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CULTURAL RESOURCE ASSESSMENT, RECONNAISSANCE, AND INTENSIVE SURVEY FOR PROPOSED PLATT HILL SOLAR ARRAY DEVELOPMENT 450-470 PLATT HILL ROAD WINCHESTER, CONNECTICUT

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prepared for:

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MANAGEMENT SUMMARY

LSE Pictor LLC, a developer of renewable energy Projects, is currently developing plans for a 1.99 MW AC/2.96 MW DC ground-mounted solar photovoltaic facilities off of Platt Hill Road, Winchester, Connecticut, designated Platt Hill (Project). On behalf of the developer, Lodestar Energy, LLC (Lodestar) submitted a petition to the Connecticut Siting Council (CSC) for approval of the proposed Project. The Platt Hill Project also requires a Stormwater Discharge permit issued by the Department of Energy and Environmental Protection (DEEP). State oversight brings the Projects under the purview of state acts and regulations protecting cultural resources eligible for the State or National registers of historic places. Among the issues to be addressed for approval of the Project's environmental compatibility, potential Project effects on cultural resources must be reviewed by the Connecticut State Historic Preservation Office (SHPO) under the Connecticut Environmental Policy Act (Connecticut General Statutes Chapter 439 Section 22a), Connecticut General Statutes Section 221-90 (1)(J), and under Section 16-50k(a) of the Public Utilities Environmental Standards Act (PUESA). Cultural resources subject to review under these acts include historic architectural properties, historic industrial or engineering resources, and pre-Contact or Euroamerican archaeological sites eligible for the state or national registers of historic places. SHPO reviewed the Project, noted the potential for archaeological sites, and recommended professional assessment and, as needed, reconnaissance investigations completed prior to construction to avoid impacts to significant resources.

Many parts of the Project appeared sensitive for possible Native American archaeological resources. Initial reconnaissance shovel tests included 11 sterile units in the proposed access road, 4 sterile units in proposed stockpile and trailer areas, and 157 units in the areas proposed for clearing and construction of the solar array and the stormwater management basin. In the latter areas, 7 initial tests yielded 1-2 pieces of quartz or quartzite lithic debitage. A total of 25 additional shovel tests were completed at the 7 initial finds to assess the presence of potentially significant sites, with the additional tests generally excavated at 2-meter intervals with some tests not feasible because of dense fallen trees. Additional tests at three of the initial finds yielded no further cultural material. Additional tests around units S105E0 and S105E30 each yielded 2 more pieces of similar debitage. Tests at and around unit S135E15 yielded a total of 7 pieces of similar debitage. Raber Associates recommended to SHPO that intensive survey (Phase 2) investigations be conducted in the latter area, for which SHPO concurred. Intensive survey testing to define approximate site or cultural material boundaries around the initial find at S135E15 included shovel tests at intervals generally not exceeding 4 meters, with adjacent shovel tests around some reconnaissance and initial intensive survey finds to sample site contents. A total of 48 shovel tests were completed, including 39 tests on the intensive survey grid, 4 additional shovels tests equal to 1 m. square in area excavated around the initial find at S135E15, and 5 additional shovel tests adjacent to finds in 3 tests in the intensive survey grid. An additional 21 pieces of quartz or quartzite lithic debitage were recovered in 8 intensive survey tests, for a total of 28 such artifacts found in both phases of investigation around S135E15. These finds were made within an area of approximately 250 square meters, within which reconnaissance and intensive survey tests totaled 7.5 square meters for a sample of approximately 3%. No cultural features, floral or faunal material, or temporally-diagnostic artifacts were recovered. The Native American archaeological activities suggested by intensive survey appear to have been too ephemeral to leave sufficient information for well-defined episodes or functions, and do not appear to present information meeting Criterion D for national or state register of historic places eligibility.

Euroamerican resources within Project limits included two stone walls, which are part of a larger enclosure between the two wetlands. The walls appear to be common examples of broad freestanding walls associated with land clearance for tillage or pasture in rocky woodlands. Although the structures are not significant as stone wall types, the large enclosure defined by the walls appears potentially significant as a well-preserved example of upland enclosures created for tillage or pasture in heavily-glaciated terrain. There will be limited additional impact to the walls during construction, and the larger enclosure will remain undisturbed with no adverse effects on the enclosure. There is also a small dam/impoundment of large uncoursed, unmortared immediately west of the proposed stormwater management basin. The approximately 25-foot-long feature is not associated with any reported mill, and is on a waterway with insufficient slope or volume for waterpower development. The dam may have served to impound a small area for ice or livestock watering, and could provide information on upland farm management practices in the mid-18th to early-20th centuries. It appears potentially eligible for the state or national registers of historic places, and should be avoided during Project construction.

There are two 18th-century residences and an early 19th-century schoolhouse on Platt Hill Road, west of the Project, which appear potentially eligible for the state or national registers of historic places. Because of forest cover and distance, there do not appear to be any potential Project visual effects on these resources.

No further cultural resource investigations are recommended.

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II. INTRODUCTION

LSE Pictor LLC, a developer of renewable energy Projects, is currently developing plans for a 1.99 MW AC/2.96 MW DC ground-mounted solar photovoltaic facilities off of Platt Hill Road, Winchester, Connecticut, designated Platt Hill (Project). On behalf of the developer, Lodestar Energy, LLC (Lodestar) submitted a petition to the Connecticut Siting Council (CSC) for approval of the proposed Project. The Platt Hill Project also requires a Stormwater Discharge permit issued by the Department of Energy and Environmental Protection (DEEP). State oversight brings the Projects under the purview of state acts and regulations protecting cultural resources eligible for the State or National registers of historic places. Among the issues to be addressed for approval of the Project's environmental compatibility, potential Project effects on cultural resources must be reviewed by the Connecticut State Historic Preservation Office (SHPO) under the Connecticut Environmental Policy Act (Connecticut General Statutes Chapter 439 Section 22a), Connecticut General Statutes Section 221-90 (1)(J), and under Section 16-50k(a) of the Public Utilities Environmental Standards Act (PUESA). Cultural resources subject to review under these acts include historic architectural properties, historic industrial or engineering resources, and pre-Contact or Euroamerican archaeological sites eligible for the state or national registers of historic places. SHPO reviewed the Project, noted the potential for archaeological sites, and recommended professional assessment and, as needed, reconnaissance investigations completed prior to construction to avoid impacts to significant resources (letter, Catherine Labadia to Dan Watson, March 11, 2020).

To be eligible, cultural resources must possess physical integrity and meet at least one of the following criteria:

Association with important historic events or activities;
Association with important persons;
Distinctive design or physical characteristics, including representation of a significant entity whose individual components may lack distinction;
Potential to provide important information about prehistory or history.

Lodestar retained Raber Associates to conduct assessment and reconnaissance investigations, to standards of the SHPO *Environmental Review Primer for Connecticut's Archaeological Resources*, and the Secretary of the Interior's "Standards for Archaeology and Historic Preservation" for Identification, Evaluation and Planning. Assessment included potential viewshed or direct physical impacts on structures potentially eligible for listing on the State or National registers. Reconnaissance investigations described below revealed one area within the proposed solar array which had a potentially eligible Native American archaeological resource. Based on consultations with SHPO, additional intensive survey investigations were conducted at this resource to determine eligibility, as described below (letter, Catherine Labadia to Michael S. Raber, June 19, 2020).

Michael S. Raber acted as principal investigator. Marc L. Banks acted as Project archaeologist, assisted by field technicians Miranda Ierardi, Stephanie Scialo, Will Sikorski, Zeke Spooner, and Landon Whitney. Background and field investigations were conducted between May and July 2020. Some surveys or lists of Winchester architectural resources were not available due to restrictions on access to research facilities due to COVID-19 conditions (personal communications, Catherine Labadia, Laura Katz Smith).

II. PROJECT AREA AND PROPOSED DEVELOPMENT

The Project area lies within Connecticut's Northwest Uplands Ecoregion, with hilly landscapes generally above 1000 feet above mean sea level, and metamorphic bedrock on which soils developed on glacial till. Located near the watershed with the Naugatuck River to the west, the Project area drains into Highland Lake, a tributary of the Mad River within the Farmington River drainage basin, and consists primarily of well-drained rocky fine sandy loam soils on light to heavy glacial till overlying granitic gneiss bedrock. Two narrow wetlands with intermittent streams draining into the Taylor Brook tributary to Highland Lake run roughly parallel to Platt Hill Road west of the proposed solar array (Figures 1-2; Dowhan and Craig 1976; U.S. Department of Agriculture 1970, 2003; Rodgers 1985; Stone *et al.* 1992, 1998; Connecticut Department of Environmental Protection 2009, 2010).

The Project will create a solar array within a 24.8-acre portion of the approved Trade Winds Farm subdivision east of Platt Hill Road, on the crest of a drumlin with relatively level surfaces which drop off steeply to east and west. Boulders of quartzite and gneiss are abundant on the surface and within soil strata exposed during archaeological investigations. The solar array will be 8.0 acres in size, accessed by a 12-foot-wide driveway from the east side of

Platt Hill Road which will cross the two wetlands. Two riprap swales, located to the east and west of the solar array will collect and convey runoff to a constructed wetland system proposed to the southwest of the solar array. Approximately 14 acres will be disturbed for the access road, solar array, stormwater management, and associated tree clearance, plus approximately 0.25 acres likely disturbed near Platt Hill Road for stockpile of logs, brush, soil, and construction trailer installation. The proposed stormwater management basin southwest of the solar array, adjacent to the eastern wetland noted above, has some moderate-to-poorly drained areas. Project development will include clearing and grubbing, grading, construction of the access road, layout and placement of foundation systems, racking, and solar panels, installation of utility pads and associated electrical equipment, installation of electrical conduit, conduit supports, electrical poles, and overhead wire, and security fencing. The solar panels are expected to be supported on posts, and will extend approximately five to eleven feet above graded surfaces (Figure 2; Trinkaus Engineering, LLC 2020).

There are no existing structures within Project limits other than two stone walls, discussed below, which are part of a larger enclosure between the two wetlands. The relatively straight-sided stone walls of large unmortared boulders, approximately 6 feet wide and 4 feet high, have already been truncated by creation of access for undocumented activities such as timber removal and numerous mechanically-excavated test pits for the never-completed Trade Winds Farm subdivision. Limited additional wall removal will be required for the proposed 12-foot-wide Project access road development. The area within and west of the walled enclosure, east of Platt Hill Road, has been cleared of forest growth and appears to be abandoned pasture. East of the walls and wetlands, Project areas are forested with trees typically at least 50 feet high, and with numerous downed or fallen trees (Figures 1-3).

III. SUMMARY OF BACKGROUND DATA

A. Native American

Files of the Connecticut State Archaeologist showed no Native American archaeological sites reported within at least two miles of the Project area, although this absence of data may reflect limited archaeological investigation rather than a lack of Native American activity in this vicinity. Further downstream in the Farmington River Basin, a variety of site types are reported for all periods of Native American occupation from Paleoindian to Contact periods (c12,000-350 years ago), primarily along or near the Farmington River, its larger tributaries, and associated wetlands. In the early 17th century A.D., the upper part of the Farmington River basin was probably used by the Tunxis group for seasonal hunting, fishing, and gathering activities, although no Native Americans were occupying present Winchester when English settlement began in the mid 18th century. Tributary streams such as Taylor Brook with its extensive wetland margins may have provided seasonal hunting, plant, and fishing resources, and Highland Lake appears to have been used seasonally for fishing with associated undocumented camps throughout Native American occupation periods. Projectile points were noted along the south and east shores of the lake in the 19th century (DeForest 1851; Boyd 1873; J.W. Lewis & Co. 1881; Spiess 1930; Alvord 1961; Cook 1976; Feder 1981, 1987; Banks 2000; Lavin 2013; Labich n.d.).

Native American archaeological sites in the region are typically found in areas with well-drained soils and slopes of less than 20%, suggesting that such sites are unlikely in much of the stormwater management basin, the eastern edge of the area including the solar array, and parts of the western and southwestern edges of the latter area. Given the presence of the small streams and wetlands in or near Project areas, and the proximity of larger water resources including Taylor Brook and Highland Lake, it was assumed that most areas proposed for disturbance other than steeper slopes were sensitive for possible Native American resources. The Project area environment away from the wetlands did not suggest potential for sites of more than short-term activities, given limited areas of moderate slope and the abundant surface rock.

Background data suggested possible Native American activities in the upland Project environment included collection of lithic material for tool manufacture, and hunting and/or gathering episodes associated with manufacture or maintenance of tools and collection of seasonal plant resources. Background data also suggested intact evidence of small seasonal Native American occupations might yield significant new information on Native American upland settlement. In particular, the use of upland areas for small sites of seasonal, temporary, or specialized activities, and the relation of such sites to larger, more permanent encampments along major streams, remain issues of regional archaeological importance.

B. Euroamerican

By the second quarter of the eighteenth century, the only land in Connecticut not settled by Euroamericans was in the northwest part of the present state. During the Dominion of New England in 1686-88, when England attempted to impose central rule over the Northern Colonies in the person of Sir Edmund Andros, these "Western Lands" were allocated to the towns of Hartford and Windsor by the Connecticut General Assembly, to prevent Andros from directing their settlement . In the 1720s, the General Assembly agreed that Hartford and Windsor should retain half the land - east of the town of Litchfield - and that the rest should revert to the Colony. In the eastern half, companies of taxpayers from the two river towns secured rights to the new tracts, which included the later towns of New Hartford, Winchester, Hartland, Colebrook, and Barkhamsted. The area of Winchester became the sole proprietorship of Hartford in 1732. Proprietors first met to divide the area in 1744, but there was no survey completed until 1758. The remote, steep, and thin-soiled character of most of these areas discouraged early settlement in all except New Hartford (incorporated in 1738). The first English settler arrived in Winchester in 1750, with most settlement probably in the area of Winchester Center on level ground near the East Branch of the Naugatuck River. This area, in present southwestern Winchester, was the center of the Society of Winchester, a parish incorporated in 1768 which had almost the entire population of the larger Town of Winchester incorporated in 1771 (Boyd 1873; J.W. Lewis & Co. 1881; Alvord 1961; Rossano 1997; Gordon and Raber 2000).

The North Road from Hartford to Canaan (part of Route 44), laid out through northeastern Winchester in the 1760s, initially encouraged very limited English settlement in the valley of Mad River. By the time the town was incorporated, a gristmill powered by the steep drop from the outlet of Highland Lake (then known as Long Lake) to the Mad River began an extensive series of industrial operations along the outlet and the Mad and Still Rivers. By the late 18th century, ironworks, a wide range of wire and iron-making operations tools, wooden-ware plants and textile mills led to the evolution of Winsted as a regionally-significant manufacturing center. Manufacturing was also sustained by the transportation improvements of the Greenwoods Turnpike completed in 1799 along the North Road, and the Connecticut Western Railroad completed in 1871. Part of Winsted was incorporated as the borough of Clifton in 1832, and Winsted became a borough in 1858 and an independent city in 1917, with manufacturing continuing into the 1960s (Boyd 1873; J.W. Lewis & Co. 1881; Wood 1919; Alvord 1961; Rossano 1997; Gordon and Raber 2000).

Winchester terrain generally restricted road development, but with the growth of settlement in the northeast part of town there were connections built between the two population centers, including Platt Hill Road, along which farmers developed grain and hay fields, maintained orchards, and kept sheep, beef cattle, and dairy cattle herds. There is little information on the history of Platt Hill Road, but until the late 20th century there were only three structures or residential/farm complexes along the road anywhere near the proposed Project: two late 18th-century houses, with associated outbuildings at 469 Platt Hill Road (c1789) and 451 Platt Hill Road (c1771); and the one-room Little Red Schoolhouse close to the intersection of Platt Hill and Taylor Brook roads (Figures 1, 11 ; Boyd 1873; J.W. Lewis & Co. 1881; Alvord 1961; U.S. Geological Survey 1956/1984).

The schoolhouse, located approximately 2300 feet west of the proposed solar array's highest point, was built in 1815 to replace an earlier school probably built in the 1780s on the same site, which burned down in the 1790s. It is maintained in excellent condition by a private association. The school is not listed on the National Register of Historic Places, and does not appear in one available survey of Winchester buildings (Works Progress Administration for Connecticut 1934-1937). Other sources including the State Register of Historic Places were not available for review during these investigations (e.g. Litchfield Hills Regional Planning Agency and Connecticut Historical Commission 1978). Similar information conditions apply to the residential properties noted on Platt Hill Road, whose dates are based on visible plaques. 451 Platt Hill Road, located approximately 1200 feet northwest of the proposed solar array's highest point, is a well-preserved side-gabled, central-chimney Georgian structure with two large outbuildings. 469 Platt Hill Road, located approximately 1600 feet northwest of the proposed solar array's highest point array, is a more modified Georgian residence built in several stages, perhaps originally in end-gabled form, with original window forms. This property once had a number of outbuildings, including two further north on Platt Hill Road, which have been removed. The schoolhouse and the two residential properties appear to be at least potentially eligible for the state or national registers of historic places. Potential Project effects on these properties are discussed below in Section V (Figures 1, 4, 11; Woodford 1852; Hopkins 1859; Beers 1874; Historic Buildings of Connecticut 2020).

Review of maps and aerial photography do not indicate any Euroamerican features or structures within Project limits other than the pasture walls noted above. The straight-sided stone walls of large unmortared boulders, approximately 6 feet wide and 4 feet high, appear to be common examples of broad freestanding walls associated with land clearance for tillage or pasture in rocky woodlands (Thorson 2005). Although the structures are not significant as stone wall types, the large enclosure defined by the walls appears potentially significant as a well-preserved example of upland enclosures created for tillage or pasture in heavily-glaciated terrain. There will be limited additional impact to the walls during construction, and the larger enclosure will remain undisturbed, with no adverse effects on the enclosure (Woodford 1852; Hopkins 1859; Beers 1874; U.S. Geological Survey 1893, 1951; Fairchild Aerial Survey 1934).

There is a small dam/impoundment of large uncoursed, unmortared boulders in the eastern of the two tributary stream, immediately west of the proposed stormwater management basin. The approximately 25-foot-long feature is not associated with any reported mill, and is on a waterway with insufficient slope or volume for waterpower development. The dam may have served to impound a small area for ice or livestock watering, and could provide information on upland farm management practices in the mid-18th to early-20th centuries. It appears potentially eligible for the state or national registers of historic places (Figure 5).

IV. SUBSURFACE INVESTIGATIONS AND RESULTS

A. Reconnaissance Methods and Summary of Results

Reconnaissance (Phase 1) field investigations addressed the potential for Native American sites suggested by background data. Methods included walkover surface inspection to identify relatively-level, well-drained areas sensitive for Native American archaeological resources, and subsurface testing to locate archaeological sites. Reconnaissance tests were hand-excavated 50-cm.^{2} shovel test pits, placed at initial intervals of no more than 15 meters in areas which appeared archaeologically sensitive. This testing interval has proven successful in intercepting at least some evidence of all but perhaps the very smallest of Native American or Euroamerican archaeological sites. Shovel test pits were excavated with shovels and small hand tools until culturally-sterile soil layers and/or obstructions were encountered, with all excavated material run through 0.25-inch-mesh hardware cloth to isolate artifacts. Tests were typically excavated in the southwest quadrants of 1-m.^{2} areas defined by test grid points, but extensive fallen trees and surface boulders sometimes required moving shovel tests to other adjacent quadrants, noted in field notes and on Project mapping. Soil profiles were recorded, compared to typical soils expected in test areas (U.S. Department of Agriculture 1970, 2003), and are summarized below. Virtually all tests indicated variations of Paxton or Charlton fine sandy loam soils, which include stony strata.

1. Results and Soil Profiles

Initial reconnaissance shovel tests included 11 sterile units in the proposed access road, 4 sterile units in proposed stockpile and trailer areas, and 157 units in the areas proposed for clearing and construction of the solar array and the stormwater management basin. In the latter areas, 7 initial tests yielded 1-2 pieces of quartz or quartzite lithic debitage. A total of 25 additional shovel tests were completed at the 7 initial finds to assess the presence of potentially significant sites, with the additional tests generally excavated at 2-meter intervals with some tests not feasible because of dense fallen trees. Additional tests at three of the initial finds yielded no further cultural material. Additional tests around units S105E0 and S105E30 each yielded 2 more pieces of similar debitage. Tests at and around unit S135E15 yielded a total of 7 pieces of similar debitage (Figures 2, 7-9, Table 1).

Typical Profile 1 for Main Solar Area

0 –15/30 cm.: dark brown gravelly fine sandy loam (A horizon); some refusal on large tree roots

15/30 – 30/50 cm.: yellow brown fine sandy loam, gravel, cobbles (B1 horizon); some refusal on rocks & large tree roots

30/50 – 42/60 cm.: light olive/dark yellow brown fine sandy silt, gravel, some cobbles (B2 horizon); some refusal on rocks & large tree roots

42/60– 55/70 cm.: olive brown silty fine sand, gravel, cobbles (C horizon)

Typical Profile 2 for Main Solar Area

0 – 20/50 cm.: very dark gray brown fine sandy loam, cobbles (A horizon); some refusal on large tree roots

20/50 – 35/60 cm.: dark yellow brown fine sandy loam, gravel, cobbles (B1 horizon); some refusal on rocks & large tree roots

35/60 – 50/70 cm.: yellow brown fine sandy silt, gravel, some cobbles (B2 horizon); some refusal on rocks & large tree roots

50/70 – 50/70 cm.: light olive brown silty fine sand, gravel, cobbles (C horizon)

Stormwater Management Basin Tests S240W120, S255W120

0 – 15/16 cm.: very dark gray brown/very dark brown fine sandy loam, gravel rocks (A horizon)

15/16 – 30/35 cm.: yellow brown/olive brown fine sandy loam, rocks (B horizon); terminated in mud & large rocks

Access Road Tests R1, R3, R4, R9, R11, R12

0 – 30 cm.: dark brown sandy loam, gravel, rocks (A horizon)

30 – 40/63 cm.: yellow brown/light brown/ fine sandy loam, rocks (B horizon)

Access Road Tests R6, R7, R8, R10

0 – 25/30 cm.: dark brown sandy loam, rocks (A horizon)

25/30 – 40/60 cm.: red brown silty loam, rocks (B horizon)

40/60 – 50/65 cm.: olive brown/gray silty loam (C horizon)

Stockpile & Trailer Area Tests ST1-ST4

0 – 22/30 cm.: dark brown fine sandy loam, gravel, rocks (A horizon)

22/30 – 46/57 cm.: yellow brown fine sandy loam, cobbles, small rocks (B1 horizon); ST1 terminated in compact soil and rock

46/57 – 61/62 cm.: light olive brown/gray brown stony fine sandy loam (B2 horizon); ST2-ST4 terminated in compact soil and rock

2. Interpretation of Reconnaissance Results and Recommended Intensive Survey

Possible Native American activities in the upland environment here included collection of lithic material for tool manufacture, and hunting and/or gathering episodes associated with manufacture or maintenance of tools. Much of this activity may have been too ephemeral to leave sufficient information for well-defined episodes or functions. The finds at S105E0 and S105E30 appeared to fall within this category, and did not appear to warrant further investigation. The slightly more extensive finds at and around S135E15 appeared to have potential for possible definition of short-term activities, and potential significant data. We recommended to SHPO that intensive survey (Phase 2) investigations be conducted in the latter area, with shovel test pits at 4-meter intervals for up to 12 meters from the initial find, with larger units excavated as needed, to define site/activity area limits and to sample site contents. SHPO concurred with this recommendation (personal electronic communication, Catherine Labadia to Michael Raber, June 19, 2020).

B. Intensive Survey Methods, Results, and Assessments of Significance

Intensive survey testing attempted to define approximate site or cultural material boundaries around the initial find at S135E15 with shovel tests at intervals generally not exceeding 4 meters, and used adjacent shovel tests around some reconnaissance and initial intensive survey finds to sample site contents. Many tests had to be located away from standing and fallen trees, in places distorting any ideal test array and inhibiting open excavation of larger units to sample site contents. A total of 48 shovel tests were completed, including 39 tests on the intensive survey grid, 4 additional shovels tests equal to 1 m. square in area excavated around the initial find at S135E15, and 5 additional shovel tests adjacent to finds in 3 tests in the intensive survey grid. Limits of archaeological activity were generally defined by 2 sterile intensive survey tests in any direction. Soil profiles were similar to the typical sequences seen in reconnaissance testing. An additional 21 pieces of quartz or quartzite lithic debitage were recovered in 8 intensive survey tests, for a total of 28 such artifacts found in both phases of investigation around S135E15. These finds were made within an area of approximately 250 square meters, within which reconnaissance and intensive survey tests totaled 7.5 square meters for a sample of approximately 3% (Figure 10; Table 1).

No cultural features, floral or faunal material, or temporally-diagnostic artifacts were recovered. Most of the artifacts -- 20 of 28 -- were found within 2-6 meters of the initial reconnaissance find in a small area of approximately 36 square meters, in which tests comprised a sample of about 17% (Figure ; Table 1). There was no confirmed evidence of any activities other than manufacture or maintenance of tools in what may have been multiple short episodes. Away from the central area of finds, a chunk of quartz in test S123E15, perhaps broken off a larger cobble, had a possible unifacial flaked edge approximately 1 inch/2.5 cm. long suggesting use as a scraper. The manner in which quartz fractures makes identification of scaper edges difficult, and unmodified fragments could have been used as informal tools. Thus some of the debitage could have been used as scrapers during hunting and gathering episodes (Gramly 1981). As noted above for other reconnaissance finds, the Native American archaeological activities suggested by intensive survey appear to have been too ephemeral to leave sufficient information for well-defined episodes or functions, and do not appear to present information meeting Criterion D for national or state register of historic places eligibility.

V. ASSESSMENT OF VISUAL EFFECTS

Available guidelines for SHPO assessment of visual effects on cultural resources appear in Section 16-50p(a)(4)(C) of PUESA, and in regulations of the federal Advisory Council on Historic Preservation (36CFR 800.5). Both sets of guidelines apply to properties listed, or eligible for listing, on the National Register of Historic Places. Based on Federal Power Commission guidelines to which it refers, PUESA mandates avoidance of National Register properties where possible, or, if avoidance is not possible, minimization of transmission structure visibility or effects on the character of National Register property environ. Advisory Council on Historic Preservation (ACHP) regulations, while not required in SHPO review of Projects subject to Connecticut Siting Council approval, provide *de facto* guidelines commonly used by SHPO. Criteria for findings of adverse effects on historic properties include change of the physical features within a property's setting which contribute to property significance, and introduction of visual elements which diminish the integrity of a property's significant features.

Previous studies by Raber Associates of visual effects on historic properties (e.g., Raber 2007), including consultations with SHPO, indicated that these guidelines provide no established or objective criteria for determining when a visual effect is adverse, leaving identification of adverse effects to the judgment of the reviewer. In general, visual effects will be diminished if new structures are as low as possible relative to existing structure heights, and/or if new structures are located further from historic properties. Most previous visual effects evaluations in Connecticut have addressed cell towers and electric transmission facilities, structures far taller than the maximum 11-foot-high solar panels proposed for this Project. For electric transmission structures, SHPO has previously concurred that that adverse visual effects were highly unlikely at distances exceeding 0.25 mile.

For consistency of assessment despite the dramatically different heights of the facilities in question, this investigation applied standards and methods similar to those used in previous Raber Associates studies (e.g., Raber 2007), in which three categories of visibility were distinguished:

- Visibility with No Effect: the structure is too far from a historic property, and/or too masked by forest cover or built environments, to be perceived as a distinct landscape feature;

- Visibility with Non-Adverse Effect: the structure can be perceived as a distinct landscape feature, but because of distance, forest cover, or built environments there is no significant change to the visual environment of a historic property;

- Visibility with Adverse Effect: by virtue of proximity, size, or appearance, the structure degrades the existing visual environment of a historic property.

Three potentially significant historic architectural resources were identified near the Project area. Recent Bing Maps aerial photography (https://www.bing.com/maps) shows existing non-forested areas around nearby residential properties near the Project and in Project areas west of the solar array (Figure 11). The Little Red Schoolhouse is located approximately .38 miles from the highest point of the proposed array, and approximately 130 feet in elevation below this point. Given the extensive forest cover, the distance and elevation of the Little Red Schoolhouse indicated the solar panels could not be visible from this property. For the houses at 451 and 459 Platt Hill Road, transects were prepared from each house to the nearest and/or highest components of the proposed solar panel arrays at proposed new

elevations, assuming 11-foot panel heights and 50-foot-high average tree heights in tree-covered areas. As shown on Figure 12, the solar panels would not be visible from these two properties, even with binoculars, because of terrain and/or tree-cover obstructions. None of the visibility categories outlined above apply.

VI. CONCLUSIONS AND RECOMMENDATIONS

The proposed Platt Hill Road Solar Development will have no effects on any cultural resources listed, eligible, or potentially eligible for the national or state registers of historic places No further cultural resource investigations are recommended.

One potentially eligible, undocumented Euroamerican resource -- a small stream impoundment built with large uncoursed, numortared boulders – remains immediately west of the proposed stormwater management area, within defined wetland limits. It is recommended that no mechanical equipment used to create the stormwater management area disturb the impoundment.

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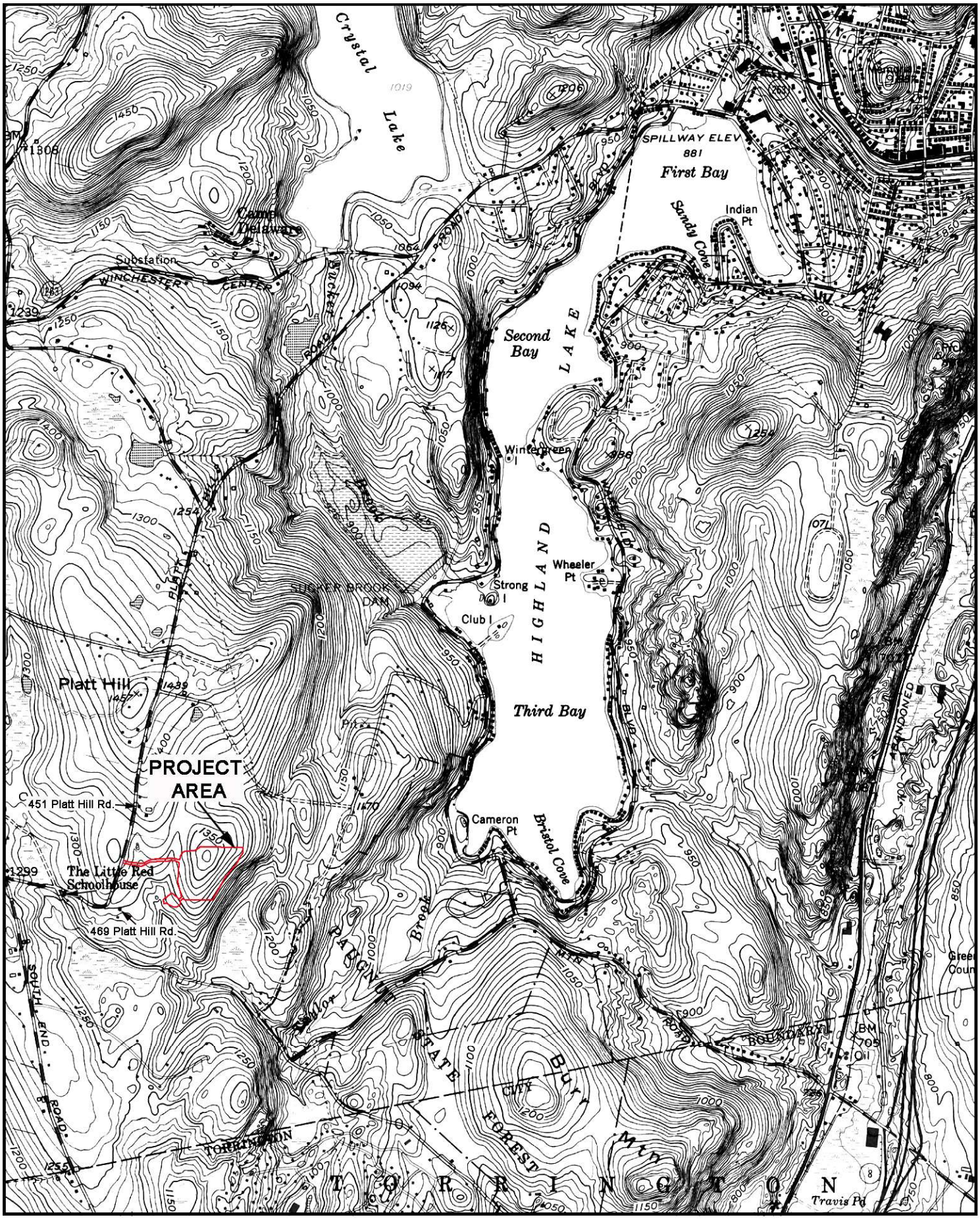

Figure 1. PROJECT LOCATION ON WINSTED , CONN. 7.5-MINUTE U.S. GEOLOGICAL SURVEY QUADRANGLE WITH NEARBY HISTORIC STRUCTURES

FIGURE 7

FIGURE 8

STAGING AREAS & PROJECT TRAILER

ACCESS ROAD

SOLAR ARRAY

CLEARING LIMITS

RUBBLE DAM

STORMWATER MANAGEMENT BASIN

True North

Platt Hill Road

LOT #3 - TRADE WINDS FARM, LLC
63,086 sq. ft.
1.45 acres

LOT #2 - TRADE WINDS FARM, LLC
79,177 sq. ft.
1.82 acres

LOT #1 - TRADE WINDS FARM, LLC
70,377.46 ft.
1.61 acres

DESCRIPTION OF SOIL TYPES AS DETERMINED BY MARC BEROZ, SOIL SCIENTIST

MAP SYMBOL	DESCRIPTION
AQ	AQUENTS, 0 TO 5 PERCENT SLOPES
CrC	CHARLTON VERY STONY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES
Ma	UDORTHENTS, 0 TO 15 PERCENT SLOPES
PeC	PAXTON VERY STONY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES
PeD	PAXTON VERY STONY FINE SANDY LOAM, 15 TO 35 PERCENT SLOPES
Pm	PALMS MUCK, 0 TO 1 PERCENT SLOPES
Rg	RIDGEBURY EXTREMELY STONY FINE SANDY LOAM, 0 TO 15 PERCENT SLOPES
RgE	RIDGEBURY EXTREMELY STONY FINE SANDY LOAM, 15 TO 45 PERCENT SLOPES
WzC	WOODBRIDGE EXTREMELY STONY FINE SANDY LOAM, 3 TO 15 PERCENT SLOPES
WzE	WOODBRIGE EXTREMELY STONY FINE SANDY LOAM, 15 TO 45 PERCENT SLOPES

Figure 2. EXISTING CONDITIONS, PROPOSED SOLAR ARRAY AND CLEARING LIMITS, AND LOCATIONS OF FIGURES 7-8

base image and project limits: Trinkaus Engineering, LLC 2020

APPROXIMATE STONE WALLS

WETLAND LIMITS

50 0 50 100 150 feet

Figure 3. VIEWS TO NORTHEAST (TOP) AND SOUTHWEST OF STONE WALLS IN PROJECT AREA CLOSEST TO PROPOSED SOLAR ARRAY

VIEW SOUTHWEST OF LITTLE RED SCHOOLHOUSE

VIEW SOUTHEAST OF 469 PLATT HILL ROAD

VIEW SOUTHEAST OF 451 PLATT HILL ROAD

Figure 4. HISTORIC HOMES AND SCHOOLHOUSE NEAR PROJECT AREA

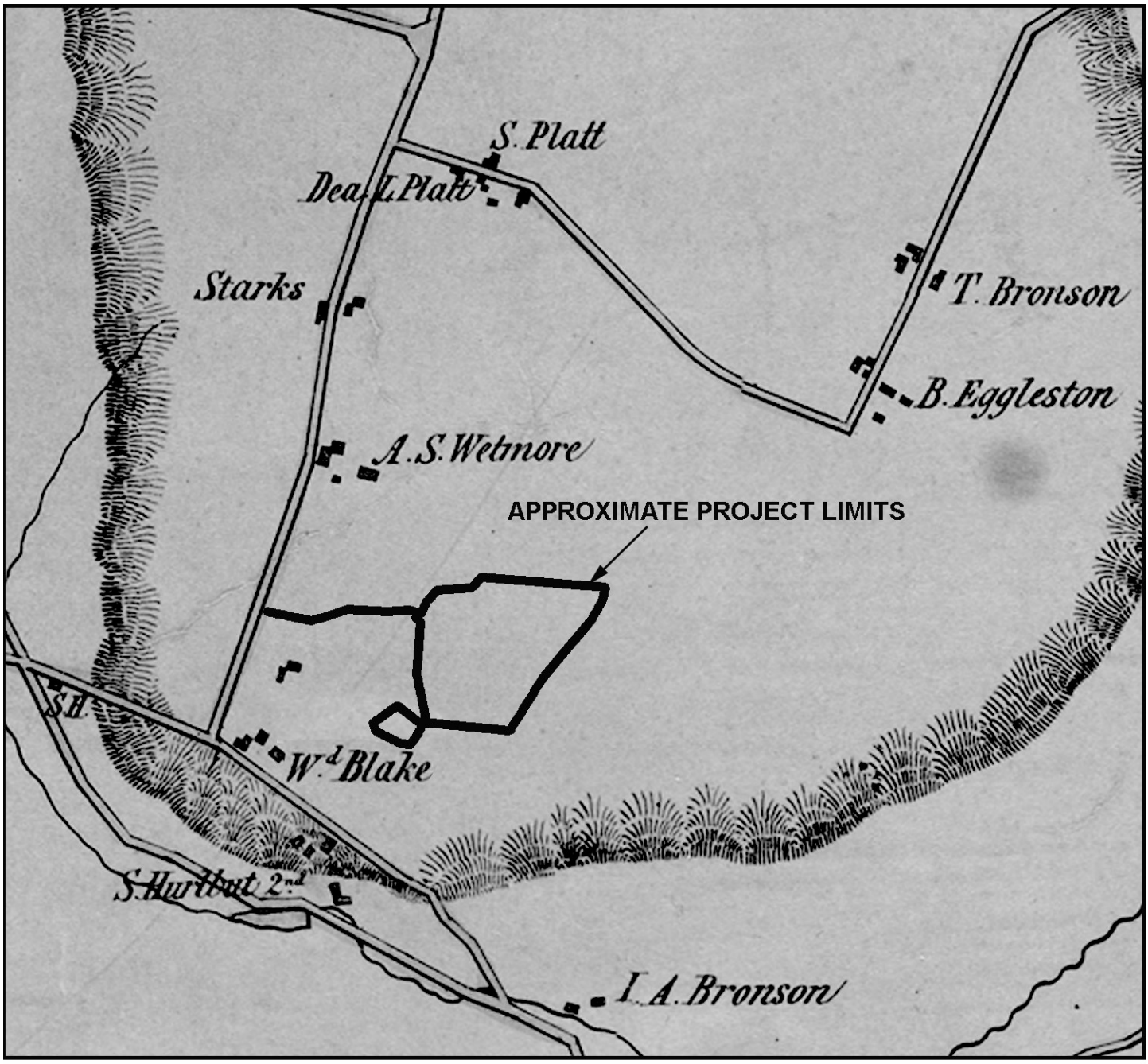

Figure 5. PROJECT AREA c1852
base image: Woodford 1852

1000 0 1000 2000 3000 FEET

approximate scale

Figure 6. VIEWS NORTHEAST (TOP) AND NORTHWEST OF IMPOUNDMENT IN STREAM IMMEDIATELY WEST OF PROPOSED STORMWATER MANAGEMENT BASIN (see Figure 2 for impoundment location)

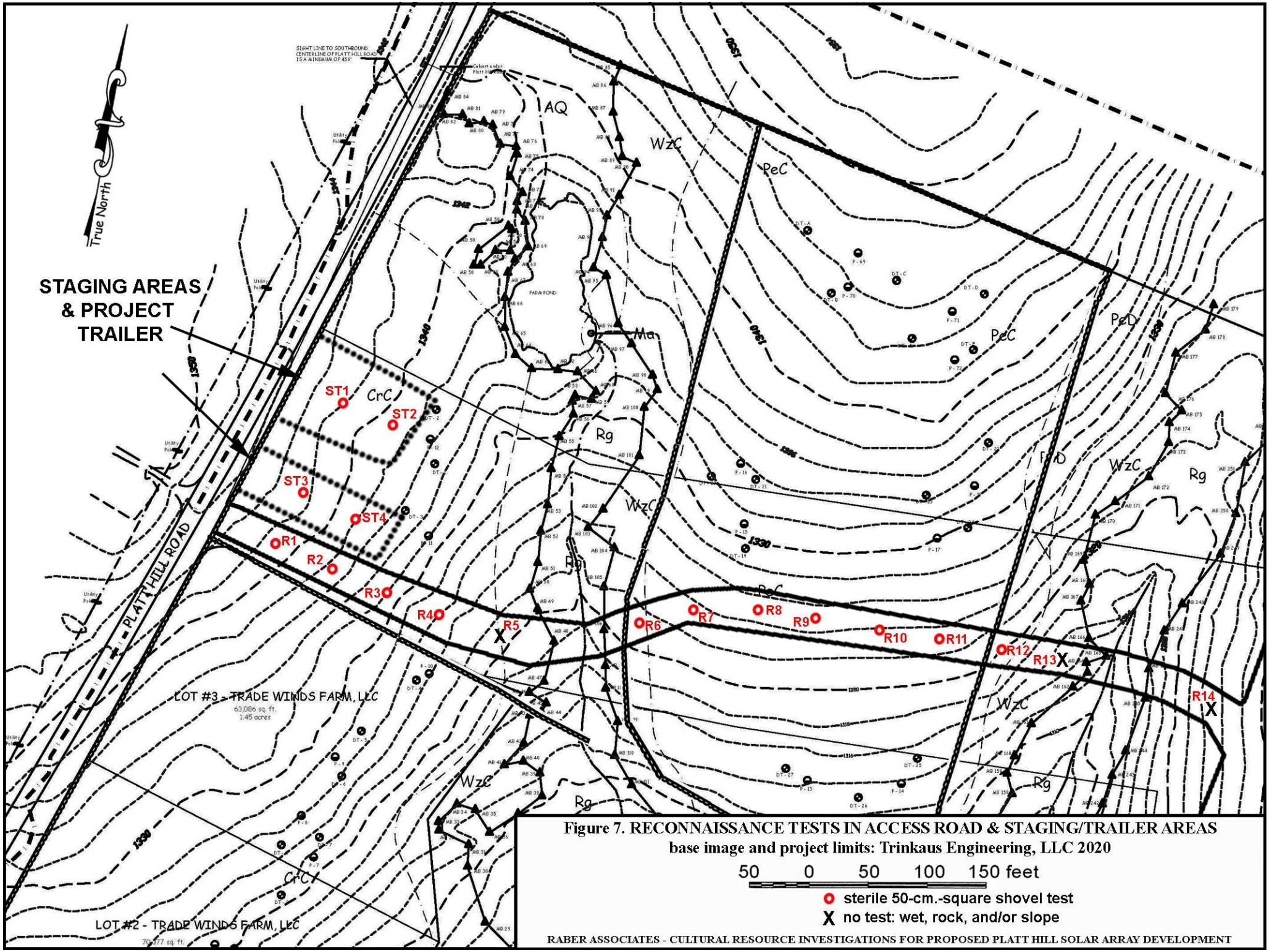

Figure 7. RECONNAISSANCE TESTS IN ACCESS ROAD & STAGING/TRAILER AREAS
base image and project limits: Trinkaus Engineering, LLC 2020

RABER ASSOCIATES - CULTURAL RESOURCE INVESTIGATIONS FOR PROPOSED PLATT HILL SOLAR ARRAY DEVELOPMENT

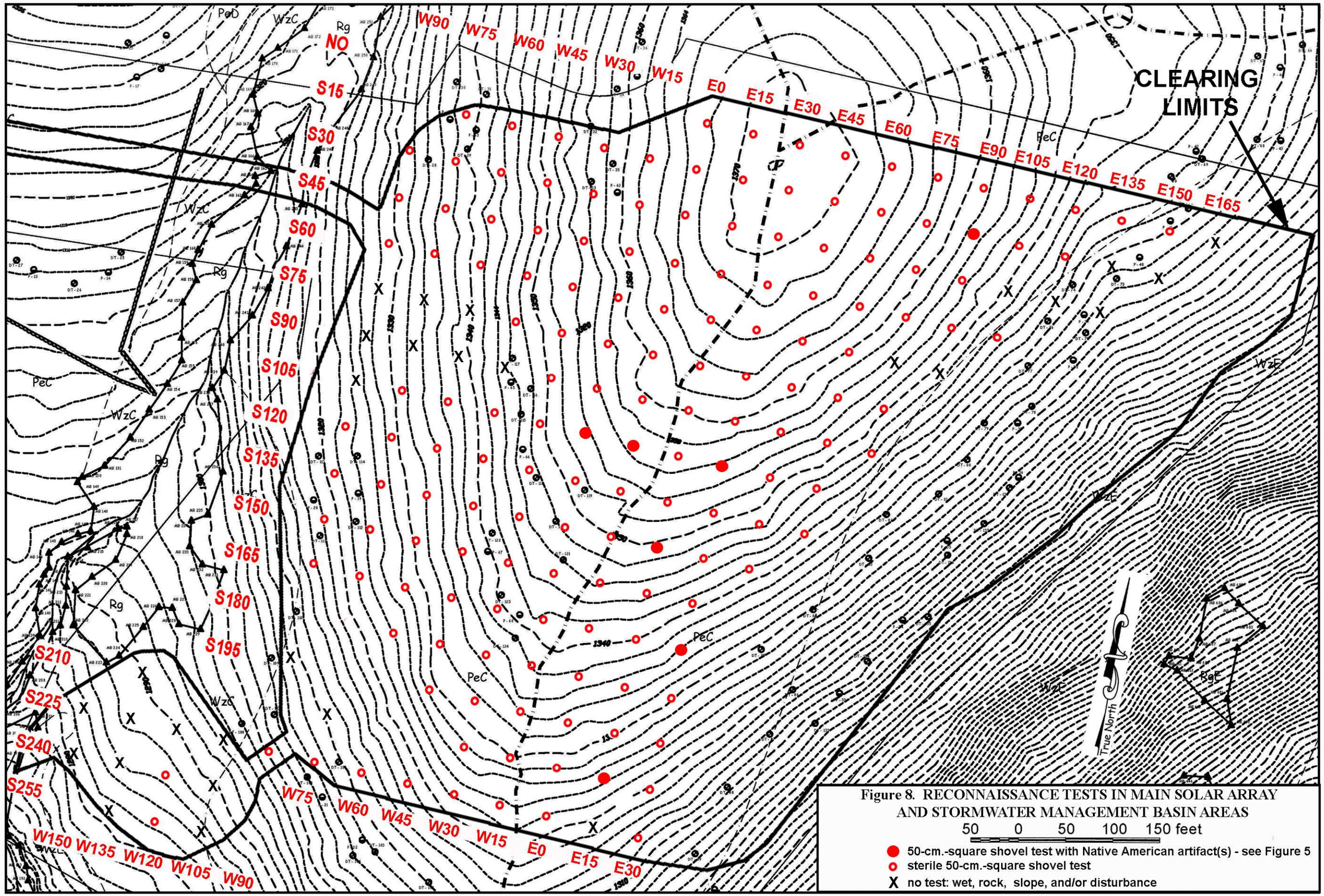

Figure 8. RECONNAISSANCE TESTS IN MAIN SOLAR ARRAY AND STORMWATER MANAGEMENT BASIN AREAS

50 0 50 100 150 feet

- 50-cm.-square shovel test with Native American artifact(s) - see Figure 5
- sterile 50-cm.-square shovel test
- X no test: wet, rock, slope, and/or disturbance

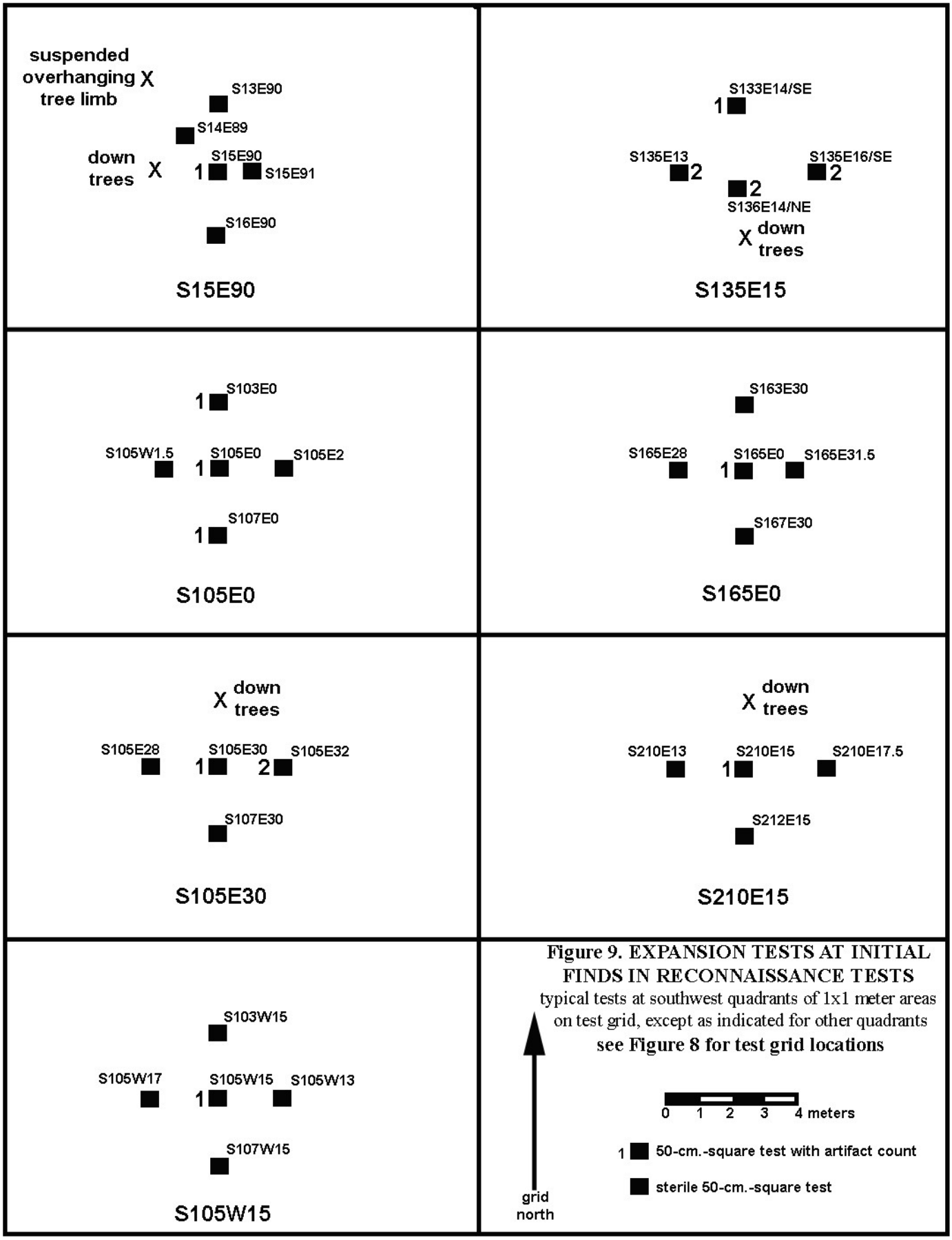

Figure 9. EXPANSION TESTS AT INITIAL FINDS IN RECONNAISSANCE TESTS

typical tests at southwest quadrants of 1x1 meter areas on test grid, except as indicated for other quadrants

see Figure 8 for test grid locations

Table 1. RECOVERED NATIVE AMERICAN CULTURAL MATERIAL

PHASE	UNIT	QUADRANT IF NOT SW	DEPTH cm. below surface	STRATUM	CATEGORY	TYPE	QUANTITY	MATERIAL
1	S15E90		10-20	A1	Lithic	flake	1	quartz
1	S103E0		25-30	B1	Lithic	flake	1	quartz
1	S105E0		30-40	B1	Lithic	flake	1	quartz
1	S107E0		25-30	B1	Lithic	flake	1	quartz
1	S105E30		30-40	B1	Lithic	flake	1	quartz
1	S105E32		30-40	B	Lithic	flake	2	quartz
1	S105W15		40-45	B1	Lithic	flake	1	quartz
2	S123E15		8	A	Lithic	flake	1	quartzite
2	S123E15		19	B1	Lithic	chunk*	1	quartz
2	S128E10	SE	21-31	B	Lithic	flake	2	quartz
2	S128E11	NW	23-33	B1	Lithic	flake	2	quartz
2	S128E11	NW	23-33	B1	Lithic	chunk	1	quartz
2	S128E11		32-39	B2	Lithic	chunk	1	quartz
1	S133E14	SE	30	B1	Lithic	chunk	1	quartz
1	S135E13		25-30	B1	Lithic	shatter	2	quartz
2	S135E15		5-10	A	Lithic	chunk	1	quartz
2	S135E15		5-10	A	Lithic	shatter	1	quartz, cortex
1	S135E16	SE	15	B1	Lithic	chunk	1	quartz
1	S135E16	SE	15	B1	Lithic	flake	1	quartz
1	S136E14	NE	5-15	A	Lithic	flake	1	quartz
1	S136E14	NE	15-25	A	Lithic	shatter	1	quartz
2	S136E18	NE	5-15	A	Lithic	flake	2	quartzite
2	S136E18	NE	5-15	A	Lithic	flake	1	quartz
2	S136E19	NW	14-24	A	Lithic	flake	3	quartzite
2	S136E19	NW	14-24	A	Lithic	chunk	3	quartz
2	S139E19		0-10	A	Lithic	flake	2	quartz
1	S165E30		30-40	B2	Lithic	flake	1	quartzite
1	S210E15		22	B1	Lithic	flake	1	quartz
						TOTAL	38	

*possible utilized edge (scraper)

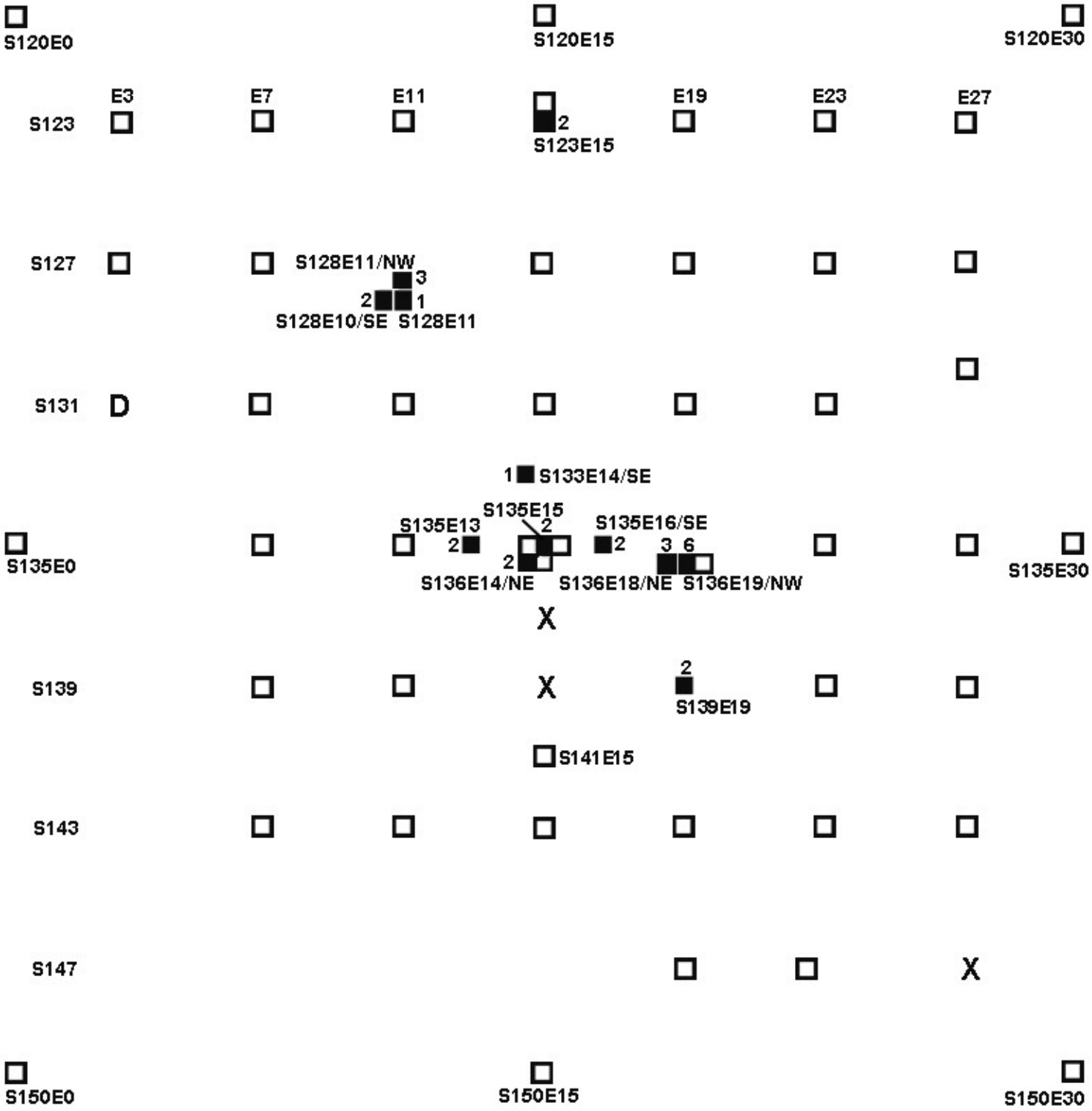

Figure 10. RECONNAISSANCE AND INTENSIVE SURVEY TESTS AT S135E15

typical tests at ssouthwest quadrants of 1x1 meter areas on test grid, except as indicated for other quadrants

1 ■ 50-CM.-SQUARE SHOVEL TEST WITH NATIVE AMERICAN ARTIFACT(S) & COUNT

□ STERILE 50-CM.-SQUARE SHOVEL TEST

X NO TEST - FALLEN TREES

D NO TEST - DISTURBED BY PRIOR PERC TEST

0 1 2 3 4 meters

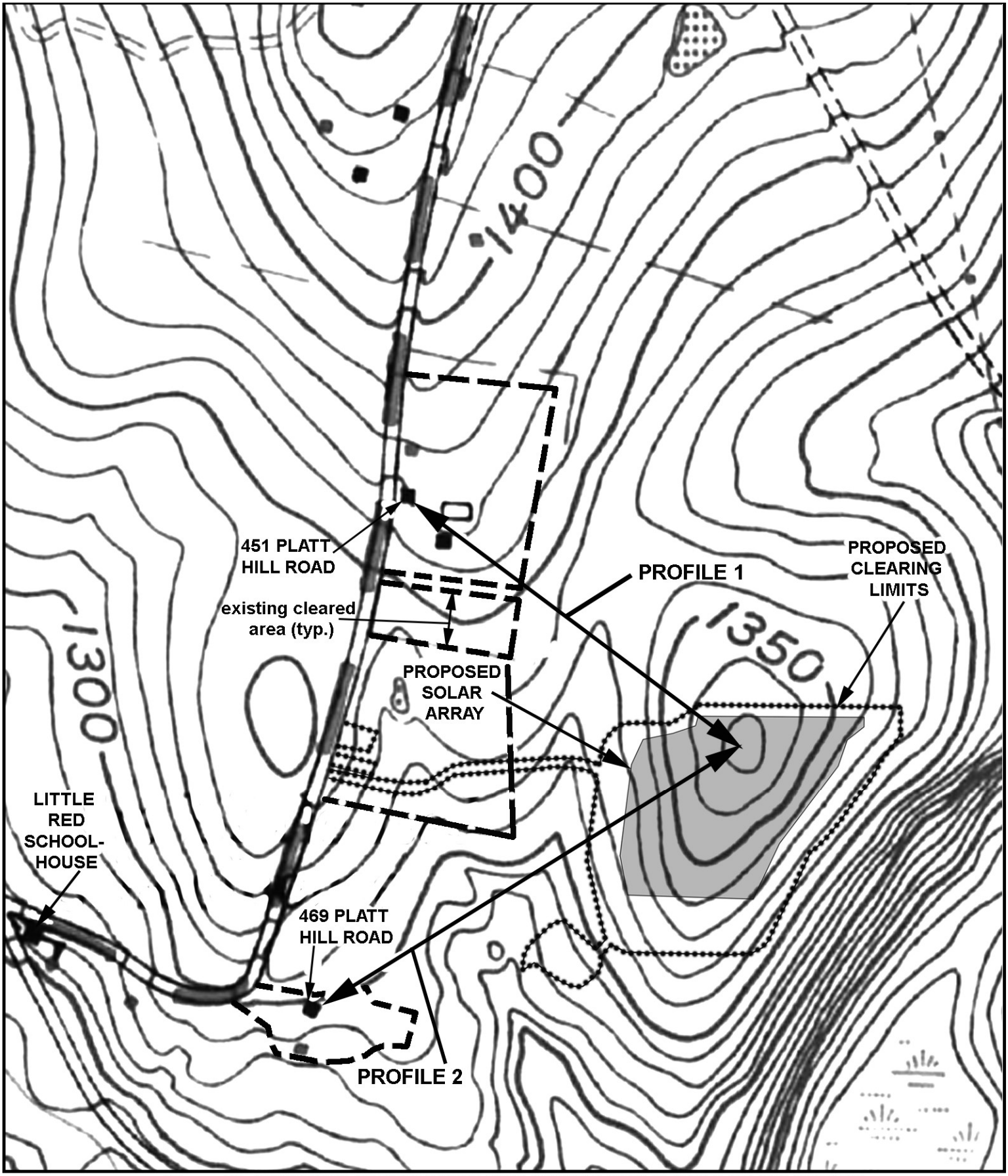

Figure 11. HISTORIC RESIDENCES AND SCHEMATIC PROFILE LOCATIONS

base image: U.S. Geological Survey 7.5-minute Winsted, Conn. quadrangle

0 400 800 1000 2000 feet

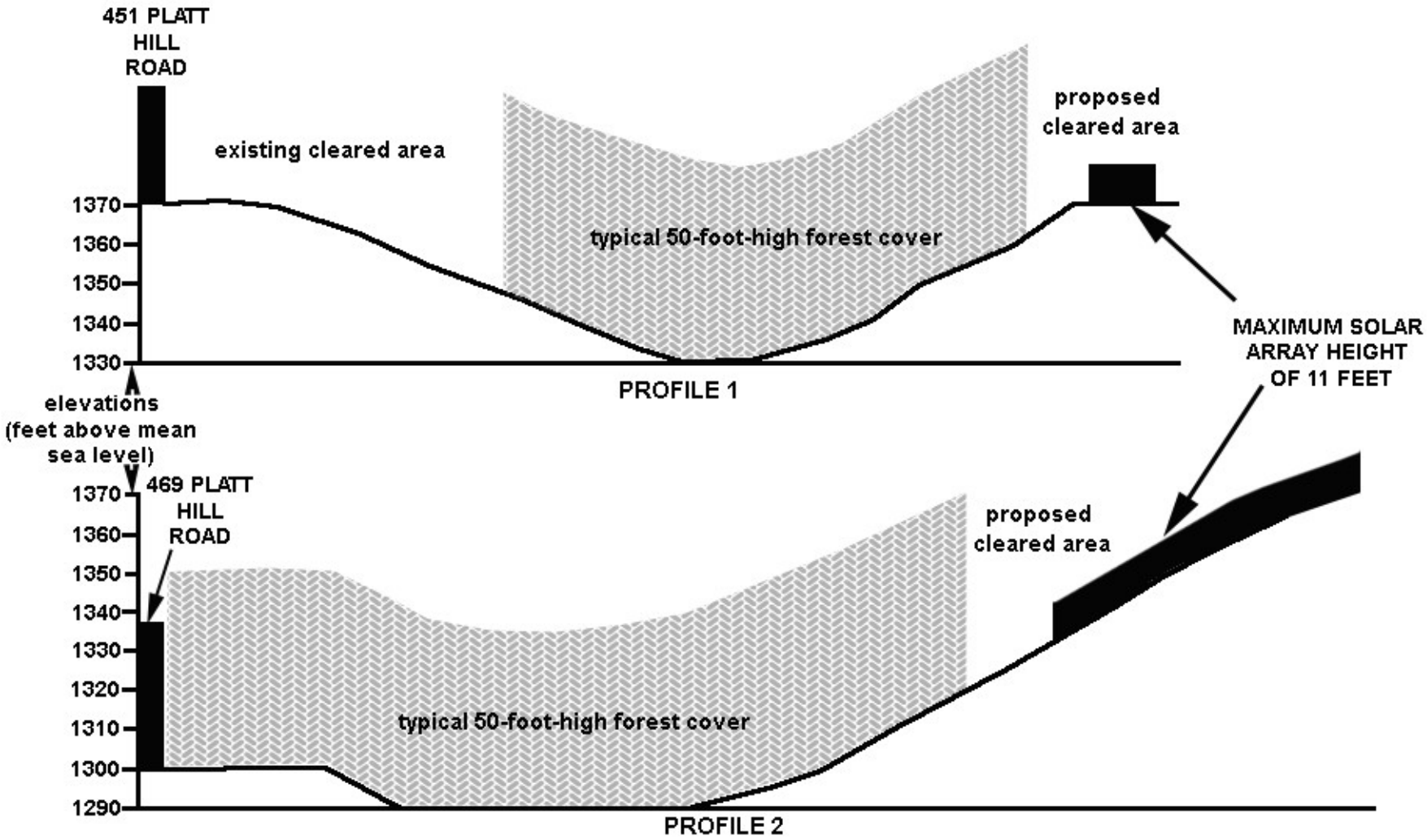

Figure 12. SCHEMATIC PROFILES OF POST-CONSTRUCTION VIEWS OF SOLAR ARRAY FROM HOUSES AT 451 AND 469 PLATT HILL ROAD

see Figure x for profile locations

horizontal scale

0 50 100 150 200 feet