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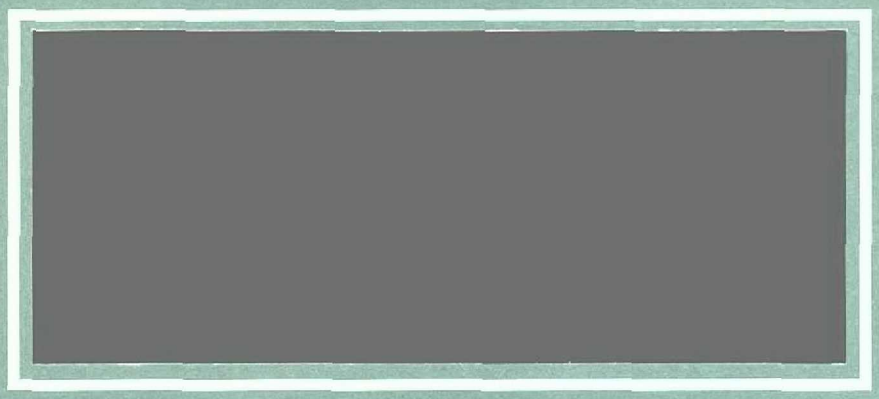
HUNTER RESEARCH

1995



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HUNTER RESEARCH

A PHASE IA ARCHAEOLOGICAL SURVEY FOR THE ARTHUR KILL FACTORY OUTLET CENTER, STATEN ISLAND, BOROUGH OF RICHMOND, RICHMOND COUNTY, NEW YORK CITY, NEW YORK

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Prepared for:

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Final Report, June 1995

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MANAGEMENT SUMMARY

This report describes a Phase IA archaeological survey undertaken in anticipation of the proposed construction of a factory outlet center on a 40-acre tract adjacent to the Arthur Kill between Androvette and Allentown Roads on Staten Island, Borough of Richmond, Richmond County, New York City, New York. No 19th century structures currently stand on the tract, although 20th-century dwellings are located along Arthur Kill Road. The tract is for the most part heavily wooded, extending from sea level to a maximum elevation of greater than 60 feet above sea level (asl). Tidal and freshwater wetlands are present at lower elevations adjacent to the Arthur Kill and at the northern end of the tract. The area proposed for development avoids these wetlands, and thus focuses for the most part upon the southern two-thirds of the tract, generally at elevations higher than 10 feet asl.

Data for this survey were obtained from historical sources, published archaeological site reports, archaeological site records maintained at the New York State Museum in Albany and a field reconnaissance of the tract. These sources indicate that a high potential for evidence of prehistoric occupation from the Paleoindian to Late Woodland and Contact periods exists within the project area. Historic occupation may have begun during the 17th century; maps indicate that structures were present by the mid to late 18th century. A series of farms were located within the project area from the mid 19th century into the 20th century. A commercial brick manufactory operated within the northern portion of the tract from the latter half of the 19th century until the second quarter of the 20th century. The expectation of evidence relating to both prehistoric and historic occupation is quite high, and Phase IB excavations are therefore recommended.

LIST OF FIGURES, PLATES AND TABLES

ACKNOWLEDGEMENTS

This study was funded by the Bellemead Development Corporation. Mr. Thomas Golden of Bellemead and Mr. Philip Rampulla of Rampulla Associates kindly supplied topographic and proposed development maps for the Arthur Kill tract. The staffs of the New York State Museum and the New York Office of Parks, Recreation and Historic Preservation provided considerable aid and comfort during the review of archaeological sites files, as did the staff at the Staten Island Institute for Arts and Sciences during a review of historical documentation.

Historical research for this study was undertaken by Michael Tomkins; archaeological site files were reviewed by John Tomkins. The field visit was undertaken by Brooke Blades and Vivian Braubitz. Graphics were prepared by Vincent Maresca. The report was written by Brooke Blades with editorial assistance from Ian Burrow; Michael Tomkins wrote Chapter Four.

CHAPTER ONE

INTRODUCTION

A. Project Background

This report describes a Phase IA archaeological survey performed in anticipation of a proposed factory outlet center adjacent to the Arthur Kill near the Outerbridge Crossing and Tottenville on Staten Island, Borough of Richmond, Richmond County, New York City, New York (Figures 1.1 and 1.2). This survey was conducted by Hunter Research, Inc., under contract to Bellemead Development Corporation of Roseland, New Jersey. These investigations were required under City and State of New York environmental and historic preservation regulations.

The purpose of this survey was to assess the potential for evidence of prehistoric and historic occupation within the tract proposed for development. Survey tasks consisted of historical research, analysis of published archaeological reports, review of archaeological site files at the New York State Museum in Albany and a field assessment of the current topography and ground cover within the tract. Data obtained from these various sources are described within this report.

B. Previous Research

The presence of prehistoric sites and historic sites in the vicinity of the project area will be examined in detail in Chapter Three. Numerous previous cultural resources studies have focussed attention at the southern end of Staten Island and along the Arthur Kill. These studies include the following: Clay Pit Ponds (Yamin and Pickman 1986); Bloomingdale Woods (Salwen et al. 1986); Amboy Road/ Weir Avenue (Greenhouse 1985); Distrigas Property on Smoking Point (Rubertone 1974); Page Avenue (Greenhouse 1987); Sharrott Estates (Archaeological Research Consultants 1982); Oakwood Beach (Solecki 1977; Pickman and Yamin 1978; Jacobson 1980a; The Center for Building Conservation 1984; Materials Investigation 1985); Kuehlewin Project (Geismer 1986); Beach Erosion Control (Museum of Archaeology at Staten Island 1978); Burial Ridge (Jacobson 1980b); Victory Boulevard (Greenhouse 1988); Muss Waterfront Housing Development (Geismar 1985); Howland Hook (MAAR 1986) and the Nicholas Salvedo Permit in Tottenville (Winter 1985).

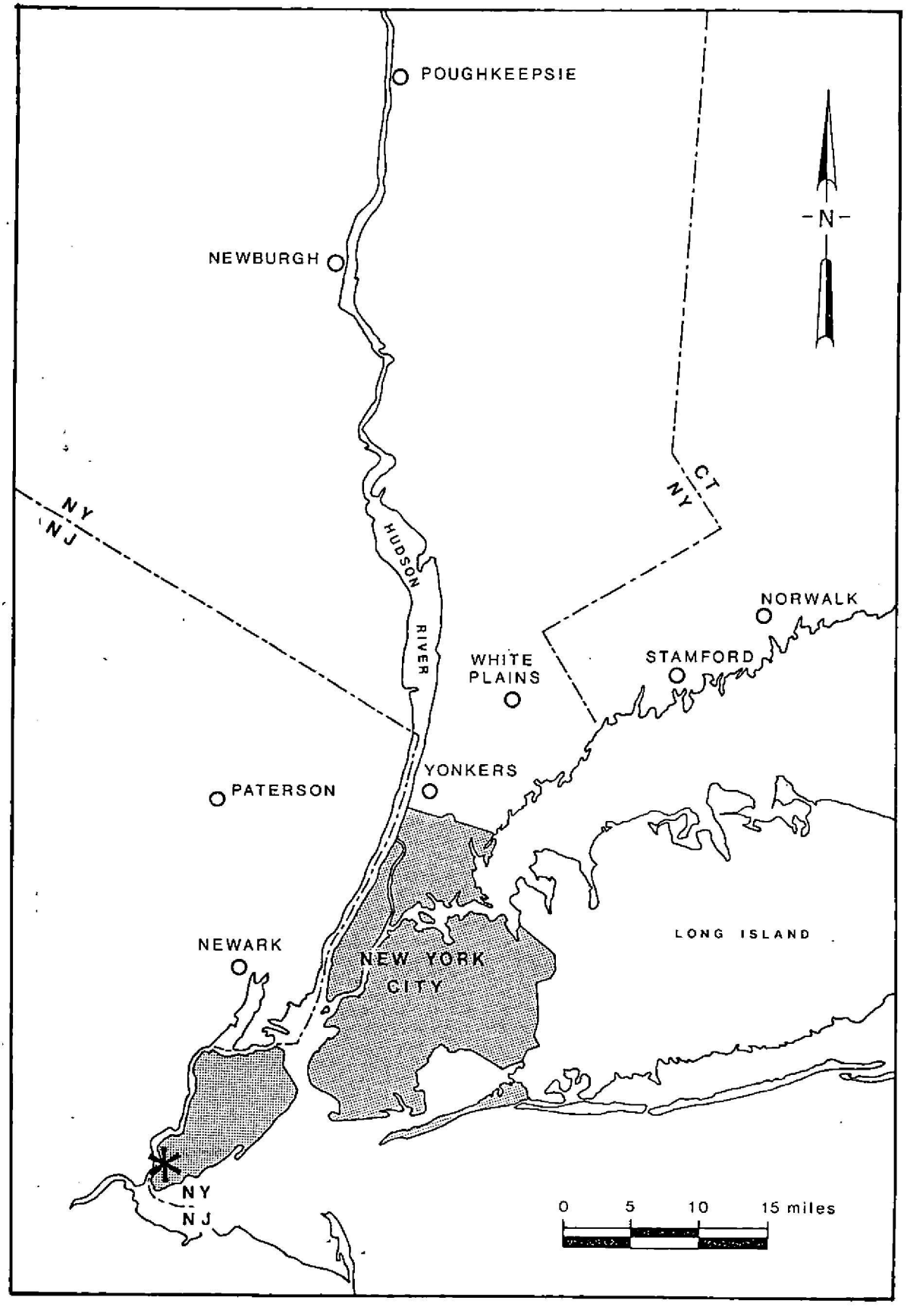

Figure 1.1. Location of Project Area (starred).

Figure 1.2. Detailed Location of Project Area (outlined). Source: U.S.G.S. Arthur Kill NY-NJ Quadrangle, photorevised 1981. Scale 1 inch= 2000 feet.

CHAPTER TWO

GEOGRAPHICAL SETTING

The proposed site of the Arthur Kill Factory Outlet Center is located within the Coastal Plain on the western side of Staten Island, between the tidal shoreline of the Arthur Kill and an elevation in excess of 60 feet asl at Arthur Kill Road. The southern two-thirds of the project area consists of ground which slopes at varying degrees of steepness towards tidal wetlands along the Arthur Kill. Topographic indications of several relict drainages which once flowed westward towards the Arthur Kill are apparent. The northern third consists of low-lying tidal and freshwater wetlands surrounding a low (10 feet asl) knoll near the shoreline (Figure 2.1).

The Atlantic Ocean shoreline of Staten Island is formed primarily from the terminal moraine of the final Pleistocene glaciation (Schuberth 1971; Isachsen 1980). The project location lies in the general vicinity of this terminal moraine, within a band of surfical glacial till and possibly stratified drift (United States Geological Survey 1901). The glacial deposits consist of unconsolidated sands and gravels overlying earlier Cretaceous sand, silt and clay of the Coastal Plain (Johnson Soils Engineering Laboratory 1971: III-1,2, cited in Jacobson 1980a: 8; Schuberth 1971; Isachsen 1980).

No 19th-century structures currently stand on the property, although some 20th-century residences are located along Arthur Kill Road. Vegetation growth at present is mixed deciduous forest with an understory of briers, poison ivy and other plants common to eastern deciduous forests. The tidal and freshwater wetlands are low-lying; an area of swampy ground occurs near Allentown Road at an elevation of 30-40 feet asl.

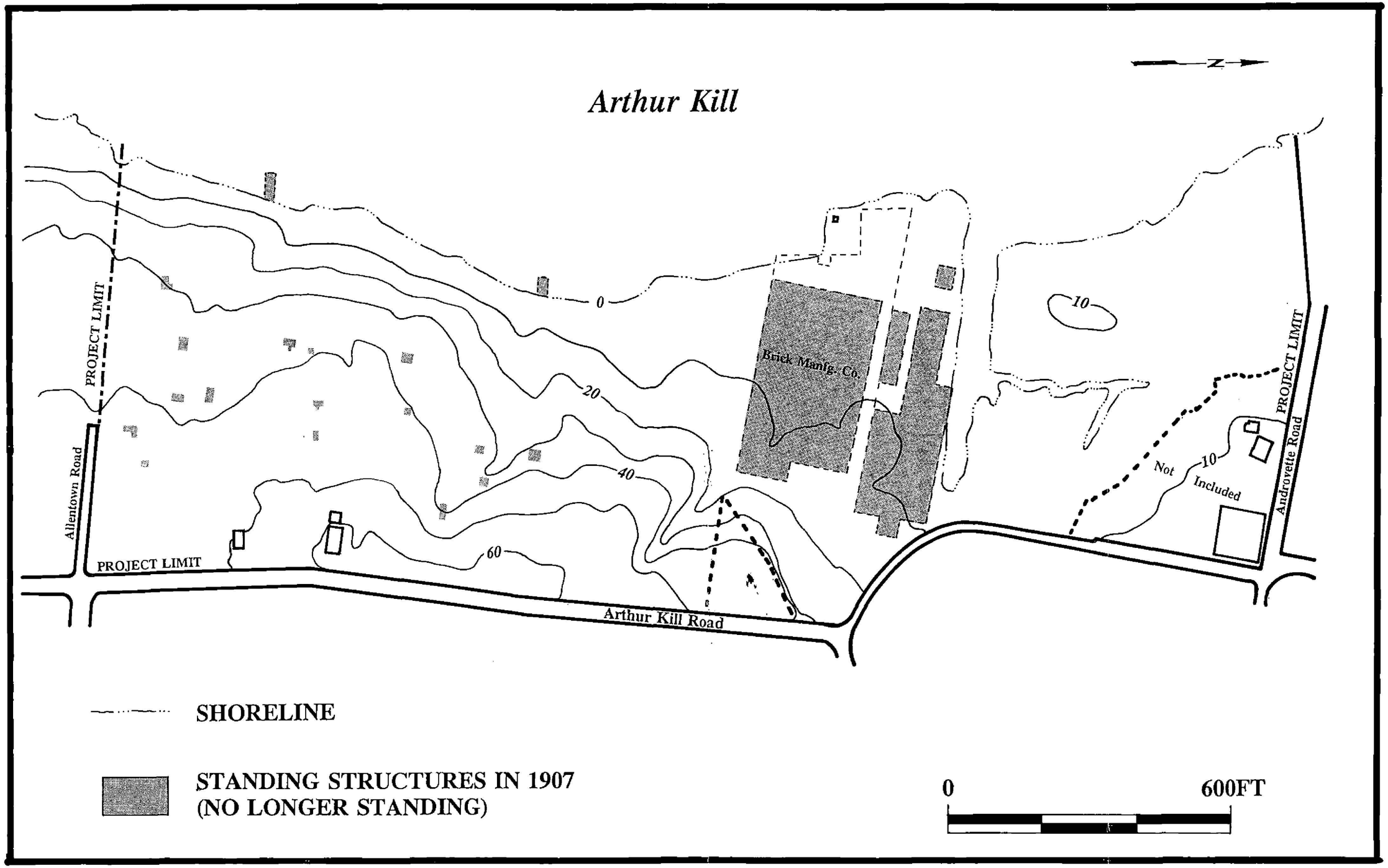

Figure 2.1. Topographic Plan of Project Area. Scale as Indicated.

CHAPTER THREE

PALEOENVIRONMENT AND PREHISTORIC OCCUPATION

The Pleistocene Epoch witnessed a series of cold periods and associated "ice ages," the most recent of which terminated approximately 14,000 to 12,000 years ago. One of the most dramatic effects of these "ice ages" was the lowering of ocean levels worldwide as sea water was frozen and trapped in glaciers and continental ice sheets. Milliman and Emery (1968) argue on the basis of 80 radiocarbon samples taken along the Atlantic continental shelf that sea levels 30,000 to 35,000 years ago were close to those at present. Sea levels dropped subsequently as much as 130 meters during the final glaciation c.16,000 years ago. Along the Atlantic coast, ocean beaches lay at the edge of the modern continental shelf, perhaps 100 kilometers east of the modern New Jersey coastline (Figure 3.1). Belknap and Kraft (1977) question the maximum depth of sea level drop but agree with the overall pattern.

Overall climatic patterns have changed on a regional and continental basis during the Holocene Epoch, which began at the end of the Pleistocene. Sea levels have continued to rise as a result of the release of water from melting ice sheets. As the sea level rose, it began to transgress, or cover, the land mass of the Coastal Plain (the modern Atlantic continental shelf) to the west. The Holocene marine transgression, or sea level rise, began c.14,000 years ago and proceeded rapidly until c.7000 years ago (Milliman and Emery 1968; Kraft et al. 1983).

The implications of such dynamic changes for any paleoenvironmental reconstruction of the physical location of the western side of Staten Island are profound. Climatic changes resulted in a succession of vegetation types moving northward, while the coastline and associated marine and eustatic environments were approaching from the east. As temperatures warmed and the climate alternated between dry and moister periods during the Holocene, open grassy environments were replaced by boreal evergreen forests and then by deciduous forests (Table 3.1). As the coastline steadily approached, the local environment shifted from inland riverine forest to salt tidal marsh and upland slope along a tidal estuary. A paleoenvironmental reconstruction must therefore consider both the generally northward-moving vegetational patterns arising from the regional climatic shifts and the westward-moving coastal geomorphological changes associated with coastal environments.

The occupancy of prehistoric man within these dynamic and mobile environments is the primary focus of this chapter. Human occupation of the Upper Delaware River Valley in the Middle Atlantic Region had begun by 11,000-10,500 years B.P. within a boreal forest composed primarily of pine and birch which shifted, as temperatures warmed, to pine and

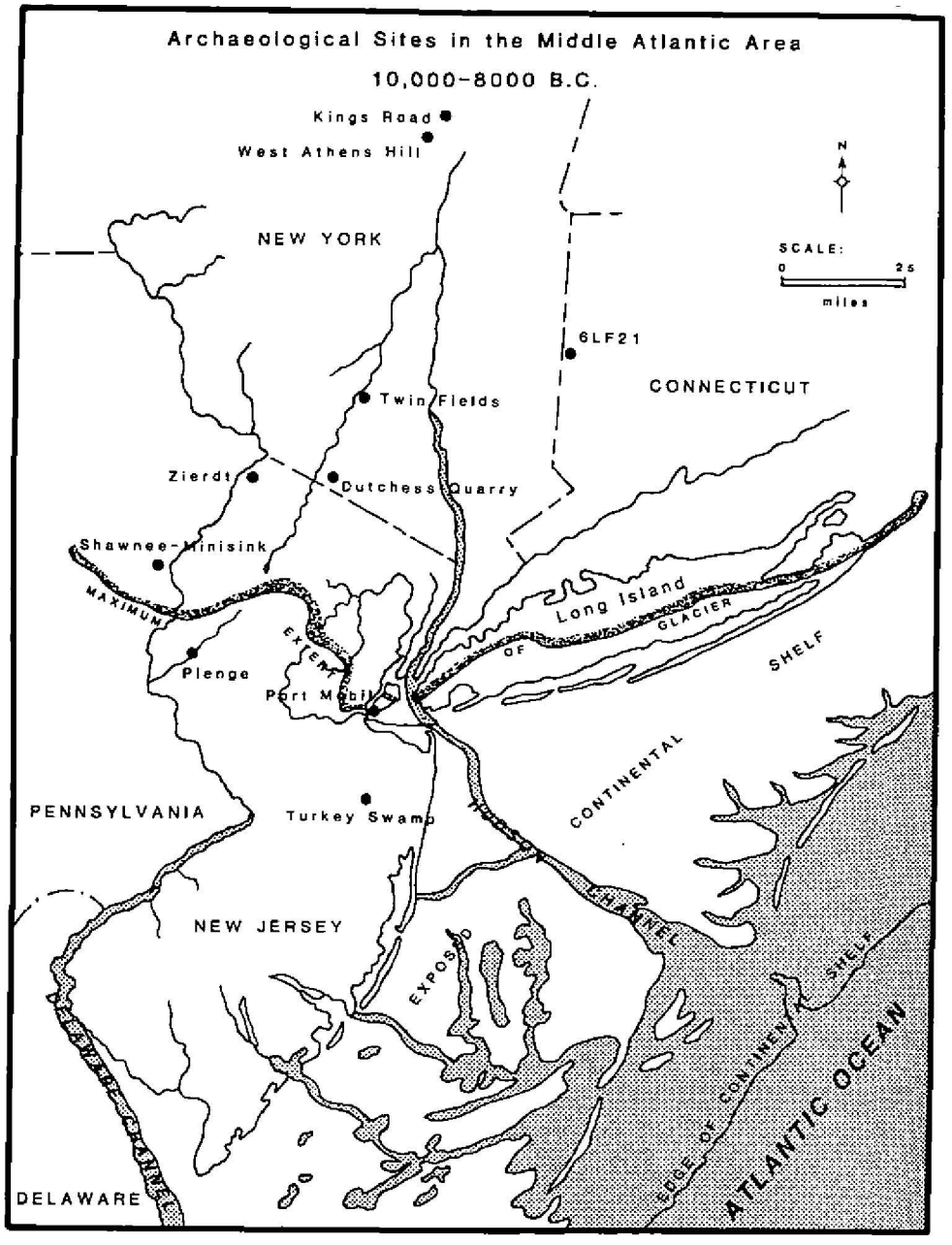

Figure 3.1. Archaeological Sites in Middle Atlantic Area, 12000-10000 B.P. (Kraft 1986: Figure 10). Coastline Reconstruction Based upon Edwards and Emery 1977.

TABLE 3.1

TEMPORAL CORRELATION: PALEOENVIRONMENTAL AND CULTURAL DATA
(Dent 1979; Custer 1989; Stewart 1990)

Kyr B.P.	Climate	Vegetation	Culture
15			
	cool & wet Post-glacial	open tundra, spruce park-land	
	cool & wet (warmer) Pre-Boreal	spruce & fir forests	Paleo-Indian
	10680		
10	warmer, drier Boreal	pine & birch pine & oak	early Archaic
	9211		
	warm (near modern) Atlantic	oak, hemlock	Archaic
5			
	4610		late Archaic (Woodland I)
	warmest, driest Sub-Boreal	oak, hickory	.....
			early-middle Woodland
	cooler, moister Sub-Atlantic	oak, chestnut	late (II) Woodland
Present			

oak (Dent 1991; Stewart 1990, 1991). Similar vegetation cover extended throughout much of the region, although the presence of favorable microenvironments arising due to topography, solar exposure and surface water (ponds, lakes and rivers) exerted a considerable influence on prehistoric subsistence and adaptations.

Evidence of Paleoindian occupation on the Coastal Plains of New Jersey, generally in the form of isolated fluted point sites (H. Kraft 1977a; Cavallo 1981; Custer et al. 1983) reflect the presence of early human groups in the region. The point distribution is biased by non-systematic surface collection, but nevertheless provides some indication of the nature of Paleoindian adaptations. It is argued that these points and associated finds are indicative of hunting and game processing activities (Bonfiglio and Cresson 1978). Similar tool assemblages from the late Paleoindian site of Turkey Swamp (Cavallo 1981) near the boundary between the Inner and Outer Coastal Plains are interpreted as reflecting the same activities.

As indicated in the earlier discussion of transgressing sea levels, Staten Island was not a coastal location at the time of Paleoindian occupancy. Edwards and Emery provide a hypothetical reconstruction of the land area of the Middle Atlantic coast c.10,000 to 12,000 years ago, which serves to illustrate potentially attractive locations for human habitation currently offshore and the eastern positions of environments currently along the Jersey coast (Figure 3.1). The current site of the project area was covered by an inland forest, evidently adjacent to but, due to lowered sea levels, farther from the ancestral Arthur Kill. Thus, evidence of Paleoindian occupation along the western side of Staten Island would not relate directly to coastal environments but to exploitation of inland forest/riverine habitats (Edwards and Merrill 1977).

Evidence for Paleoindian occupation on Staten Island is manifested in isolated fluted point finds in the central and southern portions of the island (Pagano 1985), and by at least two sites along the Arthur Kill immediately to the north of the project area (Figure 3.2). The **Port Mobil** site was identified within the tank farm located approximately 3500 feet to the north (Ritchie 1980; H. Kraft 1977a,b). The site has been heavily disturbed by construction of the tank farm, but is located on high sandy ground on an eroding slope at an elevation between 20 and 40 feet asl, at a distance of 1000 feet from the Arthur Kill (Pagano 1985). The site has yielded 51 lithic artifacts, including 8 "stubby" fluted points, end and side scrapers and unifacial tools (Eisenberg 1978; Pagano 1985).

The **Charlestown Beach** site is or was, by contrast, eroding from a peat layer at the edge of the Arthur Kill approximately 2500 feet north of the project area. The site has never been fully described, but a site form was prepared by Professor Bert Salwen in 1967 (see #0122 in Table 3.4). The site has yielded at least 10 Paleoindian fluted points to collectors, including examples of Clovis and Cumberland types. Numerous phases of prehistoric occupation are indicated, including Early or Middle Woodland (Pagano 1985).

Paleoindian occupants would have co-inhabited the region with a rich fauna. The mammoth,

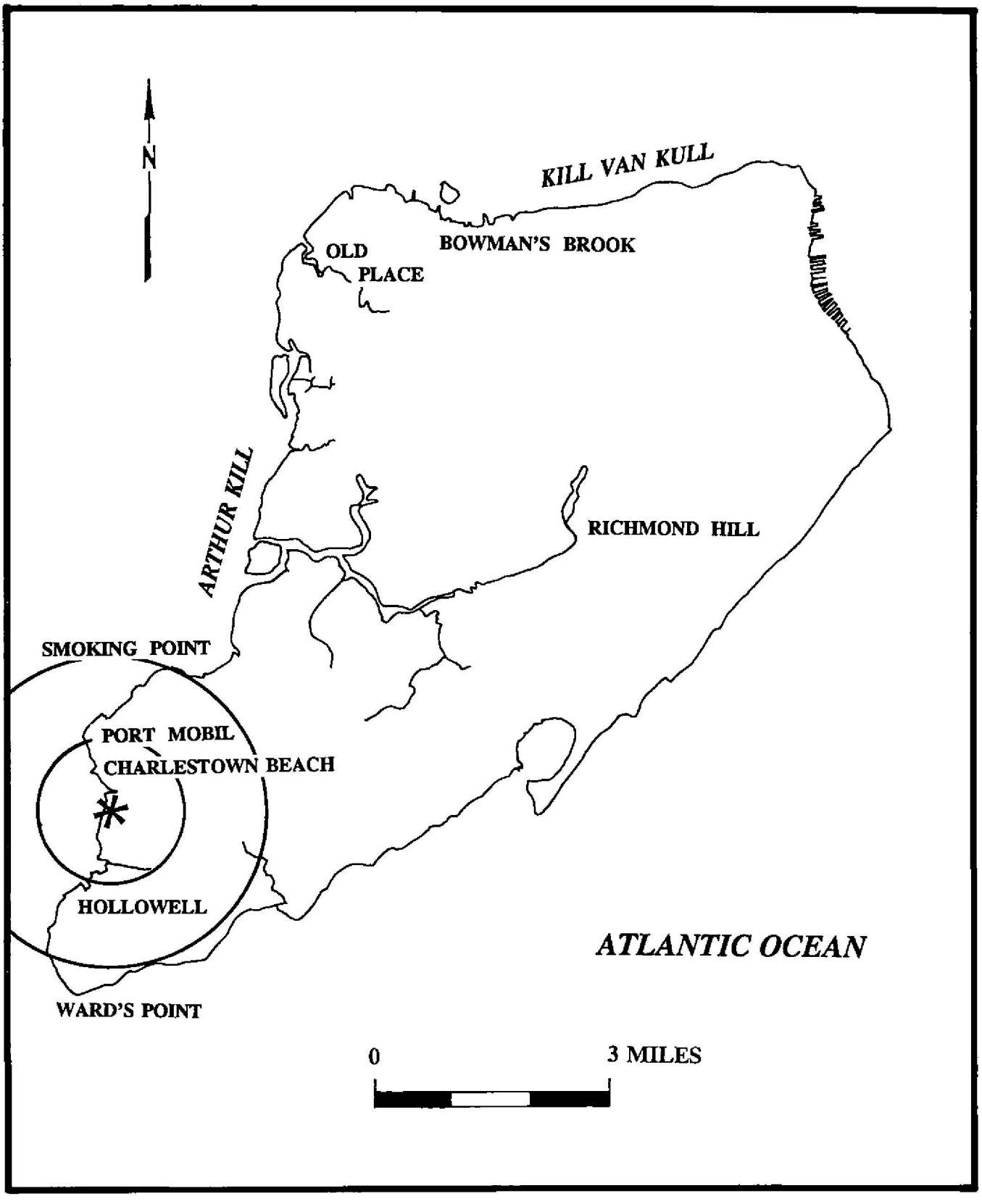

Figure 3.2. Locational Map for Staten Island Showing Major Sites Discussed. Circles Enclose Areas One and Two Miles from Project Area. Scale as Indicated.

oriented to more open habitats, may have occupied the region prior to the arrival of humans, but the forest mastodon was a contemporary of early Paleoindians. Deer and possibly caribouwould also have been common inhabitants in the early Holocene forests. The proximity of a riverine habitat would have supported aquatic resources, both animal and plant in nature.

The Early Archaic period has been combined by Gardner and others (Custer 1989, 1994) with the Paleoindian period into a broad Late Pleistocene-Early Holocene adpatational continuum. Regardless of whether one favors a sharp or gradual distinction, four stratified and dated Archaic sites have been found in southern Staten Island and excavated by avocational archaeologists. The **Hollowell** site is located to the south of the project area at the base of a low sand rise near Ward's Point. The multicomponent site contained three prehistoric strata: a Late Woodland stratum, a Woodland/Archaic stratum with Vinette I ceramic and a Vosburg point, and a layer of brown mottled sand which yielded 24 points, including Kanawha, Stanly (Middle Archaic) and Eva types. A charcoal sample from the brown sand was dated to 3110+-90 B.P., which seems more likely to be associated with intrusive charcoal from the overlying Woodland/Archaic occupation (Ritchie and Funk 1971). It should be noted at this point that the original "B.C." radiocarbon dates published by Ritchie and Funk (1971) have been translated in the present study to "B.P." dates by adding 1950 years.

The **Ward's Point** site is located on a low sand knoll; the Early/Middle Archaic is similarly stratified beneath Late Woodland, a shell midden, early Middle Woodland and Transitional layers. An underlying mottled reddish brown sand contained Kanawha, LeCroy (Middle Archaic) and Kirk points, and two hearths with charcoal yielding radiocarbon dates of 7260+-125 and 8250+-140 B.P. (Ritchie and Funk 1971).

The **Old Place** site is also located along the Arthur Kill, but farther to the north in the vicinity of the Goethals Bridge. The excavators recognized three or four layers within a tan-colored sand near the swamp edge. The lowest layer contained Stanly, LeCroy and Kirk points, and hearth charcoal dating 7260+-140 B.P. Ritchie and Funk (1971:49) consider the date to be appropriate for the Stanly points, but too recent for the earlier forms.

The **Richmond Hill** site is located on the interior of the island, on a slope near the base of Richmond Hill. Modern humus and a stratum with undatable cultural material sealed a level of reddish-brown gravelly sand and clay, which yielded LeCroy, Kirk-type, Palmer and Hardaway points. Most of the cultural materials in this layer were associated with a hearth which yielded a radiocarbon date of 9360+-120, the earliest radiometric date yet recorded for human occupation within the current limits of New York City (Ritchie and Funk 1971).

Hypothetical reconstructions of the Middle Atlantic coast between 6000 and 8000 years ago suggest estuarine areas were approaching the current coastline location, but that location remained an inland one (Edwards and Emery 1977: Figure 7; see also J. Kraft 1977: Figure 24). Tidal salt marshes may have emerged in advance of the transgressing shoreline of New

Jersey by 5,000 years ago, and the shoreline achieved its current location approximately 3000 years B.P. (J. Kraft 1977: Figure 27). Climatic conditions were warm and somewhat moister than in the preceding Boreal phase (Table 3.1), with oak and hemlock as dominant vegetation species (Deevey 1952; Dent 1979), but perhaps with pine persisting in coastal areas.

This time period coincides with the emergence of another archaeologically-defined human adaptational phase, the Middle Archaic. Material culture changes during the Middle Archaic include the appearance of ground stone tools in addition to flaked stone artifacts. The raw materials utilized for tools also generally shifts from cryptocrystalline rocks to rhyolite, argillite and other rock types, suggestive of shifts in mobility and possibly in social organization (Custer 1986, 1989, 1994). Archaic sites in the southern portion of the Middle Atlantic have been attributed to macro-band and micro-band base camps in areas of "maximum habitat overlap" as defined by Custer (1989, 1994), such as interior freshwater swamps and bay/basin loci. Coastal tidal salt marshes and estuarine environments would have been food resource-rich habitats available for exploitation.

Occupation sites associated with cultural materials dating to the Middle Archaic are considered to be rare on Staten Island (Pagano 1985). The four sites with Early Archaic side-notched points discussed previously also had bifurcate-based (LeCroy) and later stemmed Stanly and Kanawha points; these forms span as much as 2000 years in the southeastern United States (Ritchie and Funk 1971). Possible explanations for this mixture of points may relate to geomorphological changes affecting soil accumulation rates across Staten Island, and/or micro-stratigraphic changes which were not recognized during the excavations. For the purposes of the present study, the bifurcate and stemmed points will be considered Middle Archaic.

Climatic changes commencing about 4,600 years B.P. produced the warmest and driest conditions of the current post-glacial period, with oak and hickory becoming dominant tree species. These climatic changes appear to roughly coincide with the emergence of the archaeologically-defined Late Archaic phase. The Late Archaic phase is typified by diagnostic lithic forms and an increase in base camps. Late Archaic occupations have been found on or near the Arthur Kill. The **Goodrich** site is located at the northwest corner of Staten Island (Pagano 1985). The **Smoking Point** site lies north of Port Mobil, and thus is much closer to the project area. The site has a Woodland shell midden (Salwen 1967), and has yielded evidence of Late Archaic and possibly Early Archaic or Paleoindian occupation (Pagano 1985). The **Chemical Lane** sites are or were located near the Smoking Point site; the site loci have yielded various Late Archaic projectile point forms (broadspears, Bare Island, Poplar Island, Brewerton side-notched, Squibnocket triangle), atlatls and, according to a collector, Early Woodland Vinette I ceramics (Salwen 1967). The **Hollowell** site has an apparently mixed stratum containing a Vosburg point (probably Late Archaic) and Vinette I ceramics.

The appearance of cache pits and ceramic storage vessels during the successive Transitional

and Early-Middle Woodland indicate a greater degree of sedentism. Custer (1989) has argued for an adaptational continuum spanning the Late Archaic through the Middle Woodland, a continuum which he labels Woodland I in the southern coastal Middle Atlantic. Evidence for long-distance trade/exchange is manifested in the presence of Adena material culture from the Ohio River valley at habitation and mortuary sites dating from around 2,500 to 2,000 years B.P. Increasing exploitation of estuarine resources in coastal areas is noted during the period of Adena influence.

Evidence of Transitional occupations in the form of distinctive "fish-tail" projectile points is indicated at **Ward's Point** and **Smoking Point**. Woodland occupations are reflected at **Hollowell, Pottery Farm** and **Smoking Point**. The **Rossville** site, north of Smoking Point, was identified early in the 20th century by Alanson Skinner, and is the type site for a distinctive Middle Woodland projectile point form. The burial mounds of **Burial Ridge** in the southern portion of the island were identified in the late 19th century.

The warm and dry climatic conditions began to yield to a cooler, moister modern climate with oak and chestnut vegetation about 2,000 years B.P., roughly coincident in some areas of the Middle Atlantic with the waning of Adena influence. By 1,000 years B.P. the trade and exchange network influence had disappeared, and the archaeologically-defined Late Woodland, or Woodland II phase emerges. Increasing evidence of sedentism is manifested in the expanded use of storage facilities and more permanent house structures. Increased gathering of shellfish and the harvesting of plants reflect an intensification of food procurement evidently related to population growth. The emergence of agricultural production is also related to this sedentary settlement pattern which was maintained until European contact. Material culture is typified by distinctive ceramic forms and small triangular projectile points, the latter evidently indicative of bow-and-arrow technology (Custer 1989).

Late Woodland occupations are indicated at **Hollowell, Ward's Point** and smaller loci near the project area. The **Bowman's Brook** site, near the northwest corner of the island, was occupied throughout the Woodland period, and is the type site for two ceramic decorative styles.

The following tables provide a summary inventory of all recorded sites within a one-mile radius and for a radius between one and two miles from the project area. Tables 3.2 and 3.3 are based upon the prehistoric site records maintained at the New York State Museum in Albany. Tables 3.4 and 3.5 reflect those sites recorded by the New York Office of Parks, Recreation and Historic Preservation in Albany, which also serves as the New York State Historic Preservation Office. NYSM numbers for obviously duplicate sites have been provided in Tables 3.4 and 3.5, but a certain degree of overlap may still exist, particularly concerning some of the older, poorly provenienced sites in the NYSM files. Skinner's 1909 map of archaeological resources on Staten Island is included as Figure 3.3 to provide a frame of reference for some of the older sites listed in Tables 3.2 and 3.3.

TABLE 3.2. PREHISTORIC SITES, 0-1 MILE RADIUS (NY STATE MUSEUM)					
NYSM	OLD #	NAME	AGE	REMARKS	REPORTER
742	STD 18-3 30-RIC-2	Port Socony North	Paleo	Port Mobil locus; fluted point found either here or 743	Sainz 1962 Salwen 1967
743	STD 18-3 30-RIC-2	Port Socony South	Paleo	Port Mobil locus; fluted point found either here or 742	Sainz 1962 Salwen 1967
744	30-RIC-1 0-AJA	Charlestown Beach	Paleo A, T? EW, MW	artifacts eroding from peat onto beach; 10 fluted points	Sainz 1962 Salwen 1967
770		Canada Hill	?	no data	Yamin 1978
771		Kreischerv.	?	no data; within project area	Yamin 1978
4603	ACP RICH 13 A		?	"series of Indian relics in fields"	Skinner Parker 1922
4606 A	ACP RICH 16 A		?	A.C. Parker site with early "relics", shell pits and heaps	Skinner Parker 1922
4623	ACP RICH		?	located on A.C. Parker map as village	Parker 1922
8227	ACP RICH 13 C, D		?	"relics"	Parker
8493	ACP RICH 16 B		?	possibly same site as 4606A	no data

TABLE 3.3. PREHISTORIC SITES, 1-2 MILE RADIUS (NY STATE MUSEUM)					
NYSM	**OLD #**	**NAME**	**AGE**	**REMARKS**	**REPORTER**
735	STD 2-3	Wort Farm	LA, WH	possible camp	Skinner 1909 Salwen 1967
736	STD 12-3 Skin. 16	Wolfes Pond	?	small shell midden, possibly same as 4610	Skinner 1909 Salwen 1967
737	STD 14-3 30-RIC-1 6-AJA	Smoking Point	LA, TW	midden with Orient Fishtail point and ceramics	Anderson Salwen 1967
7323	30-RIC-1 16-AJA	Chemical Lane N	LA, EW	hearth with Bare Island and Perkiomen points and Vinette I ceramic	Anderson Salwen 1967
738	30-RIC-1 6-AJA	Pottery Farm	W	stratified; much pottery collected	Sainz 1967 Salwen 1967
739	30-RIC-1 6-AJA	Chemical Lane S	LA	broadspear point	Anderson Salwen 1967
740	STD 15-31	Sharrott Ave.	?	no data	Skinner 1909 Salwen 1967
741	STD 16-3 Skin. 16	Red Bank area	?	"concentration"	Skinner 1909 Salwen

FIGURE 3.3. PREHISTORIC SITES, 1-2 MILE RADIUS (NYSM) (CONT.)

748		Hollowell	EA, MA LA, EW LW	stratified: lev 2- LW; lev 3- Vinette I & Vosburg point; lev 4- Stanly, Kanawha, Eva points (24 total)	Ritchie & Funk 1971
767		Tottenville Campsite 4	?	2 loci c.900 feet apart	Yamin 1978
768		Page Ave.	?	no data	Yamin 1978
769		Bunker Quad	?	no data	Yamin 1978
772		Rossville Campsite	?	shell midden	Yamin 1978
773		Rossville Campsite	?	no data	Yamin 1978
2319		Area II	?	Distrigas property (Rubertone 1974)	no data
2320		Area I	?	Distrigas property (Rubertone 1974)	no data
4604	ACP RICH 14 A		C? H?	"sites with stone mortars" and "iron trade axes abundant"	Skinner Parker 1922
4608	ACP RICH 18 B Skin. 14	Rossville	MA? MW, C	"many arrow points...double ended"; "Hammerstone Hill" with "pitted hammerstones" and "brass thimbles"	Skinner 1909
4609	ACP RICH 19 A		?	extensive shell mounds, grooved ax, burials (near 8471?)	Parker 1922

FIGURE 3.3. PREHISTORIC SITES, 1-2 MILE RADIUS (NYSM) (CONT.)

4610	ACP RICH 20 A		W	shell midden; some ceramics, deer bone	Skinner Parker 1922
4619			?	no data; close to 8485	Skinner Parker 1922
4620			?	no data	Skinner Parker 1922
4621			?	"traces of occupation"	Skinner Parker 1922
4623			?	"village or camp"	Skinner Parker 1922
7270	ACP RICH 18 C		?	"traces"	Parker 1922
7271	ACP RICH 14 B		T?, C	"several skeletons in stone-walled chamber" with points, stone bowl, iron trade axes abundant	Parker 1922
8192	PFD 1-4 ACP RICH 19B Skin. 15	Burial Ridge, Tottenville	A?, W C	extensive shell middens along shore (Ward's Point below) and burial mounds inland	Skinner 1909 Jacobson 1960
8226	ACP RICH 13 B		?	"traces," "relics"	Parker 1922
8471	ACP RICH 19 C		?	"shell all over" area; suggests middens or camps; near 4609	Parker 1922

FIGURE 3.3. PREHISTORIC SITES, 1-2 MILE RADIUS (NYSM) (CONT.)

8484			?	no data; near 741	no data
8485			?	shell middens; near 4619	
8488			?	no data	no data
8496			?	no data	no data
8497			?	no data	no data
8192	PFD 1-4 ACP RICH 19B Skin. 15	Ward's Point	EA, MA T, EW, MW, LW	stratified: lev 1- LW; 2- shell midden; 3- early MW; 4- Orient Fishtail & ceramics; 5- dated hearths, Kanawha, LeCroy, Kirk points	Ritchie & Funk 1971

TABLE 3.4. ARCHAEOLOGICAL SITES, 0-1 MILE RADIUS (NY SHPO)					
SITE	**NYSM**	**NAME**	**DATE**	**REMARKS**	**RECORDER**
0026		Nassau Place	Preh	buried site; 3 borings	Pickman & Yamin 1984
0073	770	Canada Hill	Preh, H	surface collection of flakes, clam shells, hist. ceramics; 5 shallow test units	Williams 1967
0079	771?	Anderson Brick Works	H	late 19c. brick works within project area	Pickman & Yamin 1984
0080		Dubois House	H	foundation & buried; shovel tests	Yamin & Pickman 1986
0081		Liss House	H	standing structure; shovel tests	Yamin & Pickman 1986
0082		Porzio House	H		Yamin & Pickman 1986
0083		Winant House	H		Yamin & Pickman 1986
0115	742	Port Mobil	Paleo, W	disturbed; fluted points; Woodland burial (Kraft 1994)	Ritchie 1969 Kraft 1977
0116		Winant	Preh	buried; shovel tests; 3 flakes	Yamin & Pickman 1986
0118		T & J	Preh	surface & buried; shovel tests; 18 flakes, biface, hammer., fcr	Yamin & Pickman 1986

TABLE 3.4. ARCHAEOLOGICAL SITES, 0-1 MILE RADIUS (NY SHPO) (CONT.)

0121		Clay Pit Pond East	Preh	surface & buried; shovel tests; 31 flakes, mano, fcr	Yamin & Pickman 1986
0122	744	Charlestown Beach	Paleo, A EW, MW	disturbed surface; 10 fluted points- "Clovis", "Cumberland"	Sainz 1962 Salwen 1967
0123		Clay Pit Road Bluff North	Preh	surface; 7 flakes, biface	Yamin & Pickman 1986
0124		Clay Pit Road	Preh, W	surface & buried; 40 flakes, ground stone, ceramic, fcr	Yamin & Pickman 1986
0130		Park Headquarters	Preh	surface & buried; shovel tests; 2 flakes, ground stone, fcr	Yamin & Pickman 1986
0131		Junkyard	Preh, LW	surface & buried; shovel tests; 9 flakes, 2 Madison points, biface, ground stone, fcr	Yamin & Pickman 1986
0878		Abraham's Pond A	Preh	surface; 14 flakes, ground stone, fcr	Yamin & Pickman 1986
0879		Abraham's Pond B	Preh	surface; 27 flakes, fcr	Yamin & Pickman 1986
0880		Abraham's Pond C	Preh	buried; 1 flake	Yamin & Pickman 1986
2378		Salamander Preh.	Preh	buried; shovel; 3 flakes, fcr?	Roberts 1987

TABLE 3.5. ARCHAEOLOGICAL SITES, 1-2 MILE RADIUS (NY SHPO)					
SITE	**NYSM**	**NAME**	**DATE**	**REMARKS**	**RECORDER**
0015		Holten Avenue	Preh	buried; 3 shovel tests	Pickman & Yamin 1984
0017		Mount Loretto	Preh	buried; 4 shovel tests	Pickman & Yamin 1984
0018		Page Avenue	Preh	buried; 3 shovel tests	Pickman & Yamin 1984
0019		Bedell Avenue	Preh	buried; 3 shovel tests	Pickman & Yamin 1984
0022		Satterlee Street A	Preh	buried; 6 shovel tests; part of Billopp Ridge?	Pickman & Yamin 1984
0023		Satterlee Street B	Preh	buried; 5 shovel tests; part of Billopp Ridge?	Pickman & Yamin 1984
0024		Pittsville Avenue	Preh	buried; 7 shovel tests	Pickman & Yamin 1984
0025		Hopping Avenue	Preh	buried; 6 shovel tests	Pickman & Yamin 1984
0029		Ellis Street Hotel	H	buried; 4 shovel tests	Pickman & Yamin 1984
0030	8192	Ward's Point	EA,MA T, MW LW	strata: 1- LW; 2- shells; 3- MW; 4- T; 5- Kanawha, LeCroy, Kirk points	Ritchie & Funk 1971
0074	739 7323	Chemical Lane	LA EW	two loci excavated; S- broadspear; N- strata, atlatl, Bare & Poplar Island, Brewerton points	Sainz 1964 Salwen 1967

TABLE 3.5. ARCHAEOLOGICAL SITES, 1-2 MILE RADIUS (CONT.)

0075	738	Pottery Farm	W	stratified; much pottery collected	Sainz Salwen 1967
0076	737	Smoking Point	LA, T W	two loci: knoll, shell midden w/ ceramic, fishtail point rejects	Anderson Salwen 1967
0120		Gericke Farm	Preh	surface & buried; 6 flakes	Yamin & Pickman 1986
2376		Sprague Avenue	Preh	surface & buried; 39 shovel tests, 1 unit; 102 flakes, scraper, fcr	Roberts 1987
2377		Honey Blossom	MW LW	buried; 7 shovel tests; Jack's Reef point	Manchester 1989
2379		SICF- Area A	Preh	buried; 6 shovel tests; artifacts below plow zone	Pickman 1988
2380		SICF- Area B	Preh	buried; 7 shovel tests; artifacts below plow zone	Pickman 1988
2426		SICF- Area C-1	EW LW	buried; 1 shovel test, 4 units; Bare Island/Lamoka point, North Beach ceramic Levanna point, Bowman's Brook ceramic	Pickman & Boesch Pickman 1988
2427		Winant Homestead Cottage	H	buried; 2 shovel tests, 1 unit; 19-20c. domestic	Pickman & Boesch Pickman 1988

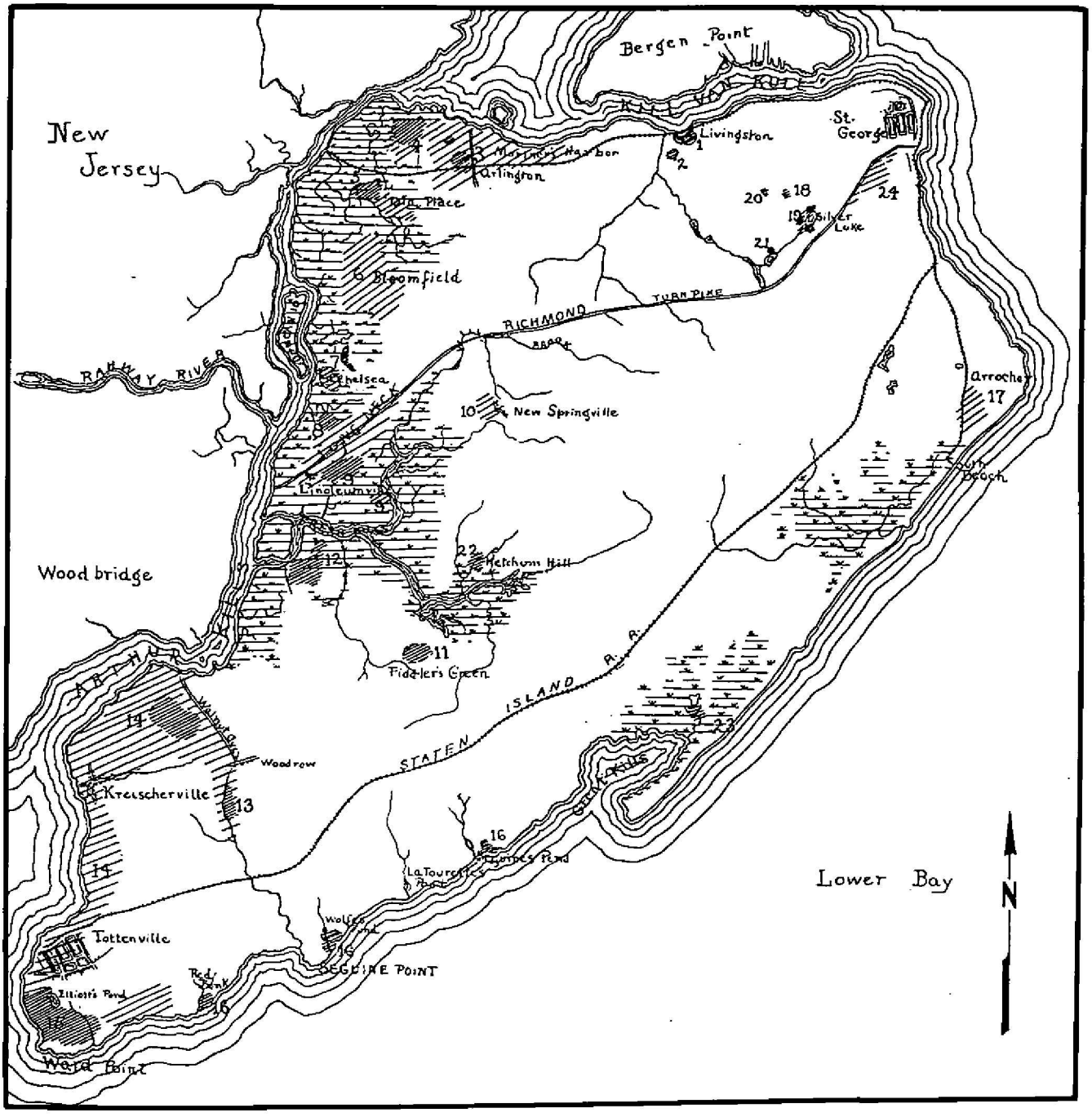

Figure 3.3. Archaeological Map of Staten Island (Skinner 1909).

CHAPTER FOUR

HISTORICAL OCCUPATION

A. Exploration and Dutch Settlement

The first Europeans to sight the narrow strait between Staten Island and Long Island were most likely sailor-explorers in the employ of the French. In 1524, Giovanni Verrazano, a Florentine navigator in a French vessel, is believed to have anchored briefly off the Narrows on the Long Island side of the Lower Bay. His stay was cut short, however, when he was forced out to sea again by violent storms. The Narrows were not actually entered by Europeans for another 85 years when Henry Hudson, in 1609, searching for a westerly route to Asia on behalf of the Dutch East India Company, discovered the Upper Bay and explored the lower section of what later came to be known as the Hudson Valley. Hudson, in fact, was responsible for naming Staten Island, giving it the appellation "Island Staatan Eylandt" (Island of the States) in honor of the States-General, the governing body of the Netherlands. It is a reasonable assumption that the Native Americans who occupied Staten Island and other areas around the Upper and Lower Bays at the time saw Hudson and the many other explorers who came in his wake as a threat. In response to the newcomers, the native peoples are believed to have established signaling stations on Todt Hill in northeastern Staten Island (and at various other prominent positions) to warn neighboring groups each time European vessels entered the Upper Bay (U.S. Army Center of Military History 1963:1).

By the late 1620s and early 1630s, the recently incorporated Dutch West India Company was busy imposing the patroonship system in the new colony of New Netherland as a means of stimulating settlement. Under this system, three unsuccessful attempts were made at establishing permanent settlements on Staten Island. The first attempt was headed by David Peterse De Vries of Hoorne. The De Vries settlement is believed to have been located at present-day Tompkinsville. De Vries kept a journal, the Korte Historical, which included detailed notes about his colonization efforts on Staten Island. He wrote that on "The 13th [of August 1636], I requested Wouter Van Twilliger to register Staten Island for me, as I wished to return and plant a colony upon it, which he consented to do." Two years later, De Vries left Holland, and arriving in the New World in late December of 1638 or early January of 1639, he reported: "so I brought the ship that same evening before Staten Island, which belonged to me, where I intended to settle my people. I sent my people to Staten Island to begin to plant a colony there and build." On February 10, he was forced to lease his plantation "as no people had been sent [to] me from Holland, as was promised in the contract which I made with Frederick De Vries, director of the West India Company." The settlement was short-lived, for in 1641, it was attacked and destroyed by Indians (Stokes 1915-1928; Anderson and Sainz 1965:83; Black 1983:9-10).

The second and third attempts to settle Staten Island were both headed by Cornelius Melyn.

Shortly after the Indian assault on the first settlement, De Vries was asked by the governor of New Netherland, William Kieft, whether he would permit Melyn "... to go upon the point of Staten Island, where the maize-land lay, saying he wished to let him plant it, and that he would place soldiers there, who would make a signal by displaying a flag, to make known at the fort [at New Amsterdam] whenever ships were in the bay ..." Apparently De Vries agreed and Melyn was granted all of Staten Island, excepting a portion of land that had been previously settled by De Vries. Another Indian raid or the general state of tension between the Dutch and the Indians led to the abandonment of Cornelius Melyn's settlement in 1643 (Anderson and Sainz 1965:83; Black 1983:10).

According to Charles Leng and William Davis's History of Staten Island and its People, if Melyn truly did establish a settlement at the point of Staten Island where the maize lands lay, and where a signal to the fort on New Netherland would be useful, this location would most likely have been in the vicinity of Fort Wadsworth, located on the southeastern end of the island (Black 1983:10; Leng and Davis 1930).

In 1650, acting under a contract with Baron Hendrick Van der Capellen, Melyn resolved to restock his ruined colony and "if possible, restore the same." According to his later testimony, 16 "handsome farms" were started. This new settlement lasted five years before it too was attacked and burned by Indians. A traveller in October 1655 wrote, "on the 21st we sailed to the North River, from Staten Island, by the watering place, and saw that all the houses there, and about Melyn's house, were burned by the Indians." This account appears to place Melyn's second settlement in the present-day Tompkinsville area, near the same location as the original De Vries plantation. Shortly after this third abortive attempt at permanently implanting a settlement, the Dutch system of patroonship was abandoned (Black 1983:12).

Despite the ongoing hostilities between the local Native American inhabitants and the incoming Europeans, and the failure of the three organized settlement implants, a few Dutch settlers did succeed in remaining on Staten Island during the 1640s and 1650s. In the mid-1650s a small garrison was stationed on the island to give protection to these inhabitants. However, the number of settlers was so small and widely dispersed, that by 1656, Governor Peter Stuyvesant was urging his council to remove the garrison and relocate the settlers across the Narrows at New Utrecht. It remains unclear whether these recommendations were acted upon (Black 1983:12-13).

Finally, in the early 1660s, the first truly permanent Dutch-American settlement was established on Staten Island. This comprised the small community known as Oude Dorp ("Old Town"), and was located approximately one mile southwest of the Verrazano-Narrows Bridge, in the area presently known as Arrochar. The settlement took the form of a loose cluster of farms, somewhat ineffectively protected by a blockhouse manned by a detachment of soldiers supplied by the Dutch West India Company. This hamlet was still in existence in 1664 when the English take-over of New Netherland occurred (Anderson and Saintz 1965:84; Black 1983:14).

B. Anglo-American Settlement

In 1664, when Anglo-Dutch commercial and colonial rivalry was at a high pitch in Asia, Africa and America, King Charles II of England bestowed a grant of all the territory lying between the Connecticut and Delaware Rivers (i.e., including virtually all of the province of New Netherland) upon his brother, the Duke of York. In August of the same year, the Duke of York dispatched four frigates, manned with 450 men, to New York harbor to claim his property. In September, Governor Stuyvesant of New Netherland surrendered the province to the English commander, Colonel Richard Nicolls, who assumed the position of new governor. Nicolls proceeded to parcel out land grants both to the original settlers and to the soldiers who served under him. Staten Island was subdivided in this manner, and Oude Dorp was placed within the newly created town of Dover. A map of Staten Island showing the colonial land patents between 1688 and 1712 (Figure 4.1) shows that the project area falls within three lots. Two of the lots were granted between 1685 and 1686 to Mark Dusachoy and William Merrill. The remaining lot was set off for John Bridges, but apparently was never patented. The map shows that the three properties extended from the Arthur Kill east to a road which appears to be at the location of present-day Bloomingdale Road. In 1694 Dusachoy sold his property to Paulus Richards (Richmond County Deed B 31).

It is believed that none of these early proprietors actually settled on the land. Actual occupation of the land probably did not occur until the first half of the 18th century. During this time the region containing the project area was occupied by the Dissosway and the Winant families. The division line between their properties, which ran east-west is believed to have been located just south of the present-day intersection of Arthur Kill Road and

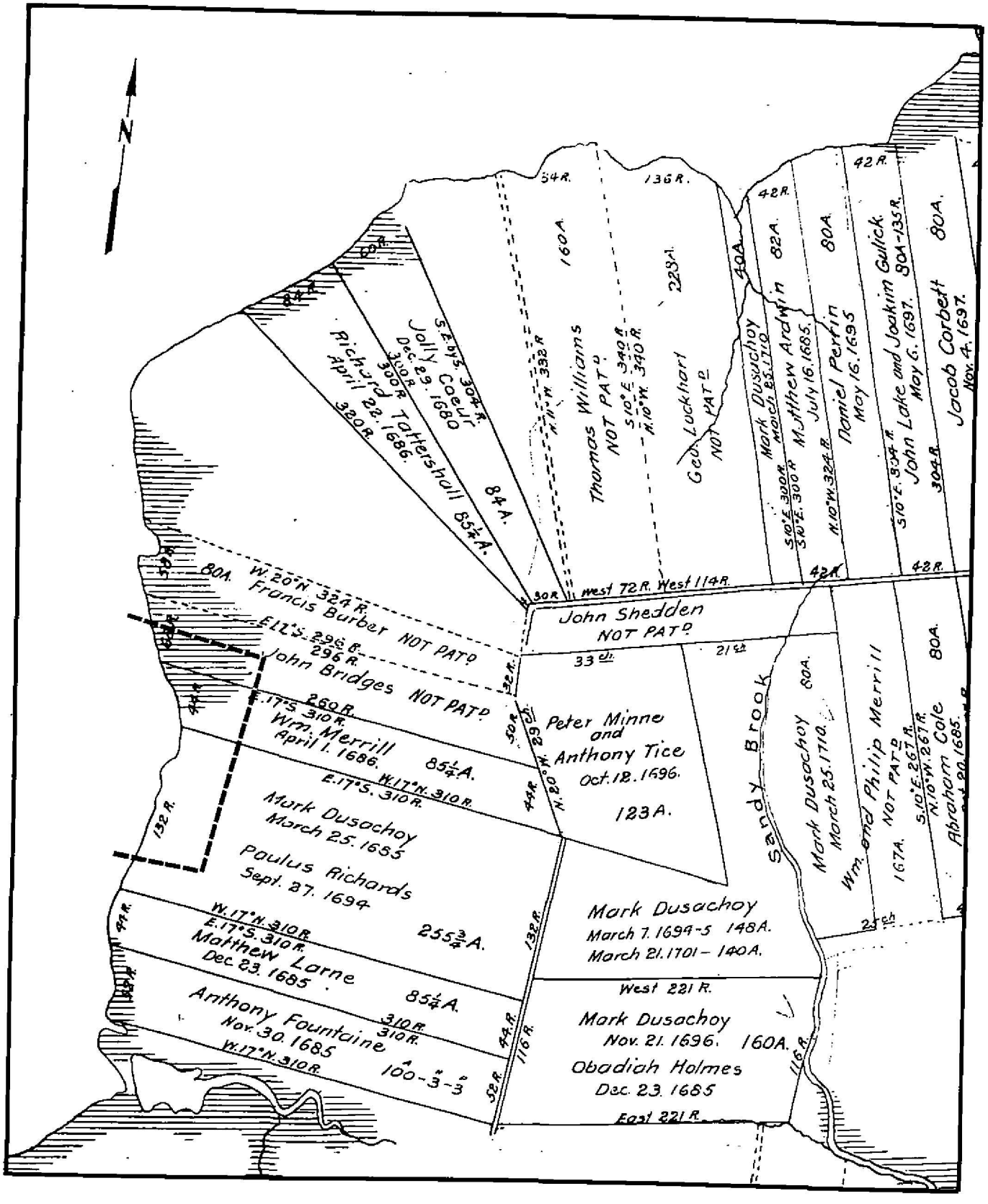

Figure 4.1. Skene, Frederick. "Map of Staten Island, Richmond Co., N.Y., Showing the Colonial Land Patents 1688-1712." 1907. Scale 1 inch= 1500 feet.

Kreischer Street. The Dissosways were Huguenots who began purchasing property in the project vicinity around 1750. The Winants probably settled around the same time. It is likely that soon after they purchased the property they would have constructed houses and begun to farm the land, growing grains and harvesting salt hay from the marshlands along the Arthur Kill. Arthur Kill was known then as the Staten Island Sound or River.

During the American Revolution, Staten Island was heavily garrisoned by the British. Redoubts were built at several locations including Richmond Hill, at Rossville and on the hill to the east of and overlooking the project area near where the Kreischer family (mid-19th century brick makers) would build their residence. The Kreischers will be discussed below with regard to 19th century development of the project site. The "Plan du Camp Anglo-Hessois dans Staten Island" surveyed between 1780 and 1783 (Figure 4.2) shows three buildings owned by Cornelius Dissosway and one by Daniel Winant near the project vicinity. The Dissosways appear at this time to have ownership to a large tract of land which included a portion of the project area, south to Mill Creek. The plan is not very accurate, with regard to geography, but it is likely that at least one of the Dissosway buildings was located within the project limits. The buildings were connected by a road that ran along the edge of the Arthur Kill from the Old Blazing Star ferry crossing, at present-day Rossville, to Mill Creek. It then looped around the creek before continuing southwest to another ferry crossing near Ward's Point.

In 1788 Staten Island was divided into the four townships of Westfield, Southfield, Northfield and Castleton. The project area was contained within Westfield Township. The value of land in Westfield was the highest of the four counties, due in part to the high productivity of the farms. In 1839, the columnist "Cosair," writing in the Richmond County Mirror, described the people living on this part of the island as "constituting one of the most peculiar classes of independent yeomanry to be found in the United States. Their farms are of small extent but are highly cultivated with a prodigality of fruit trees, and their neat white cottages ... are held by the descendants of the original owners to this day."

In 1795, Mark Dissosway sold 220 acres of land to Charles Drake (Richmond County Deed F 168). The deed of conveyance indicates that the property was bounded on the north by lands of Daniel Winant and Winant Winant; and on the south by land owned by the heirs of Cornelius Dissosway. The property probably included Cornelius Dissosway's two uppermost buildings shown on the 1780-1783 survey (Figure 4.2). In 1802, Charles Drake sold the upper 92 acres of the tract to his son Andrew Drake (Richmond County Deed F 166). Sometime in the 1820 Charles Drake passed away. In 1824, his son Andrew sold his father's remaining property which included 108 acres to John Van Allen (Richmond County Deed U 54). The property included 108 acres and was located directly south of and adjoining Andrew Drakes land.

By the end of the third quarter of the 19th century the project area was divided among three separate owners. The Winants still own the land between Androvette Street to about

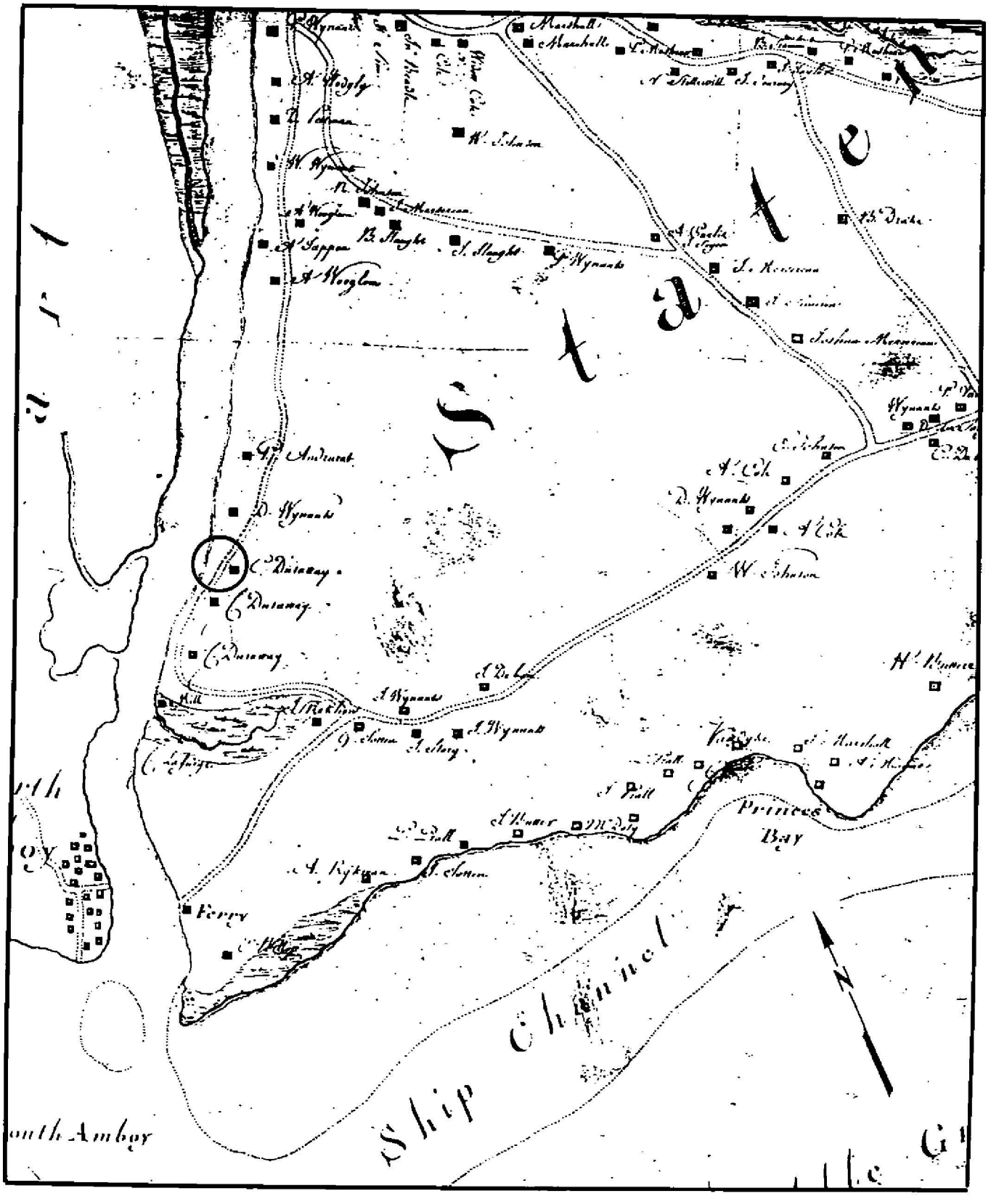

Figure 4.2. "Plan au Camp Anglo-Hessias dans Staten Island, Baie de New York." 1780-1783.

400 feet below the intersection of Arthur Kill Road and Kreischer Street. The Drake family is in tenure of the land from below the intersection to about 1000 feet north of Allentown Lane. The remaining southern portion of the project area is under the ownership of John Van Allen.

The 1853 map of Staten Island or Richmond County surveyed by James Butler (Figure 4.3) shows that there are six buildings located within the project area. The buildings owned by Thomson and Cole fall within the property formerly owned by the Winant family. The Drake family still retain most of their land as indicated by the building labeled "W. Drake." The southern portion of their property is now owned by the Price family. Van Allen is shown as owning two buildings, one on each side of present-day Allentown Lane (named after the Van Allen family). Apparently Van Allen sold the northern portion of his property to the King family, who are shown as owning the building between Price and Van Allen. To the west of his dwelling is a landing labeled "E. King's Landing." During this time the northern portion of the project fell within the area was known as Androvetteville. The southern portion was referred to as Van Allentown or Allentown. Both took on their names from the prominent land owners of the area (Leng and Davis 1930).

Around the same time that the 1853 map was published, a brick maker, Balthasar Kreischer of New York City, purchased land in Androvetteville for its large deposits of kaolin clay. Kreischer was born in Bavaria, Germany in 1813 and was the grandson of Nickolas Kreischer who manufactured bricks in Hornbach, a small village in Bavaria. After receiving a common school education, Balthasar was apprenticed to a stone cutter and sculptor. At the age of 21 he was selected, along with two others to lay the corner stone of the fortress of Germersheim, near the ruined castle of Freidrichsbuhl. In 1836, he immigrated to New York City and sought work in rebuilding Manhattan, following the great fire of December, 1835. He helped erect many new houses and commercial structures. He also became well known as the best builder of baker's ovens in all of New York City. Many of these were made of fire-brick (Bayles 1887:734).

Sometime in the 1840s he became a co-partner with Charles Mumpeton under the firm Kreischer & Mumpeton and they began to manufacture their own fire bricks using a suitable clay from New Jersey. Their factory was established at the corner of Goerck and Delancey Streets in Manhattan. Mumpeton died in 1849 leaving Kreischer to continue on his own. Their original building covered one city lot and by 1850 it had been enlarged to 13 city lots (Bayles 1887:734-735).

In 1853, having considerable difficulty obtaining a reliable supply of clay for his product, he began to purchase several acres of land on the western side of Staten Island near Androvetteville. Within the project area he purchased the lands that were formerly occupied by Cole and Thomson, near the intersection of Arthur Kill Road and Kreischer Street. It was close to the site of Cole's house that Kreischer built a new brick manufacturing factory. The property he purchased for its clay deposits is today contained within the Clay Pit Pond State Preserve. The ponds were formed when ground and rain water filled in the old clay

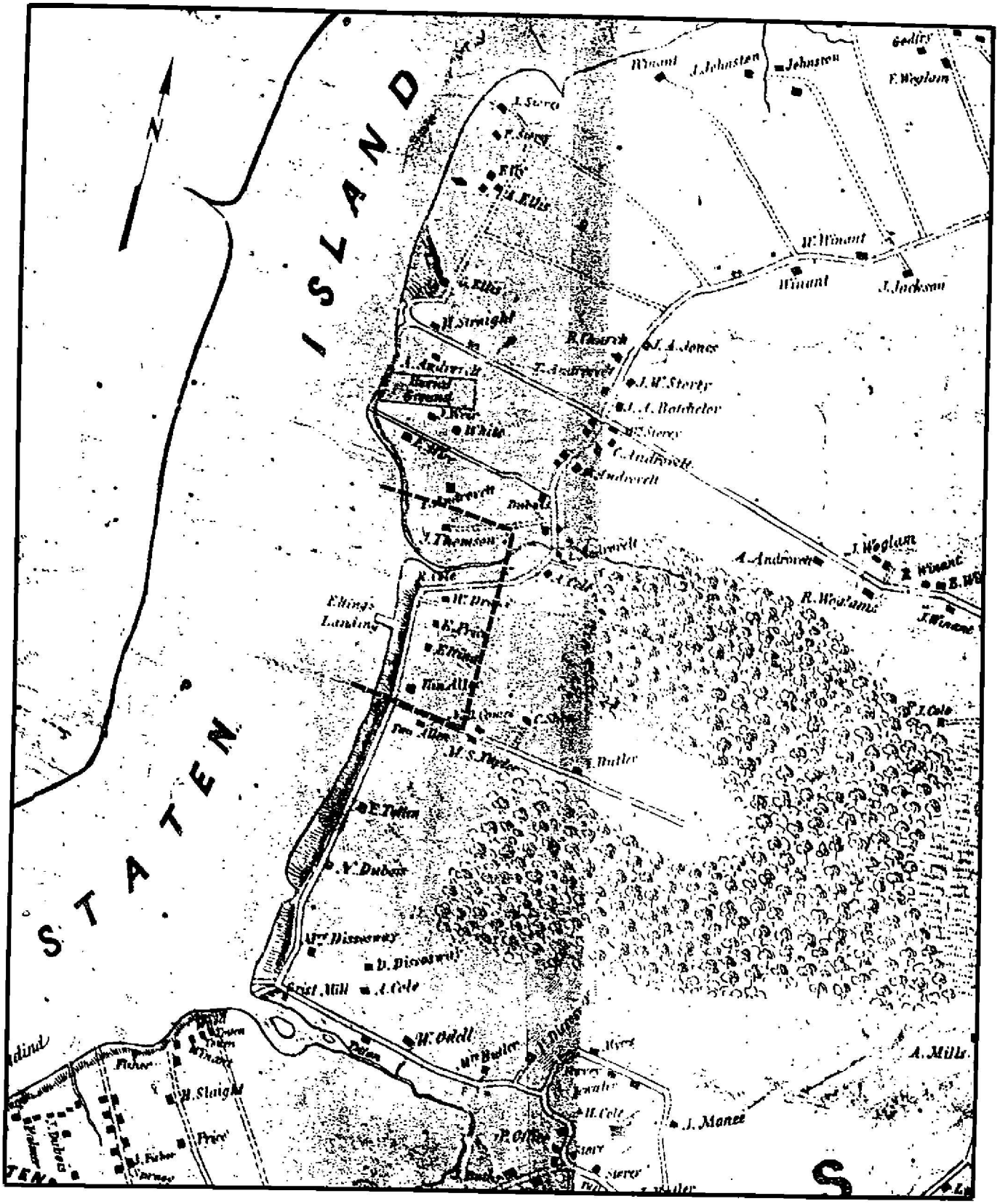

Figure 4.3. Butler, James. "Map of Staten Island or Richmond County, N.Y." 1853. Scale 1 inch= 0.25 miles.

pits. Kreischer's fire brick works was enlarged in 1855 and employed a large number of men. Because of the success of his works the village grew substantially enough to warrant the establishment of a post office and the village name was changed to Kreischerville. It is also speculated that due to Kreischer brick works the main road that ran along the edge of the Arthur Kill, below the factory, was abandoned and a new one was built further to the east. Arthur Kill Road, from the intersection of Kreischer Street south to Richmond Valley Road, travels along this alignment (Bayles 1887:733-734).

Between 1859 and 1870 the name under which Kreischer's brick works operated changed several times. In 1859 it was known as Kreischer & Nephew, following the admission of his nephew. Around 1861 Kreischer's son-in-law joined the company and its name was changed to Kreischer & Company. In 1861, this partnership dissolved and it reverted back to B. Kreischer's brick works. In 1870, George F. Kreischer, son of Balthasar joined his father under the partnership of Kreischer & Son (Bayles 1887:732).

By 1873 the Manhattan works had been expanded to cover 21 city lots. Since the land became too expensive to enlarge any further it was decided to instead enlarge the operations of the Staten Island plant. By the fall of 1876 the building expansion was completed and all of the machinery, tools and molds were taken out of the Manhattan factory and shipped to Staten Island. The 1874 Beers Atlas of Staten Island (Figure 4.4) shows the brick works two years prior to its expansion. The building is situated near the center of the project area at the end of a set of railroad tracks leading towards Kreischer's residence. Balthasar's mansion, which contained 15 rooms, was built in the 1860s on the hill located on the east side of Arthur Kill Road, overlooking the works. The map indicates that Kreischer land included the northern half of the project area. The southern half of the project area contained the residences of Mrs. Drake, E. Price, G.A. Powers, N.B. Combs and the Mc Comber family. Remnants of the 18th century road which ran along the edge of the Arthur Kill can be seen south of the project site on the lands of Mrs. Totten and D. Dissosway.

In January, 1877, most of the Staten Island brick factory was destroyed by a fire. It took only three months for Kreischer and his sons to rebuilt the factory. In the following year Balthasar Kreischer retired from the business, leaving it under the control of his sons. However they retained the name B. Kreischer and Sons for many years. Balthasar Kreischer died on August 25, 1886. One year after his death, Richard M. Bayles, author of the History of Richmond County, (Staten Island), New York, wrote that the factory

> "... now covers over three acres of ground, is two stories high, and has a capacity of twenty thousand fire brick a day. A one hundred and twenty-five horse power engine, taking steam from two tubular boilers, supplies the motive power. A line of shafting extends from one end of the main building to the other, being three hundred feet in length. The storage room for clay, etc., is composed of fourteen bins thirty-two by twenty-five feet in length, with a capacity of four thousand tons" (Bayles 1887:732-733).

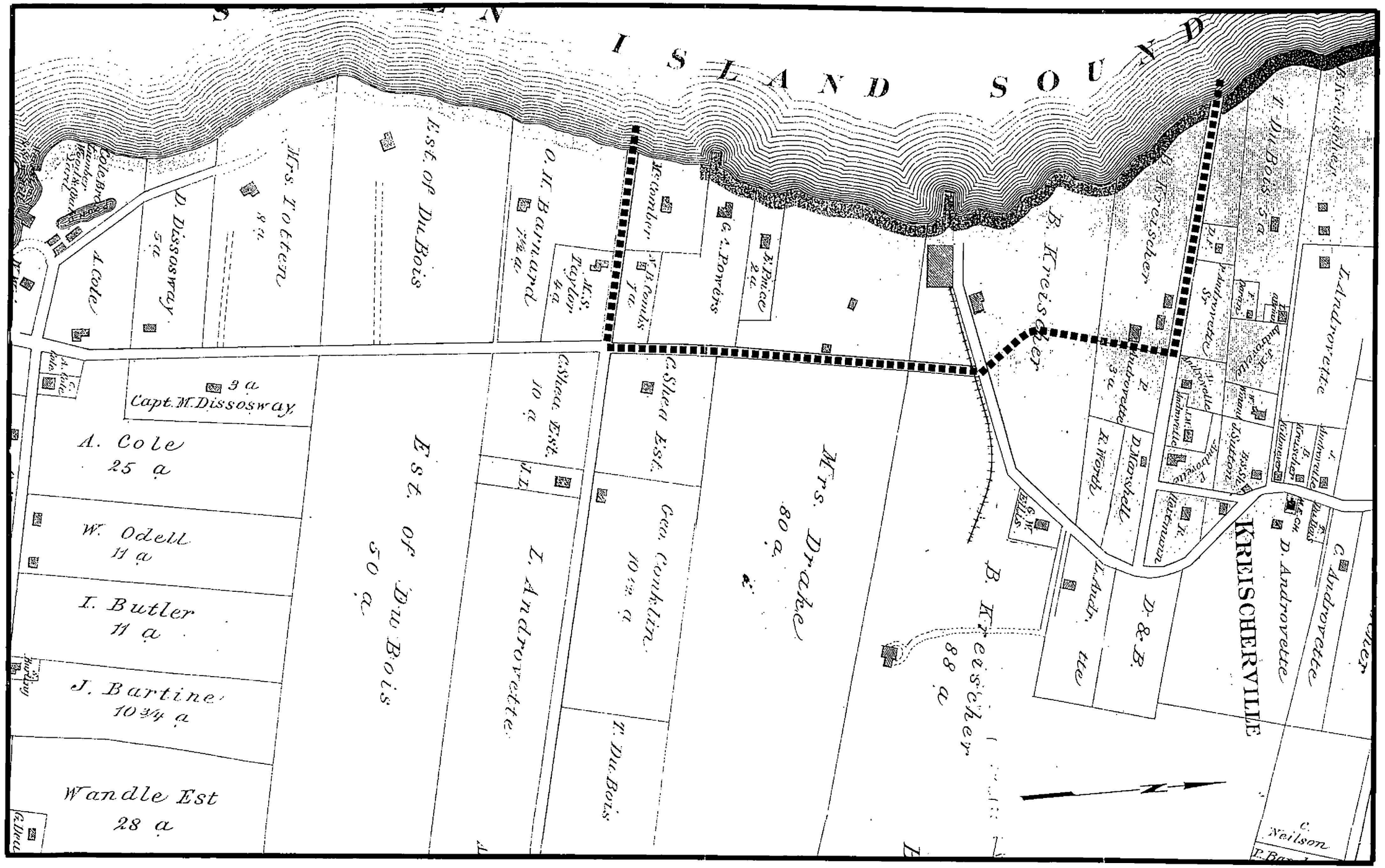

Figure 4.4. Beers, J.B. and Co. "Atlas of Staten Island- Part of Westfield." 1874. Scale 1 inch = 400 feet.

The 1887 Beers Atlas of Staten Island (Figure 4.5) shows that by this time the brick works was being called "B. Kreischer & Sons" and "N.Y. Anderson Pressed Brick Co." To the north of the brick works, within the northern portion of the project area, are a group of houses shown along present-day Kreischer Street and Androvette Street. These houses are believed to be workers' houses. The southern portion of the project area is still privately owned and contains six buildings. An 1887 drawing of the brick works (view - southeast) shows a that a docking area was located directly to the north of the factory, which is shown as consisting of two separate buildings (Plate 4.1).

The 1898 Robinson Atlas of the Borough of Richmond (Figure 4.6) shows that by the end of the 19th century, in addition to manufacturing bricks that they had also started to manufacture terra-cotta. Robinson revised his 1898 Atlas in 1907 (Figure 4.7). It depicts roughly the same information as the original, however it does show that the property boundaries extended out into the Arthur Kill.

The 1917, corrected to 1935 Fire Insurance Map of Staten Island (Figure 4.8) gives a very detailed plan of the interior works of the two brick works buildings. The northern building is owned by John Weber and is known as the Richmond Brick and Tile Company. However, according to the map it was no longer in operation and the building was vacant and being sold as a second hand brick factory. On the other hand, the southern building was still operating under the name Kreischer Brick Manufacturing Company.

The dates when the 19th-century residences and the brick manufactory were demolished is not known at present; the only structures which currently stand within the project area are 20th-century residences along Arthur Kill Road.

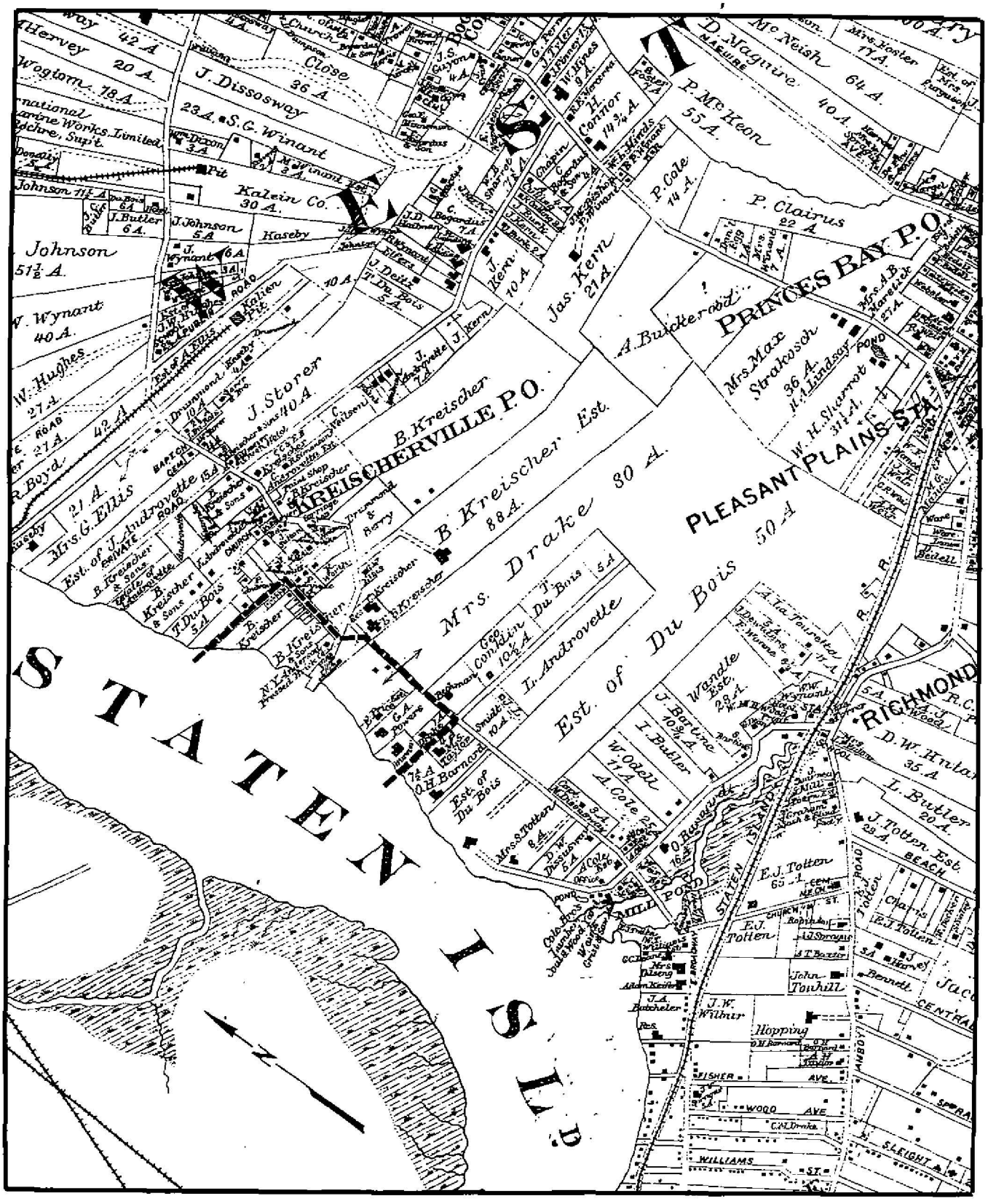

Figure 4.5. Beers, J.B. and Co. "Atlas of Staten Island-Southern Section of Richmond County." 1887. Scale 1 inch= 1500 feet.

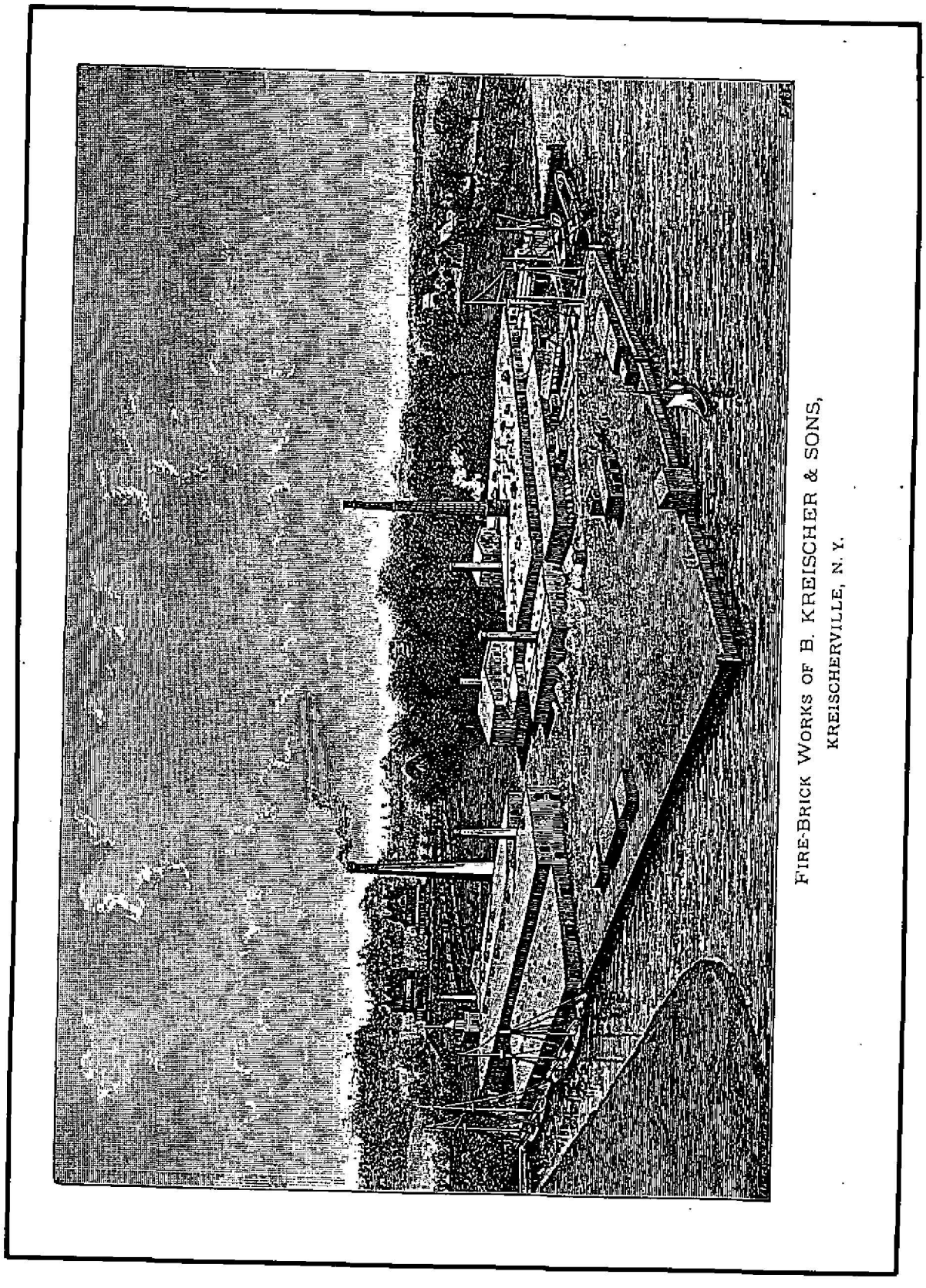

Plate 4.1. Southwest View of Kreischer Brickworks in 1887 (Bayles 1887).

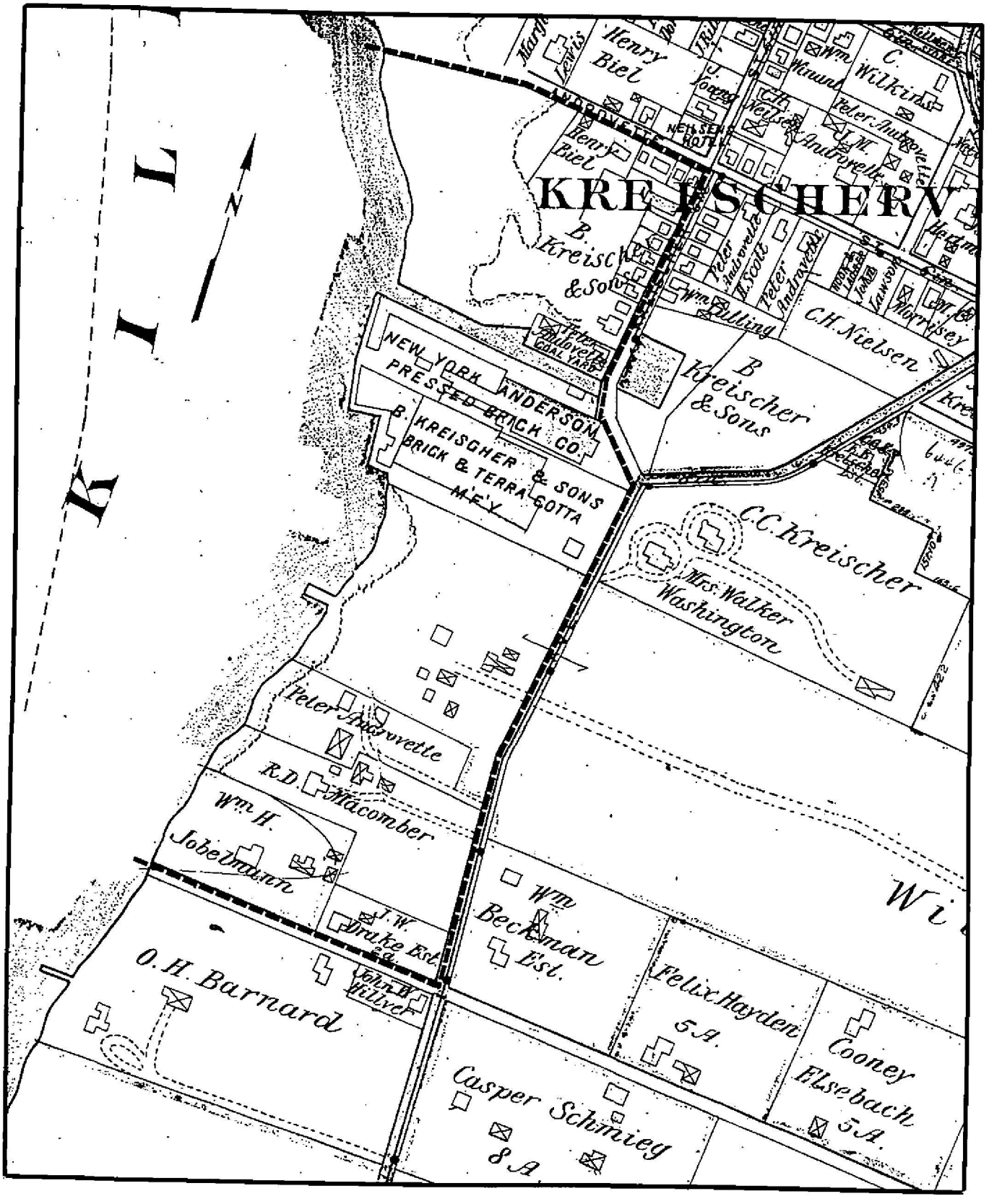

Figure 4.6. Robinson, E. "Atlas of the Borough of Richmond, City of New York." 1898. Scale 1 inch= 400 feet.

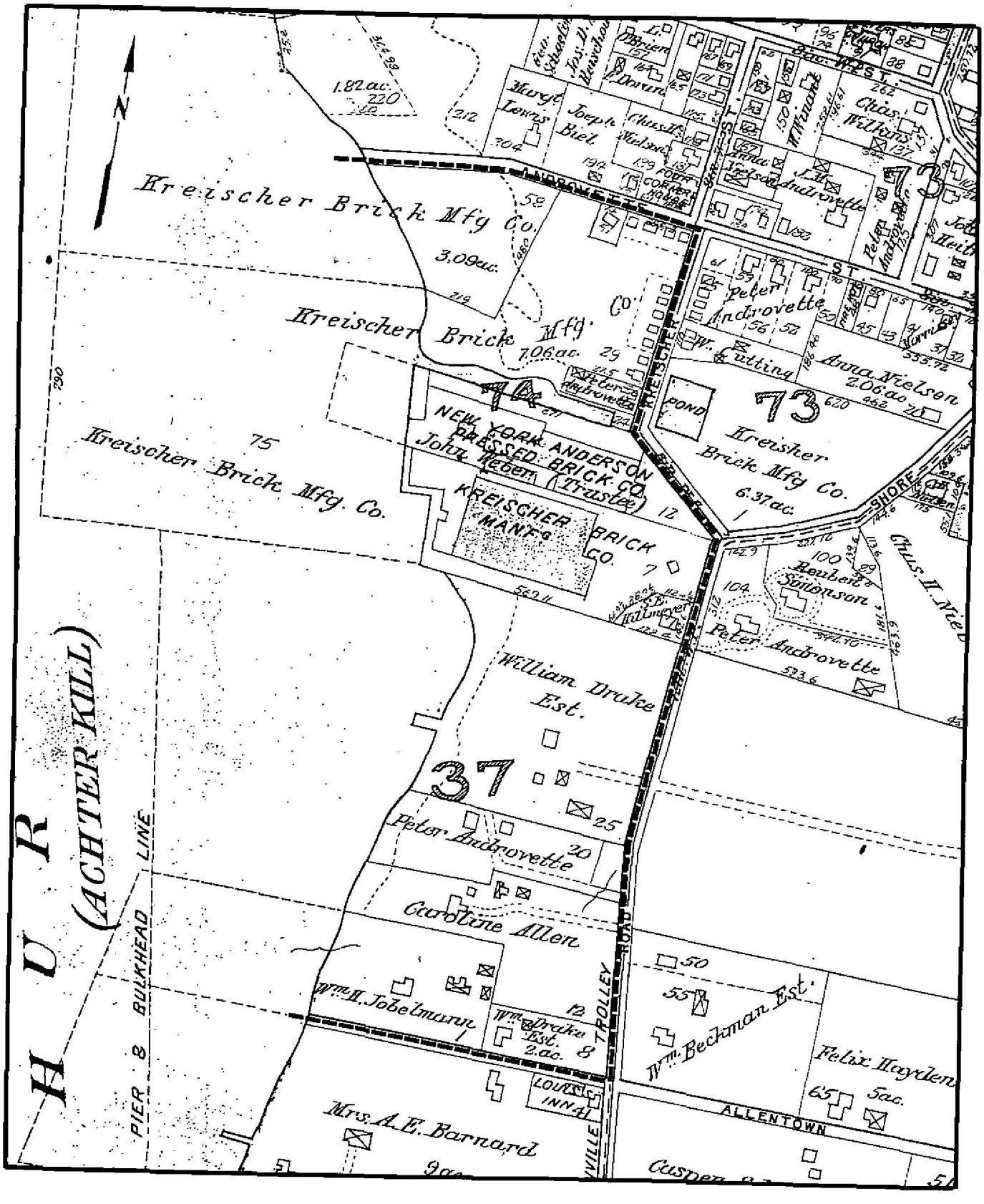

Figure 4.7. Robinson, E. "Atlas of the Borough of Richmond, City of New York." 1907. Scale 1 inch= 400 feet.

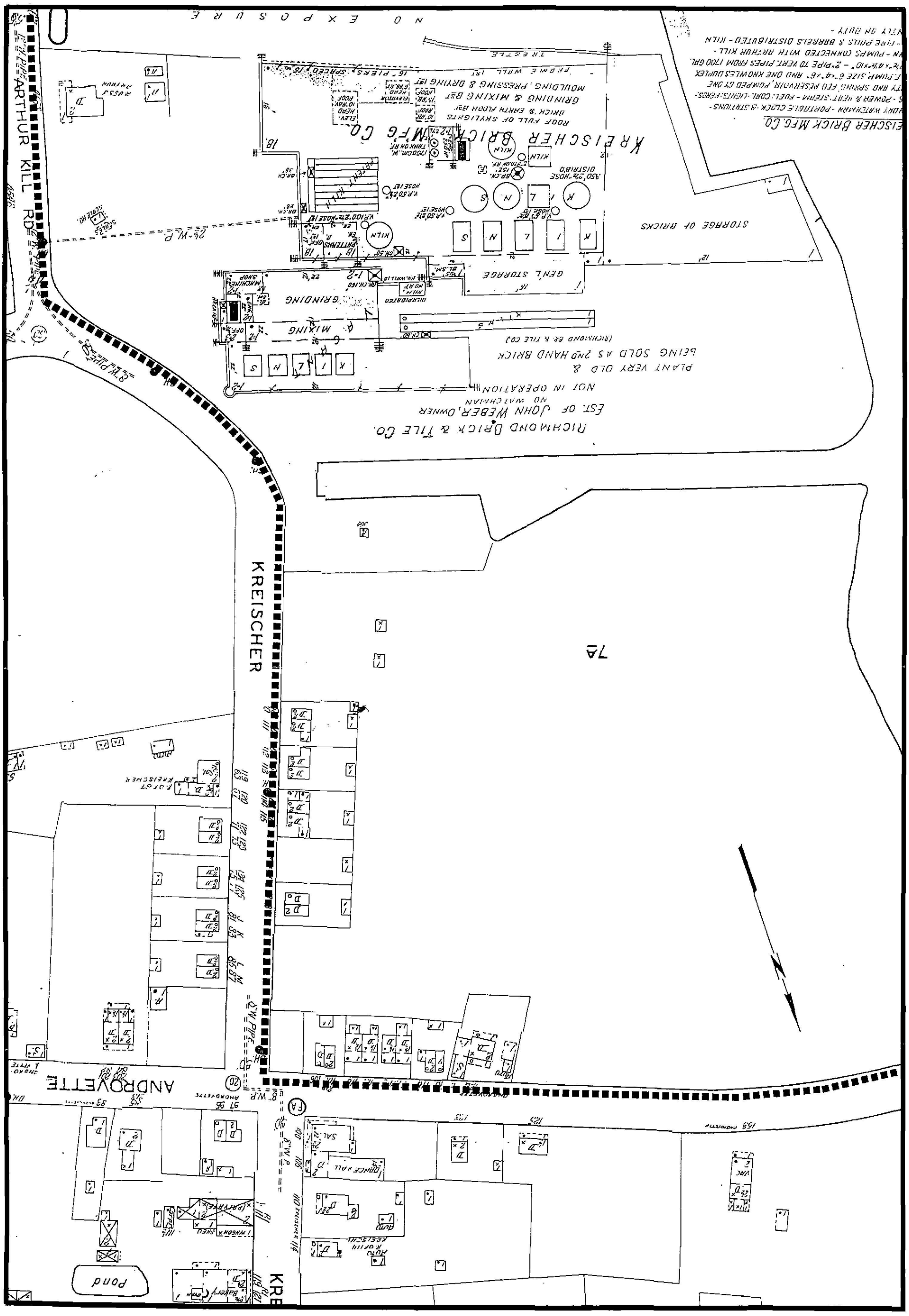

Figure 4.8. Sanborn Map Co. "Insurance Maps of Staten Island, Borough of Richmond," Volume 2, Plate 161. 1917, updated in 1935. Scale 1 inch= 100. feet.

CHAPTER FIVE

PRELIMINARY SITE AND IMPACT ASSESSMENTS

A. Preliminary Site Assessment

The existing archaeological and historical database for the southern end of Staten Island permits a rather detailed assessment of the potential for evidence of prehistoric and historic occupation within the project area. The numbers of prehistoric, historic Native American and historic European occupation components at varying distances from the project area are listed in Table 5.1. This tabulation essentially shows that the project area lies in a zone of dense prehistoric activity, and that it shares topographic characteristics with areas containing known sites. It should be recognized that the term "component" (cultural/temporal phase) is distinct from that of the physical location of site. Since a site location may preserve evidence of numerous occupation episodes, as in the case of Charlestown Beach and Ward's Point, the number of components is generally greater than that of sites.

The proximity of prehistoric sites to the shoreline of the Arthur Kill was noted in the early antiquarian studies of Staten Island prehistory, and the modern database continues to reflect the importance of this relationship. Shell middens are often found along the shoreline, and may extend some distance inland. Low knolls adjacent to wetlands are also high probability areas for occupation. The shoreline of the Arthur Kill forms the western boundary of the project area, and a low knoll (10 feet asl) is apparent in the northern portion of the property. Current development plans, however, indicate that wetland areas along the shoreline and in the northern portion will not be developed (Figure 5.1).

The proximity of two Paleoindian loci immediately north of the project area is considered a potentially important factor in the assessment of the project area's potential for prehistoric occupation. Both loci have yielded multiple fluted points and other lithic artifacts, but were either found after disturbance by construction (Port Mobil) or are eroding and have been poorly recorded during years of amateur collecting (Charlestown Beach). A professionally-examined Paleoindian component at the Arthur Kill Factory Outlet Center could thus provide significant insight into the nature of early prehistoric adaptations in eastern North America.

As mentioned in Chapter Three, the Port Mobil site was found on a slope 20-40 feet asl, below an upland flat (old terrace of the Arthur Kill?) which lies at an elevation of 50-60 feet asl. Chesterfield Beach is eroding into the Arthur Kill, and lies beneath the same upland flat. The Arthur Kill Factory Outlet Center consists of a slope of varying degrees from sea level to 60 feet asl at the southern portion, and low-lying wetlands in the northern portion.

TABLE 5.1. RECORDED CULTURAL COMPONENTS		
CULTURAL AFFILIATION	**0-1 MILE RADIUS**	**1-2 MILE RADIUS**
Paleoindian	2	0
Early Archaic	0	2
Middle Archaic	0	2
Late Archaic	0	5
Archaic, undefined	1	1
Transitional	1	3
Early Woodland	1	4
Middle Woodland	1	3
Late Woodland	1	4
Woodland, undefined	2	5
Prehistoric, undefined	16	33
Total Prehistoric Components	25	62
Total Number of Prehistoric Sites	22	48
European Contact (Native Americans)	0	4
Historic (European Colonial/American)	6	4

While the landform in the southern half differs somewhat from that at Port Mobil, the presence of relatively gentle slopes between 20 and 40 feet suggest the presence of Paleoindian occupation evidence is certainly possible. A shoreline site comparable to Chesterfield Beach is also possible, but most of the shoreline evidently lies beyond the limits of development and is outside the zone of impact.

Most of the larger, multi-component sites so far identified in southern Staten Island are located below 50 feet asl and consequently are relatively close to the shoreline. Archaeological surveys of the past two decades have also identified sites at elevations above 50 feet asl, both near the shoreline and further inland. Most of these have been scatters of lithic artifacts which may contain culturally diagnostic projectile point forms. Richmond Hill, however, is a notable exception to this pattern, and clearly indicates that prehistoric occupation on Staten Island was more than a shoreline phenomenon. During the Late

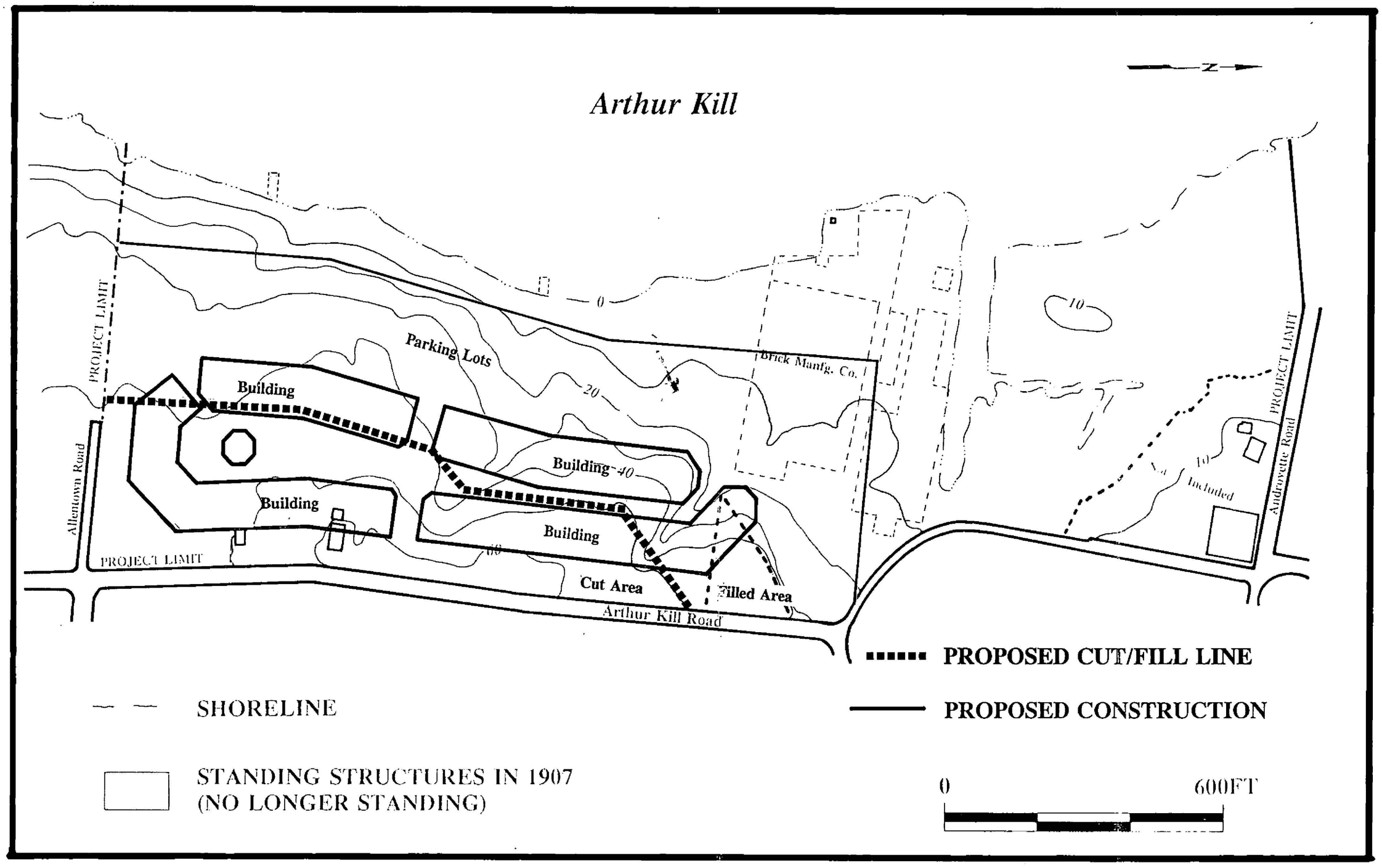

Figure 5.1. Topographic Plan of Project Area, with Proposed Developments Emphasized. Scale as Indicated.

Pleistocene-Early Holocene, moreover, lower sea levels would probably have meant greater distances to the Arthur Kill for occupants of the current "shoreline" sites of Chesterfield Beach, Hollowell, Ward's Point and Old Place. The present shoreline location is more relevant to the paleoenvironmental conditions encountered during Late Archaic and Woodland occupations, rather than to Paleoindian ones.

Topographic data from the project area indicate the locations of several relict drainages or springs which flowed westward toward the Arthur Kill. Such topographic features were often important foci of prehistoric occupation, particularly on higher grounds adjacent to and, in this instance, north of the relict drainages. Another interesting topographic feature with potential relevance to prehistoric occupation is swampy ground which extends northward across the former trace of Allentown Road 30-40 feet asl; wetlands within the property are low-lying tidal and freshwater ones related to the present shoreline. The swampy ground may have been present during wetter climatic periods throughout the Holocene.

The stratified nature of many of these sites is another reason for emphasizing the potential importance of any prehistoric sites which may be found within the project area. The known Early Archaic sites on Staten Island are generally stratified (i.e. they contain a vertical sequence of relatively undisturbed occupations), and three contain hearths and charcoal which have yielded reliable radiocarbon dates. The Chesterfield Beach site is described as eroding from a peat layer which suggests that this locus may also be stratified. Numerous Late Archaic and Woodland sites both near the shoreline and in upland locations are stratified or at least have yielded artifacts from below plow-disturbed soil. The potential for deeper stratification is important from the standpoint of cultural interpretation, but also for site preservation from subsequent agricultural and architectural disturbances arising from historic occupation within the project area.

Historic occupation is a potential source of "disturbance" for the earlier prehistoric archaeological record, but of course also represents an important focus for cultural investigation. Maps dating to the late 18th-early 19th century indicate at least one and possibly a second house standing east of a roadway which ran north-south just inland from the shoreline, probably below 20 feet asl. The mid-19th century dwellings were located on four or five tracts in the southern portion of the project area, and these houses evidently remained standing into the early 20th century. The dwellings on each tract were constructed between 30 and 40 feet asl; barns and outbuildings were consistently located east, or landward, from the dwellings, and consequently at slightly higher elevations. A large brick manufactory was constructed during the third quarter of the 19th century on the low-lying land in the northern portion (Figure 5.1). The earlier shoreline roadway was abandoned, probably after construction of the brick manufactory, and replaced by another further to the east, the course of which is approximated by modern Arthur Kill Road.

Evidence of historic occupation relating to agricultural activities dating from the mid-18th century into the early 20th century is obviously present within the project area, in addition to late 19th-century industrial activity associated with the brick manufactory. The possibility of

historic occupation dating to the early English or Dutch colonial activities during the 17th century must also be recognized.

B. Impact Assessments

The draft concept plan for construction of the Arthur Kill Factory Outlet Center is superimposed upon a combination site topographic plan and early 20th-century architectural plan in Figure 5.1. Construction activities are concentrated in the southern two-thirds of the property; virtually all of the land above 30 feet asl, most of the land above 10 feet asl and some low-lying lands near the shoreline will be impacted. Present plans indicate that rectangular structures will be erected at higher elevations, and parking areas will be constructed at presently lower elevations west and north of the structures. Since fill will be excavated from the higher elevations and transported to the lower elevations to create a more level grade, the greatest impact of ground disturbance will occur at the higher elevations. Vegetation removal at the lower elevations prior to fill deposition will, however, most likely result in disturbance of the top portion of the soil profile.

C. Recommendations

At the present level of assessment, it is clear that this proposal has the potential to affect areas of prehistoric and historic cultural sensitivity as defined in this study. It is therefore recommended that Phase IB excavations be conducted within the development area. These investigations should determine whether evidence of prehistoric and historic occupation is preserved within the area scheduled for development. These investigations should further seek to determine the age of any cultural evidence encountered, the overall distribution of that evidence within the property and provide data for a preliminary assessment of their importance.

It is suggested that the investigations be guided by a stratified random sampling strategy which will seek to ensure that all landforms within the 22-acre development area are examined for evidence of prehistoric occupation. Detailed 19th and 20th-century maps will permit representative testing of historic agricultural, domestic and industrial sites.

The development area may be divided into four north-south zones, with the topographic remnants of relict drainages serving as the boundaries between zones. Each of these zones may be further divided into "lower" and "upper" zones, with the 40-foot asl contour serving as the approximate boundary. These zones will permit a representative examination of varying slopes within the development area, as well as the relative intensity of occupation evidence at lower and higher elevations. Certain high probability areas will be stratified separately: the more gentle portions of the slope, the high flats to the north of the drainages, the upland swampy ground near Allentown Road and those low-lying lands c.10 feet asl which fall within the development zone.

It is suggested that shovel tests be placed within a series of 20 randomly-selected transects, each 200 feet or 60 meters in length. Approximately 180 shovel tests (an overall density of eight tests per acre) should be excavated along these transects. Additional excavations should include approximately ten one-meter-square units and possibly machine tests to examine the potential for more-deeply buried cultural occupation. Stratigraphy within the units and any machine tests should be examined and interpreted by a geoarchaeologist.

The 19th-century farm sites may be examined through an intensive program of field survey to document surface features such as cellar holes, foundations and trash deposits. A minimum of one survey transect may be subjectively placed in a location which will permit shovel testing of an historic farmstead.

Much is known about the brick manufactory from historic map information. Attention should focus on the survival of features such as the kilns which may be of significance in the interpretation of brick-making technology. The portion of the site impacted by the proposed development lies within the area to be filled; it is suggested that this area be subjected to a more detailed surface inspection, possibly supplemented by a machine trench in the area indicated on the historic maps as the location of kilns.

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APPENDIX A

RESUMES

HUNTER RESEARCH

Richard W. Hunter
PRESIDENT

Ian C. Burrow
VICE PRESIDENT

BROOKE S. BLADES
Principal Archaeologist, M.A.

Education

Ph. D. Candidate, Anthropology, New York University, New York, NY, 1988-present

M.A., American Civilization, University of Pennsylvania, Philadelphia, 1978

B.A., History, College of William and Mary, 1973

Experience

1994-present — Principal Investigator, Hunter Research, Inc., Trenton, N.J.

Technical and managerial responsibilities for selected research, field, laboratory and report preparation components of archaeoological projects. Participation in:

- research, survey, excavation, analysis and reports
- project supervision and on-site management
- management of laboratory operations and graphics production
- supervision of field, laboratory and drafting personnel
- preparation of proposals
- personnel recruitment

1991-1993
1974-1988 — Archaeologist, Mid-Atlantic Regional Office, National Park Service, Philadelphia, PA

Responsibilities included:

- preparation of research designs
- preparation of requests for proposals
- consultant selection
- contract administration
- all aspects of project review, including research, fieldwork, analysis, and report

Also designed, executed and directed archaeological and historical research programs at numerous federally-owned managed historic sites, including:

- Fort McHenry National Monument, Baltimore, Maryland
- Valley Forge National Historical Park, Philadelphia, Pennsylvania
- Independence National Historical Park, Philadelphia, Pennsylvania
- Delaware Water Gap National Recreation Area, Pennsylvania
- George Washington Birthplace National Monument, Montross, Virginia
- Fredericksburg and Spotsylvania National Military Park, Virginia
- Petersburg National Battlefield, Virginia
- Shenandoah National Park, Virginia

1989-1990 Site Supervisor, SJS Archaeological Services, Inc., PA

Directed excavations on prehistoric sites.

Participation in:
- survey and excavation
- supervision of personnel
- field photography
- field recording

1982 Consulting Archaeologist, Longmeadow Historical Society, MA

1979-1980 Survey Director, Magee University College, New University of Ulster, Northern Ireland

Directed survey of 17th-century British village sites in County Londonderry, Ulster

1976-1978 Consulting Archaeologist, Historic Deerfield, MA

1973-1974 Supervisor and Field Excavator, Colonial Williamsburg, VA

Other Experience

1991 Teaching Assistant, Department of Geology and Earth Sciences, West Chester University, PA

1989-1990 Instructor/Graduate Assistant, Department of Anthropology, New York University, NY

Special Skills and Interests

- statistical analysis of survey and excavation data; statistical sampling; statistical analysis of anthropological data
- remote sensing: magnetometer and resistivity meter
- analysis of prehistoric lithics and historic ceramics
- computerization of survey, excavation and collections analysis data
- petrographic analysis of archaeological artifacts
- scanning electron microscopy and electron microprobe analysis
- photography of archaeological data related to electron microscopy and petrographic analysis, as well as of field and collection data

Publications

"English Villages in the Londonderry Plantation." Post-Medieval Archaeology 20: 257-269. 1986.

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"Dr Williams' Privy: Cultural Behavior as Reflected in Artifact Deposition at the Dr. Thomas Williams House, Deerfield, Massachusetts." In New England Historical Archaeology, Boston University, 1977.

Awards

National Science Foundation Dissertation Improvement Grant, 1993-94
Dean's Dissertation Fellowship, New York University, 1993-94
University Fellowship, New York University, 1988-90
Fulbright-Hayes Fellowship, Senior Research Scholar, New University of Ulster (Northern Ireland), 1979-80

HUNTER RESEARCH

Richard W. Hunter
PRESIDENT

Ian C. Burrow
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MICHAEL TOMKINS
Senior Archaeologist/Historian, BA

Education

B.A. Anthropology/Geography, State University of New York at Albany, Albany, New York, 1990.

Experience

1993 - Senior Archaeologist/Historian, Hunter Research Inc., Trenton, NJ

1991 - Assistant Historian/Assistant Archaeologist
Hunter Research, Inc., Trenton, NJ

Technical and supervisory responsibilities for selected historical and archival research tasks, field and laboratory operations and report preparation. Participation in:

- archival and cartographic research
- survey and excavation
- supervision of field personnel
- field photography
- stratigraphic and artifact analysis
- report preparation

1990 Crew Chief, New York State Museum, Division of Historic and Anthropological Services, Albany, New York

Field archaeologist on cultural resource surveys on proposed construction projects of the New York State Department of Transportation and Department of Corrections.

1987-1989 Field Archaeologist, New York State Museum, Division of Historic and Anthropological Services, Albany, NY (June - September)

Field archaeologist on various cultural resource survey projects in upper New York State.

1988 Field Archaeologist, Public Archaeological Facility, SUNY at Binghamton, New York (summer months)

Field archaeologist participating in excavations of human burials from a late nineteenth century psychiatric hospital in upper New York State.

Other Experience

1990 - New York State Emergency Medical Technician Certification
Volunteer Emergency Technician for Town of Guilderland

1984 - NAUI Basic Scuba Diver Certification

APPENDIX B

PROJECT ADMINISTRATIVE DATA

APPENDIX B

HUNTER RESEARCH, INC.
PROJECT SUMMARY

Project Name: A PHASE IA ARCHAEOLOGICAL SURVEY FOR THE ARTHUR KILL FACTORY OUTLET CENTER STATEN ISLAND, BOROUGH OF RICHMOND, RICHMOND COUNTY, NEW YORK CITY, NEW YORK

Level of Survey:	IA
HRI Project:	95025
Date of Report:	1995, June
Client:	Bellemead Development Corporation
Address:	280 Corporate Center, Four Becker Farm Road, Roseland, NJ 07068
Review Agency:	NYCLPC
Agency Reference:	
PROJECT CHRONOLOGY	
Date of Contract Award:	04/25/1995
Notice to Proceed:	04/25/1995
Background Research:	April/May
Fieldwork:	May 18, 19
Analysis:	
Report Written:	May/June
PROJECT PERSONNEL:	
Principal Investigator:	Brooke Blades
Background Research:	Michael Tomkins

Artifacts and Records to be Deposited: Not applicable