticut 06269-1176, (860) 486-5248.

Reviewing Agency:

Connecticut State Historic Preservation Office (Catherine Labadia, Staff Archaeologist), 450 Columbus Boulevard, Hartford, Connecticut 06103, (860) 500-2329.

Recommendations: Phase Ib archaeological reconnaissance survey of areas to be impacted within 300 feet of Butler Street, the original course of Chamberlain Highway.

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CHAPTER 1: INTRODUCTION

Project Description

This report provides the results of a Phase Ia archaeological assessment survey conducted by ACS for the planned development of a solar voltaic array, or solar farm, in Berlin, Hartford County, Connecticut. The owner of the project is The Nevar Company of Cheshire, Connecticut. The project is contained within a lot owned by Stonetrough, LLC, and consists of 26.82 acres on the east side of Chamberlain Highway. There is no street address for the lot, which is listed in the Berlin assessor office as Parcel Number 30-2-74-40. The project area is in southern Berlin near the Meriden border. There are no existing structures on the property.

ACS was contacted by Solli Engineering, a civil engineering firm based in Monroe, Connecticut to conduct the archaeological assessment survey for the project. Solli supplied ACS with a survey map, indicating that the survey was likely required for review by the Connecticut State Historic Preservation Office (SHPO) and Connecticut Siting Council. The survey map shows the proposed development and existing conditions, including topography and wetlands. The bulk of the proposed development would be in approximately the southern quarter of the entire acreage.

ACS conducted the assessment survey in conformance with the *Environmental Review Primer for Connecticut Archaeological Resources* issued by SHPO. The assessment survey evaluated the potential need, if any, for a Phase Ib archaeological reconnaissance survey. The archaeological assessment survey consisted of a thorough background research effort and pedestrian surface survey to evaluate the potential sensitivity of the project area for any prehistoric and/or historic cultural resources, with SHPO to serve as review agency for the final report.

CHAPTER 2: BACKGROUND

Environmental Setting

The project area is located in the Town of Berlin, Hartford County, Connecticut. The project setting is in the South-Central Lowlands (IV-B) ecoregion of Connecticut. The project area lies in the southern part of Berlin, just over one mile west of Route 5, and on the east side of Chamberlain Highway (Route 71). The area contains a mix of residential neighborhoods and small agricultural plots. There are no existing structures on the parcel. The lot measures nearly 27 acres, although the project development will be contained within about the southern fourth of the land (Figure 1).

Underlying bedrock is a unit of East Berlin Shale (Jeb), a Jursassic formation on the order of 145 to 210 million years old (Rodgers 1985). A minor fault along the eastern boundary of the property separates the shale unit from an older Holyoke Basalt (Jho) unit to the east. Part of a failed rift occupying the central part of the state, the dip of the bedding of the units in the area tends to be on the order of 15 degrees to the southeast. The property is set on a glacial outwash sedimentary unit of sand and gravel (sg) along the Stocking Brook drainage (Stone et al. 1992). The sand and gravel units tend to be variably sorted, and represent fluvial deposits or topset beds of ancient deltas. The project area is within the very upper reaches of the Mattabesset River drainage basin (#4600) that drains into the Connecticut River over five miles to the east (McElroy 1991). The closest stream is Stocking Brook, located over 500 feet to the west of the project area and is one of the headland tributaries of the Mattabesset (Figure 2). Some minor wetlands occupy the central and northern part of the property. The project area is set at about 310 to 330 feet above mean sea level, with a slight rise located towards the southern end of the parcel. The project area is within an open field occupied by tall grasses.

The principal soil type of the project area is Manchester gravelly loam or gravelly sandy loam (McC / 37C) (Figure 3) (Shearin et al. 1962; USDA NRCS websoil survey 2023). Typically, where not altered agriculturally, the soil tends to have a very thin topsoil of dark reddish brown (5YR 3/4) loam or gravelly sandy loam, followed by a one-foot subsoil of yellowish-red (5YR 4/6) gravelly sandy loam, and a substratum of reddish brown (5YR 5/4) sand and gravel. The soil is good for alfalfa and some vegetables, with somewhat excessive to excessive drainage characteristics. The property dips a bit to the east where there are units of Ellington silt loam (EfA / 20A) and Branford silt loam (BoB / 30B).

Figure 1: Map of the Project Property

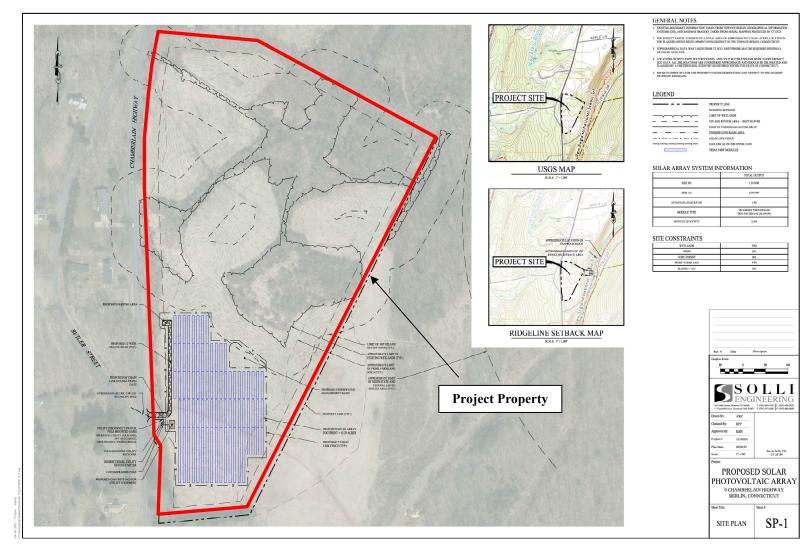


Figure 1: Map of the project area, from site plans drafted by Solli Engineering. Scale 1:4,000

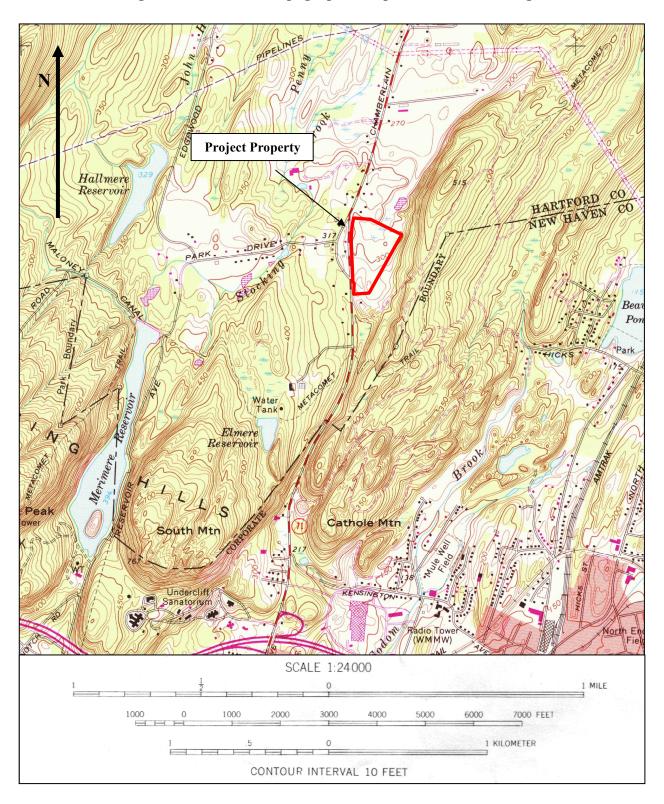


Figure 2: USGS 7.5' Topographic Map, Meriden Quadrangle

Figure 2: From USGS 1992.

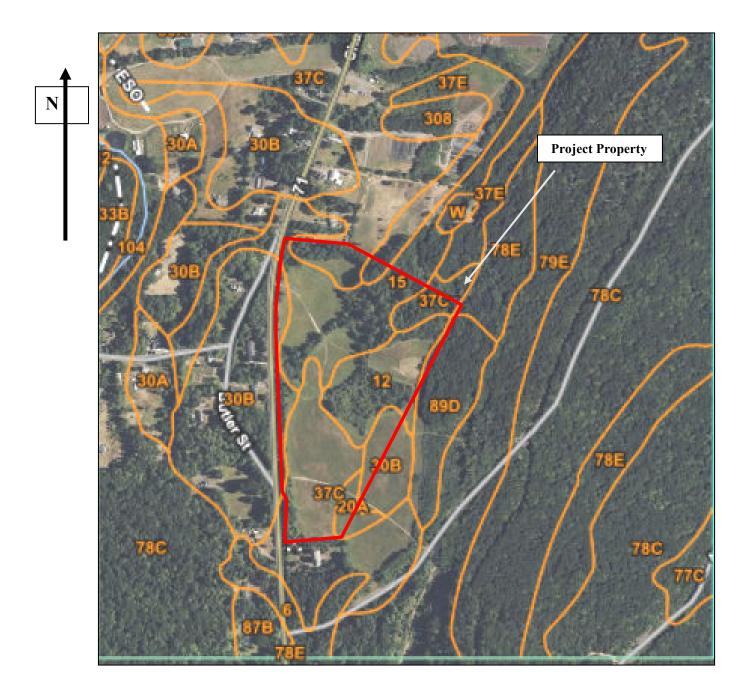


Figure 3: USDA Websoil Survey Map

Figure 3: From USDA NRCS websoil survey.

Cultural Setting

Regional Prehistory

The prehistory of the project region and New England in general can be broadly divided into periods reflecting changes in environment, Native American subsistence and settlement patterns, and the material culture which is preserved in the archaeological record. Although it remains controversial today, the conservative estimates for the first occupations of North America are about 18,000 to 15,000 years ago, just after the maximum extent of the last glaciation and the broadest extent of the Bering land bridge (Kehoe 1981:7; Parker 1987:4; Jennings 1989:52). Southern Connecticut itself remained glaciated until about 15,200 B.P. (Snow 1980:103; Gordon 1983:71; Parker 1987:5; McWeeney 1994:181, 1999:6).

Paleo-Indian

The Paleo-Indian period is documented in Connecticut after 13,000 years ago and extends to roughly 9,500 B.P. (Swigart 1974; Snow 1980:101; Lavin 1984:7; Moeller 1984, 1999). The earliest radiocarbon date in Connecticut was secured recently at the Brian D. Jones site, at about 12,500 B.P. (Leslie and Sportman 2020). An unpublished date of 12,600 B.P. was also obtained from the site (Sportman pers. comm. 2022). This was a period of climatic amelioration from full glacial conditions, and a rise in sea levels which fell short of inundating the continental shelf. It was during this time that tundra vegetation was replaced by patches of boreal forests dominated by spruce trees (Snow 1980:114; Parker 1987:5-6), and eventually white pine and several pioneering deciduous genera (McWeeney 1994:182, 1999:7). Early in the period, the environment was conducive to the existence of large herbivores and a low population density of humans who procured these animals as a major subsistence resource, although warming temperatures and denser forests contributed to the extinction of certain species. The projected human social and settlement patterns are those of small bands of semi-nomadic or restricted wandering people who hunted mammoth, mastodon, bison, elk, caribou, musk ox, and several smaller mammals especially after the extinction of megafauna (Ritchie 1969:10-11; Snow 1980:117-120; Jones and Forrest 2003). Episodes of sparse vegetation during this period encouraged the use of high lookout points over hollows and larger valleys by people in pursuit of large game. The southern part of New England had an earlier recovery from glacial conditions when compared to areas to the north, however, with a higher density of vegetation that might have precluded Paleo-Indians of Connecticut from focussing heavily on the larger mammals (McWeeney 1994:182).

The cultural material associated with this period includes large to medium-sized, fluted projectile points (cf. Clovis), in addition to knives, drills, pieces esquillees and gravers, scrapers, perforators, awls, abraders, spokeshaves, retouched pieces, utilized flakes, and hammerstones (Wilbur 1978:5; Snow 1980:122-127; Moeller 1980). Although numerous finds from this period have been found in Connecticut, only a few, small *in situ* sites exist throughout the state. Finds tend to be located near very large streams in the lower Connecticut River Valley, and in rockshelters of other regions (McBride 1981). A survey performed by the Connecticut Office of State Archaeology and the Archaeological Society of Connecticut resulted in the documentation of 53 Paleo-Indian "find spots" in Connecticut (Bellantoni and Jordan 1995), while a more updated research survey indicates up to 72 locations and sites (Bouchard 2014). Many more sites have likely been eradicated by rising sea levels since the Paleoindian period (Anderson 2001).

Early Archaic

The Early Archaic period lasted from approximately 9,500 B.P. to 7,500 B.P. (Snow 1980:159; Lavin 1984:9; Moeller 1984). Sea levels and temperatures continued to rise during this period as denser stands of forests dominated by pine and various deciduous species replaced the vegetation of the former period (Davis 1969:418-419; Snow 1980:114; Parker 1987:9; McWeeney 1994:184-185, 1999:8-9). This environmental change was rapid and caused a major shift in the animals it supported, including deer, moose, other small to medium-sized mammals, migratory birds, fish, and shellfish. The material culture changed along with the environmental conditions to include the atlatl and smaller stemmed and bifurcated projectile points (Stanly, cf. Kanawha and Lecroy) for procuring smaller, faster game in more closed settings (Wilbur 1978:6-7). The expanded tool set included choppers and anvil stones. Fish weirs and nets with stone weights could have been used as early as the Early Archaic in Connecticut (Wegner 2018). Settlement patterns were probably becoming more territorialized towards a central-based wandering character (Snow 1980:171; see also Forrest 1999), and possibly a greater focus on wetlands (Jones and Forrest 2003). Some semi-subterranean habitation structural features are evident in the region at this time, and may be part of a Gulf of Maine Archaic tradition in which there was a focus on quartz as a lithic resource without a high emphasis on projectile points (Robinson et al. 1992; Forrest 1999) and instead more of a focus on more expedient tool forms than the more formalized Paleoindian toolkit (Anderson 2001). The Early Archaic period is poorly represented in Connecticut and the lower coastal river valleys, probably resulting from a combined effect of low population densities in response to rapidly changing environmental conditions, as well as site location and preservation factors (Snow 1980:168; McBride 1981; McBride and Dewar 1981:45; Lavin 1984:9; McWeeney 1986; see also Forrest 1999).

Middle Archaic

The Middle Archaic period extended from approximately 7,500 B.P. to 6,000 B.P. (Snow 1980:173; Lavin 1984:9; McBride 1984; Jones 1999). It was by the end of this period of increased warming that sea levels and coastal configurations had stabilized and approached their present conditions (Kehoe 1981:211; Gordon 1983:82; Parker 1987:9). The period is marked by the establishment of forests with increasing proportions of deciduous hardwoods in relation to the pine predecessors in Connecticut (Davis 1969; Snow 1980:114; McWeeney 1999:10). The material culture included square or contracting-stemmed points (Neville, Stark, and Merrimac), semi-lunar groundstone knives, ground and winged banner stones for atlatls, plummets for nets, gouges, denticulates, perforators, percussed celts and adzes and grooved axes for woodworking (Snow 1980:183-184), as well as tools used in previous periods and rare triangular projectile points that may be precursors of Squibnocket points of the Late Archaic (Forrest 2010). This more extensive range of material culture indicates a broader subsistence base than in previous periods, including greater fish and shellfish procurement (Wilbur 1978:8; Snow 1980:178-182; Anderson 2001) which was associated with the stabilization of sea levels towards the end of the period. The increased breadth of subsistence resources had the effect of increasing scheduling efforts and may have caused settlement patterns to take on more of a central-based or seasonally circulating pattern with bands joining and dispersing on a seasonal basis (Snow 1980:183). Sites found in the lower Connecticut River Valley region suggest that a wider range of environments

and associated site types were exploited, including both large and special task sites in upland areas (McBride 1981, 1984:56). This regional pattern may confirm the suggested settlement pattern of central-based, seasonally circulating or restricted circulating groups of people supported by logistical procurement sites throughout the state. Middle Archaic sites are fairly rare in Connecticut, again a combined product of rising sea levels and poor site preservation (see Forrest 1999).

Late Archaic

The Late Archaic period ranged from approximately 6,000 B.P. to 3,700 B.P. (Snow 1980:187; Lavin 1984:11; McBride 1984; Pfeiffer 1984; Cassedy 1999). This period is marked by a warm-dry maximum evident from pollen cores in the region (Davis 1969:414; Ogden 1977; Anderson 2001). Hardwood, oak-dominated forests very similar in character to ones established today covered most of Connecticut by the Late Archaic (Parker 1987:10). The Late Archaic in Connecticut has been divided into two traditions: the Laurentian and the Narrow Point (Lavin 1984:11), with the former perhaps being distributed more in the interior. The Laurentian tradition is defined by wider-bladed, notched and eared triangular points, and ground slate points and ulus, while the Narrow Point tradition includes smaller, thicker, and narrower points, which as a succinct tradition may have survived well into the Woodland era (Millis and Millis 2007). The tool kit and general material culture became even more expanded during this period, with the advent of ground stone manos, nut mortars, pestles, and bowls, as well as stone pipes, bone tools, corner-notched (Vosburg, Brewerton, and Vestal), side-notched (Otter Creek, Brewerton, Normanskill), smaller narrow-stemmed (Dustin, Lamoka, Squibnocket, and Wading River), and triangular points (Squibnocket, Brewerton, and Beekman), grooved and perforated weights, fish weirs and harpoons, and decorative gorgets (Wilbur 1978:15-24; Snow 1980:228-231). The groundstone material has been inferred as being associated with an increased vegetable diet that consisted of berries, nuts, and seeds (Snow 1980:231; Lavin 1984:13), including acorn, butternut, chestnut, walnut, hickory, bayberry, blackberry, goose foot, cranberry, partridge berry, service berry, strawberry, and swamp current (Cruson 1991:29). Deer continued to be the predominant meat source, although animal remains recovered from archaeological sites in the region include black bear, raccoon, woodchuck, rabbit, otter, gray squirrel, red fox, gray fox, wolf, wild turkey, grouse, pigeon, migratory fowl, and anadromous and freshwater fish and shellfish (Cruson 1991:28-29). Various sea mammals and fish were procured along the coast.

The increasing breadth of the subsistence base and material culture was in turn associated with a central-based settlement pattern in which a restricted range of seasonally scheduled and used areas were exploited in a more semi-sedentary fashion than previously (Lavin 1984:13; Dincauze 1990:25). Sites in the lower Connecticut River Valley suggest that the larger rivers served more as long-term bases within a central-based circulating system than in the Middle Archaic (McBride 1981; McBride and Dewar 1981:48). The interior uplands of Connecticut may have supported a relatively independent set of seasonally circulating groups which used larger wetlands as long-term bases (Wadleigh 1981). Mortuary practices of the time suggest some sedentism for certain groups of people who were buried in specialized secondary cremation cemeteries and who may have had some control over restricted resources (e.g. riparian transportation routes) (Walwer 1996). Although the cremation sites largely include utilitarian funerary objects, some contain non-local materials which suggest trade association with cultures to the west of Connecticut (Walwer 1996).

Terminal Archaic

The Terminal Archaic period extended from approximately 3,700 B.P. to 2,700 B.P., as defined by the Susquehanna and Small-Stemmed traditions (Swigart 1974; Snow 1980:235; Lavin 1984:14; Pfeiffer 1984; Pagoulatos 1988; Cruson 1991; Cassedy 1999). Steatite, or soapstone, was a frequently used material by this time, and could be fashioned into bowls and other objects. The mass, permanency, and labor intensiveness of creating these heavy items have led to the inference of more sedentary base camps, especially on large rivers where the development of a canoe technology had become fully established and increased the effective catchment area within which groups of people were gathering resources on a continuous basis. The material culture of the period was very similar to the Late Archaic, with a proliferation of stemmed projectile point types including Snook Kill, Bare Island and Poplar Island stemmed points, Orient Fishtail points, Sylvan and Vestal side-notched points, and Susquehanna cornernotched points. The resource base continued to consist of deer and small mammals, nuts, shellfish, turtles, and birds (Snow 1980:249). The first signs of ceramics (Vinette I pottery) tempered with steatite fragments appeared during this period (Lavin 1984:15; Lavin and Kra 1994:37; see also Cassedy 1999:131), and archaeological evidence of trade with other regions becomes more substantial for this time (Pfeiffer 1984:84).

The distribution of sites and site types in the lower Connecticut River Valley during this period suggests that there was a change in settlement to one with fewer, yet larger sites in riverine settings, and associated satellite task-specific sites in the uplands (McBride 1981; McBride and Dewar 1981:49). The implications are less foraging-strategy residential movement and more task-oriented collection activities within a radiating settlement pattern, but probably one in which some degree of seasonal circulation of settlement took place. Pagoulatos (1988) has shown that while sites associated with the Small-Stemmed tradition tend to suggest a more mobile settlement pattern in the interior uplands, sites of the Susquehanna tradition indicate a semi-sedentary collector strategy in major riverine and estuarine environments. At least certain groups exhibited semi-sedentism and some control over restricted resources, as indicated by the elaborate burials of the Terminal Archaic (Walwer 1996). Mortuary practices from the period include secondary cremation interments in formalized cemetery areas, with individual pits containing fragmented utilitarian material from communal cremation areas, as well as highly stylized funerary objects from non-local material (Walwer 1996). The lack of other, less formalized burial types evident in the archaeological record may be a matter of poor preservation, in which case it has been proposed that the cremation cemeteries are representative of a stratified society in which a portion of the people (of the Susquehanna "tradition") were able to generate a surplus economy that supported a semi-sedentary settlement pattern. This surplus may have been generated by the procurement and control over the transportation of steatite from various areas in Connecticut and surrounding territory.

Early Woodland

The Early Woodland period in Connecticut extended from about 2,700 B.P. to 2,000 B.P. (Lavin 1984:17; Juli and McBride 1984; Cruson 1991; Juli 1999). A cooling trend during the Early Woodland (Davis 1969:414; Parker 1987:10; McWeeney 1999:11; Fiedel 2001) is thought to have reduced population sizes and regional ethnic distinction as the hickory nut portion of the resource base was significantly decreased, although the apparent decline in populations may possibly be related to other factors such as the inability to confidently distinguish Early

Woodland sites from those of other periods (Filios 1989; Concannon 1993). Climatic deterioration and depopulation are in turn thought to have inhibited the progression towards, and association with, more complex social structures and networks that were developing further to the west and south (Kehoe 1981:215). A proliferation of tobacco pipes may indicate the beginnings of agricultural efforts in the northeast. The Early Woodland of this region, however, exhibits no direct traces of subsistence crop remains, indicating continuity with previous periods in terms of subsistence practices (Lavin 1984:18).

Materially, the period is marked by a substantial development of a ceramic technology, with the Early Windsor tradition of pottery being dominant in the Early Woodland of Connecticut (Rouse 1980:68; Lavin 1984:17, 1987). Both Early Windsor cord-marked and Linear Dentate ceramic forms were being produced at this time. Diagnostic projectile points can be developmentally traced to indigenous points of previous periods, consisting of many stemmed forms in addition to Meadowood and Fulton side-notched points, Steubenville points, and Adena-Rossville types, but now may have been used in conjunction with the bow and arrow (Lavin 1984:18). Adena-like boatstones are also found in this period. Although rare contact with the Adena culture is evident throughout assemblages of the period, the Early Woodland in southern New England remained a very gradual transitional period (Snow 1980:279,287; Lavin 1984:19).

A heightened use of ceramics has been erroneously promoted as an automatic indication of increased sedentism in many areas. Instead, central-based camps with restricted seasonal encampments appear to be the dominant settlement pattern (Snow 1980:287). Minimal archaeological evidence from the lower Connecticut River Valley appears to suggest a similar settlement pattern to the Terminal Archaic in which large riverine sites served as central bases with upland seasonal dispersal or specific task sites (McBride 1981; McBride and Dewar 1981:49), but with a lesser degree of sedentism. Interior uplands populations also decreased during the Woodland era, perhaps related to the intensification of agricultural resources along major riverine and coastal areas (Wadleigh 1981:83). The trend towards greater mobility may in part be attributed to the decline in the use of steatite that no longer gave certain groups control over critical and restricted resources, as indicated by the declining ceremonialism of burial sites at the time which were more often located in habitation sites and exhibited combinations of secondary cremation features and primary inhumations (Walwer 1996). This transition in the socio-economics of the region was brought about by the decrease in importance of steatite as ceramics obscured its value for producing durable containers. Partially preserved primary inhumations appear for the first time in the region based on preservation considerations.

Middle Woodland

The Middle Woodland period lasted from about 2,000 B.P. to 1,000 B.P. (Lavin 1984:19; Juli and McBride 1984; Cruson 1991; Juli 1999). The climate was returning to the conditions basically witnessed today (Davis 1969:420; McWeeney 1999:11). It is a period which exhibited considerable continuity with previous periods in terms of both subsistence and material culture. Cylindrical pestles and groundstone hoes are tools diagnostic of the period and reflect developing agricultural efforts, including the cultivation of squash, corn, and beans on a seasonally tended basis (Snow 1980:279). Direct evidence for agriculture in the form of preserved vegetal remains, however, does not generally appear until the early Late Woodland (Lavin 1984:21) when corn is thought to have been introduced into the Connecticut River Valley from the upper Susquehanna

and Delaware River Valleys (Bendremer and Dewar 1993:386). Projectile point forms from the period include Snyders corner-notched, LongBay and Port Maitland side-notched, Rossville stemmed, and Greene lanceolate types. A proliferation of ceramic styles was witnessed during the Middle Woodland (Rouse 1980; Lavin 1984:19-20, 1987; Lavin and Kra 1984:37), including Rocker Dentate, Windsor Brushed, Sebonac Stamped, Hollister Stamped, Selden Island, and Windsor Plain types that were all also produced in the Late Woodland, with the exception of the Rocker Dentate. Net and fabric-marked ceramics are key indicators of the shift into the Windsor tradition that would follow into the Late Woodland (Wink and Leslie 2021), although ceramic forms from the Early Woodland were still being produced as well. Minor traces of the Hopewell cultures to the west are also present in the archaeological record of this period. Site types and distributions in the lower Connecticut River Valley imply that a moderate increase of sedentism with aspects of a radiating settlement pattern took place on large rivers, supported by differentiated upland task sites (McBride 1981; McBride and Dewar 1981:49). This trend may have been supported by the expansion of tidal marshes up larger rivers (McBride 1992:14).

Late Woodland

The Late Woodland period extended from approximately 1,000 B.P. to 1600 A.D., the time of widespread European contact in the broader region (Snow 1980:307; Kehoe 1981:231; Lavin 1984:21; Feder 1984, 1999). A warmer climate and increased employment of large scale agriculture for subsistence in New England were associated with increased population densities, more sedentary settlements, and more permanent living structures and facilities in larger villages. Settlements in Connecticut, however, tended to remain smaller with only small scale agricultural efforts, and as part of a seasonal round in which smaller post-harvest hunting and task-specific settlements were established in fall, and protected settlements occupied in winter (Guillette 1979:CI5-6; McBride and Bellantoni 1982; Lavin 1984:23; Starna 1990:36-37). Instead of maintaining permanent villages near agricultural plots, aboriginal populations engaged in the slashing and burning new plots and let old plots lie fallow periodically (Salwen 1983:89). In this area, domestic resources included corn, beans, squash, Jerusalem artichoke, and tobacco (Guillette 1979:CI5; Starna 1990:35). Agriculture was largely maintained by women, with the exception of tobacco (Salwen 1983:89; Starna 1990:36). Deer, small mammals, fish and shellfish, migratory birds, nuts and berries, and other wild foods continued to contribute significantly to the diet (Waters 1965:10-11; Russell 1980). Many of the foods produced were dried and/or smoked and stored in baskets and subterranean holes or trenches.

The increasing diversity of wild estuary resources may have served to increase sedentism in the coastal ecoregions of Connecticut (Lavin 1988:110; Bragdon 1996:67), while agriculture and sedentism may have been even more prominent along the larger river bottoms as floodplains stabilized and experienced less flooding (Bragdon 1996:71; Forrest et al. 2008:11). Late Woodland settlement patterns of groups in the uplands interior ecozones of Connecticut may have included the highest degree of mobility, while many sites from the central lowlands represent task-specific sites associated with larger settlements along the Connecticut River (McBride 1992:16). House structures consisted of wigwams or dome-shaped wooden pole frameworks lashed and covered with hides or woven mats, and clothing was made from animal hides (Guillette 1979:CI7-8; Starna 1990:37-38). Pottery for the period is defined as the Late Windsor tradition in Connecticut (Rouse 1980:68; Lavin 1984:22, 1987). Most of the ceramic forms of the Middle Woodland were still being produced, in addition to the newer Niantic Stamped and Hackney Pond forms. Ceramics of the East River tradition also appear in the area during the Late Woodland, having originated and been concentrated in the New York area (Rouse 1980; Wiegand 1987; Lavin 1987). The period exhibits some continuity in terms of projectile point forms, although the Jack's Reef, Madison triangular, and Levanna points are considered diagnostic for the period. As likely with earlier periods, the material culture included various textile products such as baskets and mats, and wooden utensils such as bowls, cups, and spoons (Willoughby 1935; Russell 1980:56).

Unlike groups of the Mississippi valley, the overall cultural pattern for the entire Connecticut Woodland era exhibits considerable continuity. Interregional contact increased during this period, however, with non-local lithic materials increasing from as low as 10% to as high as 90% from the early Middle Woodland to the Late Woodland (McBride and Bellantoni 1982:54; Feder 1984:105), although most trade appears to have been done between neighboring groups rather than initiated through long-distance forays (Salwen 1983:94). The lack of enormous agricultural surpluses for the time is indicated by the low density of small storage features in habitation sites, as well as the ubiquitous primary inhumation of people without a select portion of graves exhibiting special treatment that would require high energy expenditure (Walwer 1996). As confirmed by early ethnohistoric accounts, this suggests a largely egalitarian and relatively mobile society for the Late Woodland despite the fact that this period marks the highest development of food production (i.e. agriculture) during the course of prehistory in the region. Corn was undoubtedly important, however, as a disproportionate amount of the simple, flexed burials were oriented towards the southwest which was the aboriginally acknowledged direction for the origins of corn and the Spirit Land.

Local Sites and Surveys

According to site files of the Connecticut Office of State Archaeology (CT OSA 2023) and Connecticut State Historic Preservation Office (CT SHPO 2023), there is only one previously recorded prehistoric site within a couple of miles of the project area (Figure 4). At about two miles to the northwest, the Heath Site (131:18) in Southington is a Late to Terminal Archaic site near Slopers Pond, where a surface collection recovered an argillite stemmed projectile point close in form to the Neville or Snook Kill type. More evidence of prehistoric occupation much closer to the project area was provided by an informant, Steve Munson, who used to work the farm fields in the area along the Stocking Brook drainage. At a field interview, Mr. Munson produced a collection from fields to the north of the project property that included chert Greene and Kanawha projectile points, rhyolite Kanawha point, and quartz Brewerton eared, Squibnocket stemmed or Lamoka, Levanna, and Madison points, representing much of the prehistoric sequence between the Early Archaic to Late Woodland periods.

Summary

A low density of archaeological sites has been recorded in the region surrounding the project area. This is likely attributable to the headlands position of the site within the upper Mattabesset drainage system, but also likely due to a low density of professional surveys. The surface collections reported and verified from fields within one-half mile to the north reveal that more sites are likely yet to be discovered in the area, and probably located according to well established settlement models with a focus on proximity to fresh water sources and well drained soils, with sites more abundantly located on the larger streams further along the drainages.

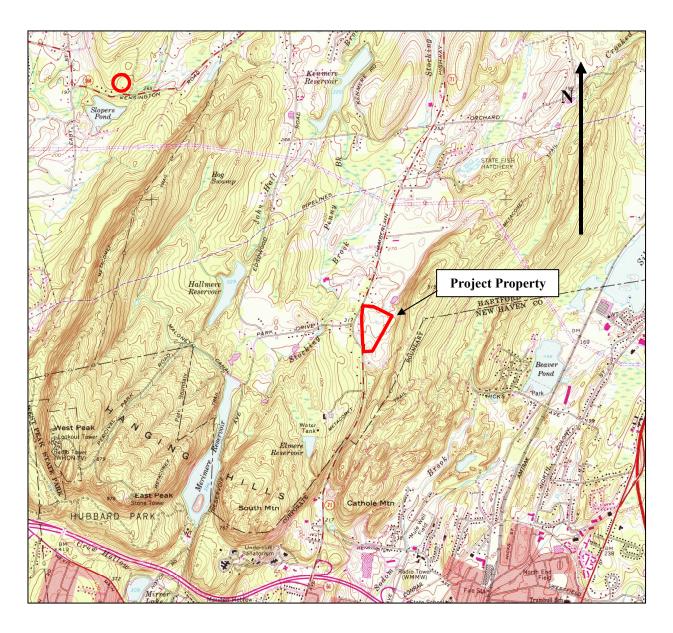


Figure 4: Prehistoric Sites of the Region

Figure 4: Approximate location of previously recorded sites shown as red circles.

Local History

Contact Period

The Contact period is designated here as the time ranging from the first substantial contact between Europeans and Native American inhabitants of the area, to the time the area was thoroughly occupied by Euroamerican settlers, from roughly 1600 to 1700. The first contact between aboriginal populations of the broader region and European explorers occurred in 1524 when Verrazano reached the coast of New England (Terry 1917:16). Others followed in the first decade of the 1600s (Salwen 1983). In 1614, Dutch explorers reached the Connecticut River (DeForest 1852:70; DeLaet 1909 [1625-1640]:43), and in 1625 they were met by the Quinnipiac in New Haven Harbor (Brusic 1986:9) when they established fur trading relationships with the native inhabitants in the region until the early 1630s (Guillette 1979:WP2-4). Substantial English settlements in the area started in 1635-1636. DeForest (1852:48) estimated about 6,000 to 7,000 Native Americans in Connecticut at this time, while Winthrop had estimated somewhere between 12,000 and 15,000 and most others (Trumbull 1818:40; Gookin 1970[1674]; Cook 1976; Snow 1980:35; Bragdon 1996:25) estimate between 16,000 and 20,000.

The composition of the tribes at the time of contact is fairly well known, although boundaries fluctuated significantly, as did the political alliances by which the tribes could be defined (Thomas 1985:138). Three major divisions of Algonkian speaking groups can be delineated, and their territories conform well to ecozone distributions (see Dowhan and Craig 1976:26 and Speck 1928:Plate 20), including the Mohegan-Pequot range in the Southeast Hills and Eastern Coastal ecoregions, the Nipmucks in the Northeast Hills and Northern Uplands ecoregions, and tribes of the Wappinger-Mattabesec Confederacy in the North Central Uplands and most of western Connecticut. The validity of the Wappinger-Mattabesec Confederacy as a cultural entity has been challenged (Salwen 1983:108-109), with many smaller and somewhat independent tribes occupying much of the western half of the state.

The project area lies in a setting which historically represented the outer reaches of three different tribes, including the Wangunks concentrated along the lower Mattabesset ("great brook" - see Trumbull 1974[1881]:26) and the Connecticut River ("Wangunk" referring to a bend in the Connecticut River at Wethersfield - see Spiess 1933:24) to the east, the Quinnipiacs concentrated in the drainage of the same name to the south, and the Tunxis concentrated along the Farmington River to the northwest (see DeForest 1852: map; Spiess 1933:25). This relatively remote location was near the head of these other major drainages or contributing tributaries, particularly the Mattabasset occupied by the Wangunks. The Wangunks likely contributed to the most frequent occupation of the Berlin area, although tribal territorial boundaries likely fluctuated as documented later in time.

At the time of Contact, Sowheag or Sequin was Sachem of the Wangunks who were concentrated in the Wethersfield area, only to remove to the Middletown area after disputes with early Euroamerican settlers of the region (DeForest 1852:54). The Wangunks had traded with the Dutch in the early Contact period before the arrival of English settlers (Spiess 1933:25). In 1662, several representatives of the Wangunk tribe "sold" to these early settlers a large tract of territory extending six miles on either side of the Connecticut River from Wethersfield south to Chester (DeForest 1852:264), a tract which probably included some or all of Berlin. Other deeds signed by the Wangunks essentially eliminated most of their territory by 1673 (DeForest 1852:264-265).

By the end of the 17th Century and the early part of the next, Wangunk populations had been greatly reduced and most were removed to several small reservations in the region (DeForest 1852:363-364). Early 18th Century attempts to convert the remaining Wangunks to Christianity largely failed (DeForest 1852:364-365). Towards the middle of the 18th Century, the last of the Wangunk Sachems had died (DeForest 1852:367). By 1764, most Wangunks, whose numbers were recorded as low as 34, had removed to Hartford, Farmington, or to be with the Mohegans much further to the east (DeForest 1852:367; Spiess 1933:26). All Wangunk lands had been sold by the end of the 18th Century (DeForest 1852:368; Spiess 1933:26).

Ethnohistoric sources yield clues to aboriginal Final Woodland and early Contact settlement patterns (McBride and Bellantoni 1982; Starna 1990:36-37). Spring settlements were located to take advantage of anadromous fish runs in larger drainages and along the coast. Late spring attention focussed on tending corn fields. Semi-sedentary settlements near these fields were supported by special task hunting and gathering sites. Dispersal in the late fall and winter brought smaller groups into protected, upland or interior valleys where hunting and gathering continued, for a longer duration in the Contact period than earlier and by a smaller subsistence unit (family). Fortified villages were likely a response to very early Contact period intertribal political strife resulting from increased economic pressures of sedentism and territoriality (Salwen 1983:94; McBride 1990:101; but see Thomas 1985:136). One such fortified village of the Paugussetts is said to have been located on the Housatonic less than a mile north of its confluence with the Naugatuck River (DeForest 1852:51). Large villages were found to be associated with a central-based circulating settlement pattern with family units dispersing from and returning to the major settlement on a seasonal basis in the lower Connecticut River Valley and surrounding region in the early Contact period (McBride 1981). Eventually, however, many Native American populations had been dispersed and afflicted by disease, warfare, and intertribal conflict to the point that small, scattered reservations served as the last community sites for various aboriginal populations in the area.

The early Contact period economic base for Native Americans in Connecticut continued to consist of hunting deer and small mammals, gathering berries, nuts and roots, and procuring shellfish and fish on larger drainages and along the coast (Waters 1965:7; Salwen 1970:5). This basic subsistence strategy was supported by varying intensities of horticulture, including the production of corn as the staple, as well as squash, beans, Jerusalem artichoke, and tobacco (Guillette 1979:CI5; Starna 1990:35). The importance of corn is evident in the description of ritual activities, including the Green Corn Festival and similar ceremonies that extended with various groups into the present day (Speck 1909:194-195; Speck 1928:255; Tantaquidgeon 1972:81; Fawcett 1995:54-57). Elderly women held extensive knowledge of wild plants which provided a host of medicines and treatments (Tantaquidgeon 1972; Russell 1980:35-37). Wigwams continued to serve as the principal form of housing, in some cases well into the 18th century (Sturtevant 1975).

The material culture included a mix of aboriginal forms as well as some European goods such as metal kettles and other metal implements (knives, projectile points), cloth, glass beads, and kaolin pipes (Salwen 1966, 1983:94-96). Wampum served as an important trade item for the Native Americans with European traders, but more significantly had served as symbolic signs of allegiance or reciprocity and sacred markers or tokens of honor in the form of belts (Guillette 1979:CI8; Ceci 1990:58-59; Salisbury 1990:87; Fawcett 1995:59). With European metal drill

bits, tribes along the coast were now mass producing wampum for trade with the Dutch and English who in turn used the shell beads to trade with other tribes further inland (Salwen 1983:96; Ceci 1990:58). Late Contact period Euroamerican goods included various metal tools, glass bottles, ceramic vessels, kaolin clay tobacco pipes, and nails (McBride and Grumet 1992). Unlike the Late Woodland, Contact aboriginal lithic products were once again mostly manufactured from local sources (McBride and Bellantoni 1982:54). Dugout canoes may have continued to provide a major form of transportation in larger drainages (Salwen 1983:91). While colonization brought new material goods to Native Americans in the area in exchange for land and services, the indigenous inhabitants became increasingly subject to legislative and economic restrictions by the colonists (Salisbury 1990:83).

Sachems and councils of leading males formed the basic political unit for groups of villages (Gookin 1970; Simmons 1986:12-13), along with clan mothers whose authoritative roles became diminished as a result of a strong European male-leadership bias (Fawcett 1995). Tributes paid to sachems were generally used as reserves for the tribe at large. Although sachems were generally assigned by hereditary lineage, this was not always the case (Bragdon 1996:140-141). Authority was usually enforced by persuasion of a council. Shamans were "magico-religious" specialists of the tribes who also had a considerable role in leadership and decision-making (Speck 1909:195-196; Simmons 1986:43; Starna 1990:42-43). Rules of obligation and reciprocity operated on all levels of tribal-wide decision-making (Bragdon 1996:131-134), serving to diffuse centralized authority. Other special status roles included warriors and persons who had visions, thus social status was largely based on achievement and recognition. While the assignment of lineality (i.e. matrilineal vs. patrilineal) for the area tribes is still largely debated (Bragdon 1996:157), the well established practice of bride-pricing supports the contention of patrilineal social organization (Speck 1909:193; Salwen 1983:97). Post-marital residence appears to have been ambilocal.

On a larger scale, more powerful tribes demanded tributes from smaller ones, often resulting in loose alliances between the latter. This process resulted in a dynamic political situation that prompted intertribal conflict, especially after contact with Euroamericans (Guillette 1979; Bragdon 1996). The European settlers would eventually use this embedded rivalry system to their advantage. In the period between 1616 and 1619, and more severely around 1633, disease epidemics would initiate a trend of drastic reductions in the native population that aided in Euroamerican settlements of the area (Snow and Lanphear 1988; Snow and Starna 1989; Starna 1990:45-46). Diseases introduced into the Americas included chicken pox, cholera, diphtheria, malaria, measles, oncercerosis, poliomyelitis, scarlet fever, smallpox, tapeworms, trachoma, trichinosis, typhoid fever, whooping cough, and yellow fever (Newman 1976:671).

18th Century

In the early days of English settlement in the area, Berlin or Kensington was part of the West Division of Wethersfield where most settlement started (Burpee 1928:1160). As early as 1668, the General Court of Connecticut granted Richard Beckley of New Haven 300 acres as a loosely defined tract in the northeast Berlin area (Trumbull 1886:13; Burpee 1928:1160). Another nearby settlement in the Christian Lane or Great Swamp area was formed by Richard Seymour in 1686, with an ecclesiastical society formed there in 1705 (Burpee 1928:14) and a meeting house constructed by 1712 (North 1916:150).

During the early 18th Century, there were many efforts to divide the West Division in different ways, causing various disputes among the settlers (Burpee 1928:1161). Formed in 1705, the first church society of Berlin had actually been the second society of Farmington, and was renamed Kensington in 1722 (Trumbull 1886:13; Burpee 1928:1169). The Kensington society would again divide later in the 18th Century (Burpee 1928:1169), with New Britain being set off in 1754 (North 1916:153). By 1785, Berlin had become incorporated, with Kensington in the west and Worthington in the east then defined as a separate entities (Trumbull 1886:13,17,21; Burpee 1928:1162,1170), although its boundaries would not become finalized until the 19th Century well after the separation of Kensington in 1850 (Burpee 1928:1163,1170).

Self-subsistence farming was the major economic base of Berlin throughout the 18th Century, with minor grist and saw milling operations along the Mattabesset and Mill Rivers (Burpee 1928:1171). Tin-ware manufacturing was one of the first industries in Berlin, with William Pattison of Ireland producing wares from 1740 until temporarily suspended during the Revolutionary War (Trumbull 1886:22). After the war, traveling tin-peddlers constituted a growing industry segment which can largely be attributed to Pattison's pioneering efforts. Towards the end of the 18th Century, lead was procured from a mine along the Mill River in Kensington for use during the Revolutionary War in the manufacture of ammunition (Trumbull 1886:23-24; Burpee 1928:1173). Other early specialized occupations in Berlin included gunsmithing, shoemaking, and blacksmithing (North 1916:170).

19th Century

Some degree of religious diversification took place in the Berlin area during the 19th Century, with the formation of Methodist and Catholic churches (Trumbull 1886:20-21; Burpee 1928:1169-1170). The Berlin Academy was formed in 1802, with the Worthington Academy established nearly 30 years later (Trumbull 1886:21). The 19th Century of Berlin was also marked by a growth of industrial concerns, although there was a decline in tin-ware production which started this economic sector (Trumbull 1886:22). These industries, particularly concentrated along the Mill and Mattabesset Rivers, included those manufacturing clothing and related items, carriages, house furnishings, sheet metal machinery, agricultural tools, bricks, and weapons (Trumbull 1886:22-23; North 1916:173-175; Burpee 1928:1172). The most famous of these was undoubtedly the Simeon North pistol factory, which was eventually moved to Middletown (North 1916:31-36; Burpee 1928:1172). Despite the growth of industry in town, Berlin and Kensington remained largely agricultural, as indicated by the start of the Berlin Agricultural Society in 1885 (Trumbull 1886:23; Burpee 1928:1173). Other civic institutions developed towards the end of the century include the Berlin Free Library formed in 1892, with several other libraries to follow during the next several decades (Burpee 1928:1174). By the end of the century, Berlin had nine separate school districts (Trumbull 1886:22). Industry in the town declined as centralization in factories of larger market centers took place (North 1916:169), despite the fact that the railroad was built through Berlin in 1848 (North 1916:196).

The project property appears to have been owned by the Botsford family as a much larger farm in the 19th century, with Amos Botsford selling 120 acres of land with buildings to August Rustemeyer in 1885 (Berlin Land Records volume 38, page 492). Maps from the mid-19th century (Figures 5a and 5b) show a couple of Botsford residences on the west side of Butler

Street, which used to include the course of what is now Chamberlain Highway before it was straightened.

20th Century+

The population of Berlin reached approximately 5,000 by the early 20th Century, serviced by four post offices including those in Berlin center, East Berlin, Beckley, and Kensington (Burpee 1928:1168). Early 20th Century industries of Berlin include gem-cutting in East Berlin, heavy construction at Berlin Junction, and in Kensington, the manufacture of paper and metal goods (Burpee 1928:1168). Agriculture focused heavily on dairying and orchards (North 1916:236-237).

The original 120 acres that contained the project property was sold several times during the early 20th century, and then acquired in 1920 by the Paneswich family who owned it for another half century (BLL volume 60, page 149). Aerial maps show that Butler Street had not been straightened yet by 1934 (Figure 5c), with a farmstead house now on the east side of Butler Street in the vicinity of the project area, but on the west side of what is now Chamberlain Highway. Another USGS map from 1946 shows that Chamberlain Highway was straightened by that time (Figure 5d). The passing of World War II brought on a suburbanization of Berlin, with the formation of many housing subdivisions. Today, the population of Berlin is over 20,000.

Local Sites and Surveys

There are no previously recorded historic archaeological sites on file with the Connecticut Office of State Archaeology (CT OSA 2023) or Connecticut State Historic Preservation Office (CT SHPO 2023) within a couple of miles of the project area. The informant who found prehistoric projectile points in farm fields within one-half mile to the north (Steve Munson) also found some isolated historic kaolin clay pipe bowls in those fields. There are no properties within a couple of miles of the project area in Berlin listed with the National Register of Historic Places (NRHP).

Summary

The project area was at the outskirts of several Native American tribes during the Contact period, but may have been in a broader area most utilized by the Wangunks. The area remained very agricultural until today, with the Botsford family accumulating large amounts of land in the mid-19th century. Their early farmsteads appear to have been concentrated on the west side of Butler Street, which was straightened out eastward to become the current course of Chamberlain Highway by the mid-20th century. The Paneswich family bought the once larger 120-acre property in 1920, and held it for over one-half century. Historic maps and land records reveal no development within the project property, with an adjacent house on the east side of Butler Street contained on the west side of Chamberlain Highway after that route was straightened in the mid-20th century. The lack of other previously recorded historic archaeological sites may be a function of low density of historic occupation along Chamberlain Highway and low number of prior surveys in the area.

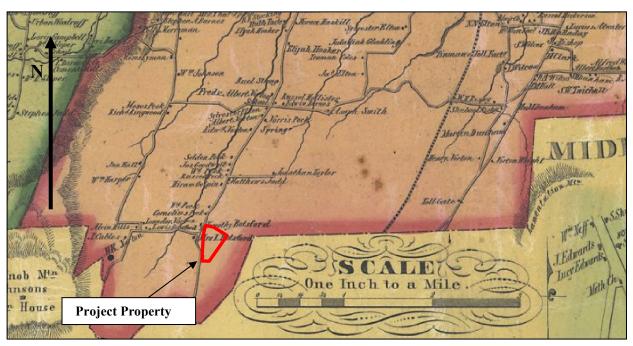


Figure 5a: Historic Sites of the Area (1855 Map)

Figure 5a: From Woodford 1855.

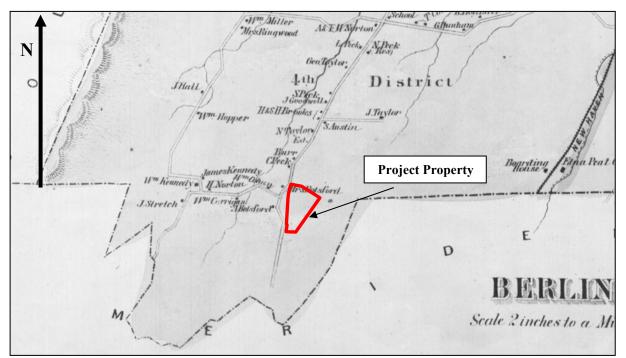


Figure 5b: Historic Sites of the Area (1868 Map)

Figure 5b: From Baker and Tilden 1869.

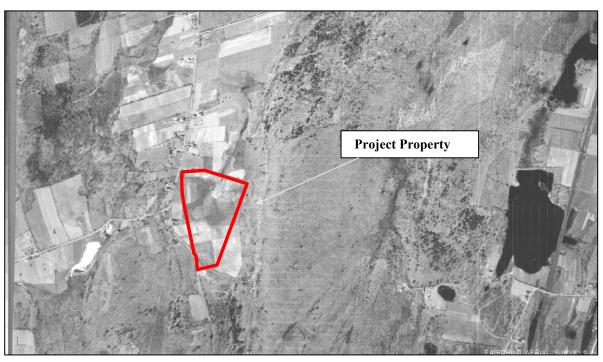


Figure 5c: Historic Sites of the Area (1934 Map)

Figure 5c: From Fairchild 1934.

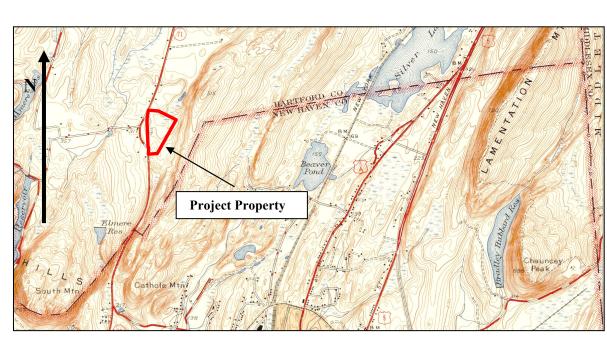


Figure 5d: Historic Sites of the Area (1946 Map)

Figure 5d: From USGS 1946.

CHAPTER 3: CONCLUSION

Prehistoric Sensitivity

Background research and the pedestrian surface survey indicate a low sensitivity for potential prehistoric cultural resources in the project area. A statistical prehistoric landscape sensitivity model developed and employed by ACS utilizes eight environmental variables to rank sections of project properties relative to a scale of 100.0 (www.acsarcheaology.com/sensitivity-model.html). In this case, the project area scores no higher than 18.3 out of a possible 100.0, and therefore within the low (0-20) sensitivity range. Factors contributing to this low sensitivity score include relatively great distance to the nearest major water source for the project area, which is Stocking Brook lying on the west side of Butler Street by at least 500 feet. There are no previously recorded prehistoric archaeological sites near the project area, although surface collections of projectile points ranging from the Early Archaic to Late Woodland periods recovered the material from farm fields within one-half mile to the north. No further archaeological conservation efforts are required for the proposed project development with respect to potential prehistoric cultural resources.

Historic Sensitivity

Historically, the project area has a moderate sensitivity for historic cultural resources. The project setting was probably on the outskirts of Wangunk settlement range during the Contact period, a tumultuous time when indigenous populations were experiencing significant impact from non-indigenous disease, land occupation by Euroamerican settlement, and removal to other regions. Euroamerican settlement was dispersed during the 18th century. By the middle of the 19th century, however, the Botsford family had accumulated a lot of acreage in the area, including a 120-acre tract that included the project area. Land records and historic maps reveal that the associated farmstead houses were located on the west side of Butler Street, until the late 19th or early 20th century when another farmstead house was located on the east side of Butler Street but to the west of the current course of Chamberlain Highway. Butler Street was straightened out in the mid-20th century and renamed Chamberlain Highway. While land records and historic maps do not reveal any development within the project area (Figures 6 and 7), the historic course of Butler Street comes in close proximity to the western and southern part of the project area, and it is possible that historic occupations along the original course of Butler Street before available historic maps could have occurred within the project area. It is therefore recommended that a Phase Ib archaeological reconnaissance survey be conducted within all parts of the project area within 300 feet of the original course of Butler Street (Figure 8). Any further archaeological study of the project property should be subject to review by the Connecticut State Historic Preservation Office (SHPO).



Figure 6: Project Area – Northeast View

Figure 6: Northeast view of the project area, showing scrub growth and hill (Cathole Mountain) in background, tall grass cover in foreground.



Figure 7: Project Area – Southeast View

Figure 7: Southeast view of the open field, showing southeast dip of surface slope.

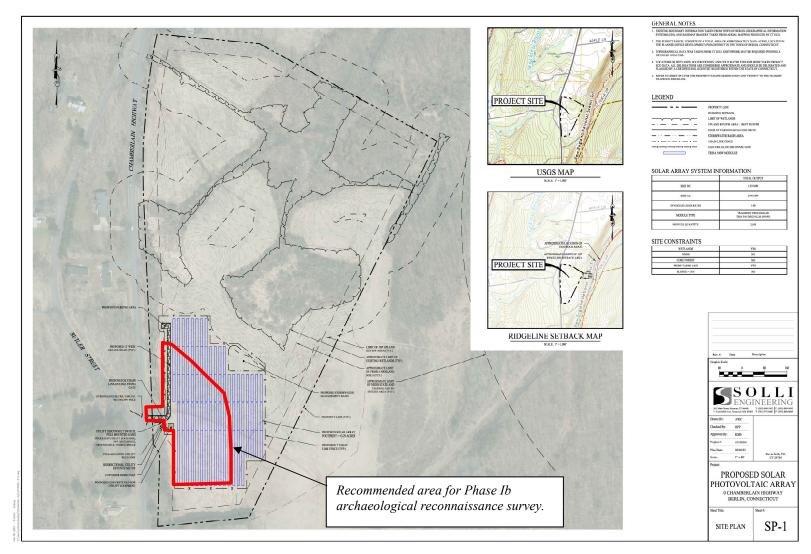


Figure 8: Cultural Resource Sensitivity Map

Figure 8: Map of the project area, from site plans drafted by Solli Engineering. Scale 1:4,000.

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