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L Berger

PHASE I ARCHAEOLOGICAL INVESTIGATION
SWEET BROOK DRAINAGE AREA
CARLTON BOULEVARD, ANNADALE
STATEN ISLAND, NEW YORK

CAPITAL PROJECT SER 20088

Prepared for:
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May 2003

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I. INTRODUCTION

The Louis Berger Group, Inc. (Berger), conducted a Phase I archaeological investigation of an area along the Sweet Brook in the Annadale section of Staten Island, where catch basins, storm sewer drains and pipes, and sanitary sewers are to be installed by JRC Construction Corporation. The proposed sewer installations are to be located immediately adjacent to the present-day course of the Sweet Brook. The goal of the investigation was to determine if archaeological resources would be impacted as a result of these sewer utility installations.

The project area is located in the Annadale section of Staten Island and located along the Sweet Brook, a small tributary of the Richmond Creek (Figure 1). The project area begins at the intersection of Drumgoole Road East and the Sweet Brook and follows the Sweet Brook southward, where it crosses Ionia Avenue, Edgegrove Avenue, Detroit Avenue and Carlton Boulevard. At Carlton Boulevard, the project area turns eastward and travels along the path of Carlton Boulevard and then turns north at the intersection of Carlton and Jefferson boulevards. The project area ends at a small pond/wetland located on the western edge of Jefferson Boulevard where the proposed sewer lines will link up with an existing sewer system.

As the project area is located along an existing freshwater source and is relatively undisturbed by 20th century development, the project was determined to possess the potential to impact previously unknown archaeological deposits. Archaeological testing occurred along the path of the proposed sewer improvements. Areas with substantial 20th century disturbances were not subjected to archaeological testing and were instead photographed to document the extent of the disturbance.

Background research was conducted at the New York Public Library (St. George Branch) and the Staten Island Institute of Arts and Sciences (SIIAS) and included examination of historic maps and archaeological studies. The prehistoric and historic background sections of this report relied on research findings derived from previous sewer installation projects conducted in Staten Island (Berger 1994, 1995, 1997, 2001a). The determination of archaeological sensitivity was made by the New York City DEP and is consistent with the *Archaeological Evaluation and Sensitivity Assessment of Staten Island, New York* that was prepared for the Landmarks Preservation Commission (LPC) (Boesch 1994).

The Phase I archaeological investigation followed the guidelines established by LPC as specified in the *Landmarks Preservation Commission Guidelines for Archaeological Work in New York City* and city regulations governing the protection of the cultural environment (CEQRA). The project was conducted under the overall supervision of Ms. Susan Grzybowski, Assistant Director/Senior Archaeologist of Berger's Cultural Resource Group. Mr. Zachary Davis served as the Principal Investigator for this project and authored the report. Field testing was conducted by Mr. Davis and the graphics were prepared by Mr. Davis.

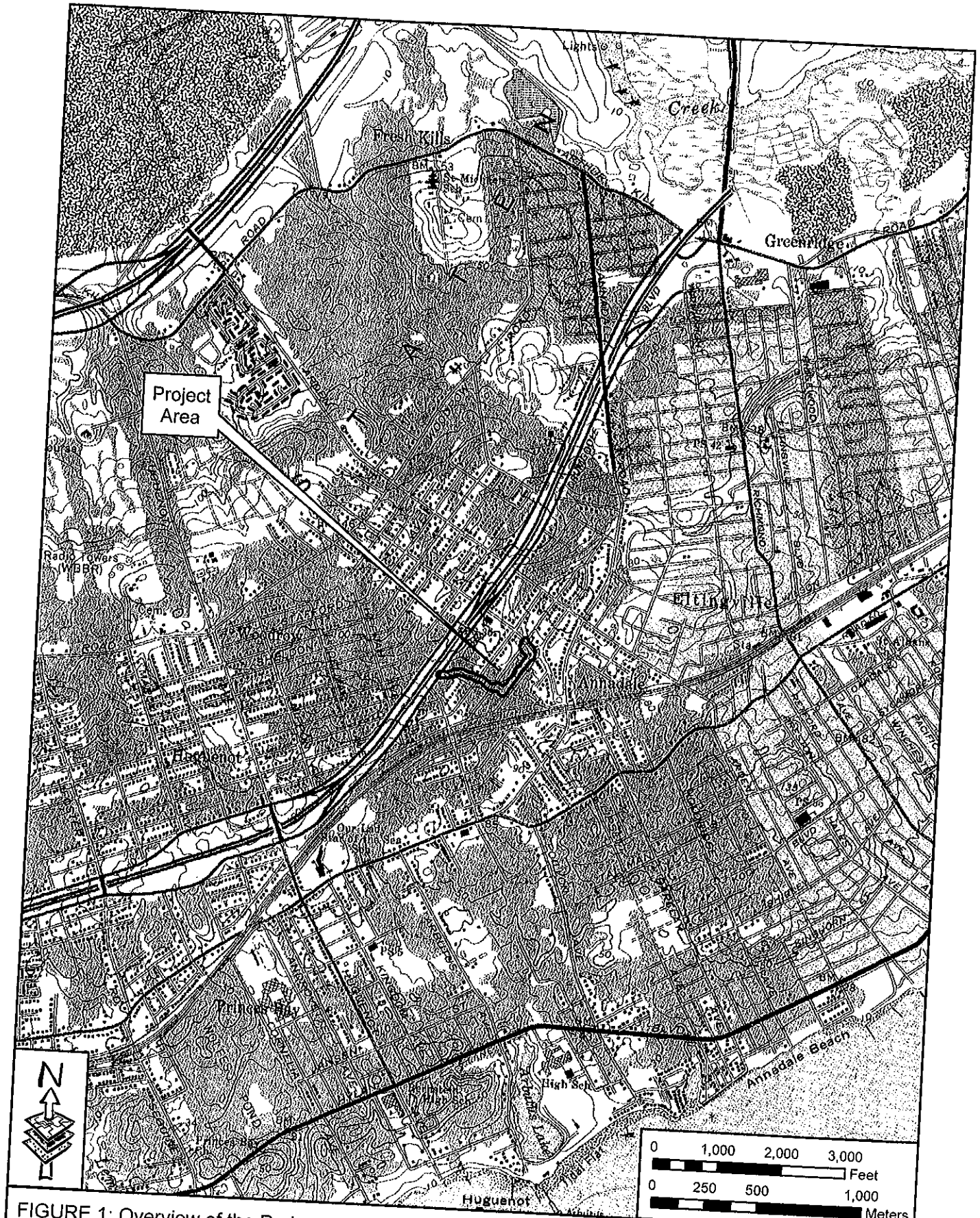


FIGURE 1: Overview of the Project Area in Southern Staten Island

SOURCE: USGS Arthur Kill, NY-NJ 1966, (photorevised 1981), 7.5' Series

FIGURE 2: Aerial View of the Project Area

SOURCE: New York State GIS Warehouse, 2001

II. PREHISTORIC CONTEXT

A. ENVIRONMENTAL SETTING

Staten Island is within the Atlantic Coastal Lowland physiographic province and is geographically related to New Jersey from which it is separated by the Kill Van Kull and the Arthur Kill waterways (Skinner 1909). The bedrock consists of Serpentine and Stockton sandstone of the Triassic period, which forms the hills at the core of the island; one of these, Todt Hill, is at 410 feet above sea level, the highest point not only in New York City, but along the entire Atlantic coastline south of Massachusetts (Schuberth 1968:98, 249).

Surface features and landforms are mainly the result of continental glaciation which deposited unsorted and unstratified sediments, part of the Harbor Hill terminal moraine that extends from Pennsylvania east through Perth Amboy, New Jersey, across Staten Island and Long Island to Cape Cod, Massachusetts (Schuberth 1968:184-186, 249). Soils in the project area were formed in glacial till and the related outwash sediments.

The project area is located south of the Richmond Parkway and north of the Annadale station of the Staten Island Railroad. The project area follows the course of the Sweet Brook, a small tributary of the Richmond Creek. The project area is located primarily within the banks of the Sweet Brook and within the remnants of a roadbed along Carlton Boulevard.

Vegetation in the project area consists of freshwater wetland species along the brook and woodland communities on better-drained soils located farther from the Sweet Brook. Elevations in the project area generally average around 80 to 100 feet above sea level, increasing to the north of the project area.

When Native Americans first inhabited the New York City area, sea levels may have been 300 feet lower than at present, which would have caused the Atlantic shore to regress approximately 60 to 90 miles from its current position (Kraft 1977; Cantwell & diZerega Wall 2001). By 5,000 BP (Before Present), the sea level had risen to just 30 feet below its present level, and it continued to rise to a point some 14 feet below the present level by 2,000 BP. Therefore, over the course of human occupation, the environment changed from an upland and inland location of oak/pine forest and grasses into a coastal lowland zone (Silver 1984:5).

B. PREHISTORIC OVERVIEW

Three major periods are commonly used to describe the prehistoric cultures of New York: Paleoindian, Archaic, and Woodland. The Paleoindian period dates from approximately 11,000 to 10,000 BP (Curran 1996; Fiedel 1999, 2000). The earliest known occupation of New York City comes from the southwestern shore of Staten Island, where stone tools dating to about 10,000 BP were found in disturbed soils associated with the Port Mobil oil tanks. Along Charleston Beach, located just south of Port Mobil, local avocational archaeologists collected stone tools that were similar to those found at Port Mobil (Boesch 1994). The common stone tool recovered from these

two sites is a lanceolate-shaped spear point with a long, thin channel removed longitudinally from both faces of the point. This technique is known as "fluting" and is a hallmark of the Paleoindian period (Callahan 1979). In addition to these fluted points, other stone tools included unfluted points, scrapers, knives, borers, and gravers (Eisenberg 1978; Kraft 1977). This small collection of stone tools has been interpreted as prehistoric refuse from a small resource-procurement encampment (Funk 1977). Although the Port Mobil Site presently overlooks the Arthur Kill, sea levels were lower during the Paleoindian period and the waterway did not exist when the site was occupied (Edwards and Merrill 1977). The occupation represented at the Port Mobil Site probably represents a reconnaissance or hunting camp, rather than a marine-oriented gathering station.

Paleoindian economy may have centered on the hunting of game. Although other economic activities, such as the gathering of plant foods or maritime resources, may have been equally important (Jones et al. 2002; Roosevelt et al. 1996; Sandweiss et al. 1998), they have left little or no trace in the archaeological record. Lithic technological considerations may have also contributed to Paleoindian landscape settlement patterns. Goodyear (1989) suggests that high-quality cryptocrystalline materials (i.e., chert, jasper, and chalcedony) were the materials most commonly used to manufacture fluted lanceolate projectile points. He suggests that Paleoindians used high-quality lithic materials when producing fluted points because of the predictable manner in which these materials fractured, thereby decreasing the possibility of catastrophic fractures occurring as a result of internal (and hidden) flaws that are typically present in low-quality lithic materials. This predominance of high-quality lithic materials suggests that Paleoindians sought out high-quality materials, a hypothesis that is supported by the presence of high-quality lithic materials derived from great distances (up to 300 kilometers) at Paleoindian sites. However, recent geoarchaeological surveys have challenged this assumption by identifying local sources for Paleoindian lithic material (LaPorta 1994; Moeller 1999). These recent studies suggest that Paleoindians were occasionally manufacturing fluted projectile points on local and poorer quality lithic materials (Bamforth 2002).

The southwestern shore of Staten Island remains the only location in New York City where Paleoindian artifacts have been uncovered. There are several explanations for the limited evidence of Paleoindian occupation in coastal New York. One is the distance from high-quality lithic sources that were apparently critical to Paleoindian procurement and settlement strategies (Custer, et al. 1983; Goodyear 1989). Another is that many habitation sites from the Paleoindian era may have been destroyed by coastal geomorphologic changes that occurred after the sites were abandoned (Marshall 1982).

Climatic warming during the Holocene led to sea level rise and changes in drainage patterns as well as vegetation; by 8500 BP, oak and hemlock forests replaced the predominantly pine forests of the area. The ecological changes brought about by the warmer Holocene climates subsequently encouraged population migrations and the development of the new subsistence strategies which characterize the Archaic period (9000-3000 BP). Compared with the Paleoindian period, a wider variety of artifact types was used during the Archaic. This suggests that a greater diversity of subsistence and technological activities was pursued, although hunting still appears to have been the major focus.

Differences in tool assemblages, projectile point types, and preferred lithic materials characterize the Early, Middle, and Late Archaic subperiods (Coe 1964; Ritchie 1980). Early Archaic sites identified on Staten Island include the Old Place Site, the Ward's Point Site, and the Richmond Hill Site, all of which have produced Kirk components dated circa 7260 to 8250 BP; the Richmond Hill Site also contained a Palmer component that may be associated with a radiocarbon date of 9360 BP (Ritchie and Funk 1971, 1973:38-39).

With the exception of several Kanawha and LeCroy-like points from the Ward's Point Site (Jacobson 1980:56), Middle Archaic remains are rare on Staten Island. This is possibly the result of unclear typological definitions for this period. In contrast, Late Archaic sites are relatively common and are characteristically located along tidal inlets, coves, and bays. Site setting and content suggest that marine resources were important to Late Archaic subsistence, a trend related to the stabilization of coastal environments (Edwards and Merrill 1977).

The Terminal Archaic or Transitional period (3000-2700 BP) is characterized by distinctive technologies that included production of soapstone vessels and a variety of broad-bladed projectile point types. The appearance of soapstone or steatite vessels and artifacts during this period provides evidence of interregional trade and also suggests increased residential stability, since stone bowls are items not easily transportable from site to site. Terminal Archaic remains on Staten Island also have been found in association with shell middens, which represent an intensification of coastal-oriented economies.

The Woodland period (2700 BP to European Contact) is identified by the manufacture and use of ceramics. This period is divided into three subperiods–Early, Middle, and Late–that are characterized by distinctive projectile point types and ceramic styles. The earliest ceramics found in coastal New York are grit-tempered wares similar to Vinette I. Middle Woodland ceramics include shell-tempered wares with cord and net impressions, and Late Woodland ceramics include various collared vessels with incised, dentate, and cordmarked decoration. The Woodland period is also associated with horticulture; the earliest evidence of domesticated plants occurs in the Middle Woodland.

At the time of European contact, Staten Island was occupied by the Munsee, a group of the Algonquian-speaking Lenape, also called the Delaware Indians, who lived in what is now eastern Pennsylvania, New Jersey, and southern New York. The Native populations maintained loosely structured, autonomous bands that resided in small dispersed settlements. The territories of the various Native groups that have been distinguished linguistically are uncertain, partly due to the lack of fixed "tribal" boundaries. Increased contact with European traders and settlers resulted in the breakdown of traditions and increased reliance on European goods in exchange for land and furs (Goddard 1978; Kraft 1986).

C. SENSITIVITY ASSESSMENT

The *Archaeological Evaluation and Sensitivity Assessment of Staten Island, New York* by Eugene Boesch (1994) lists the following criteria to assess prehistoric archaeological sensitivity: (1)

proximity of known sites or surface artifacts from the project area; (2) nearby freshwater source; (3) proximity of marsh, shoreline, river or stream mouth, or ridge; (4) high ground overlooking water with slopes less than 30 percent; and (5) well-drained soil. According to this model (Boesch 1994), the project area is considered to have a moderate sensitivity because it is situated near the Sweet Brook and associated wetlands, and is in proximity to previously recorded sites.

Records at the New York State Museum (NYSM) and the New York State Office of Parks, Recreation and Historic Preservation list one prehistoric site within a 0.75-mile radius of the project area (Table 1, Figure 3). Six additional sites are located just over 1 mile from the project area.

Four sites are located to the south of the project area, along Hylan Boulevard. Three of these sites (Holdridge Ave., Arbutus Ave. and Huguenot Ave.) were identified through a Cultural Resource Survey for sewer line installation in the early 1980s (Pickman and Yamin 1984). Artifacts recovered included fire cracked rock and chert flake and core fragments. The recovered artifacts could not be assigned to a specific cultural period. The fourth site is a locality identified by Alanson Skinner, an archaeologist working in Staten Island in the early 20th century. Skinner's summary of the Lenapé occupation of Staten Island provided a comprehensive synthesis of the various collections distributed across the island. Most of these sites contain small scatters of stone tools and shell middens, occasionally with faunal remains. These sites were not excavated according to today's modern standards, but they still indicate the high potential for archaeological deposits along the southern edge of Staten Island. The one site located by Skinner along Hylan Boulevard is identified in the NYSM records simply as a "camp site."

North of the project area, two sites are localities identified in the early 20th century and the third was identified by a cultural resource survey in the early 1980s (Jacobson & Regensburg 1980). The site closest to project area, one of many recorded by Arthur Parker (1922) in Staten Island, is described as a "camp" and is located near the intersection of Annadale Road and Katan Avenue. Although these three sites are not located near to the shore, they are still located close enough to water sources and well drained soils, indicating a high degree of sensitivity for prehistoric archaeological resources in this inland area of Staten Island.

Table 1 - Archaeological Sites Within 0.75-Miles of the Project Area

	Site Name	NYSM No.	Other Site Designation	Source	Description
1	No name given	4601	ACP-Rich-11	Parker 1922	Early relics and "camp"
2	New Site 2	5702		Jacobson & Regensburg 1980	Shell midden
3	No name given	8226	ACP-Rich-13B	Parker 1922	Traces of occupation, "relics" at Woodrow Road and Sandy Brook
4	Huguenot Ave Site	None	A085-01-0014	Pickman & Yamin 1984	Three test pits with prehistoric material
5	Arbutus Ave Site	None	A085-01-0012	Pickman & Yamin 1984	Eight test pits with prehistoric material
6	Annadale Beach	4622	ACP-Rich	Parker 1922	Camp site
7	Holdridge Ave Site	None	A085-01-0011	Pickman & Yamin 1984	Two test pits with prehistoric material

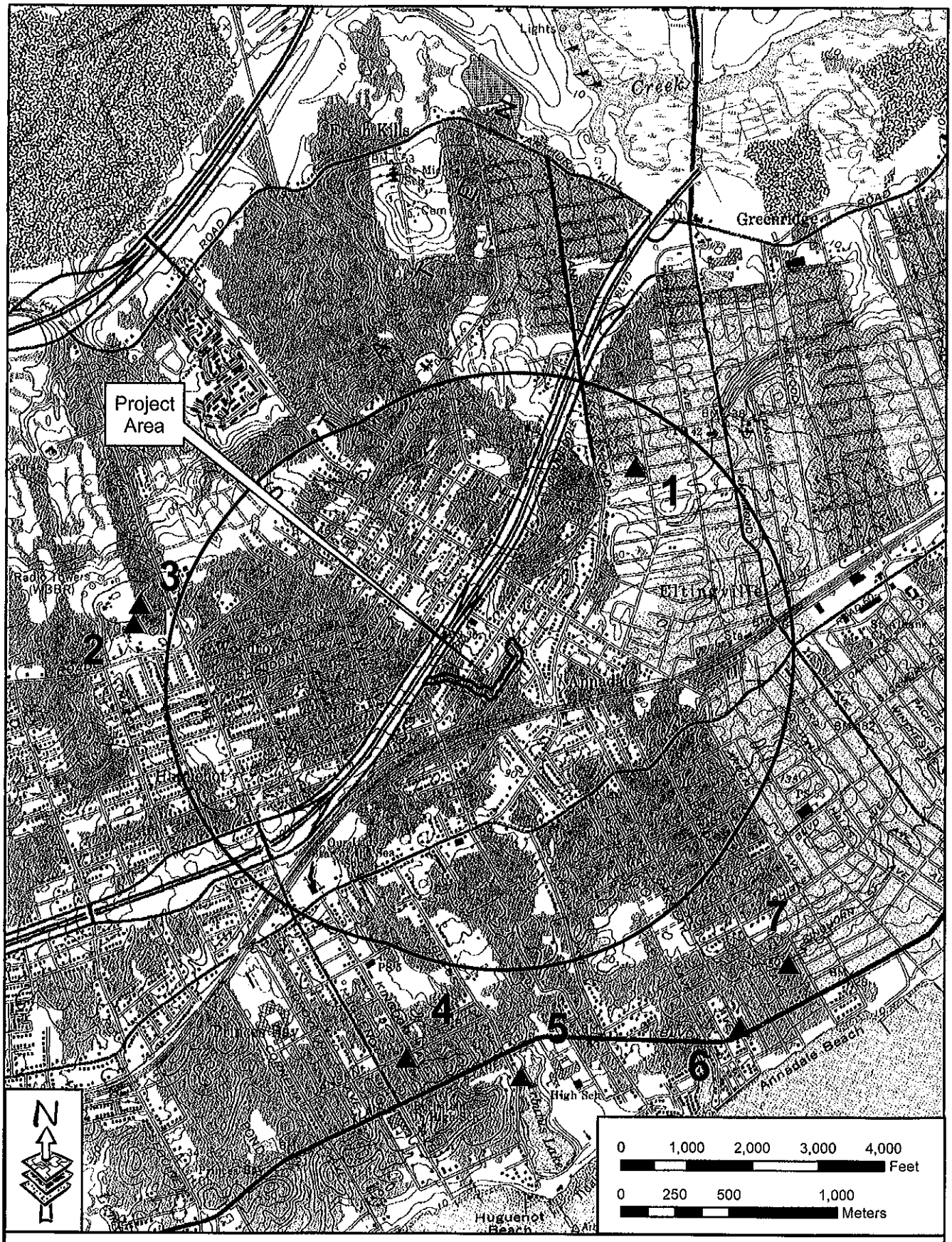


FIGURE 3: Previously Identified Archaeological Sites within Three-Quarters of a Mile from the Project Area

SOURCE: USGS Arthur Kill, NY-NJ 1966, (photorevised 1981), 7.5' Series

III. HISTORICAL OVERVIEW

The project area is located in Annadale, Staten Island, approximately 2 kilometers from the shore of Staten Island. The Sweet Brook is the closest water source in the area.

From 1621 to 1664, Staten Island was part of the Province of New Netherland. The province was administered by the Dutch West India Company, under whose jurisdiction the island received its name. The Native American population resisted Dutch settlement, culminating in the Peach War of 1655, which vastly depopulated the island. In 1662, a handful of dwellings and a small blockhouse were erected on a site above lower New York Bay, a short distance south and west of the high ground at The Narrows. This settlement, known as Oude Dorp (Old Town), consisted chiefly of Dutch and French colonists from the Palatinate.

In 1664, New Netherland, including Staten Island, was taken over by Great Britain. The last Native American claims to Staten Island were extinguished in 1670, and in 1683 the island was organized as the County of Richmond. Settlement continued under the British, with significant numbers of Huguenots arriving in the last years of the seventeenth century. By the mid-eighteenth century, Staten Island's population was a mix of people of Dutch, French, Belgian, and English descent (Berger 1985:11).

In 1680 through 1683, five towns were formed on Staten Island: Castleton (1683), Middletown (1680), Northfield (1683), Soutfield (1683) and Westfield (1683). Annadale is located in the town of Westfield, which was also known as the Fifth Ward (Bayles 1887). The town derives its name from a Anna Seguine, who was a member of the well-off French Huguenot family that settled on Staten Island in the 17th century. Anna Seguine was married to John Seguine, one of the founders of the Staten Island Railway in the 19th century.

During the Revolutionary War, a few roads were established in this area, though for the most part, this section of Staten Island remained sparsely inhabited (Figure 4). No houses or roads were constructed within the project area, which remained wooded and contained the small Sweet Brook flowing through to the Richmond Creek. The closest road, Annadale Road, was known as Seaman's Lane. A few houses lined Amboy Road, Annadale Road and Hugenot Avenue, but the vicinity of the project area was sparsely settled.

Through the 19th century, the project area was similarly sparsely inhabited (Figure 5). In 1844, the project area was densely wooded and lacked any roads or structures. A residence is indicated to the east of the project area, on the western side of Annadale Road. Several residences are indicated along Amboy Road, located further south of the project area.

Historic maps of the project area dating to the mid to late-19th century indicate the project area remained entirely devoid of any historic period occupation in the form of residences, structures or streets. The Beers 1874 map (Figure 6) provides information on the ownership of the project area as the project area spanned three different parcels. An "I. K. Jessup" is listed as holding title to 200

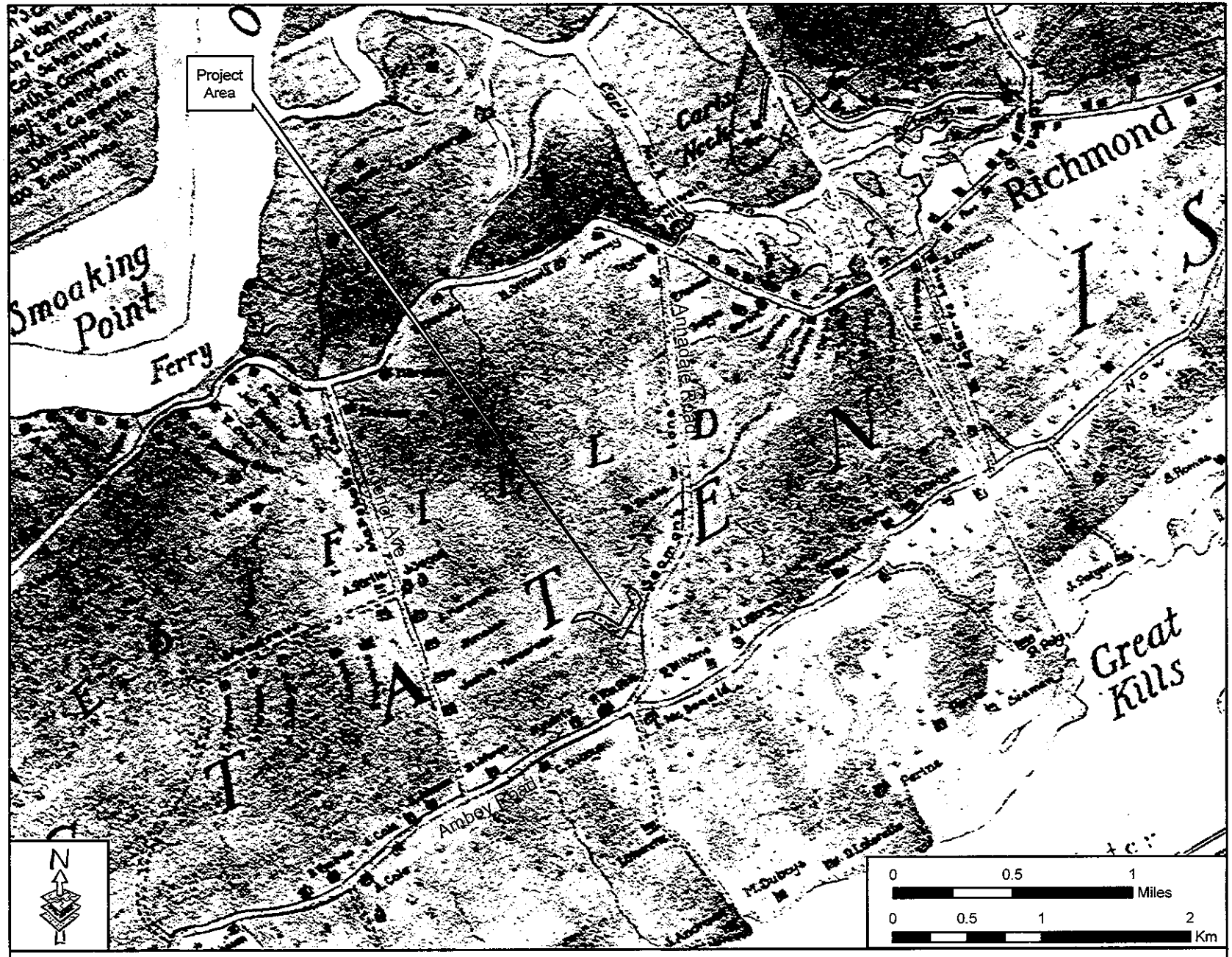


FIGURE 4: The Project Area and Vicinity During the Revolutionary War, 1775-1783 *SOURCE: McMillen 1933*

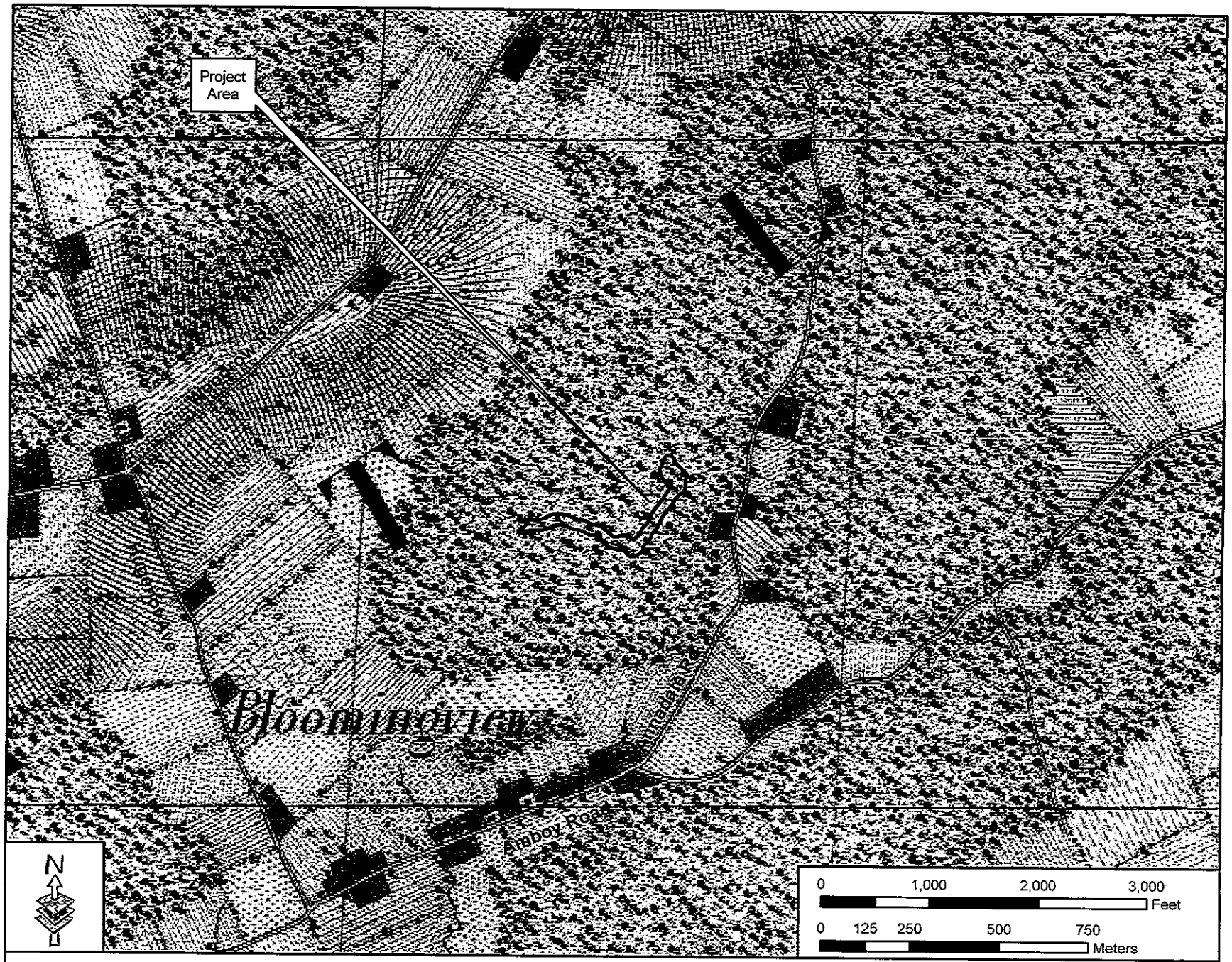


FIGURE 5: The Project Area and Vicinity in 1844

SOURCE: U. S. Coast Survey 1844

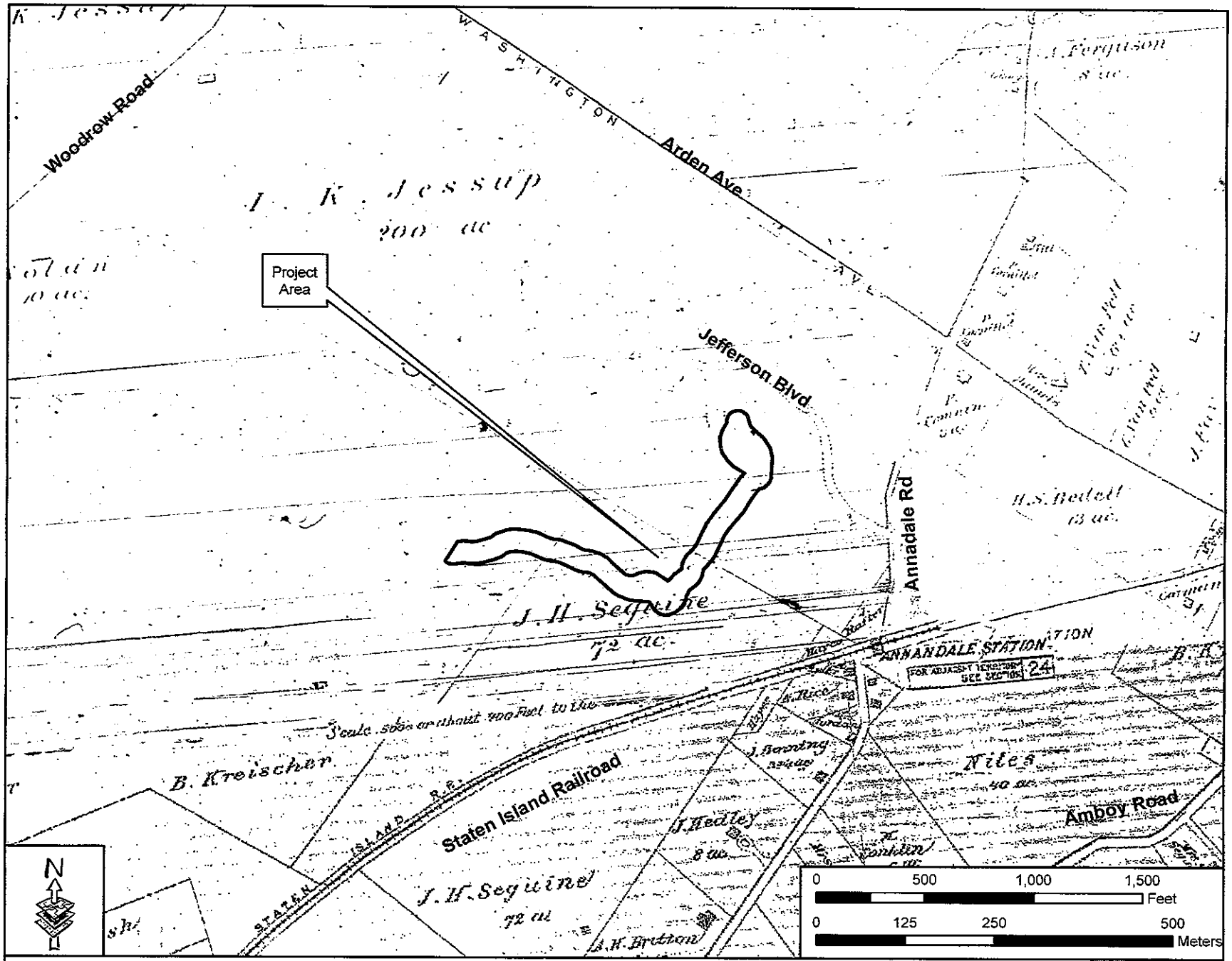


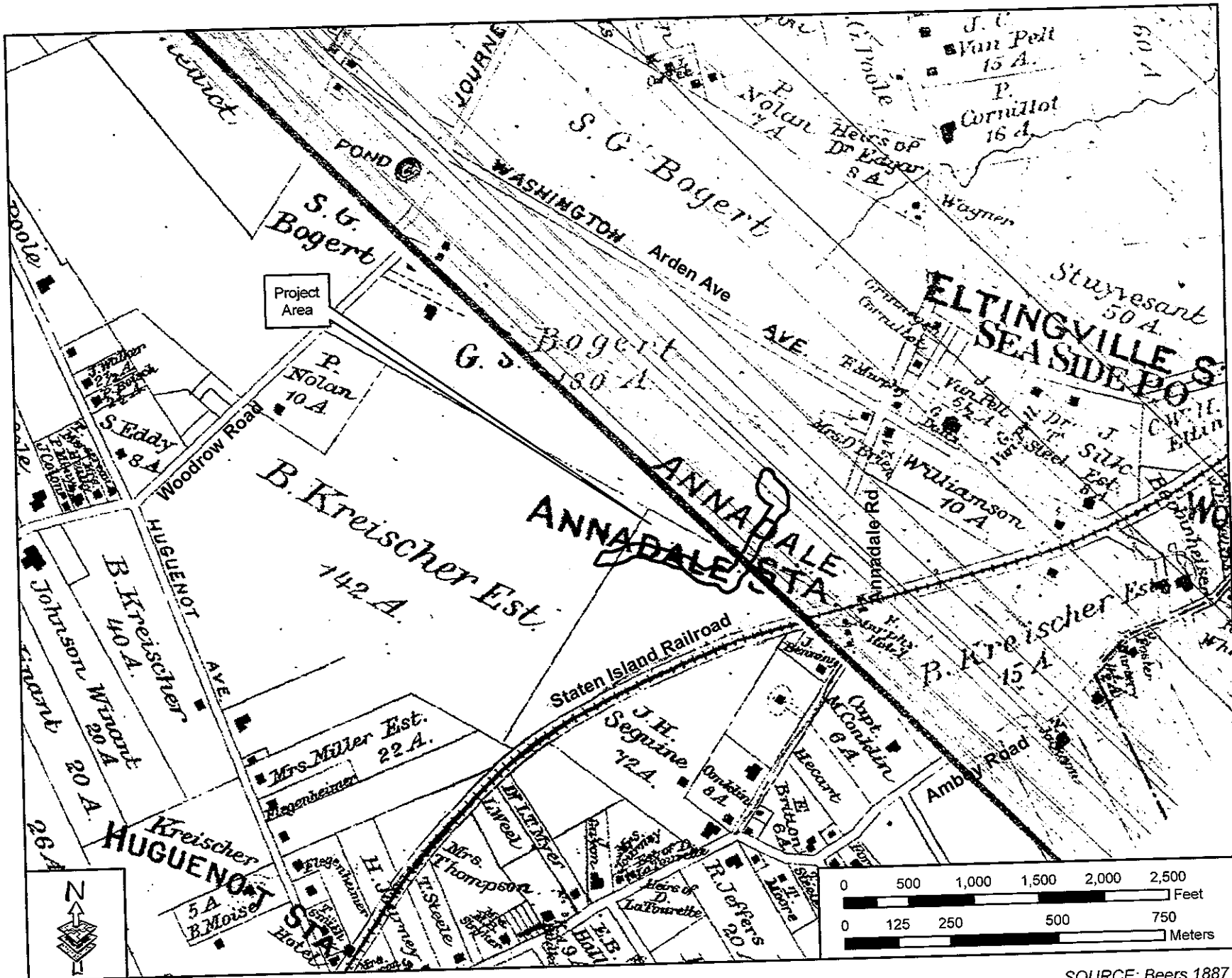
FIGURE 6: The Project Area and Vicinity in 1874

SOURCE: Beers 1874

acres, bounded by Woodrow Road to the north and Arden Avenue (then named Washington Avenue) to the east. The eastern portion of the project area is located within these 200 acres owned by Jessup. The central portion of the project area is located on a 72 acre parcel of land owned by a "J. H. Seguine," who is most likely John Seguine, the husband of Anna Seguine for whom Annadale was named in the 19th century. The western portion of the project area is located within a tract of land owned by Balthasar Kreischer, the proprietor of the 19th century Kreischerville Brickworks, located to the west of the project area (Berger 2001b). Also at this point in time, the Staten Island Railroad has been constructed through this portion of Staten Island, with the closest stop to the project area located at the Annadale station.

In 1887 (see Figure 7), the project area remains without structures, while I. Jessup has sold the parcel containing the eastern portion of the project area to a "G. S. Bogert." Seguine and Kreischer continue to own the parcels encompassing the remainder of the project area. By the end of the 19th century (see Figure 8), the project area is primarily located within Seguine's parcel, while the eastern portion of the project area is now in land owned by a "Lombard." The 1898 map also indicates for the first time, the presence of the Sweet Brook flowing through the project area. It appears that the brook has meandered slightly in the last century as the project area, located around the current position of the Sweet Brook, does not coincide entirely with the 1898 course of the Sweet Brook.

The Borough of Richmond Topographical Survey (Borough of Richmond 1912a, 1912b) is a highly accurate map of Staten Island and remains widely used to the present. The portion of the survey covering the project area (Figure 9) indicates a complete lack of structures or residential settlement here. The Sweet Brook is depicted on this map, shown in a position slightly to the south of its present location. Several roads are shown on the map, but these roads were merely planned and had not been constructed. Based on this map and the previous historic maps, it is concluded there is no potential for significant historic archaeological resources to be encountered in the project area.



SOURCE: Beers 1887

FIGURE 7: The Project Area and Vicinity in 1887

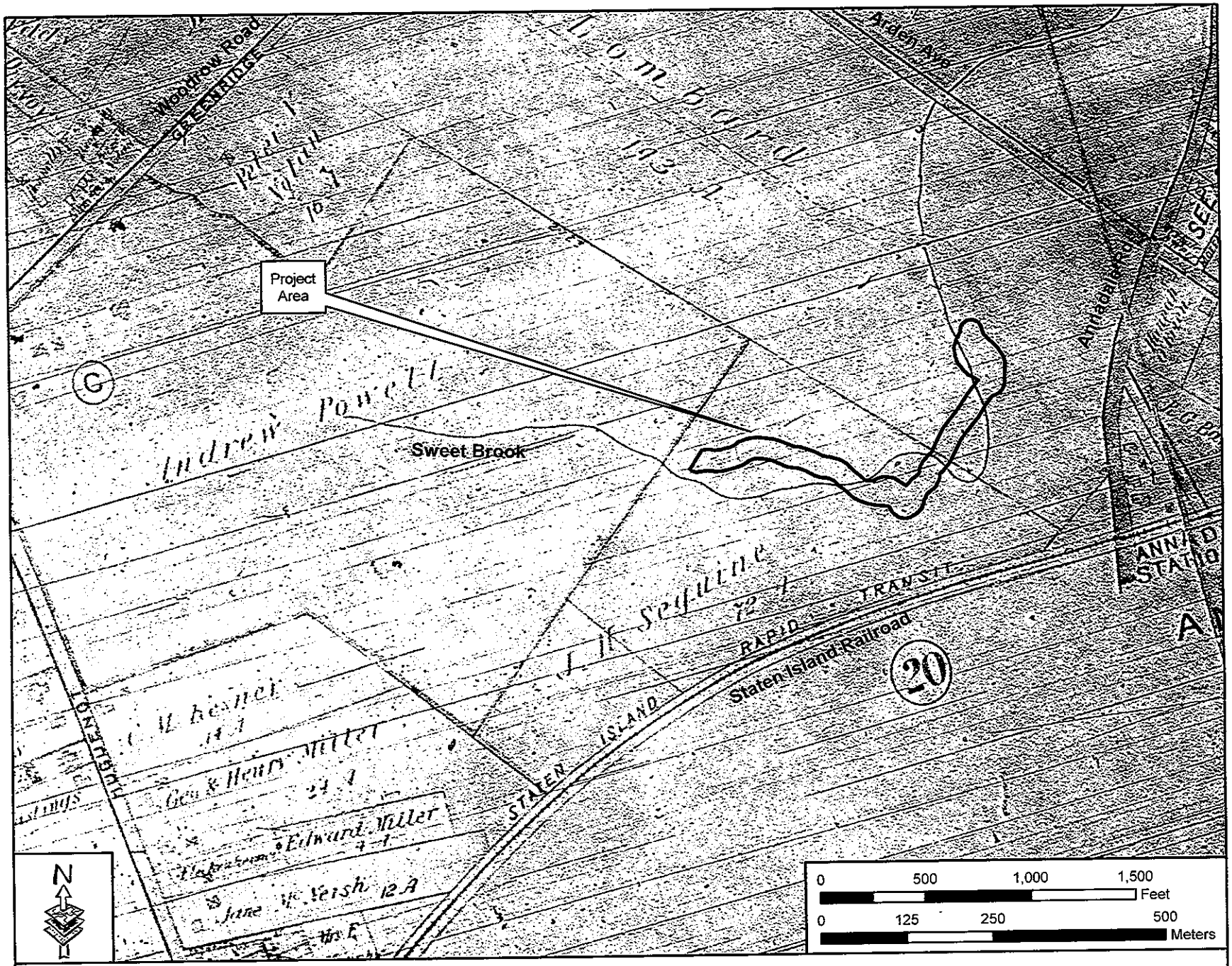


FIGURE 8: The Project Area and Vicinity in 1898

SOURCE: Robinson 1898

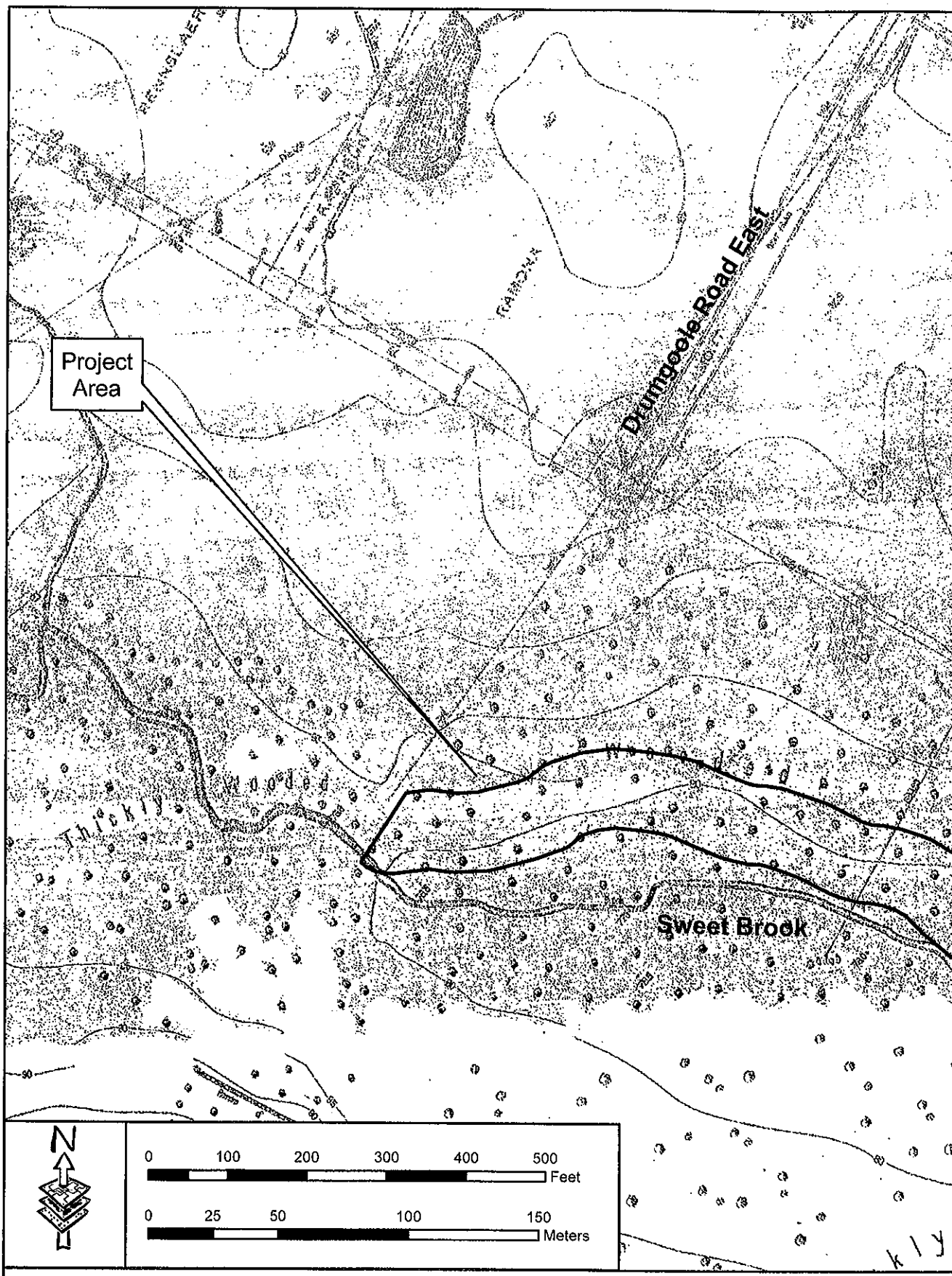


FIGURE 9: The Project Area and Vicinity in 1912

IV. FIELD INVESTIGATIONS

A. METHODS AND FIELD RECONNAISSANCE

Archaeological testing was confined to the area along the Sweet Brook, from Detroit Avenue to Jefferson Boulevard (Figure 10). The area along the Sweet Brook north of Detroit Avenue was not subjected to archaeological testing as the proposed sewer installations are located immediately adjacent to the Sweet Brook and this portion of the project area is densely vegetated (Plates 1-4). Additionally, the water table is located only a few centimeters below the surface in this portion of the project area, making for very difficult and uninformative excavations between Detroit Avenue and Drumgoole Road East. Test excavations were confined to locations within each area that appeared to be relatively undisturbed. Excavations consisted of shovel test pits (STPs).

Reconnaissance of the project area included a walkover and photodocumentation of prior disturbances (Plate 5). Extensive disturbances were observed along Carlton Boulevard, between Detroit Avenue and Jefferson Boulevard, where the remnants of a sidewalk were observed on both the north and south sides of Carlton Boulevard (see Figure 10; Plate 6). Additionally, remnants of roadbed construction (Plate 7), soil and refuse dumping (Plate 8), and previously installed drainage pipes (Plate 9) were observed along Carlton Boulevard (Plate 10).

All STPs were mapped using a Trimble Pro XR mapping-grade GPS unit. This GPS unit records spatial locations with an accuracy of ±50 centimeters (± 20 inches). Each GPS recorded point required approximately one minute to record the spatial position of the shovel test. All GPS recorded points were corrected using in the field real-time correction via a National Geodetic Survey (NGS) continuously operating reference system (CORS). At the end of the day, the GPS collected data were postprocessed to reduce errors due to atmospheric interference and selective satellite availability. The GPS data points were postprocessed by comparing the field data to a known reference data point tracking the same satellites used to generate the in field data. Postprocessing typically improved the spatial precision for each position by around 50%.

Once all excavated shovel tests are recorded with the GPS and postprocessed, the GPS data were exported as ArcView GIS (Geographic Information Systems) data files and entered into an already existing GIS database for the Sweet Brook Sewer Installation Project. Storing all field data within the GIS database provided quick and immediate access to spatial information on artifactual distribution across the project area. For example, the GIS database can display distribution of different artifact classes over the project area in order to isolate activity specific localities. Additionally, spatial data within the GIS database can be presented graphically to illustrate artifact distribution in relation to several independent variables, such as topography, soil type, viewshed, etc.

STPs measured approximately 1 foot in diameter and were excavated to depth where sterile subsoil, rock, or water was encountered. All excavated soil was screened through ¼-inch hardware mesh to aid in the recovery of artifacts. Soil profiles were recorded for each STP using Munsell Soil Color and standard texture classifications. Following the completion of the excavation, all STPs were backfilled. Modern debris was noted in the field, but not collected. The stratigraphic profiles for all STPs are presented in Appendix A.

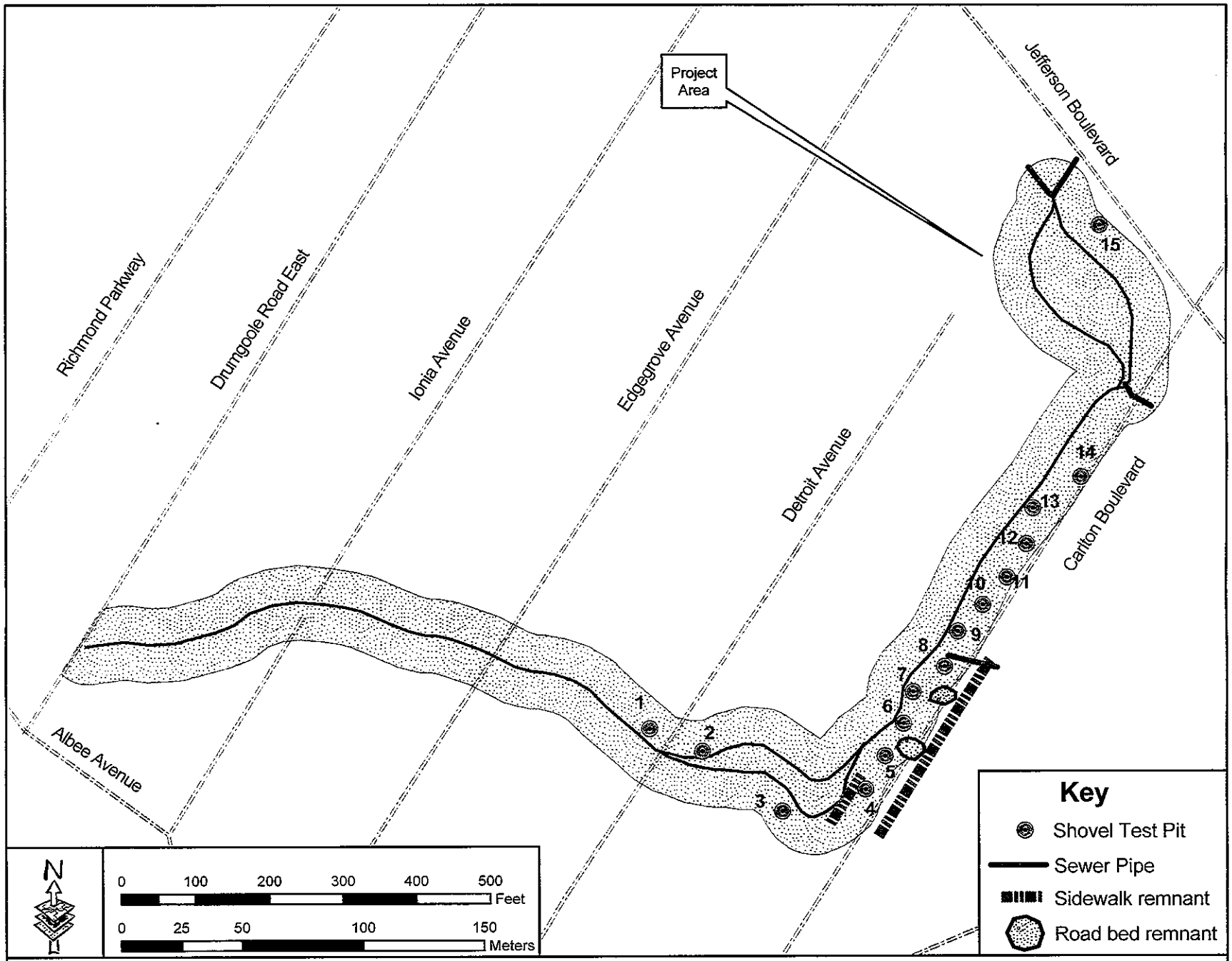


FIGURE 10: Locations of Excavated Shovel Test Pits for the Sweet Brook Drainage Project

SOURCE: Berger Field Generated Data, 2003

PLATE 1: Dense Vegetative Growth along the Sweet Brook at Drumgoole Road East, View South

PLATE 2: Ionia Avenue Crossing the Sweet Brook, View South

PLATE 3: View of the Sweet Brook at Edgegrove Avenue, View South

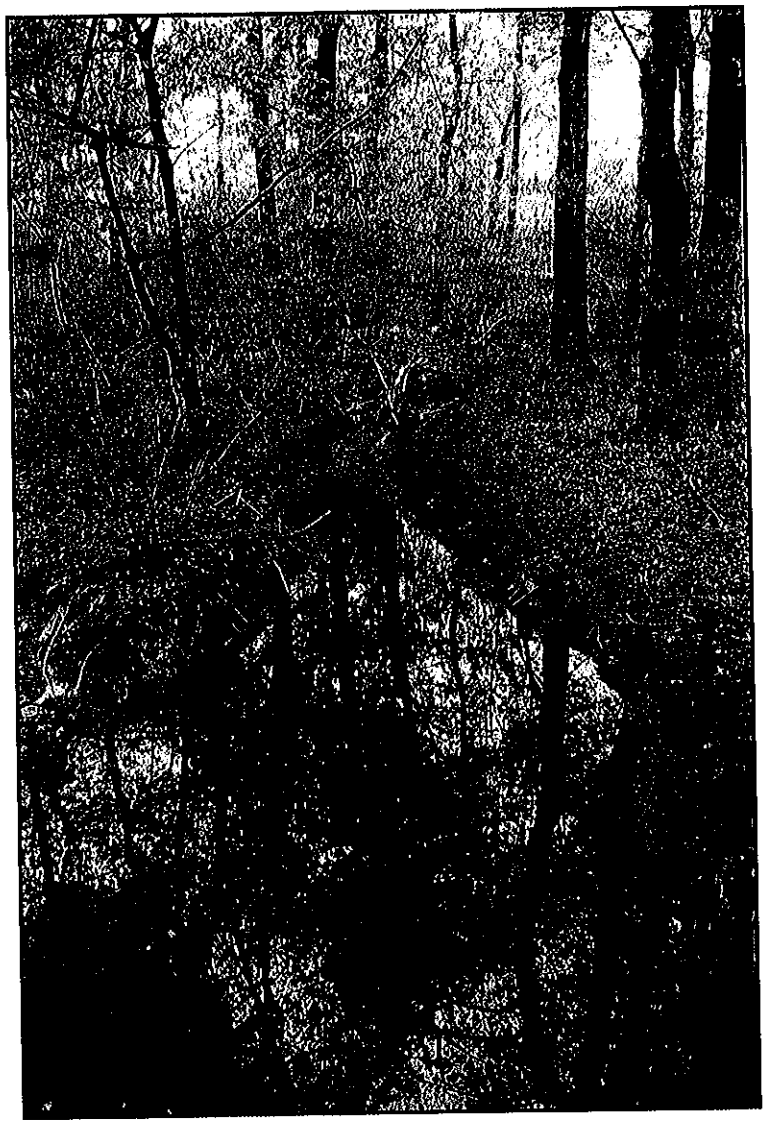


PLATE 4: View of the Sweet Brook from Detroit Avenue, View North

PLATE 5: View of the Sweet Brook at Detroit Avenue looking in the Direction of Carlton Boulevard, View South

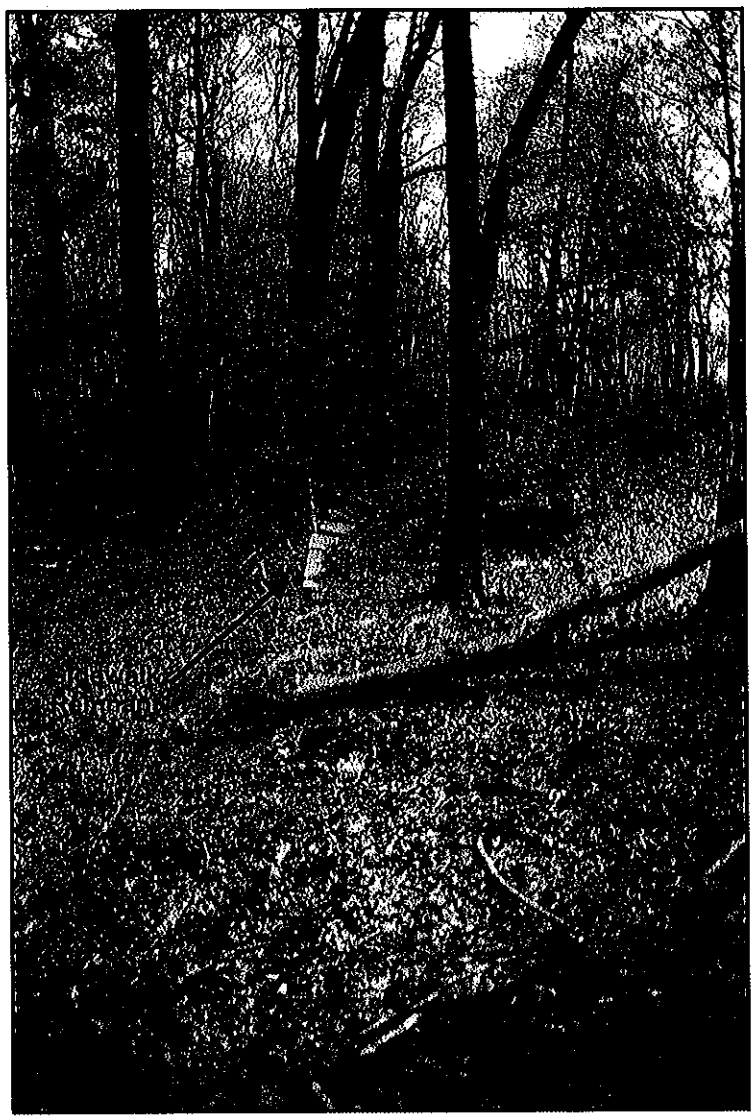


PLATE 6: View of the Remnants of a Sidewalk on the North Side of Carlton Boulevard, View East

PLATE 7: Remnants of a Road Bed along Carlton Boulevard, View West

PLATE 8: View of Dumped Soil along Carlton Boulevard, Looking in the Direction of the Sweet Brook, view North

PLATE 9: Pre-existing Sewer Pipe along Carlton Boulevard, View South

PLATE 10: Carlton Boulevard, View West

B. RESULTS OF FIELD WORK

STPs excavated along the length of the Sweet Brook between Detroit Ave and Jefferson Boulevard failed to reveal intact archaeological resources. A total of 15 STPs were excavated in this portion of the project area. STPs were not excavated between Detroit Avenue and Drumgoole Road East due to the muddy conditions and dense vegetative growth along the Sweet Brook.

Soil profiles of the 15 STPs indicate a some disturbances to the project area. STP 2 contained a 6-centimeter thick layer of asphalt roofing shingles below a layer with mortar fragments. As these roofing shingles were discovered 33 centimeters below the surface, the presence of these roofing shingles suggests this portion of the project area has been extensively disturbed. The STPs located along the route of Carlton Boulevard displayed a similar soil profile, with an upper layer averaging 10 centimeters followed by a deep deposit of reddish brown (5YR 4/4) clay loam, typically compact and wet. These STPS were located just south of the Sweet Brook and north of the paper route of Carlton Boulevard. Modern bottle glass fragments and plastic were encountered in the upper stratum of these STPs (numbers 4 through 14). Along the route of Carlton Boulevard, remnants of a sidewalk were noted, as were the presence of road beds and a sewer pipe (see Figure 10; Plates). STP 14 was excavated in the back yard of a residence at the intersection of Carlton and Jefferson boulevards. Adjacent to this residence was another sewer pipe that drained into the course of the Sweet Brook, in a northern direction here. STP 15, the last excavated STP, was located overlooking a small wetland, representing the eastern terminus of the Sweet Brook Drainage project area (plate 11). STP 15 produced several modern pieces of bottle glass, one ceramic tile and two window glass shards. The stratigraphy of STP 15 appeared to be undisturbed.

In summary, the fifteen excavated STPs did not identify any significant historic or prehistoric archaeological resources along the route of the proposed sewer installations. The only archaeological deposits encountered were modern bottle glass, plastic, mortar, brick and one ceramic tile.

PLATE 11: View Overlooking the Eastern End of the Sweet Brook Project Area from STP 15, View West

V. SUMMARY AND RECOMMENDATIONS

This report presented the results of a Phase I archaeological investigation associated with sewer installation along the Sweet Brook in the Annadale area of Staten Island. Subsurface testing was performed along the Sweet Brook between Detroit Avenue and Jefferson Boulevard. The Phase I investigation consisted of limited background research, a reconnaissance survey that consisted of surface inspection, and the excavation of shovel tests in areas that appeared to contain intact soils.

The study revealed that the project area was almost entirely devoid of archaeological resources. The only archaeological material recovered from the 15 STPs derives from the last few decades of residential occupation of the vicinity of the project area. Portions of the project area near Detroit Avenue appear to be greatly disturbed by instances of dumping residential and construction debris. Additionally, portions of Carlton boulevard have been disturbed by the construction of sidewalks and road beds. As a result of the subsurface survey conducted for the Sweet Brook Drainage Project, no archaeological sites were identified. Therefore, no further archaeological investigations are recommended in the areas tested.

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Appendix A
Sweet Brook Drainage Area - Carlton Boulevard, Annadale
Shovel Test Profiles

STP: 1

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-8	10YR 3/2	very dark greyish brown	silt loam		X			
8-31	10YR 3/4	dark yellowish brown	silt loam					cement and mortar fragments
31-57	10YR 4/3	brown	loam		X			water table @ 40cm
>57								WATER

STP: 2

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-6	10YR 3/2	very dark greyish brown	silt loam		X			
6-33	10YR 3/4	dark yellowish brown	silt loam					mortar fragments
33-38								Asphalt roofing shingles
38-55	10YR 4/3	brown	loam		X			water table @ 39cm
30-60	10YR 6/2	light brownish grey	sand		X			WATER

STP: 3

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-6	10YR 3/2	very dark greyish brown	silt loam		X			
6-52	10YR 5/3 w/ 10YR 6/6	brown w/ brownish yellow	silt loam		X			very wet, water table @ 45cm
>52								WATER

STP: 4

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-14	10YR 3/2	very dark greyish brown	silt loam					9 modern bottle fragments, plastic (all discarded)
14-53	5YR 4/4	reddish brown	cloam loam		X			compact

Appendix A
Sweet Brook Drainage Area - Carlton Boulevard, Annadale
Shovel Test Profiles

STP: 5

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-16	10YR 3/2	very dark greyish brown	silt loam					2 modern bottle fragments (discarded)
16-50	5YR 4/4	reddish brown	clay loam		X			compact

STP: 6

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-9	10YR 3/2	very dark greyish brown	silt loam		X			
9-54	5YR 4/4	reddish brown	clay loam		X			wet

STP: 7

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-13	10YR 3/2	very dark greyish brown	silt loam					brick, 3 modern bottle (discarded)
13-54	5YR 4/4	reddish brown	clay loam		X			compact

STP: 8

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-10	10YR 3/2	very dark greyish brown	silt loam		X			
10-57	5YR 4/4	reddish brown	clay loam		X			wet, water table @ 45cm
>57								WATER

STP: 9

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-11	10YR 3/2	very dark greyish brown	silt loam		X			
11-51	5YR 4/4	reddish brown	clay loam		X			wet

STP: 10

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-8	10YR 3/2	very dark greyish brown	silt loam		X			
8-58	5YR 5/4	reddish brown	clay loam		X			wet

STP: 11

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-9	10YR 3/2	very dark greyish brown	silt loam		X			
9-51	5YR 5/4	reddish brown	clay loam		X			wet

STP: 12

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-12	10YR 3/2	very dark greyish brown	silt loam		X			
12-56	5YR 4/4	reddish brown	clay loam		X			wet

STP: 13

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-8	10YR 3/2	very dark greyish brown	silt loam		X			
8-59	5YR 5/3	reddish brown	clay loam		X			wet

STP: 14

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-17	10YR 3/2	very dark greyish brown	silt loam					Coal slag, plastic, 3 modern bottle frags (all discarded)
17-55	5YR 4/4	reddish brown	clay loam		X			

STP: 15

Depth (cm)	Munsell	Color	Texture	Coarse fraction	NCM	Pre	Hist	Comments
0-26	10YR 4/4	dark yellowish brown	silt loam					10 modern bottle glass fragments, 2 window glass fragments, 1 ceramic tile (all discarded)
26-68	7.5YR 4/6	strong brown	loam	<25%	X			gravel & pebbles