Cultural Resource Survey and Assessment

Edison Tyler Estates

Edison Township

Middlesex County, New Jersey

September 1986

(Resubmitted May 1989)

Performed for:

Edison Tyler Estates
94 Westgate Drive
Edison, N.J. 08820

Performed by:

Research & Archaeological Management, Inc.
54 Woodbridge Avenue
Highland Park, N.J. 08904

Phase II
Added
Aug 86

RESEARCH & ARCHAEOLOGICAL MANAGEMENT, INC.

- ARCHAEOLOGISTS
- HISTORIANS
- ARCHITECTURAL HISTORIANS
- HISTORIC PRESERVATION SPECIALISTS

RAM, INC.
54 WOODBRIDGE AVENUE
HIGHLAND PARK, NEW JERSEY 08904
(201) 985-4300

Mr. Michael Seidner
Project Manager
Edison Tyler Estates
94 Westgate Drive
Edison, NJ 08820

May 3, 1989

Re: Archaeological Investigations
Edison Tyler Estates Project

Dear Mr. Seidner,

I am happy to write regarding the archaeological potential of the Dismal Swamp Prehistoric Site. I have read RAM's report and visited the site. I have given close attention to the artifact collection and catalog, and the proposed manner of gathering more data.

The report establishes satisfactorily the early date range and quality of the data. Because of the relative rarity of such sites due to extensive development between the ocean and the Watchungs, the remains here are vital. Accordingly, RAM has asked Professor Herbert C. Kraft, an acknowledged expert on prehistoric archaeology, to act as a consulting archaeologist for any further work on the project. Professor Kraft has agreed to review and comment on the research design, methods, and reports. I will be supervising any future investigations at the site for RAM and will be available for testimony as required.

Barbara Liggett, Ph.D.
Archaeologist

Introduction

The following report summarizes the results of a survey and assessment of cultural resources located within the boundaries of the proposed Edison Tyler Estates development project, Edison Township, Middlesex County, New Jersey. The study was performed in July and August 1986 by Research & Archaeological Management, Inc. (Highland Park, N.J.) at the request of Schoor, DePalma & Gillen, Inc. (Manalapan, N.J.).

The purpose of the survey was to identify cultural resources on the property pertaining to both the historic and prehistoric periods. Special attention was focused on determining the initial site boundaries, depth of deposit, stratigraphic integrity, information content, and potential significance of Native American archaeological deposits on the uplands adjacent to Bound Brook.

The first phase of fieldwork was performed on 23 July 1986. Background research was ongoing throughout the project and was designed to recover references or other sources of information about the history of the local area. The study included a literature search, an examination of maps, deeds, and census materials, informant interviews, and a walk-over inspection of the entire property, concentrating especially on those areas considered historically sensitive. Also, systematic subsurface testing was performed on the upland area on the northeast corner of the property, which was said to contain evidence of aboriginal occupation.

Additional surface examination of the upland portion of the study area was undertaken on August 5, 1986 (Appendix 2). The purpose of this survey was to locate cultural resources exposed on the ground surface that were not previously identified as part of the initial study performed by RAM, Inc. on 23 July, 1986. The surface inspection consisted of a controlled walkover examination of the study area above the 75-foot contour and in the area between the 100-year flood hazard limit and the wetlands/encroachment line.

The results of this survey indicate that the prehistoric site is limited to the uplands bordering the west side of the Bound Brook (Figures 1, 4, and 5). This site is probably no larger than 300 by 300 feet, although its precise extent has not yet been defined. It is the opinion of the Project Archaeologist and Project Director that the prehistoric site is significant and should be dealt with on a professional level.

Assistance was provided by the following individuals in the course of the cultural resource survey:

William Lund	-	Edison Township Engineering Office
Karen Flinn	-	New Jersey State Museum
Lorraine Williams	-	New Jersey State Museum
Herbert C. Kraft	-	Seton Hall University Museum
Larry Randolph	-	South Plainfield
George Broberg	-	Schoor, Depalma & Gillen, Inc.
Robert Bushar	-	Schoor, DePalma & Gillen, Inc.

William Nero - Schoor, Depalma & Gillen, Inc.
Stuart Alexander - Schoor, Depalma & Gillen, Inc.

Research and fieldwork for RAM, Inc. were directed by Charles A. Bello, and project direction was provided by Peter A. Primavera, Jr. The project staff included Richard C. Grubb (historian), Philip A. Perazio (archaeologist), Kristian Eshelman (editor), Joel Boriek (draftsman and photographer), Debra Campagnari (research assistant), and Richard Affleck (lab director). William Liebeknecht, Robert Jones, and Ruth Yeselson assisted with fieldwork. The report was written by Charles A. Bello and Richard C. Grubb.

Study Area

The study area is located in Edison Township, between the Boroughs of Metuchen and South Plainfield in north-central Middlesex County. The property lies on the west side of the Bound Brook (formerly Dismal Brook) between the Main Stem lines of the Lehigh Valley and Port Reading Railroads (Figure 1). Much of the total 337-acre tract lies within the 100-year flood hazard limit or is part of an area of wetlands. The remainder of the property lies close to or above the 73-foot contour line.

This area is part of the Piedmont Lowlands physiographic province and lies immediately south of the Wisconsin Terminal Moraine. The area is characterized by topographic modification resulting from glacial activity.

The soils found in the study area consist essentially of two groups. The Penn-Klinesville-Reaville association derives from weathering of shale, sandstone, and argillaceous parent material (Kirkham 1976:4-5), and is located on the upland area of the property (U.S. Department of Agriculture 1978:Sheet 6). The Parsippany-Lansdowne-Watchung soils are lacustrine in origin (Kirkham 1976:6) and are found along the edge of higher ground close to the Bound Brook and adjacent swampy ground (U.S. Department of Agriculture 1978:Sheet 6).

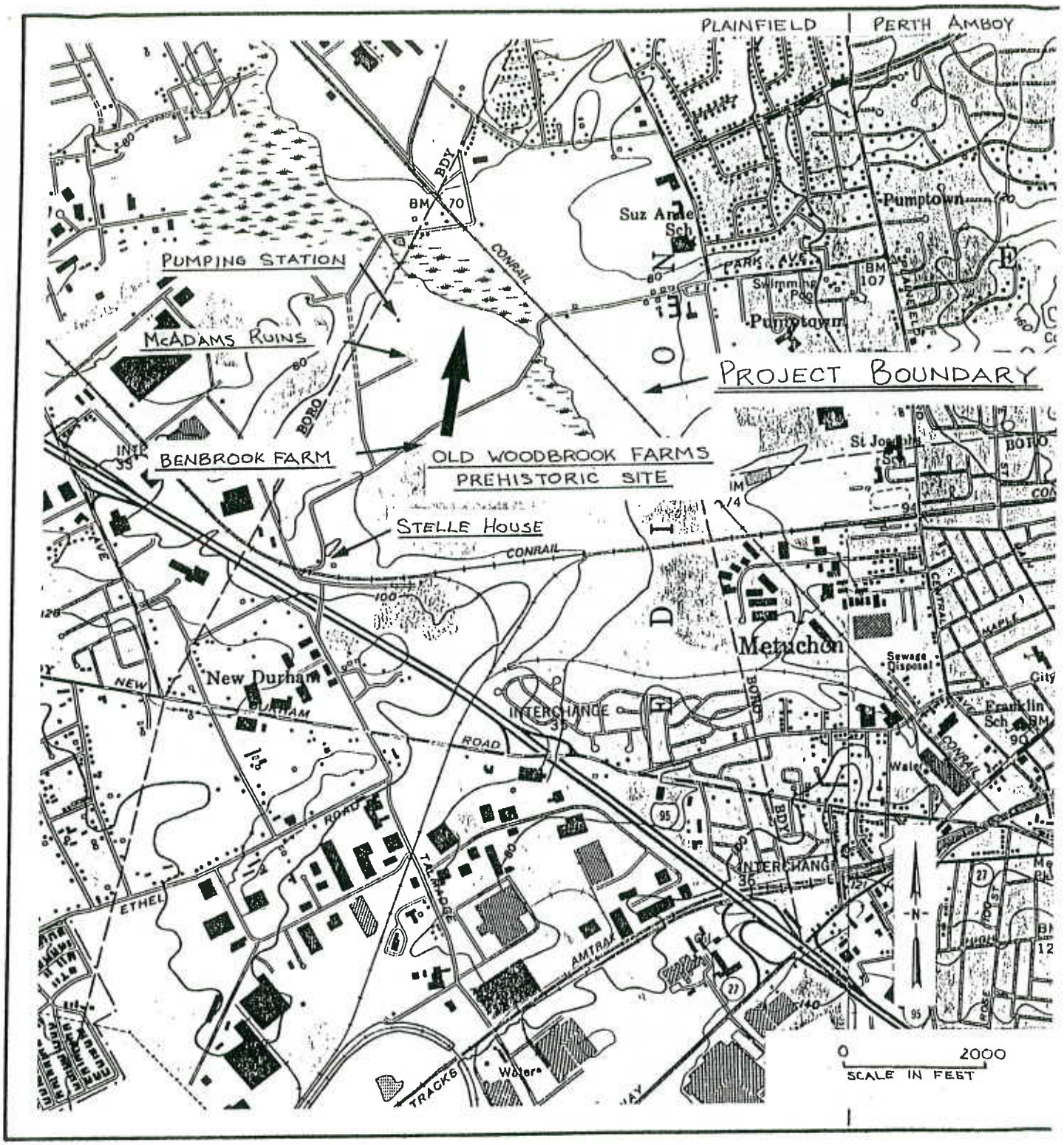

Figure 1:

Project map showing location of prehistoric and historic sites. U.S.G.S. 7.5' Quads: Plainfield 1955 and Perth Amboy 1956 (photorevised 1981).

Research Methodology

Various repositories were visited in order to collect information on the historical background of the study area. The repositories which provided relevant data included:

Rutgers University - Alexander Library, Special Collections and Archives
Office of New Jersey Heritage - (NJDEP)
Bureau of Archaeology / Ethnology - New Jersey State Museum

County and local histories were consulted, but as was the case with much of the 19th- and early 20th-century cartographic data, these sources provided few specific references to past occupation of the study area. The historical sources primarily documented the overall development of the area, and although they mentioned early European/Native American settlement and later 19th-century development, they were not particularly useful in locating sites (Clayton 1882; Wall and Pickersgill 1921).

The investigators consulted a series of articles written in the early 20th century that discussed aboriginal occupation of the local area (Philhower 1923, 1934a, 1934b). Once again, these essays did not provide specific references to Indian sites in the study area, but did demonstrate that aboriginal occupation is likely to have occurred along the Bound Brook.

The only published source that provided information on the location of Indian sites in the local area was the survey carried out by Leslie Spier in the early 20th century (Spier 1915). During Spier's work in the watershed of the Raritan River he identified a site (28-Me-35) located on the east side of Dismal Swamp (currently referred to as the Bound Brook) within a few thousand feet of the northeast corner of the study area (State Atlas Sheet Coordinates 25-34-9-1-6) (Figures 2 and 3).

> Many scattered relics - axes, hammer stones and arrow points - are found along the east side of Dismal Swamp (Bound Brook area) from the entrance to the coal storage yards to Peney's Crossing. The field southeast of Peney's Crossing, containing a knoll, shows an abundance of chips of all materials common to this region. A few perfect objects have been found here; a rude sandstone axe and a perfect banner stone. Hammer stones and a few rejects of argillite and sandstone have also been found. Large chunks of argillite and cracked pebbles of flint, argillite, and sandstone are common over the entire site. There are but few indications of the use of this site as a camp: this was apparently a manufactory of arrow points (25-34-9-1-6) (Spier 1915:87).

Because the state-sponsored Indian site surveys carried out in the first half of the 20th century (Skinner and Schrabisch 1913; Spier 1915; Cross 1941) were limited in nature and operated under major methodological biases, they do not accurately reflect the true distribution of Native American occupation statewide and should not be considered complete (Kraft and Mounier 1982:84-85). However, for the purposes of this investigation, it is significant that a series

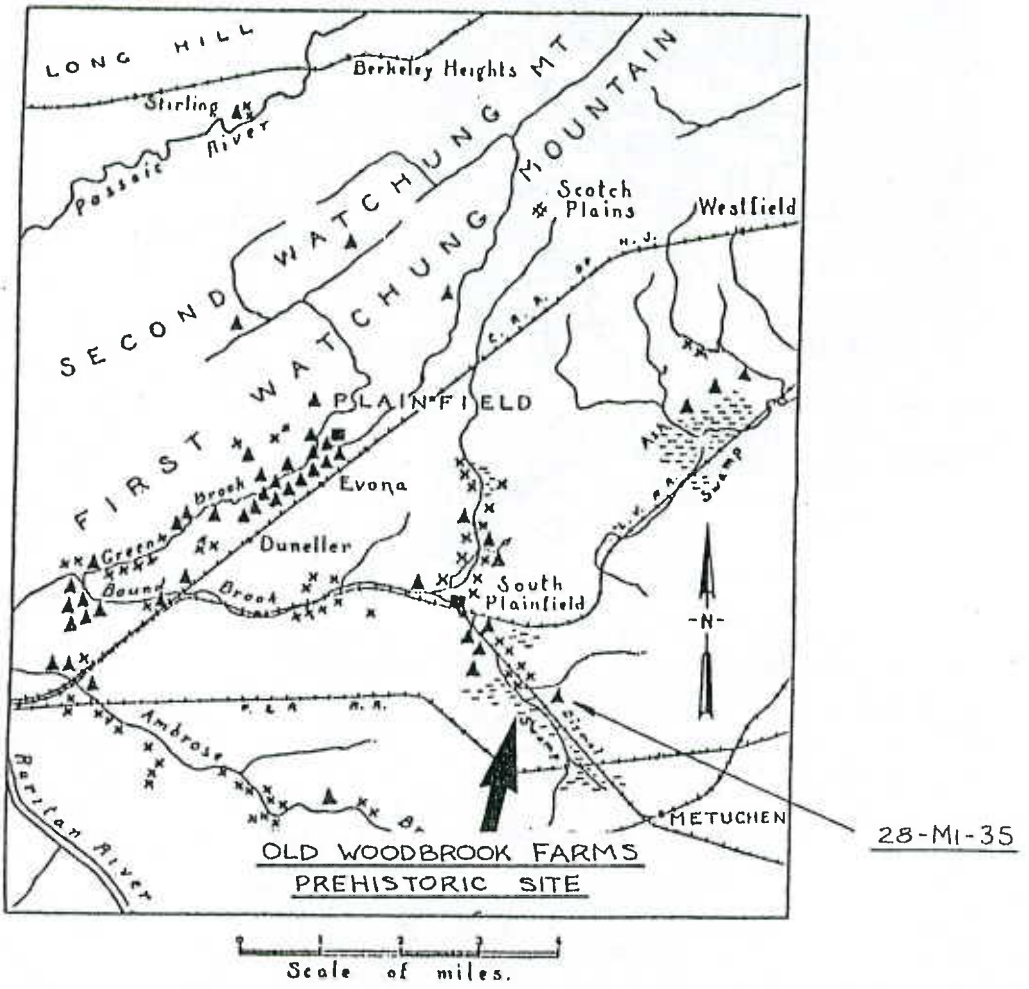

Figure 2:

1915 Leslie Spier, Indian Remains Near Plainfield. From Geological Survey of New Jersey, Bulletin 13.

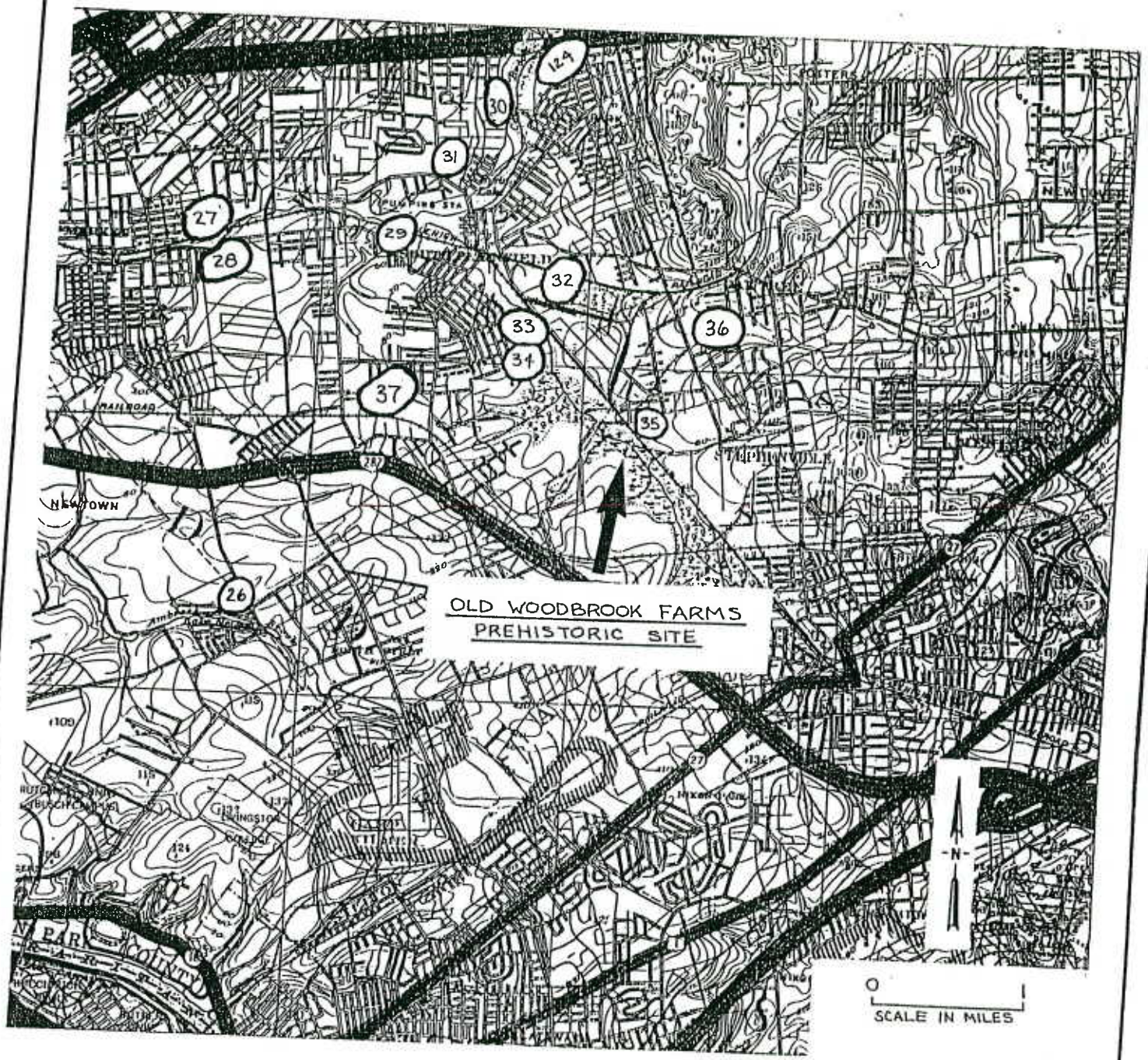

Figure 3:

Prehistoric Sites Map. 1974 New Jersey Geological Survey Atlas Sheet #25, with site locations obtained from the Office of New Jersey Heritage (DEP), and the New Jersey State Museum.

of sites were documented by Spier (1915:82, 84-87) along both Cedar and Bound Brook north and west of the study area and one only a short distance to the east.

Sites registered with the Bureau of Archaeology/Ethnology at the New Jersey State Museum were also checked as part of this project. Figure 3 and Table 1 indicate the number and location of Indian sites recorded by the museum within roughly three miles of the study area. An Indian site was registered in the northeastern corner of the study area (Figure 3). Both the site designation number (28-Mi-35) and the State Atlas sheet coordinates (25-34-9-1-6) listed for the Old Woodbrook Farms Prehistoric Site are incorrect, and refer instead to the site on the east side of Dismal Swamp (Bound Brook) recorded much earlier by Leslie Spier (1915:87). However, other data included on the State Museum registration form correctly place the Old Woodbrook Farms Prehistoric Site on the west side of Bound Brook (inside the study area) a short distance south and west of the site recorded by Spier (28-Mi-35). Conversation with Mr. Larry Randolph, who recorded the Old Woodbrook Farms Site data and submitted it to the State Museum in the late 1970s, and a visit to the property cleared up this minor inconsistency in location. It now appears that two sites once existed relatively close to one another. The site reported by Leslie Spier is located on the east side of the brook at coordinates 25-34-9-1-6, and has probably been destroyed by development. The other site, found and reported by Mr. Randolph, is located on the west side of the Bound Brook wholly within the project area at coordinates 25-34-9-1-8. An updated State Museum site designation number has not yet been assigned to the Old Woodbrook Farms Prehistoric Site, but is in the process of being prepared.

A wide variety of cultural resource surveys have been performed close to this area of Middlesex County. However, none of the reports examined made any mention of historic or Native American cultural resources existing in or close to the study area.

The next stage of background research was to contact local residents or other individuals who had information regarding the presence of cultural resources in or close to the area under study. Mr. Larry Randolph of South Plainfield, an experienced avocational archaeologist, provided detailed information regarding the aboriginal site as well as other historically sensitive areas on the property. Mr. Randolph accompanied the Project Archaeologist and the Project Director on a site visit on 19 July 1986 to convey precisely where evidence of aboriginal occupation was found and the location of various historic cultural resources in the study area.

Fieldwork and Findings

The initial visit to the study area clearly indicated the presence of a prehistoric archaeological site on the uplands bordering the west side of Bound Brook (Figures 1, 4, and 5). Guided by Mr. Randolph, three members of the RAM, Inc. staff inspected the area which had yielded evidence of Native American remains. The results of this inspection confirmed much of the information provided by Mr. Randolph, such as location, horizontal extent, and period of occupation. Fire-broken rock fragments indicative of aboriginal hearths and food preparation or processing activity, lithic debitage resulting from stone

Table 1

Indian Sites Registered with the New Jersey State Museum Surrounding the Study Area (see Figure 3)

site number	name / location	atlas coordinates
28-Mi-124	S. Plainfield / Wellfield	28-34-5-3-1
28-Mi-26	Newton	25-34-7-9-1
28-Mi-27	New Market	25-34-4-5-8
28-Mi-28	Newton	25-34-4-8-3
28-Mi-29	S. Plainfield Pond	25-34-5-4-9
28-Mi-30	-	25-34-5-2-6
28-Mi-31	Avon Park	25-34-5-6-2
28-Mi-32	South Plainfield	25-34-5-9-2
28-Mi-33	-	25-34-5-9-4
28-Mi-34	-	25-34-5-9-7
28-Mi-35	-	25-34-9-1-6
28-Mi-36	-	25-34-6-8-5
28-Mi-37	-	25-34-8-1-3

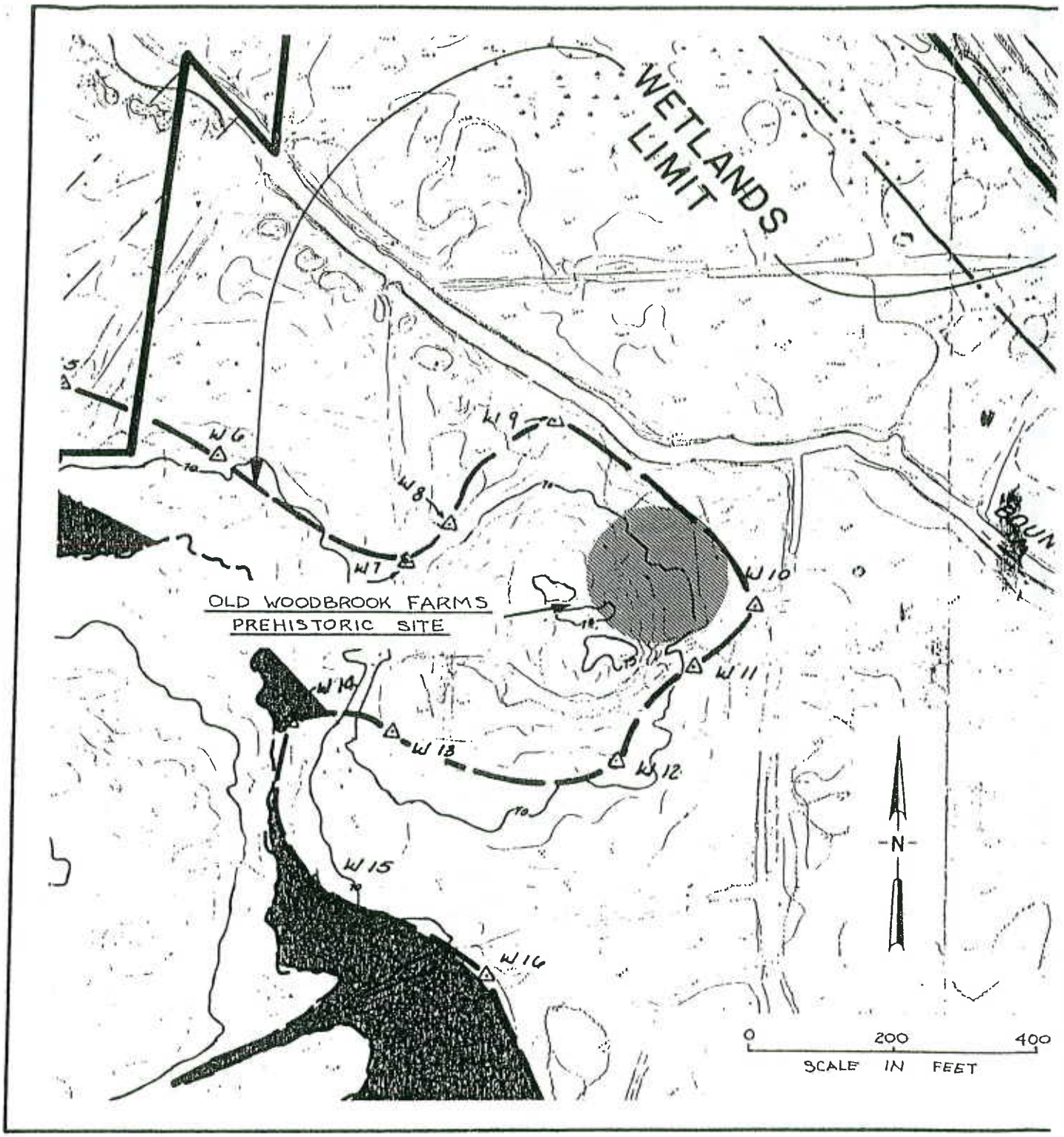

Figure 4:

Old Woodbrook Farms Prehistoric Site (general location), after Environmental Constraints Map for Woodbrook Corners, Schoor, DePalma & Gillen, Inc.. 1984.

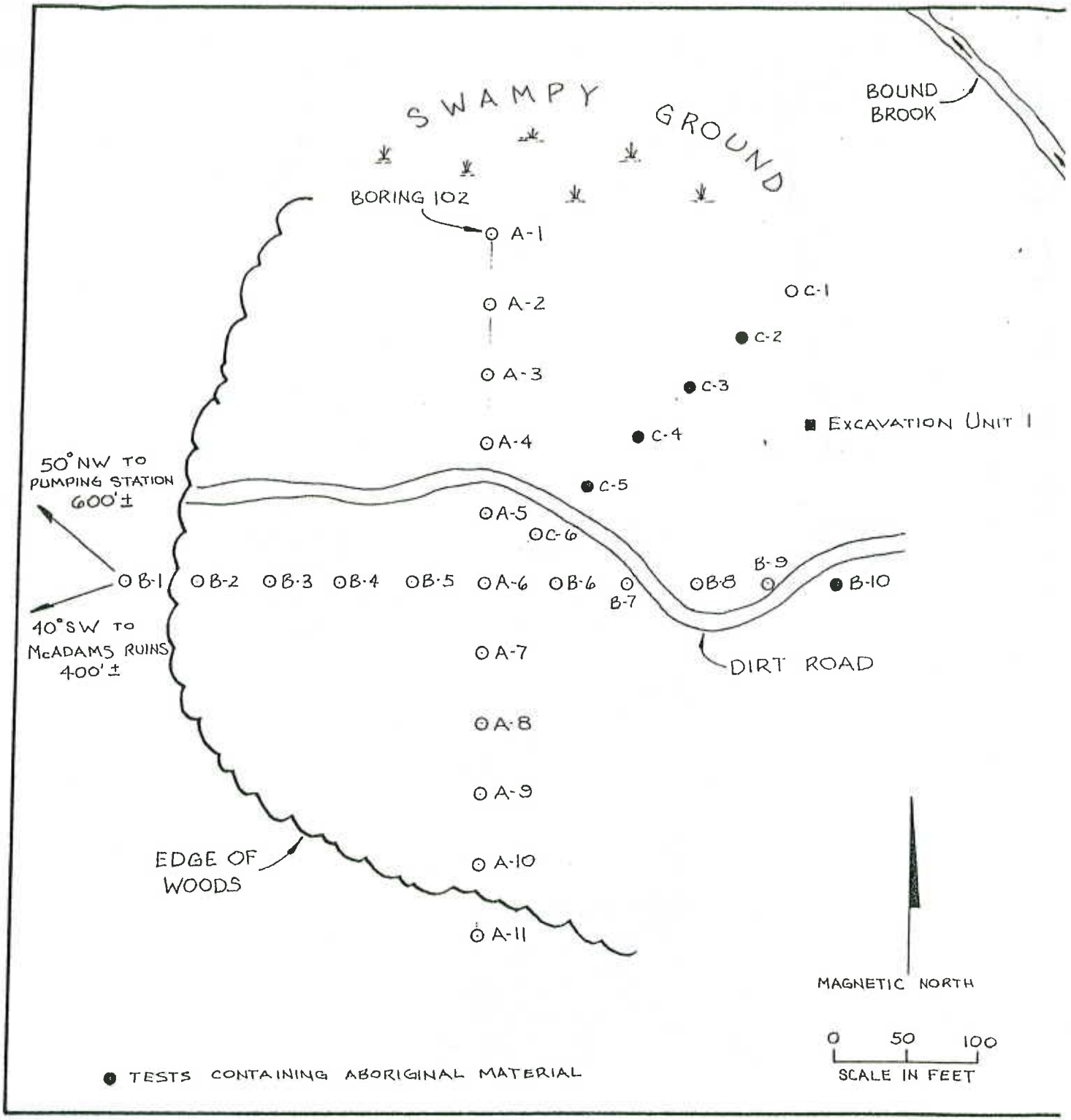

Figure 5:

Old Woodbrook Farms Prehistoric Site: Location of Subsurface Tests.

tool manufacture and maintenance, and stone tools were observed on the ground surface. Particularly notable was a broken chert bifurcate-based biface found lying on the ground along one of the trails crossing this portion of the study area. This specimen is chronologically diagnostic and dates to the Early-Middle Archaic period -- ca. 8000-4000 B.C. Artifacts from this site in Mr. Randolph's collection dated from later in the Archaic Period, ca. 4000-1000 B.C., and suggest the presence of a multi-component site.

Further examination of the Old Woodbrook Farms prehistoric site was not attempted that afternoon, since it was clear that an archaeological site existed on the property. Mr. Randolph did, however, continue to point out sites associated with the historic occupation surrounding the study area.

Historic Resources

The Samuel C. Stelle Farmhouse

The Samuel C. Stelle farmhouse, which is still standing on the extreme southwestern corner of the property, is located roughly 3,000 feet southwest of the McAdams farm ruins (Figures 1, 7, 8, and 9). The ground surface surrounding this property appears undisturbed and it is reasonable to assume that intact archaeological deposits may exist there.

Historical research indicates that the Samuel C. Stelle house was built in 1839. In that year Samuel Stelle purchased five parcels of land from his brother, Augustus. The house was built on the largest tract, which totalled 89.24 acres (Middlesex County Deed 35 108). Samuel Stelle lived on his farm until his death in 1886. The major crops grown by Stelle were wheat, rye, buckwheat, and Irish potatoes. He raised livestock which included cows and pigs, and grew a variety of fodder crops such as oats, hay, and Indian corn. Stelle also produced butter for home consumption and for market (U.S. Census of New Jersey, Productions of Agriculture 1860, 1870).

The Stelle family were originally Huguenots of French descent, and first settled in Staten Island in the mid- to late 17th century. Shortly after, many family members inmigrated to interior regions. One branch of the family moved to Piscataway Township in Middlesex County. Stelton, which is today an area of Edison Township, was named after the Stelles. They established large farms in the area, and were prominent there throughout the 19th century (Clayton 1882:840; Wall and Pickersgill 1921:370-71).

In 1886 the Samuel C. Stelle farm was sold to John Martin. After two further conveyances the property was sold to Woodbrook Farms in 1958, and became tract three of an association of parcels owned by the partnership (Middlesex County Deeds 948 472; 2026 115).

The Robert McAdams Ruins

The ruins of the R. McAdams farmstead lie 1,000 feet west southwest of the prehistoric site and appear to occupy an area approximately 200 feet by 200 feet. The ground surface surrounding the ruins appears to be relatively intact, but dense vegetation prevented a more accurate assessment of the site at the time of the initial survey.

In 1842 Robert and John McAdams purchased two tracts which totalled almost 104 acres from Stelle Manning (Middlesex County Deed 36 711). Although not shown on the 1850 Otley and Keily Map of Middlesex County (Figure 6), the farmhouse was probably built in 1842 by the McAdams brothers. In 1847 a large portion of the 104 acres was subdivided, and Robert McAdams became sole owner of the north part, which contained 49.12 acres (Middlesex County Deed 49 11).

By 1860 Robert McAdams, who was born in Ireland, owned 100 acres and was working the farm with his son William. Between 1860 and 1870 William became sole owner of the farm (U.S. Census of New Jersey 1860, 1870).

The crops grown and livestock raised by the McAdams were similar to those of Samuel C. Stelle. Unlike Stelle, McAdams also grew clover, a fodder crop, and apples (U.S. Census of New Jersey, Productions of Agriculture 1860, 1870). The remnant orchard still remains on the property today.

In the first half of the 20th century the Township of Edison acquired the McAdams farm. In 1954 the Township sold four tracts to Woodbrook Garage, a New Jersey Corporation. Much of the McAdams farm, including the farmhouse, was conveyed by this deed (Middlesex County Deed 1792 110). The farmhouse and outbuildings were demolished in the early 1960s. The last occupants of the house were the Tyler family (Mr. Larry Randolph 1986, personal communication).

The Charles Benbrook Farm

The site of the Charles Benbrook farm appears to have stood 500-1,000 feet south of the R. McAdams farm, close to the edge of the swamp. The precise location of this site was not confirmed in the field. However, it seems likely that the location of the farm could be more firmly established through further investigation.

The Charles Benbrook house was built on the southern portion of the land subdivided by Robert and John McAdams. The house was probably built between that transaction in 1847 and 1849 when John McAdams sold the 49.12 acres to Charles Benbrook (Middlesex County Deed 49 11; 62 202). However, it is likely that Benbrook was the first to live in the house and to work the farm.

Benbrook grew most of the crops and raised the same types of livestock as Stelle and McAdams. Surprisingly, he did not grow wheat, and he also did not grow buckwheat (U.S. Census of New Jersey, Productions of Agriculture 1860).

In 1861 John McCollough bought the Benbrook farm. Two years later he acquired an additional .47 of an acre which was probably purchased to clarify property boundaries resulting from the establishment of a new roadway connecting the Stelle, McAdams, and Benbrook farms (Middlesex County Deeds 86 633; 93 288).

The farm was only owner-occupied during the Benbrook tenure. After McCollough sold the property in 1868, the farm changed owners nine times from 1869 to 1882. None of the owners lived in Piscataway or Raritan Townships. (Middlesex County Deeds 112 120; 156 475; 159 355; 165 347; 167 660; 167 664; 174 548; 188 639 188 642).

Between 1882 and 1904 six separate parcels were acquired by the owner John Wesley Johnson, and in 1904 all six, totalling over 165 acres, were sold. By 1912 the Benbrook farm had become part of a 271-acre tract, and in 1958 Woodbrook Farms bought that parcel along with numerous others to consolidate their holdings (Middlesex County Deeds 357 146; 493 144; 2026 115).

The Charles Benbrook farmhouse is no longer standing. It was probably demolished in the early to mid-20th century when the property was consolidated with other parcels.

Recommendations

The value of recording and investigating sites such as these lies in their ability to yield information about the former inhabitants, such as their socio-economic status, use of space, dietary preferences, etc., many of which were not commonly recorded in historical documents.

The following steps are presently being taken to mitigate the effect that the project would have on the historic resources:

1) complete examination of relevant primary sources, including deeds, census materials, and probate inventories.

2) compilation of available historic maps and photographs.

3) compilation of oral history through interviews with former inhabitants, local residents, and other knowledgeable individuals.

4) mapping and photographing of each site, including general views and architectural features.

5) systematic archaeological investigations of each site to gather evidence that background research, informant testimony, or surface collection alone could not provide.

The methods outlined here conform to the Federal Guidelines established in "The Treatment of Archaeological Properties" (Advisory Council on Historic Preservation). The goal of these procedures is to amass data particular to each site that will ultimately place the entire property in a more accurate and meaningful historic perspective.

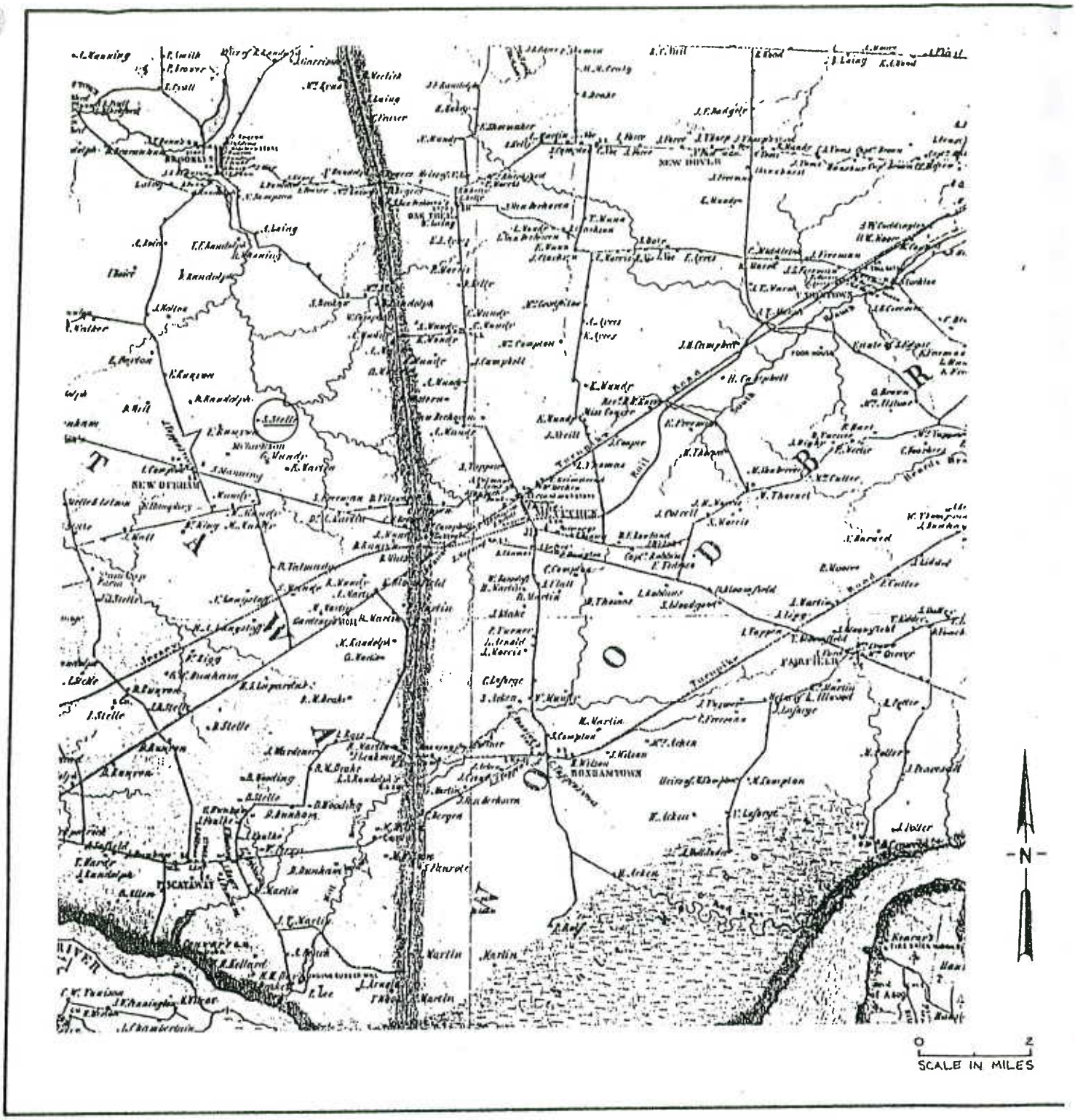

Figure 6:

1850 J.W. Otley and J. Keily, Map of Middlesex County, New Jersey.

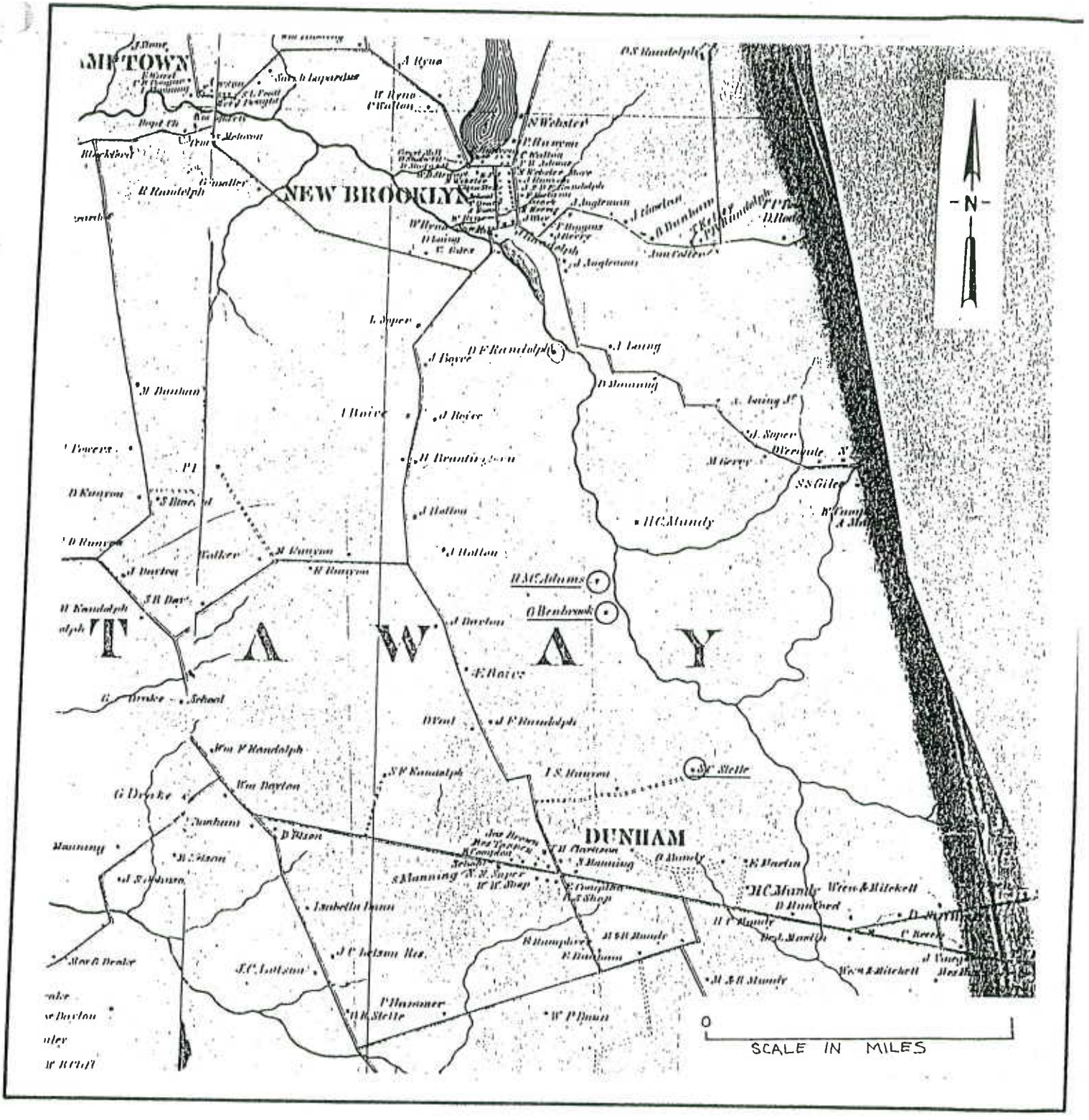

Figure 7:

1861 H.F. Walling, Map of Middlesex County, New Jersey.

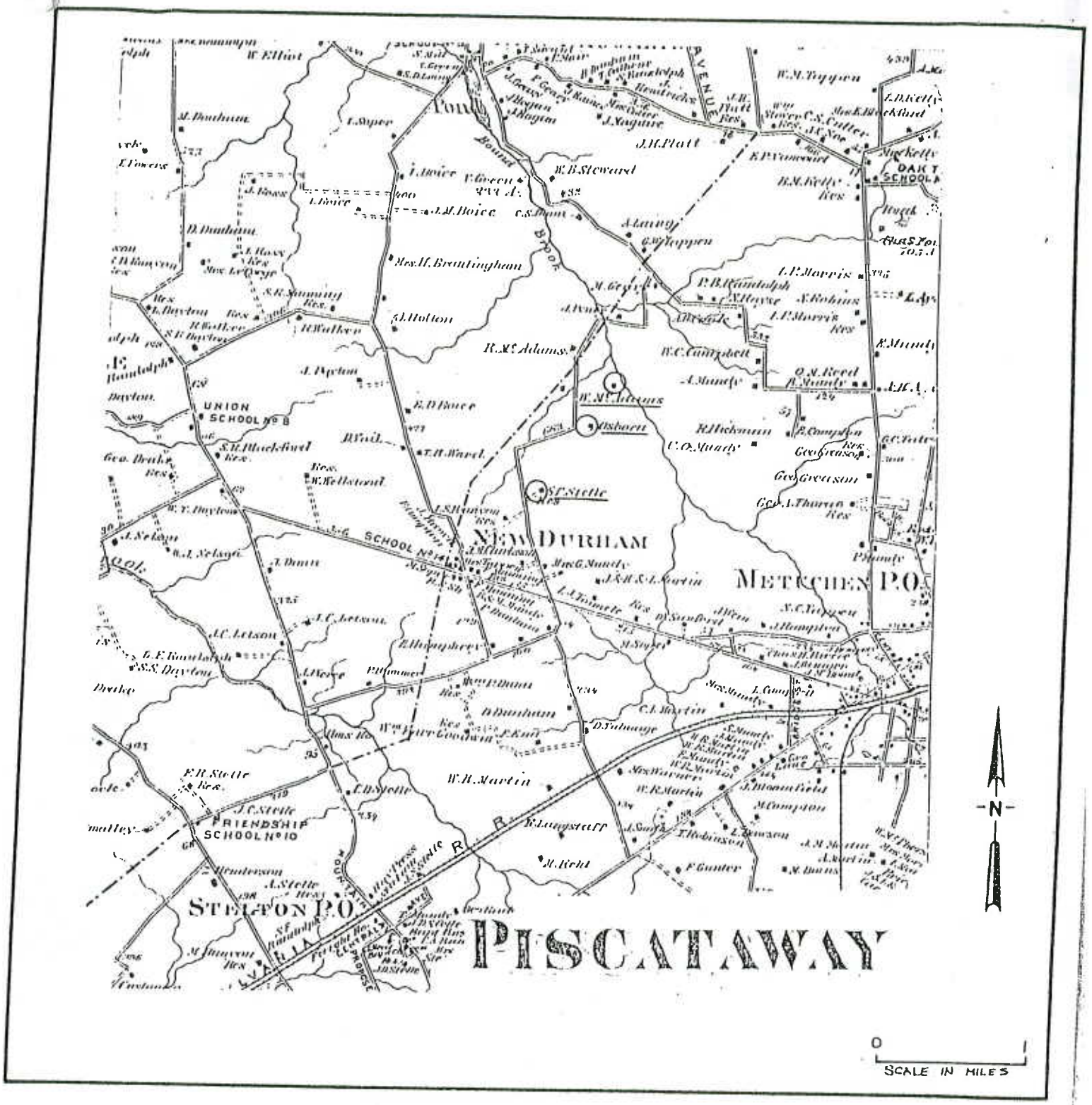

Figure 8:

1876 Everts and Stewart, Atlas of Middlesex County, New Jersey.

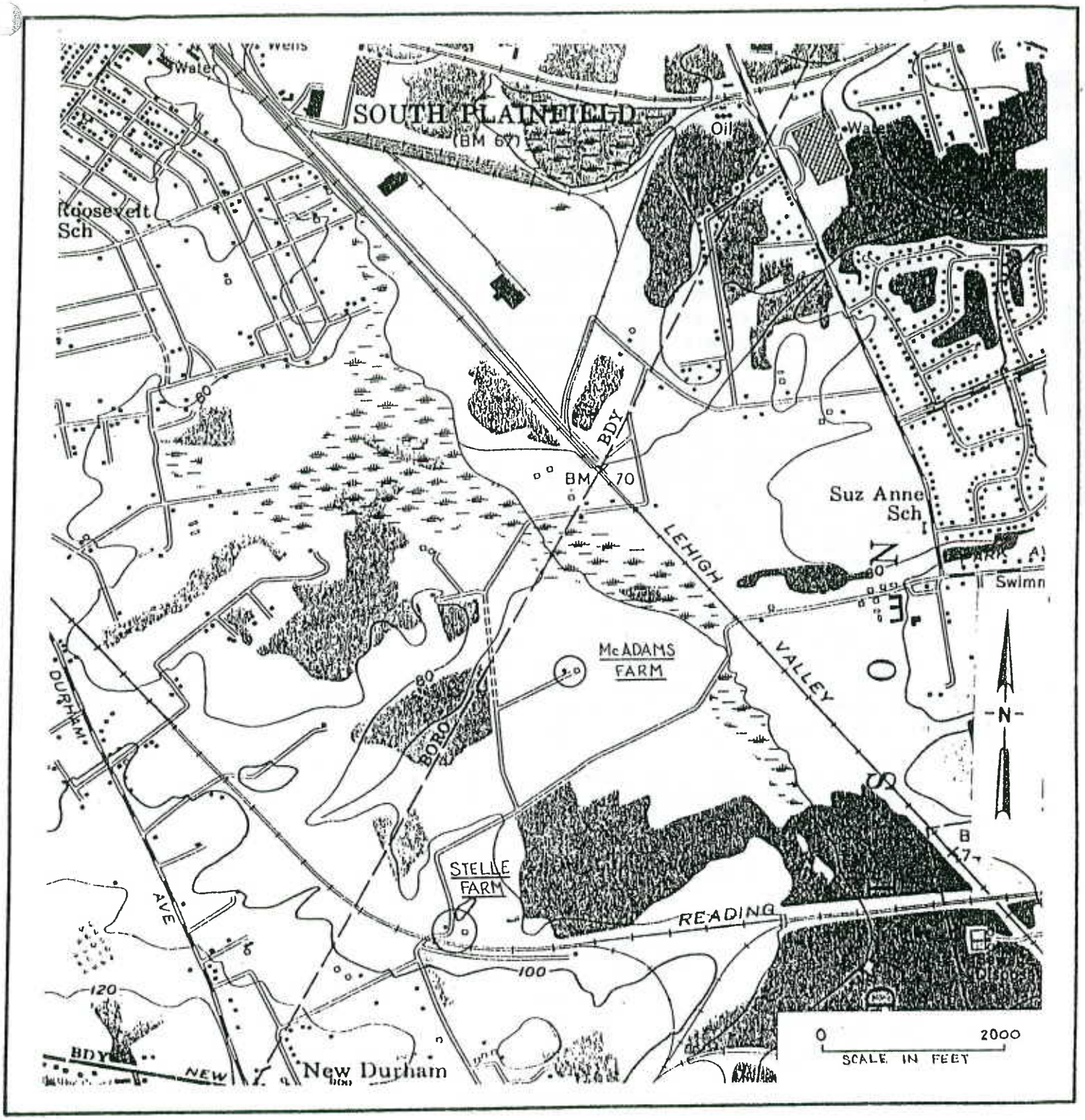

Figure 9:

1955 U.S.G.S 7.5' Quad: Plainfield.

The Old Woodbrook Farms Prehistoric Site

Subsurface Testing

A more intensive inspection of the uplands in the northeast corner of the property followed on July 23, and consisted of subsurface testing and mapping the prehistoric site. Testing of the area where aboriginal artifacts were found on the ground surface was accomplished by locating a nearby reference point (soil boring #102) and establishing a grid oriented toward magnetic north that covered a 500-foot-square area (Figure 5). The grid was designed as a point of reference for all horizontal measurements relating to the area of aboriginal occupation.

The intersection of the north-south and the east-west line segments of the grid was established 250 feet south of soil boring #102, and lies roughly in the center of the high ground that juts into the wetlands (Figure 4). Eighteen-inch-diameter shovel tests were dug at 50-foot intervals along the north-south and east-west lines of the grid. Very little artifactual material associated with a prehistoric Indian site was recovered from these tests. A single chert flake was found on top of a pile of backdirt that appeared to have resulted from the bulldozing of a clearing a short distance northwest of Shovel Tests A-3 and A-4 (Figure 5). Because no other aboriginal material was noticed on the surface near this isolated find spot or in any of the surrounding tests, further testing was not undertaken in this area. The only other location where aboriginal material was found by testing on the main north-south and east-west lines of the grid was Shovel Test B-10. The single argillite flake in this test was recovered from what appeared to be an area of disturbance.

The very small number of aboriginal artifacts encountered during testing of the north-south and east-west axes of the grid suggested that the site is primarily located inside the northeast quadrant (Figure 4). This was the location indicated by Mr. Randolph and later confirmed by the concentration of surface finds noted in the initial walkover examination of July 19 and then on July 23.

A line of tests, beginning at the center of the grid and bisecting the northeast quadrant, was laid out at a 45-degree angle to the north-south grid line. Testing in this area cut through the portion of the site where aboriginal material lay on the surface. Four of the seven tests (C-2, C-3, C-4, and C-5) along this line yielded Native American archaeological specimens (Figure 5 and Appendix 1). Stratigraphic association of the artifactual material appeared to be limited to a plowzone that varied from 6-11 inches in depth. No indication was found that artifacts in this area occurred in undisturbed strata below the plowzone.

The final aspect of testing involved the excavation of a 5-foot square immediately adjacent to the location where Mr. Randolph stated that prehistoric artifacts existed in an undisturbed (i.e., not previously plowed) context (Figure 5). The data collected from this excavation unit (#1) confirmed Mr. Randolph's assertion. Artifactual specimens were found in an undisturbed context throughout this square from the surface to approximately 12 inches, and consisted of a moderate quantity of unutilized lithic debitage, fire-cracked

rock fragments, and stone tools (Appendix 1). Excavation deeper than a foot below the ground surface failed to yield artifactual material.

The data collected so far indicate that a prehistoric site exists on the property under study. This site is probably no larger than 300 by 300 feet, although its precise extent has not yet been defined, and seems to be located entirely within the northeast quadrant of the grid (Figures 4 and 5). Stratigraphically, the site lies less than a foot or so below the surface, and is therefore susceptible to damage from even the smallest amount of disturbance. Artifactual material exists in undisturbed contexts across a portion of the site, and seems to date from two separate occupations during the period of prehistory termed the Archaic (ca. 8000-1000 B.C.). Consequently, this site is judged capable of yielding truly significant information and should be dealt with on a professional level.

Recommendations

Relatively little is known about the Archaic Period in New Jersey. In this particular area of the state data regarding any aspect of Native American occupation is scarce, and information which can contribute to a better understanding of the prehistoric cultural sequence is valuable and merits either preservation or salvage.

It is the opinion of the Project Archaeologist and the Project Director that any development that would make the site more accessible and thereby cause increased activity in its vicinity would endanger the site. Even designation as parkland would not be enough to protect this fragile site from destruction. In this light, the most sensible alternative to preservation would be to salvage the scientifically important data through a program of professional archaeological excavation.

Salvage excavation of this site could be accomplished by a variety of methods. The following steps are recommended for the treatment of this site, and, like those outlined for the treatment of the three historic period sites, follow procedures accepted by the Office of New Jersey Heritage.

1) establishing precise horizontal boundaries of the site through additional shovel testing and completion of the base map.

2) intensive sampling (excavation) to provide information regarding the character of the site such as its chronological and functional nature, its stratigraphy, and artifact/feature concentrations.

Excavation should be aimed at obtaining at least a 10% sample of the site core, and a similar sized sample of the remainder of the site. Five-foot squares are the recommended size of the excavation units to be employed during excavation, with 2.5-foot quadrants within each square used for more accurate horizontal provenience. However, some units may be modified to suit local conditions. All excavation units will be manually excavated in 3- to 6-inch levels, and soil removed during excavation will be screened through 1/4-inch screen and carefully inspected for cultural material. Flat shovelling and

trowelling are the techniques to be used in excavation units, in order to expose artifacts and features *in situ* where possible. Excavation units will be recorded through the use of standardized forms, field notes, sketches, maps, and photographs. All artifactual material recovered during fieldwork will be washed, labelled, and fully cataloged. A report will be produced that presents all data gathered as a result of the excavations, and that summarizes the most important aspects of the site in a clear and concise manner.

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Appendix 1

Artifact Catalog
Old Woodbrook Farms Prehistoric Site

Surface finds near Shovel Test 13:
- black chert thinning flake, edge damage
- tan chert biface fragment, bifurcate-based
- black chert core fragment, retouch and edgewear

Surface find between Shovel Tests A-3 and A-4:
- yellow-brown chert thinning flake, possible tool

Surface find near Excavation Unit 1:
- argillite primary flake, appears utilized

Test 12
0-12":
- black chert shaping flake
- black chert flake, burin blow
- fire-cracked quartzite fragments, 2 pieces

Test 13
5-7":
- fire-cracked quartzite fragments, 8 pieces

Test 14
0-6":
- brown chert shaping flake

Test 15
20":
- yellow-brown chert thinning flake, edge damage
- quartzite fragment

Test 22
2-12":
- argillite core fragment, large flake scars

Excavation Unit 1
0-2":
- gray-brown chert biface fragment
- black chert core fragment
- gray-brown chert shaping flakes, 7 pieces
- black chert flake, burin blow
- fire-cracked quartzite fragments, 4 pieces
- fire-cracked sandstone fragments, 3 pieces

Excavation Unit 1
2-5":
- argillite pointed biface, Poplar Island-like
- argillite pointed biface fragment, distal end
- black chert thinning flakes, 3 pieces
- black chert shaping flakes, 11 pieces

yellow-brown chert shaping flake
fire-cracked quartzite fragments, 4 pieces
fire-cracked sandstone fragments, 5 pieces

Excavation Unit 1
5-8":

calcined bone fragments (unidentified) 2 pieces
gray chert biface fragment, possible drill
black chert biface fragment, proximal end
argillite primary flake
argillite thinning flake
yellow-brown chert thinning flakes, 2 pieces
yellow-brown chert shaping flakes, 2 pieces
gray/black chert thinning flakes, 4 pieces
gray/black chert shaping flakes, 16 pieces
charcoal fragments
fire-cracked quartzite fragments, 3 pieces
fire-cracked sandstone fragments, 11 pieces

Excavation Unit 1
8-11":

black chert thinning flake
black chert shaping flake
argillite shaping flake
fire-cracked quartzite fragment
fire-cracked quartz fragment
fire-cracked sandstone fragment

Appendix 2

Comprehensive Surface Survey
(Addendum to Cultural Resource Survey and Assessment)
Edison Tyler Estates
Edison Township
Middlesex County, New Jersey

Research & Archaeological Management, Inc.
Date: 22 August 1986

The following report summarizes the results of a comprehensive surface survey performed by RAM, Inc. within the boundaries of the proposed Edison Tyler Estates development project, Edison Township, Middlesex County, New Jersey, and should be appended to the Cultural Resource Survey and Assessment (RAM, Inc. 1986).

Additional surface examination of the upland portion of the property was undertaken on August 5, 1986, at the request of Mr. William Nero of Schoor, DePalma & Gillen, Inc. The purpose of this survey was to locate cultural resources exposed on the ground surface that were not previously identified as part of the initial study by RAM, Inc. The method employed to achieve this goal consisted of a controlled walkover examination of the property above the 75-foot contour and in the area between the 100-year flood hazard limit and the wetlands/encroachment line.

The area surveyed was roughly triangular in shape, and was divided into three separate sections for the purpose of recording data such as surface conditions, nature and extent of ground cover, and the locations of cultural resources. An annotated map showing the results of this survey is available from RAM, Inc. and can be provided to Schoor, DePalma & Gillen, Inc. at a later date.

Fieldwork was performed by a five-person crew spaced at intervals of roughly 25 feet. Because surface visibility was limited across most of the property, a special effort was made to thoroughly examine all areas where the ground was broken or otherwise exposed. Areas which received closer inspection included erosional scars, formerly plowed fields that now exhibited only the early stages of successional growth, areas where the topsoil had been stripped, stream banks, and road cuts.

The first section examined started near the pumping station and ended a short distance south of the knoll (85-89.7-foot contour) which occupies the center of the property. Surface visibility in the north-central portion of the property ranged from moderate to poor. Vegetation in the two areas of higher ground consisted primarily of grasses and weeds, while the eastern portion was

heavily wooded. Historic artifacts that dated from the mid-19th century to relatively recent times were found scattered throughout this portion of the property. The heaviest concentration of material, as expected, surrounded the ruins of the R. McAdams farmstead. Material associated with the aboriginal occupation of the property was limited to a single fragment of lithic debitage, a by-product of stone tool production, that was found in an area of disturbed ground about 200 feet southwest of the McAdams ruins. Close examination of the immediate area surrounding this solitary find produced no indication that the prehistoric site on the northeast corner of the property extended this far west of the Bound Brook.

The next area inspected was the uplands surrounding the 70-80-foot contour in the southeast corner of the property. Overall, surface visibility was poor, but many locations suitable for examination were exposed by erosional scars, road and stream cuts, and tree falls. The ground surface was littered with relatively recent material, and isolated trash deposits, also of fairly recent date, were particularly abundant. Although no foundations were identified, this area seems to be the general location of the G. Benbrook farm. What appears likely to have been the location of the Benbrook house lies near the center of this section of the property, south of the primary dirt road that runs roughly northeast-southwest across the tract. Vegetation surrounding this area is dense, and effective examination will require extensive clearing. Even though particular attention was paid to the lithic material on the ground surface, no evidence of a prehistoric site was found anywhere in the southeast corner of the property.

The final area inspected was the high ground lying between the 80- and 95-foot contours in the southwest corner of the property. Overgrown weeds and stubble covered the ground surface, but the soil had been broken by farming not long before, and was too dry to support heavy growth. Consequently, the vegetation was not very thick and conditions for surface inspection were good.

Once again, historic material dating from the 19th and 20th century was observed lightly scattered in no apparent pattern on the ground surface. The majority of this material undoubtedly resulted from fertilizing practices over the years, and is not considered to represent a significant cultural resource. Isolated trash deposits that seemed to be mid-20th century or later in date were also seen in this portion of the property. No indication of Native American occupation was encountered. The high ground surrounding the 85-95-foot contour, even though it was over 3,000 feet distant from the Bound Brook, was closely examined for aboriginal remains. No data regarding the aboriginal occupation of the property was collected from this area, probably because of its distance from a water source and the rocky nature of the soil.

In conclusion, surface reconnaissance of the property did not reveal the presence of any cultural resources other than those identified in the initial survey and assessment. There was no indication that surface remains of aboriginal occupation existed anywhere on the property except at the site previously documented in the extreme northeastern corner of the proposed development. The results of this survey indicated that aboriginal occupation on the property was limited to the high ground on the northeast corner, close to the Bound Brook. This assumption is based primarily on the fact that aboriginal sites in this particular topographic setting are likely to be shallow and found close to the present ground surface. Deeply buried sites formed by accretional

deposits of sediment are not characteristic of this environment. The prehistoric material in the northeastern corner of the project area, where sediment deposition was most likely to occur, was found on the ground surface or only a short distance below. Based on this model, it is probable that any other aboriginal sites on the property would be stratigraphically similar to the previously identified site, and would likewise be characterized by surface deposits. Given the amount of surface visibility and broken ground on the property, it is likely that surface inspection would have detected any other aboriginal sites of this type on the property.

Based on the data collected by this survey, it is the opinion of the Principal Archaeologist that evidence of aboriginal occupation is limited to the northeast corner of the property, and that the remainder of study area does not exhibit the characteristics that would suggest the presence of additional Native American archaeological sites.

Phase II Archaeological Survey

Edison Tyler Estates

Edison Township

Middlesex County, New Jersey

May 1986

Performed for: Edison Tyler Estates
94 Westgate Drive
Edison, N.J. 08820

Performed by: Research & Archaeological Management, Inc.
54 Woodbridge Avenue
Highland Park, N.J. 08904

Progress Report: Phase II Archaeological Survey
Edison Tyler Estates
Edison Township, Middlesex County, New Jersey

1.0 Introduction

This report summarizes the results of the second phase of investigation at the prehistoric archaeological site located in the northeast corner of the proposed Edison Tyler Estates development project. The study was performed in April and May 1987 by RAM, Inc. at the request of the developer.

The purpose of the Phase II testing was to provide further information about the area of the property where aboriginal artifacts had been previously identified. Phase II testing served to establish the site's horizontal and vertical boundaries, and examined such aspects of the relict prehistoric occupation as its chronological and functional nature, stratigraphic constituents, and internal patterning. This information will be used to develop an efficient and cost-effective program of data recovery (Phase III).

2.0 Methodology of the Phase II Investigation

2.1 Site Grid

Surface collection and initial shovel testing carried out by RAM, Inc. in July 1986 confirmed the existence of a prehistoric site on the property, and indicated that the site was restricted to the northeast quadrant of the grid used in the investigation. For the Phase II study, a more permanent grid system was set up close to the 0-0 point used in the 1986 survey (see enclosed map). The grid was shifted slightly toward the east during the second phase of testing in order to establish a less obstructed line of sight across the wooded knoll. The locations of aboriginal artifacts found during the initial survey were then remeasured and plotted on the newly established grid.

The meridian of the grid was established close to the western edge of the knoll by transiting a line oriented on magnetic north. The base line was then measured off the meridian at a right angle a short distance southwest of where prehistoric artifacts were known to exist. The grid, thus established, could be expanded in any direction in the event that evidence of prehistoric occupation was found by shovel testing outside the area of suspected occurrence (i.e., the high ground lying at the center of the knoll).

2.2 Testing Pattern

Shovel tests were placed at 50-foot interval spacing across the entire knoll. The area tested comprised a little over six acres, and was bounded on the east by the Bound Brook, and by marshlands on the north and south. Two smaller watercourses parallelled the western and southern margins of the area tested.

The initial testing pattern of 50-foot interval spacing (123 tests) across the knoll served to roughly delimit the area of aboriginal occupation. It was clear that the ground containing prehistoric material occupied the highest

elevation of the knoll and lay approximately 100-200 feet west of the Bound Brook, immediately adjacent to its swampy floodplain. In order to more accurately map the site and to obtain the data necessary for planning the Phase III excavation, the testing interval was decreased to 25-foot spacing inside and surrounding the area where prehistoric material was found. These additional 150 shovel tests supplied the data needed to draw precise horizontal boundaries of the prehistoric site.

A total of 300 shovel tests have been excavated at the site, including both the Phase I (27) and Phase II (273) tests. The data obtained from the overall testing program have greatly assisted in the formulation of a scientifically acceptable and cost-efficient excavation plan.

2.3 Testing Results

The prehistoric site occupies the highest and best-drained ground on the property, and lies close to the Bound Brook in the central and north-central portion of the knoll. Testing has indicated that the archaeological site is restricted to an area about 60,000 square feet or 1.4 acres in size. The site measures approximately 300 feet north-south by 200 feet east-west, and seems to contain two distinct areas of concentrated artifactual remains. These locations, referred to as "Activity Area I" and "Activity Area II," are characterized by artifacts that are more concentrated in number and markedly patterned in spatial distribution than those in the remainder of the site. Area I encompasses approximately 10,000 square feet, measuring at its greatest dimensions roughly 100 feet by 175 feet. Area II encompasses approximately 6,000 square feet, and measures roughly 125 feet by 50 feet at its maximum dimensions. The rest of the site (excluding Activity Areas I and II) contains approximately 44,000 square feet.

The structure of the site appears to represent a relatively short-term occupation or a series of very brief encampments, aimed at exploiting resources typically found in marshlands / riverine environmental settings. Artifacts recovered from the site consisted of stone tools used as cutting and scraping implements, lithic debitage (the by-product of stone tool manufacture and maintenance), and fire-cracked rock fragments, similar to those specimens found in the original survey (Phase I) carried out in July 1986. Unfortunately, shovel testing did not yield any additional chronologically diagnostic specimens which would make possible a more accurate age determination of the site.

The stratigraphic makeup of the site now appears to be slightly different than originally reported. The surface soils for the most part appear relatively intact, but may include some disturbance from agricultural activities in the late 19th and early 20th centuries. Data from plow-disturbed soils are nonetheless valuable, especially in sites such as this one where the occupation seems to consist of a single component or be restricted to one particular time period, and should be treated as an integral part of the site in both excavation and later interpretation. In any case, it has not yet been conclusively determined whether the upper soil levels were disturbed by plowing. Controlled excavation (Phase III) will certainly present a much clearer stratigraphic view than can be obtained by examining small 18-inch diameter shovel tests (Phase II).

Aboriginal material has also been recovered from clearly undisturbed (subsoil) contexts across the site. This is important because artifacts found in the location where they were originally deposited can provide a great deal more information than those found in disturbed contexts. The presence of artifactual material in the undisturbed subsoil will also require careful excavation, since care must be taken to ensure that materials from disturbed and undisturbed contexts are kept separate. Additionally, since excavation is generally continued to a depth where artifacts are no longer encountered, some excavation units will necessarily be deeper than originally anticipated.

3.0 Conclusion

The second phase of investigation at the site has 1) established the boundaries of the prehistoric occupation, and 2) provided useful information regarding the overall character and organization of the site. The site is still considered an important prehistoric archaeological resource, capable of yielding valuable information about the aboriginal occupation of this part of the state. The recovery of aboriginal material throughout the site and the spatial distribution of that material indicate that additional, significant archaeological evidence remains to be obtained from the site.

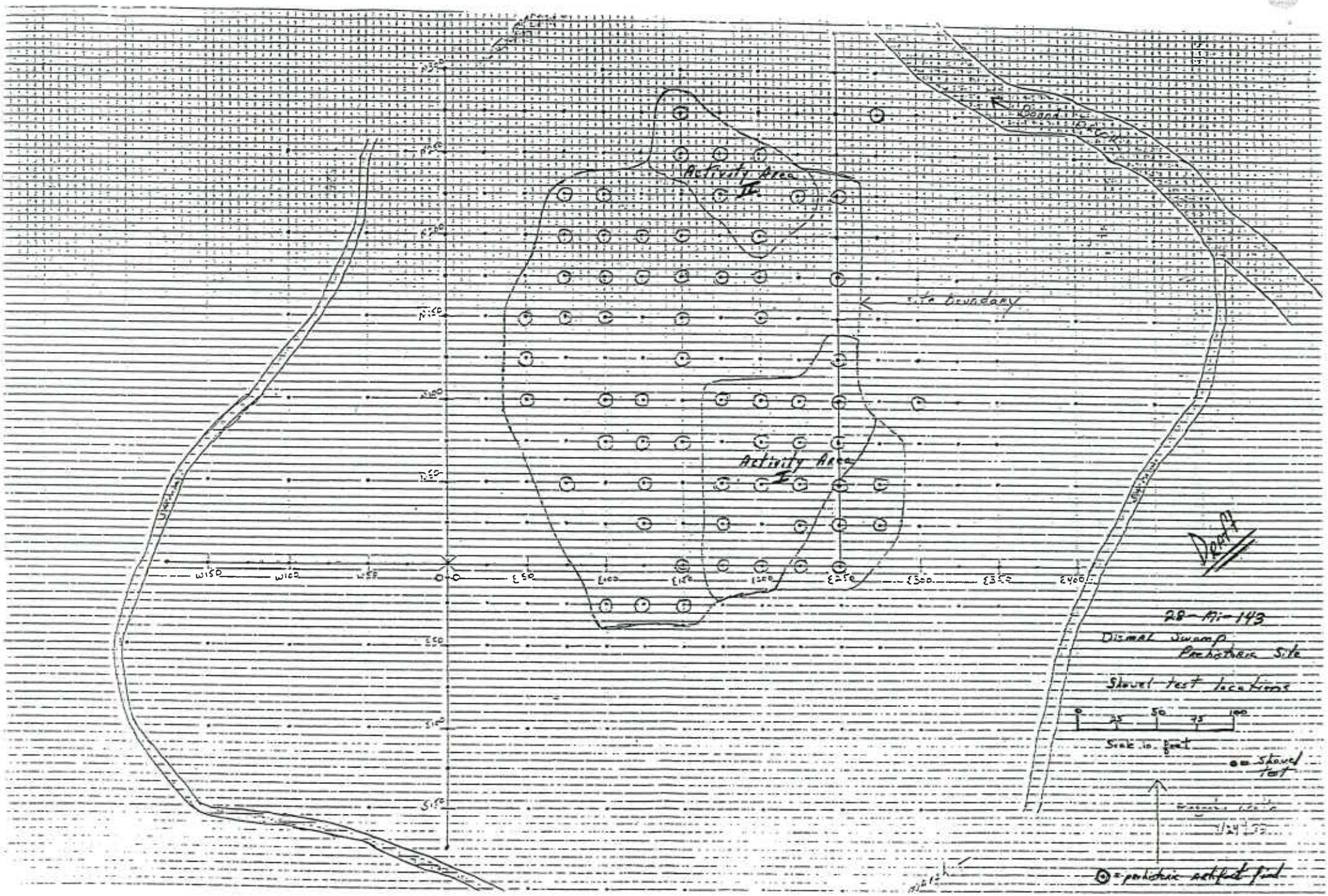
In essence, the objective of continuing this investigation into its third phase (data recovery) will be to better understand and interpret the Native American occupation of the site. This goal can be viewed in terms of not only detailing the physical attributes of the site (i.e., its size, stratigraphic constituents, artifact / feature content, and environmental relationships), but also explaining its behavioral aspects (i.e., patterns of economic activity, diet, or social organization). Information relating to any of these topics, when collected by controlled scientific methods and clearly reported, can contribute significantly to the understanding of prehistoric man in this part of the state. (Little is known about prehistoric occupation in this portion of central New Jersey.) A study such as this conforms to current goals of prehistoric anthropological research in the Middle Atlantic region, and promises to take on added significance when compared with other sites throughout the area.

4.0 Recommendations

Because of the scientific importance of this site, the following (data recovery) procedures are recommended to mitigate the effect that development would have on the prehistoric archaeological site. These methods conform to the Federal guidelines established in "The Treatment of Archaeological Properties" (Advisory Council on Historic Preservation).

$\sqrt{100 \times 175} = 17,500$

4.1) Area I (approximately 10,000 square feet) — a 10% sample would be statistically acceptable, and would allow us to more accurately define and interpret this special activity area than did Phase II investigation. A 10% sample is likely to entail about 40-50 5-foot squares and would take approximately two weeks to excavate.


Activity Area II
Activity Area I
Site boundary
Draft
28-Mi-143
Dismal Swamp
Prehistoric Site
Shovel test locations
0
25
50
75
100
Scale in feet
= Shovel test
= prehistoric artifact find

William Nero - Schoor, Depalma & Gillen, Inc.
Stuart Alexander - Schoor, Depalma & Gillen, Inc.

Research and fieldwork for RAM, Inc. were directed by Charles A. Bello, and project direction was provided by Peter A. Primavera, Jr. The project staff included Richard C. Grubb (historian), Philip A. Perazio (archaeologist), Kristian Eshelman (editor), Joel Boriek (draftsman and photographer), Debra Campagnari (research assistant), and Richard Affleck (lab director). William Liebeknecht, Robert Jones, and Ruth Yeselson assisted with fieldwork. The report was written by Charles A. Bello and Richard C. Grubb.

Study Area

The study area is located in Edison Township, between the Boroughs of Metuchen and South Plainfield in north-central Middlesex County. The property lies on the west side of the Bound Brook (formerly Dismal Brook) between the Main Stem lines of the Lehigh Valley and Port Reading Railroads (Figure 1). Much of the total 337-acre tract lies within the 100-year flood hazard limit or is part of an area of wetlands. The remainder of the property lies close to or above the 73-foot contour line.

This area is part of the Piedmont Lowlands physiographic province and lies immediately south of the Wisconsin Terminal Moraine. The area is characterized by topographic modification resulting from glacial activity.

The soils found in the study area consist essentially of two groups. The Penn-Klinesville-Reaville association derives from weathering of shale, sandstone, and argillaceous parent material (Kirkham 1976:4-5), and is located on the upland area of the property (U.S. Department of Agriculture 1978:Sheet 6). The Parsippany-Lansdowne-Watchung soils are lacustrine in origin (Kirkham 1976:6) and are found along the edge of higher ground close to the Bound Brook and adjacent swampy ground (U.S. Department of Agriculture 1978:Sheet 6).

4.2) Area II (approximately 6,000 square feet) -- a 10% sample would be statistically acceptable, allowing better definition and interpretation of this special activity area in the northeast corner of the site. A 10% sample is likely to entail 15-25 5-foot squares, and would take approximately one week to excavate.

4.3) The remainder of the site (i.e., the area of aboriginal occupation adjacent to Activity Areas I and II) should be examined by at least a 3-5% sample. This area of the site (44,000 square feet) should be appropriately separated into two or three subareas and tested by 40-50 5-foot squares, taking approximately two weeks to complete.

Once excavation has been completed, the material analyzed, and the report written, the site will have been satisfactorily investigated according to current standards of archaeological research. The effect of the development will thus have been mitigated. The following spreadsheet outlines the cost and labor expenditure for completion of Phase III (data recovery) excavations at the site.

New Jersey State Museum
Site Registration Form

Site Number: 28-Mi-143
Site Name: Dismal Swamp Prehistoric Site
N.R. Status: -
S.R. Status: -

County: Middlesex

Municipality: Edison Township

Location:

Latitude 74 24' 30"
Longitude 40 33' 30"

Atlas Coord.: 25-34-9-1-8

U.S.G.S. Quad: Plainfield 1955 (revised 1981)

Period: Archaic (tentatively identified)

Type of Site: undetermined at present

Cultural Affiliation: undetermined at present

Owner's Name: John Tyler

Address: 44 Valley Drive
Watchung, N.J.

Attitude toward preservation: developer willing to finance excavation of site

Surface Features: wetland surrounding northern, southern, and eastern portion of site; well-drained uplands located west of site.

Elevation: 70-75 feet

(3)

Prominent Landmarks: The property under study is located in Edison Township, between the boroughs of Metuchen and South Plainfield in north-central Middlesex County. The area of prehistoric occupation is situated on the uplands immediately bordering the west side of Bound Brook (formerly Dismal Brook) between the main stem lines of the Lehigh Valley and Port Reading railroads.

Vegetation Cover: wooded - mature secondary deciduous growth

Nearest Water Source: Bound Brook - adjacent to (east of) prehistoric site
Dismal Swamp (fed by Bound Brook) - immediately adjacent to and surrounding east side of prehistoric site

Soil Type: Penn-Klinesville-Reaville Association
Parsippany-Lansdowne-Watchung Association

Erosion: minor (restricted and patchy - occurring mainly on trails crossing site)

Stratified: not determined at present

Threat of Destruction: proposed development will impact site

Previous Work: preliminary survey and limited excavation by:
Larry Randolph
1220 Foster Terrace
South Plainfield, N.J. 07080
(201) 754-2386

Recorder's Name: Research & Archaeological Management

Address: 54 Woodbridge Avenue
Highland Park, N.J. 08904

Phone: (201) 985-4380

Date of Fieldwork: July 1986-present - ongoing

Date of Site Recording: May 8, 1987

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Sketch Map of Site:

Observations, Remarks, or Recommendations:

Principal Investigator: Charles A. Bello

Project Director: Peter A. Primavera, Jr.

Project Historian: Richard C. Grubb

References:

Research & Archaeological Management, Inc.
1986 Cultural Resource Survey and Assessment, Edison Tyler Estates, Edison Township, Middlesex County, N.J. Report prepared for Schoor, DePalma & Gillen, Inc., Manalapan, N.J.

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