

USF
2285X

New York City
Housing Authority

RECEIVED
ENVIRONMENTAL REVIEW
JUL 07 1995
LANDMARKS PRESERVATION
COMMISSION

Police Service Facility #8
Block 3540, Castle Hill, Bronx
CEQR No. 95CHA002X

500 Havermeier Ave.

Phase IA Archaeological Study

Prepared :

By: Historical Perspectives, Inc.
P. O. Box 3037
Westport, CT 06880

For: Wall & Associates
330 West 42nd Street
New York, NY 10036

Date: October 1994

70

TABLE OF CONTENTS

I.	INTRODUCTION AND METHODOLOGY	1
II.	ENVIRONMENTAL SETTING	3
III.	PREHISTORIC ERA	5
IV.	HISTORICAL PERIOD	10
V.	CONCLUSIONS AND RECOMMENDATIONS	17
VI.	BIBLIOGRAPHY	20

FIGURES

PHOTOGRAPHS

APPENDIX: Boring Log and Boring Location Map

LIST OF FIGURES

1. Current U.S.G.S. Topographic Map, Flushing Quadrangle
2. Site Location Map/REDI-Sanborn Atlas
3. Proposed Police Service Area #8
4. Topographical Survey Sheets of the Bronx, 1905
5. U.S.G.S, Long Island Sound & East River, 1922 and 1939
6. Grumet, Map of Indian Trails, Planting Fields and Habitation Sites
7. Bolton, Map of Native American Sites and Trails
8. Seifert, Map of Native American Sites
9. Skinner, Site Plan of Snakapins Village
10. The Bronx at the End of the Dutch Period, c.1664
11. Photograph of the Isaac Wilkins House, 1905
12. The Seat of Action between the British & American Forces, 1776
13. Sidney and Neff, Map of Westchester County, 1851
14. Dripps, Map of the Southern Part of Westchester County, 1853
15. Photograph of the Wilkins Mansion, 1900-1913
16. Sanborn, The City of New York: Borough of the Bronx, 1929
17. Archaeological Sensitivity Map

I. INTRODUCTION AND METHODOLOGY

The New York City Housing Authority has proposed the construction of a new Police Service Facility to replace an overcrowded existing facility at the Throgs Neck Houses (CEQR No. 95CHA002X). The proposed site is on Lots 1, 29 and 30 of Block 3540 in the Castle Hill section of the Bronx, an irregular trapezoid bounded by Zerega, Lacombe and Havemeyer Avenues, and Lot 101 of the same block. The site has an area of 128,578 square feet. (See Figs. 1 and 2) According to the Housing Authority, Lot 1, along Lacombe Avenue will be subdivided, and site plans from 2-17-94 show that only the northern 125 feet of Lot 1 will be impacted by the Police Service Area #8 (PSA #8) facility, and the existing 1-family residence will remain on a separate lot reduced to a width of 75 feet. (See Fig. 3)

The new Police Service Area #8 site will contain a three-story structure with a footprint of 20,000 square feet, fronting on Zerega Avenue, which will provide space for administrative offices, an officers' dormitory area, temporary detention cells, male and female locker rooms and shower facilities, a fitness center and other complementary spaces (i.e., muster, main desk and waiting areas and interviewing rooms). The remaining open areas of the PSA #8 site will be used for parking. (See Fig. 3)

An environmental review conducted by the City of New York Landmarks Preservation Commission has concluded that given the PSA #8 area's physiographic features, and the site's proximity to locations of prehistoric and contact period archaeological significance, further documentary study is required before the proposed project can proceed. The purpose of this "Phase 1A Archaeological Assessment Report," is to determine the presence and type of any cultural resources which may be found on the PSA #8 site. The assessment is based on archival research which documents the probability that the proposed parcel hosted any prehistoric or historical resources, and the likelihood that they would have survived the post-depositional disturbances which may have accompanied subsequent development (because the southernmost 75 feet of Lot 1 will not be part of, nor impacted by the new facility, although covered in the report, this area will not be included in the conclusion and recommendations - See Fig. 3).

In order to address these concerns, various sources of data were researched. Primary source material on the project site was collected to determine the study lots' original topography, and to compile a building history, filling and disturbance record. Historical maps and descriptions of the study area were sought at the Local History and Map Divisions of the New York Public Library, and the Municipal Reference Library. Unfortunately, no files for the project lots were available at the Bronx Department of Buildings. Additional information concerning subsurface disturbance, and pre-fill topography was gathered from boring logs provided by the New York City Housing Authority. (See Appendix)

To place the PSA #8 site within an historical context, local and regional histories were examined for pertinent material. These include 19th-century works such as Jenkins' *The Story of the Bronx*, Robert Bolton's *The History of the Several Towns, Manors, and*

Patents of the County of Westchester and Shonnard and Spooner's *History of Westchester County*, as well as more recent works by local and amateur historians, such as those published in the *Bronx Historical Society Journal*. William Ritchie's *The Archaeology of New York State* provided a valuable overview of Native American culture and lifeways during the prehistoric period. Other archaeological literature, available site reports and journal publications, were researched for data specific to the project area.

Although no subsurface investigations were conducted, a site visit (10-10-94) and photographic record of current conditions was made. (See Photos 1-4)

II. ENVIRONMENTAL SETTING

The Bronx lies in the Hudson Valley region, in geological terms a section of the New England Upland Physiographic Province, a northern extension of the Great Appalachian Valley (Schuberth 1968:74). The underlying geology is the same as that which underlies Manhattan Island, "chiefly gneiss and mica schist with heavy, intercalated beds of coarse-grained, dolomitic marble and thinner layers of serpentine" (Scharf 1886:6-7).

The original landscape was altered over the last million years by three known glacial periods. As the ice advanced and receded it eroded, carved, scoured and planed the landscape, and left behind tons of glacial debris, which formed low hills or moraines. In the Bronx these run north-south, directing the local creeks and streams (like Westchester Creek, which runs to the east of the project lot), toward outlets along the Long Island Sound and other bodies of water. These watercourses have further eroded limestone belts still exposed between the glacial deposits, creating a varied landscape of hills and valleys. With the final retreat of the ice, the study area was colonized by plants suited to arctic and tundra conditions, which eventually gave way to a forest composed of conifers and deciduous trees. During the last 12,000 years, the fluctuating floral and faunal communities eventually stabilized, resulting in a landscape of oak, hemlock, beech and chestnut trees, generally characterized as a climax forest. The shrinking of the ice caps, and the accompanying rise in sea levels flooded the outlets of the water courses, and created salt marshes in adjacent low-lying areas, such as those found on the project site until filling episodes during the first half of the 20th century.

Nineteenth- and early 20th-century topographic maps show the project site, on Castle Hill Neck, as a section of a large salt marsh along the shore of Westchester Creek. The Neck is defined by Westchester Creek to the east, Pugsley Creek to the west and Long Island Sound to the south. A small watercourse crosses the project site, draining the marshy area into Westchester Creek, approximately 300 feet to the southwest. The 1905 topographical map¹ (See Fig. 4) shows that lot boundaries cross into two areas that are not marshy. The first, is along Lacombe Avenue and displays elevations from 2.0 to 4.9 feet (the northern part of this area is a hill in Lot 1 that reaches an elevation of 11.1 feet - and is outside the PSA #8 site boundary), and, the second, is along the northwestern edge of the study lots (Lot 30), where recorded elevations are from 1.9 to 7.0 feet. This second elevated area is part of a gentle knoll which reaches elevation of 13.7 feet and has a diameter of about 275 feet. It is completely surrounded by the salt marsh. Apparently this sort of formation is not unusual in the southeastern

¹A solid contour line on this map appears to outline the edge of the marsh, while a dotted line is either the 0.0 feet elevation contour, or the high tide indicator. The dotted line is echoed on subsequent insurance maps. (See e.g., Figs. 4, 16 and 17)

Bronx. Bronx historian James Wells wrote that the salt marshes of neighboring Clason Point were "dotted with rocky hummocks which rise from ten to twenty feet above the surrounding meadows; one of them . . . is called 'Indian Rock'" (Wells 1927:337). The boring data show layers of fill between 13 and 28 feet thick, with the water table extending well into the fill layer, which agrees with the map depictions of the area as marsh.

Between the U.S.G.S. coastal surveys of 1919 and 1934, the marshy sections of the project site were filled (See Fig. 5), and on the 1929 Sanborn Atlas, although only Havemeyer Avenue is open, the intersection elevations range from 12 to 16 feet, thus narrowing the dates of the filling episodes to the period between 1919 and 1929. (See Fig. 16)

The most recent U.S.G.S. topographic map shows the site sloping down from an elevation of 20 feet and above in the northeastern corner, to below 10 feet in the southeastern quarter, along Lacombe and Zerega Avenues, and greater than 10 but less than 20 feet on the western half, along Havemeyer Avenue. Elevations of 15 and 16 feet on adjacent parts of Havemeyer Avenue, as noted on the 1951 Sanborn, suggest a tighter range of between 15 and 20 feet. A site visit confirms these general contours, although large sections of the surface are concealed beneath a thick layer of vegetation, both wild and domestic. (See Photos 1-4)

III. PREHISTORIC ERA

As early as 1919, archaeologist Alanson Skinner wrote that "aboriginal sites within the limits of New York City have almost entirely disappeared" (Skinner 1919:49). This statement emphasizes the difficulty in researching prehistoric sites in the urban environment created by the growth of the city during the 20th century. However, the continuous changes made to the urban landscape also provide opportunities to investigate possible historical and prehistoric materials long buried under fill, land-fill or standing structures. Among the site types seldom preserved in the urban setting, the rarest are those from the prehistoric era.

Researchers have divided the prehistoric era in the coastal New York region into three cultural periods, based on human prehistoric adaptation to changing environmental conditions. In order to be able to assess the PSA #8 site's potential for prehistoric exploitation, it is first necessary to review these time periods and their associated settlement patterns. A brief discussion of their characteristics follows.

Paleo-Indian Period (10,000-7,000 B.C.)

The Paleo-Indian period commenced in the New World when small parties of hunters crossed the open land bridge between Siberia and Alaska during the Late Pleistocene epoch. Although limited information regarding Paleo-Indians has been discovered, archaeological evidence, in the form of lithic material remains, has enabled researchers to form some conclusions. It is generally accepted that Paleo-Indian subsistence was based upon the hunting of migratory big-game animals (e.g., mammoth, caribou and bison) that were found across the North American continent. Little is known, however, about the appearance and daily life of these people. The predominant materials recovered archaeologically are stone tools. The dominant tool type found is the fluted point. In the western and southwestern United States, this tool has been discovered at numerous "kill sites" associated with animal remains. Although no kill sites have been discovered in the Northeast, several campsites have been investigated archaeologically. Information from this research indicates that Paleo-Indians travelled seasonally in small bands and often returned repeatedly to established campsites. From the site characteristics, the Paleo-Indians showed a definite preference for well-elevated locations, and a large number of sites were found near or on the margins of swampy ground. Also desirable was the proximity of major waterways, large fertile valleys and the coastal plain, where the densest population of food animals was supported. To date, the Paleo-Indian site nearest to the present project location is a small campsite at Port Mobil, Staten Island (Ritchie 1980:1,3,7).

Archaic Period (7,000-1,000 B.C.)

The changing environment of the Northeast during the post-glacial period, and the larger variety of plants and animals available for exploitation mark the end of the Paleo-Indian and the beginning of the Archaic period. Although still based on hunting and gathering, subsistence activities changed focus from the dwindling populations of big-game animals to the smaller game found in the now dominant deciduous woodland environment (e.g., white-tailed deer, moose, black bear and turkey). Among the objects added to the lithic tool kit of the Archaic were the narrow-bladed projectile point, beveled adz and grooved ax. The inclusion of grinders and the mortar and pestle indicate a greater emphasis on plant gathering. Scholars have agreed that there is a "distinct regional flavor" to the Archaic sites recovered archaeologically. Excavated sites are often labeled as distinct complexes relating to the different drainage areas within which they were discovered. This has led to the theory that there were perhaps specific territorial distributions of Archaic people (Ritchie 1980:32).

In New York coastal areas, numerous, small, "nearly always multi-component sites variously situated on tidal inlets, coves and bays, particularly at the heads of the latter, and on freshwater ponds . . ." have been found. By the Late Archaic, these areas offered a rich environment for exploitation by humans, providing shellfish, small game, fish, salt hay and tuberous grasses, making larger and more permanent settlements possible. Coastal sites show a principal reliance on shellfish, especially oysters, hard and soft shell clams and bay scallops, which were readily available in the water around the Bronx (Ritchie 1980:143,166-167). In contrast to conditions during the Paleo-Indian, Early and Middle Archaic, "by Late Archaic times the sea level was so close to present levels that its subsequent small rise has failed to obliterate much of what remains" from that time (Gwynne 1982:192). For example, the four sites on the north shore of Suffolk County, Long Island, that make up the Late Archaic Wading River Complex, were found at the edge of a salt marsh, on dry ground ranging only two to seven feet above mean high water (Wyatt 1982:71). Only a few isolated Archaic finds have been recorded within New York City. These include Clason's Point, a coastal site approximately 1 mile southwest of the project site, which contained two Archaic projectile points. (See Fig. 7) and an archaic workshop discovered and excavated in the 1970s along Pugsley Creek (Cohn, personal communication).

Woodland Period (1,000 B.C. - c.1600 A.D.)

The Woodland period is marked by the introduction of pottery, horticultural activity, pipe-smoking, ceremonial burials, and the establishment of trade networks. A variety of site types have been found, including primary habitation sites, which by the Woodland period had become larger and more permanent villages. The villages are often found near a large fresh water source, e.g. a river, lake or an extensive wetland, and Late

Woodland period sites in southern New York tend to be along "tidal streams and coves," on "well-drained sites" (Ritchie 1980:16), and "on the margins of bays and tidal streams" (Smith 1950:130). Secondary sites, where specific activities took place (e.g., tool-making, butchering, shellfish-gathering, processing and/or discard), were situated near resource locations. Shellfish refuse heaps, called "middens," reached immense proportions, covering from one to over three acres.

A wider variety of tool types has been recovered from Woodland sites, including the bow and arrow, as well as tools developed specifically for fishing and horticultural activity. By the end of the Woodland period, the importance of the production of corn, beans and squash in encouraging permanent settlement is visible (Ritchie 1980:180,266-267). The production of clay pots as storage vessels, which commenced during the transition from the Archaic to the Woodland, is also evidence of the increased dependence on plants as a food source, and a more sedentary lifestyle.

The establishment of trade networks among the Native American groups present in the New York City area is discussed by Reginald Bolton in *Indian paths in the Great Metropolis*. According to Bolton, two trails running north-south on either side of Westchester Creek provided links to the trade network for the native population in the vicinity of the project area. Later historical research by archaeologist Robert Grumet supports Bolton, and both identify one of these trails as the precursor of present Castle Hill Avenue (within 900 feet to the west of the study site). (See Figs. 6 and 7)

An important component of background research on the Late Woodland period is the examination of the early documentary record. Written accounts from 17th-century explorers and early settlers provide our only first-hand details of Native Americans in the New York City area. Although many of these accounts discuss hostilities between these two very different peoples, information regarding the location and appearance of some of the Late Woodland villages and people is included. In the general vicinity of the PSA #8 site, the Native Americans encountered were the Wiechquaesgeck, a group of Munsee-speaking Upper Delaware Indians who inhabited portions of the areas now known as the Bronx, Manhattan and Westchester County (Kearns, Kirkorian and Schaefer 1994:8).

Robert Juet, who traveled with Henry Hudson on his voyages of discovery, described several meetings with native peoples along the shores of what is now the Hudson River (1609). His journal details the objects traded between his shipmates and the native population. In most cases, small groups approached the ship to trade "Indian wheate" (maize) and tobacco for knives and beads (Van Zandt 1981:10-11). Adriaen Block, a Dutch explorer who sailed near the present project location in 1614, noted seeing "large wigwams of the tribe on Castle Hill" (approximately 1,000 feet southwest of the project site) (Skinner 1919:76), and describes it as the location of one of the "principal Indian settlements" in Westchester County (Grumet 1981:8). Although Grumet and Seifert both note this village or "stockade," on their maps of Native American sites

the Bronx, this claim has never been substantiated, and Grumet suggests that the site was destroyed by modern construction and development. (See Figs. 6 and 8) The site was excavated by Alanson Skinner in 1918, and Bolton reported that Skinner had uncovered a shell midden, a number of unidentified artifacts, and debris associated with a wampum production site (Kearns, Kirkorian and Schneiderman-Fox 1991:3; Grumet 1981:8). (See Fig. 7) Excavation of this "wampum factory," at the tip of the Castle Hill peninsula (about 2,500 feet southwest of the project lots), produced shell, pottery, drills, tool fragments and points representing the Early Archaic through the Early Woodland periods (Kearns and Kirkorian 1986:14). Adriaen van der Donck, one of the first European landowners in the present Bronx, witnessed the production of wampum and published this description in his book, *A Description of the New Netherlands* (1655):

They strike off the thin parts of those shells and preserve the pillars or standards, which they grind smooth and even and reduce the same according to their thickness, and drill a hole through every piece and string the same on strings . . . (O'Donnell 1968:93).

By the 17th century, Native Americans had developed more complex territorial group dynamics as noted by Johannes de Laet, who in 1625 wrote that the people were "divided into many nations and languages." He describes their clothing as made from "the skins of animals," and their food as 'maize, crushed fine and baked in cakes, with fish, birds and wild game" (Bolton 1972:16). Because their group was decimated by European-introduced diseases against which the Indians had no resistance, and often savage hostilities with Europeans and other Native American groups, during the 17th century many of the surviving Wiechquaesgeck moved to northern Westchester County and New Jersey (Grumet 1981:60-62; Kearns, Kirkorian and Schaefer 1994:8).

In addition to the Castle Hill "village", the inventoried archaeological site closest to the project lots is #5327, a site on the east bank of Westchester creek, described by archaeologist Arthur C. Parker as showing "traces of occupation." This site is imprecisely located, approximately 3,000 feet northeast of the project lots (Parker 1920:pl.147). Another important site in the vicinity of the project area is the Snakapins village site on Clason Point, investigated by Skinner in 1918. This site, about one mile southwest of the project lots, provides much of what is known about the inhabitants of coastal New York during the Late Woodland and Contact periods. (See Fig. 7, Site "8") Skinner excavated the remains of a large village site on a high sandy knoll, approximately one-half mile from the tip of Clason Point. Skinner stated that the village had been inhabited between 1575 and 1625-1643, and may have contained over 300 people (Skinner 1919:49; Grumet 1981:54). (See Fig. 9) The site contained over sixty earth ovens, human burials, a large number of stone tools and fishing implements and pottery fragments (Kearns and Kirkorian 1986:11). Secondary sites, including several shell middens, were discovered along the shores of Westchester and Pugsley Creeks. This village site has been referred to as a "type site" for the late prehistoric period. Sites of the so-called Clasons Point phase in southern New York, tend to be located "on the

second rise of ground above high- water level on tidal inlets and they approximate an acre in extent" (Ritchie 1980:271). During the 1970s an archaeological excavation was conducted on New York City land near Pugsley Creek. Archaeologists Michael Cohn and Bob Abruzzo uncovered a Early Archaic Workshop (Cohn 1994, personal communication).

Prehistoric Potential

The evidence from 17th-century observers' accounts, archaeological reports and site inventories clearly indicate a strong prehistoric and early contact period Native American presence near the project site on Castle Hill Neck, along the shores of Westchester and Pugsley Creeks, as well as on neighboring Clason Point. A Native American path adjacent to the site linked Castle Hill Neck with other mainland Indian settlements and resource extraction loci.

As described in Section II of this report, pre-fill maps of the project lots show that the PSA #8 site once possessed many of the attributes that attracted prehistoric Americans, and suggest a high potential for exploitation by humans in prehistory. As detailed in the discussion of the Native American culture periods, these include a large-scale saltwater marsh, which covers most of the site, and extends along the shores of Westchester Creek; access to a major body of water, Westchester Creek, within 300 feet of the project site, giving access to the Long Island Sound, 3,000 feet to the south; a source of fresh water, the creek and a tiny rivulet which crosses into the project lots; and, most importantly, an area of elevated, well-drained land in the northwest corner of the site. (See Figs. 4 and 5) This elevated area, although not large enough for a village, may have provided an excellent locus for a campsite, lookout or processing area. (For conclusions and recommendations, see Section V)

IV. HISTORICAL PERIOD

Until its annexation by New York City, the Bronx was the southernmost section of Westchester County. Although a part of the Dutch colony of New Netherland, because of Westchester County's proximity to Connecticut and its aggressive, land-hungry population, the earliest European settlements in the eastern portions of the county, including the eastern Bronx and the project area, were dominated by the English and New Englanders.

As was the Dutch practice, the New Amsterdam-based administration of the Dutch West India Company purchased most of the present Bronx east of the Bronx River from the resident Indians in 1640. This area, which included the project site, was called Vredelandt² (FRAY-deh-lahnt), which means "land of peace" in Dutch (Jenkins 1912:26,30). (See Fig. 10) With company ownership established, Governor-General Willem Kieft could then grant colonists a *grond brief*, or patent to purchase property and establish a settlement. In 1643, the first of these patents was assigned to John Throckmorton (or Throgmorton) and 35 families of "Quakers and other malcontents from the New England colonies." Their settlement, was established on what is now Throgs Neck (about 2.3 miles east of the project lots - see Fig. 10), possibly as early as the autumn of 1642 (Brodhead 1854:333-334; Jenkins 1912:30). Tragically, Throckmorton's settlement was destroyed (1643) when simmering hostilities with the Wiechquaesgeck and other local Native American groups erupted into full-blown warfare. Wiechquaesgeck warriors burnt the buildings, and killed the people and livestock. By chance, a group of settlers escaped when a boat arrived at the time of the attack (Brodhead 1854:366-367). Vredelandt was swept clean of European settlement. Wiechquaesgeck resistance was only broken after a series of savage massacres by the Dutch, culminating in the attack on a large village near Bedford, New York in 1644, under the leadership of Captain John Underhill. It is estimated that over 500 Native Americans were shot or burned to death (Grumet 1981:61).

In 1646, Thomas Cornell, a survivor of the Throgs Neck massacre, obtained a *grond brief* to land between the Bronx River and Pugsley's Creek, about 4,500 feet southwest of the study lots. (See Fig. 10) This land became known as Cornell's Neck, but is now called Clason Point. Further hostilities with the Indians caused Cornell to leave for Rhode island by 1653 (Jenkins 1912:31).

The earliest permanent settlement in Vredelandt was illegal. A group from New Haven under the leadership of Thomas Pell established a village on the shore of Westchester Creek (about 1.6 miles north of the study parcel). The Native Americans resold the land west of the Bronx River to Pell in 1654. (See Fig. 10) Despite Director-General Peter Stuyvesant's warnings to leave Dutch territory, the settlers

²Jenkins is the only source that spells it Vriedelandt, which is probably a more archaic orthography.

remained, refusing to recognize Dutch suzerainty. Finally, in March 1656, Stuyvesant sent an armed expedition to "West Chester," and captured 23 men, taking them to New Amsterdam. There, moved by the pleadings of the prisoners' wives, Stuyvesant and the Council released the men, and on their submission of a petition to remain at West Chester and to recognize Dutch authority, they were given permission to return to West Chester, which the Dutch named Oostdorp (AWS-door-rup), or east village³ (Jenkins 1912:35-36; Brodhead 1854:595,618-619).

Despite his magnanimity, Stuyvesant's difficulties with the Oostdorpers did not end there. The colonists constantly intrigued with the Connecticut colony, and were suspected of instigating various Indian groups to attack the Dutch, sometimes promising assistance in exchange for additional lands. Rather than recognize Dutch authority, and as a way of extending the boundaries of Connecticut, the Westchester villagers recognized only Pell's purchase, even though they had to pay him an annual quit-rent. These problems continued even after the English captured all of New Netherland in 1664 (Jenkins 1912:38,48).⁴

Under English hegemony, as the only village in the area, Westchester was made the seat of Westchester County (1683), and from 1700 to 1759 was the location of the Court of Oyer and terminer and General Jail Delivery (Jenkins 1912:396-398). The Township of Westchester included the project lots as well as all of the former Vredelandt. (See Fig. 10) The earliest recorded property transaction on Castle Hill Neck was in 1685, when John and Elizabeth Cromwell exchanged 6 acres of meadow for Thomas Hunt's "8 acres of upland, situated on Castle Neck." John Cromwell was believed to be a nephew of Oliver Cromwell, and for a time Castle Hill Neck was known as Cromwell's Neck. The property later passed from the Cromwells to the Underhill family, descendants of Captain John Underhill, the leader of the military force at the massacre of the Wiechquaesgeck near Bedford in 1644 (Jenkins 1912:409).

The salt marshes which dominated the project lots were hardly considered wasteland. Salt hay was a much-desired livestock fodder, and the town charter of 1721 included provisions for the equitable division of such a valuable resource. Each freeholder was entitled to free pasturage for 25 sheep, or "a cow in lieu of five sheep, a horse, mare, or an ox; in lieu of a sheep, a calf; in lieu of two sheep a yearling". The area set aside was known as "the Commons," and included 400 acres of meadowland along the west shore of Westchester Creek (about 2,000 feet north of the project site),

³Since it was the easternmost settlement in mainland New Netherland. It is interesting to note that Connecticut referred to the village as *West Chester*, considering it the westernmost settlement of New England.

⁴In fact, border disputes between New York and Connecticut were not finally settled until 1880/81 (Jenkins 1912:41)!

as well as a fenced acre on the east shore where owners "folded and washed" their sheep. The town trustees sold the Commons to Martin Wilkins in 1825 (Jenkins 1912:406). (See Fig. 14 - the Commons was the area gridded and labelled "Unionport")

Martin Wilkins was a descendant of the Reverend Isaac Wilkins, who had purchased the Castle Hill property, including the study parcel, from the Underhill family sometime after 1763. Wilkins was born in 1741, the son of a wealthy Jamaica planter. When the father died, young Wilkins was sent to New York to attend King's College (now Columbia University) in 1756. He completed his A.B. degree in 1760, A.M. in 1763, and prepared himself for a career in the Church of England. After completing his education he settled in Westchester County (Bolton 1881:391), occupying a house on Castle Hill Neck, about 1,400 feet southwest of the project site, near the intersection of present Norton and Screvin Avenues. (See Figs. 11 and 13 "Farm yard") This building, believed to have been constructed c.1765, may have been built by Wilkins, or by one of the previous owners. It was not torn down until after 1927 (Jenkins 1912:264,407; Wells 1927:311).

Wilkins married Isabella Morris, the half-sister of Lewis Morris, the wealthy and influential Lord of the Manor of Morrisania and later signer of the Declaration of Independence. Because of his education, wealth and social connections, Wilkins served as a Westchester representative in the Provincial Assembly, where he became the leader of the loyalists, allying himself with the powerful De Lancey and Philipse families against his in-laws. Partially due to the strong influence of the De Lanceys and the Church of England in the region, the parts of Westchester County along Long Island Sound were the most Tory in the vicinity of New York City (Jenkins 1912:114,115,409). When the freeholders and inhabitants the county gathered at White Plains in 1775 to choose provincial delegates to the Continental Congress, the majority refused to take part, and drew up a protest and declaration of allegiance to King and Constitution. The author of the protest was Isaac Wilkins, who was also probably the author of a series of loyalist articles signed A. W. F. (A Westchester Farmer), and published in New York City in royalist printer James Rivington's *Gazette*. They were considered important and influential enough to merit a response by Alexander Hamilton. After news of the Battles of Lexington and Concord reached New York, Wilkins, feeling endangered by his "blatant display of Toryism," and claiming an unwillingness to fight against either his country or king, fled to England in 1775 (Bolton 1881:392; Jenkins 1912:117,264).

During the Revolution, remote Castle Hill Neck, with only one dwelling, was not a scene of major troop movements. During the August of 1776, when Generals Washington and Heath were attempting to defend positions in and around Manhattan Island from the British forces under General Howe, Heath stationed a chain of sentinels along the coast from Hell Gate to Throgs Neck, to provide warning of impending British landings. Howe eventually landed at Throgs Neck, on October 12th, and when that location was deemed unsuitable for maintaining supply lines and communications, Howe moved his forces to the vicinity of Eastchester and New Rochelle on the 18th (Morris

1896:12; Johnston 1971:269,271). (See Fig. 12)

Castle Hill Neck was the site of one notable incident, involving the Wilkins House. In 1776, fleeing the Continental Army, three priests of the Church of England, Drs. Cooper, Chandler and Seabury,⁵ awaiting the opportunity to escape to Long Island, took refuge in the Wilkins house. On the second story, behind the chimney, was a trap door, the entrance to a subterranean room, for which there was, apparently, no evidence on the ground floor. Bronx historian Stephen Jenkins speculated that since the house was isolated and near the navigable mouth of Pugsley's Creek, the secret room was constructed as hidden storage for smuggled goods. It is unclear how long the priests remained. Historian Randall Comfort says a week, while historian Robert Bolton only reports that it was "for some time," but long enough that it was necessary to pass food down to them. Despite frequent searches of the building by soldiers under General Heath's command, the hiding place was never found, and according to local legend, they made their escape through a tunnel to Pugsley's Creek, about 100 feet away (Jenkins 1912:407-408; Bolton 1881:423; Comfort 1906:69). In 1906, Comfort reported that "not long ago" (c.1906), digging workmen actually stumbled across an underground passage in that area (Comfort 1906:69).

Until the signing of peace and the British evacuation of New York in 1783, the present Bronx and Westchester Counties became the "Neutral Ground" between the British and American lines. Raids and counterraids, gangs of vicious bandits nominally Loyalist ("Cowboys") or American ("Skinners"), as well as the occupying army's enormous demand for wood for heating and cooking, denuded the forests, demolished wooden buildings and drove off or killed many of the remaining inhabitants. The isolated project area fared better than the western sections of the county (Morris 1896:15), since the main bodies of British troops were concentrated near Kingsbridge, at the northern tip of Manhattan Island.

After the war, the county returned to its peaceful existence as an agricultural region. The only commercial activity was the sloops which transported produce to New York City and also visited Eastchester regularly (Shonnard and Spooner 1900:534). Westchester village was only 15 miles from New York by water, as opposed to 19 miles by land routes, and Westchester Creek had always been navigable to the village. The sloop trade began in the 17th century, and continued to the 19th century when the sloops were replaced by small steamboats (Wells et al. 1927:283).

Following his sojourn in England, and later on British-controlled Long Island, Isaac Wilkins returned to his property on Castle Hill Neck, but sold it to Gilbert Pell for £2,500

⁵Samuel Seabury was the rector of St. Peter's Church in Westchester, later the Bishop of Connecticut, and the presiding bishop of the Episcopal Church in the United States. Myles Cooper was the second president of King's College.

in 1784. Oddly, his estate had not been confiscated, as were those of many other loyalists. It is possible that his brothers-in-law, Lewis and Gouverneur Morris, both members of the Continental Congress, were influential enough to protect him. Wilkins finally took holy orders in 1798, and in 1799 became rector of St. Peter's parish in Westchester village (Bolton 1881:392-393, 422; Jenkins 1912:409). The present landmarked 1855 building still stands on the same site as church Wilkins knew, at 2500 Westchester Avenue, 5,000 feet north of the project site (Willensky and White 1988:541). According to local historian Fordham Morris, Wilkins "was foremost in helping his former neighbors to reorganize their affairs," and taught them "higher agriculture, learned by him in England" (Morris 1896:7). He died in 1830, and was buried in the church beside his wife (Bolton 1881:393).

During the first half of the 19th century, the necks of southeastern Westchester were occupied by wealthy merchants, "who placed on the breezy shores of the East River their summer homes, but [were] compelled, as now, by the exacting cares of commercial life to be near the growing metropolis" (Morris 1896:16). After passing through a series of owners, the estate, including the project site, was purchased by the distinguished lawyer Martin Wilkins, Isaac's eldest son (Bolton 1881:423), presumably after he acquired the former town commons in 1825 for \$300,000 (Jenkins 1912:406). One of the Wilkinses built a new residence on the elevated section of Castle Hill (about 1,000 feet southwest of the project area, near the present intersection of Castle Hill and Norton Avenues), and the c.1765 building became a farmhouse. (See Figs. 13 "Gov Wilkins," 14, 15) The property passed to Martin's son, Gouverneur Morris Wilkins, who enlarged and beautified the mansion (Morris 1896:17):

The residence of the late Gouverneur [sic] Morris Wilkins is seated on the brow of a hill, near the extremity of the neck and commands an almost uninterrupted view of the river with the adjacent shores. The interior contains some good paintings, particularly a view of the Arno, by Cole, and a portrait of Martin Wilkins, Esq., by Rogers, &c; also a beautiful white marble bust of Washington by Garecehi, and an Apollo by Tantenoin (Bolton 1881:423-424). The estate, called "Castle Hill," was reached along the old Native American path, now followed by Castle Hill Avenue, with the estate entrance at present Cincinnatus Place (1,250 feet northwest of the project site). When mapped in 1868 it covered 341 acres (McNamara 1991:46,317).

In 1851, Gouverneur Morris Wilkins sold the former Westchester commons acreage at \$200 an acre to Henry Palmer, a trustee for the New York Industrial Home Association No. 2. Association No. 1 was a building association composed of "tradesmen" and "employees" - "people of small means" who had banded together to escape New York City's exorbitant rents and build a village at a convenient distance from their workplaces. This resulted in the founding of Mount Vernon in 1851. In 1854, presumably with the same intentions, Association No. 2 filed plans for the village of Unionport, beginning

approximately 2,000 feet north of the project lots (Jenkins 1912:406;Shonnard and Spooner 1900:579). (See Figs. 13 and 14)

The Wilkins estate, along with the study lots, remained undeveloped for the remainder of the 19th century, passing at Gouverneur Wilkins' death in 1871 to his son-in-law, John Screvin. (See Fig. 7) In 1887 Screvin sold 150 acres of the estate to the American Jockey Club, which was looking for a new site after Jerome Park Racetrack was converted into a municipal park. This area was immediately south of the project site, and included all of Castle Hill Neck south of present Lacombe Avenue. However, the

Jockey Club never used the site because "it was considered out of the way and had poor transportation facilities" (DiBrino 1972:1-2).

Although other areas of the Bronx experienced population booms after annexation by New York City in 1895, the Neck remained undeveloped. Although streets were mapped on the project site itself, except for its naturally-elevated northwest corner, it remained a swamp until filling operations took place between 1919 and 1929. (See Figs. 5 and 16) The paper streets with names from Greek and Roman history, such as Cicero Avenue and Caesar Place (See Fig. 16) were laid out over the Wilkins estate by a real estate developer, the aptly-named Solon L. Frank, who was active c.1904 (McNamara 1991:43). Lacombe Avenue was constructed across Pugsley's Creek from Clason Point in 1916, and Zerega Avenue was extended southward toward Castle Hill in 1910 (McNamara 1991:148,277). During the first half of the 20th century, neighboring Clason Point and to some extent, Castle Hill Neck, became popular summer fishing and bathing spots, and the number of docks along the Westchester Creek shore increases visibly from the 1922 to the 1939 topographic maps (Fig. 5). Circa 1925, the Castle Hill Pool was constructed at Castle Hill and Norton Avenues, about 1,250 feet southwest of the project site. A season ticket entitled the bearer to unlimited admissions and locker space. At Zerega and Lafayette Avenues, and possibly extending onto the project site, "midget auto races" were held during the 1920s and 30s (Willensky and White 1988:538-539). In the 1940s, there were sports facilities, live entertainment featured most afternoons, and food counters (Ultan and Hermaylin 1992:151). Access to the Neck was finally facilitated in this period by the spread of automobile ownership and the institution of regular bus service.

After World War II, the housing shortage in New York City became acute, and government-sponsored, low-rent apartments were built to alleviate this problem. Preferred sites for these complexes were areas of undeveloped, vacant land, such as that on Castle Hill Neck, where the Castle Hill Houses were constructed, adjacent to the project site on the west, on the blocks between Havemeyer, Lacombe, Olmstead and Seward Avenues (Ultan and Hermaylin 1992:5-6).

The first structures on the project lots were built between 1929 and 1951. These were a 1-story dwelling at the corner of Lacombe and Zerega Avenues, with two 1-story

storage sheds to the rear and along Zerega. According to a review of the 1951 Sanborn "The City of New York, the Borough of the Bronx," all were on present Lot 1, but only the storage structure along Zerega Avenue is on the PSA #8 site.⁶ The site map, representing current conditions, shows the house, now listed as one and a half stories, and only one of the sheds. With minor modifications, they appear to be the same structures on the same sites. The proposed plan for Police Service Area #8 does not include the demolition of the existing dwelling. (See Figs. 2 and 3) Cicero Avenue, a paper street in 1951, became Lot 29, while the Caesar Place acreage was added to Lot 101, and lies outside the study parcel. (See Fig. 2)

⁶Lot 1 will be subdivided - See Section I of this report and Fig. 3)

V. CONCLUSIONS AND RECOMMENDATIONS

Historical Period

Cartographic and other historical data provide no evidence that the three lots of the Police Service Area #8 site were occupied for any purpose during the historical period before the erection of a dwelling and two related storage structures between 1929 and 1951. Furthermore, only one wood frame shed (along Zerega Avenue) was on the project site. The other two buildings, although on Lot 1, will fall outside the PSA #8 site once the lot is subdivided. Even conceding the existence of privies, cisterns and wells (unlikely, given the late construction date and the proximity of Westchester Creek and minor tributaries), the archaeological potential of the deposits - mid-20th-century domestic remains - is not considered sufficient to carry out additional archaeological investigation. Therefore, it is the conclusion of this report that the study site is NOT SENSITIVE for buried cultural resources from the HISTORICAL period.

Prehistoric Period

Overwhelming evidence exists that Native Americans exploited the natural resources of the Bronx for thousands of years before the arrival of Europeans. Furthermore, as described in Section III, the Indian presence on Castle Hill Neck has been documented in both the written and archaeological records. It is also clear that the watercourses and marshland once found on the Police Service Area #8 site offered prehistoric man a tempting source of food and raw materials.

Settlement pattern data of the prehistoric culture periods show a strong correlation between habitation and processing sites and the confluence of two water courses, proximity to a major waterway, a marsh resource and/or well-drained, elevated land. A review of the documentary and cartographic evidence confirms that all of these criteria were met in the project lots. However, despite these attributes which would have proven attractive to Native Americans, most of the site was part of a larger salt marsh along the shore of Westchester Creek. Although it is likely that the marshy resources of the site were tapped, most of the project site was too wet and soggy a location for an Indian campsite or processing station. Traces of marine shell found in some of the borings (B-2, -3, -7, -9) appear to be natural deposits, rather than a manmade shell midden (garbage heap), which might cover several acres to a thickness of several feet. Although it is always possible that a stray artifact may be recovered during an excavation, the evidence for prehistoric potential in these formerly marshy areas is not sufficient to warrant further archaeological research, field investigation or monitoring.

However, one area of elevated land has been identified - the southern part of a small isolated hillock in the northwest corner of project lot 30 - and exhibits elevations

from 1.9 up to 7.0 feet within the project site boundaries. (See Fig. 4) The position of this hillock in the swamp may have provided a dry area ideal for a temporary camp or food processing site adjacent to hunting, fishing and foraging grounds, and also would have provided an unobstructed lookout post for spotting hostile forces and game. The presence of a swamp-like environment surrounding the elevated hillock also questions the likelihood of a primary site in this location. The secondary sites listed above, or more likely a single discarded artifact may be the only remains to be recovered in this area. Since there is no record of historical construction activity or subsurface disturbance in this part of the project lots, this area, identified on the "Archaeological Sensitivity Map" (Fig. 17), must be considered SENSITIVE for pre- and proto-historic subsurface cultural resources.

A comparison of the 1905 topographical survey and the current U.S.G.S. topographic map (Figs. 1 and 4), indicates that at present, the eastern sections of this hillock have elevations of 20 feet or greater. This corresponds with the boring which shows a fill layer 14 feet thick (B-8) in this area. (See Appendix) Presently, the western part of the hillock has elevations of less than 20 feet, and probably greater than the 15 and 16 feet recorded along adjacent Havemeyer Avenue to the west on the 1951 Sanborn. These figures are also in agreement with the boring data, which suggest that no less than 13 feet of fill blankets the entire study site, atop the 1905 pre-fill surface which listed elevations at 3.3 and 3.4 feet.

However, according to plans dated February 17, 1994, provided by the New York City Housing Authority (See Fig. 3), no structure will be built on the sensitive section of the PSA #8 site. This area will be part of the parking lot and will be partially landscaped. Since the boring log shows that the closest boring to this area (B-8) exhibits a fill layer of 14 feet, and that the thinnest layer of fill on the entire site is 13 feet (B-5), the fill will act as a protective layer for the original ground surface, if regrading, or excavation (e.g., for the installation of a drainage system or tree planting) does not penetrate more than 10 feet below the PRESENT GROUND SURFACE. As the 1993 CEQR Technical Manual (410. Archaeological Resources) points out, "deeply buried sites are sometimes safe from any impacts. If an action would not have a physical impact on archaeological resources, then no significant adverse impact would occur," and therefore, no further fieldwork would be required.

However, there are additional concerns when possible resources are left deeply buried, or, *in situ*, and new structures erected over them. These pertain to looting, compaction and access.

In New York City there is a history of construction site looting by artifact collectors, occurring when areas of buried cultural resources are exposed by heavy machinery. In fact, it is a nationally recognized problem that sites with highly visible surface materials are often damaged by looting and vandalism, as well as traffic from heavy vehicles to large numbers of curious pedestrians. However, if the current design plans are followed,

the sensitive areas of the project site will remain covered by a protective fill overmantle ranging between 4 and 14 feet. Nevertheless, it is very important that early and adequate site protection be provided on a seven-days-a-week/24-hour-a-day basis, so that invasive pot-hunting activities do not occur.

Compaction and the resultant damage to buried cultural resources from "standing" heavy machinery or new construction is not a concern on the PSA #8 site, because any possible cultural resources on the lots have been deeply buried for many years, will not be exposed to new materials which will affect their decay rate, and according to the proposed plans, new building activity in potentially sensitive areas should be limited to parking lot construction.

Finally, projected landscaping and the construction of a parking lot should not preclude further archaeological investigation. The site must remain accessible should archaeological subsurface excavation or testing be considered expedient or necessary in the future. A landscaped lawn or surface parking pavement, as planned, are not impediments to future access. However, if deemed necessary, long-term access to the limited area of sensitivity can be guaranteed through deed restrictions on future deep construction activities.

VI. BIBLIOGRAPHY

Bolton, Reginald P.

1922 *Indian Paths in the Great Metropolis. Indian Notes and Monographs*,
Museum of the American Indian-Heys Foundation, 2(7).

Bolton, Reginald P.

1972 *Indian Life of Long Ago in the City of New York*. Enlarged edition.
Harmony Books, New York.

Bolton, Robert

1881 *The History of the Several Towns, Manors, and patents of the
County of Westchester, from Its First Settlement to the Present Time*.
2 vols. Charles F. Roper, New York.

Brodhead, John R.

1853 *History of the State of New York*. Harper and Brothers, New York.

Comfort, Randall

1906 *History of the Bronx Borough*. North Side News Press, New York.

DiBrino, Nicholas

1972 "History of the Morris Park Racecourse." *Bronx County Historical
Society Journal*. X(1):1-28.

Grumet, Robert Steven

1981 *Native American Place Names in New York City*. Museum of the City
of New York, New York.

Jenkins, Stephen

1912 *The Story of the Bronx*. G. P. Putnam's Sons, New York.

Kearns Betsy and Cece Kirkorian

1986 "Phase 1A Archaeological Assessment, Shorehaven, Bronx." Mss
on file with the New York City Landmarks Preservation Commission.

Kearns, Betsy, Cece Kirkorian and Richard Schaefer

1994 "Phase 1A Archaeological Assessment, Frances Schervier Home and
Hospital, Riverdale, New York." Prepared for Ailee King Rosen and
Fleming, Inc.

Kearns, Betsy, Cece Kirkorian and Faline Schneiderman-Fox

1991 "The New York City Long Range Sludge Management Plan: Generic
Environmental Impact Statement III: Zerega, Bronx Preliminary

Archaeological Assessment." Prepared for Allee King Rosen and Fleming, Inc.

McNamara, John

1967 "Bronx Street Names of Long Ago," *Bronx County Historical Society Journal*. IV(1):3-9.

1991 *History in Asphalt*. Third edition. Bronx County Historical Society, New York.

Morris, Fordham

1896 "The Borough Town of Westchester." An address delivered before the Westchester County Historical Society, White Plains, New York, October 28.

O'Donnell, Thomas F. ed.

1968 *A Description of the New Netherlands*. Translation of the 2nd edition of 1656. Syracuse University Press, Syracuse, New York.

Parker, Arthur C.

1920 "The Archeological History of New York - Part II," *New York State Museum Bulletin*, 237/238, September/October, 471-743.

Ritchie, William A.

1980 *The Archaeology of New York State*. Revised edition. Harbor Hill Books, Harrison, New York.

Scharf, J. Thomas

1886 *History of Westchester County, New York, Including Morrisania, Kings Bridge, and West Farms, Which Have Been Annexed to New York City*. 2 vol. L. E. Preston and Co., Philadelphia.

Schneider, Max B.

1982 "A History of Public Housing in the Bronx." *Bronx County Historical Society Journal*. XIX(2):77-89.

Schuberth, Christopher J.

1968 *The Geology of New York City and Environs*. Natural History Press, Garden City, New York.

Shonnard, Frederic and W. W. Spooner

1900 *History of Westchester County New York from Its Earliest Settlement to the Year 1900*. New York History Company, New York.

Skinner, Alanson

1919 *Exploration of Aboriginal Sites at Throg's Neck and Clason's Point, New York City.* Contributions from the Museum of Natural History 43(2).

Smith, Carlyle Shreeve

1950 *The Archaeology of Coastal New York,* Anthropological Papers of the American Museum of Natural History, 43(2), New York.

Ultan, Lloyd and Gary Hermalyn .

1992 *The Bronx: It Was Only Yesterday 1935-1965.* Bronx County Historical Society, New York.

Van Zandt, Roland

1981 *Chronicles of the Hudson: Three Centuries of Traveler's Accounts.* Rutgers University Press, New Brunswick, New Jersey.

Wells, James L.

1927 *The Bronx and Its People: A History 1609-1927.* 4 vols. Lewis Historical Publishing Company, New York.

Willensky, Elliot and Norval White

1988 *The AIA Guide to New York City.* Third edition. Harcourt Brace Jovanovich, New York.

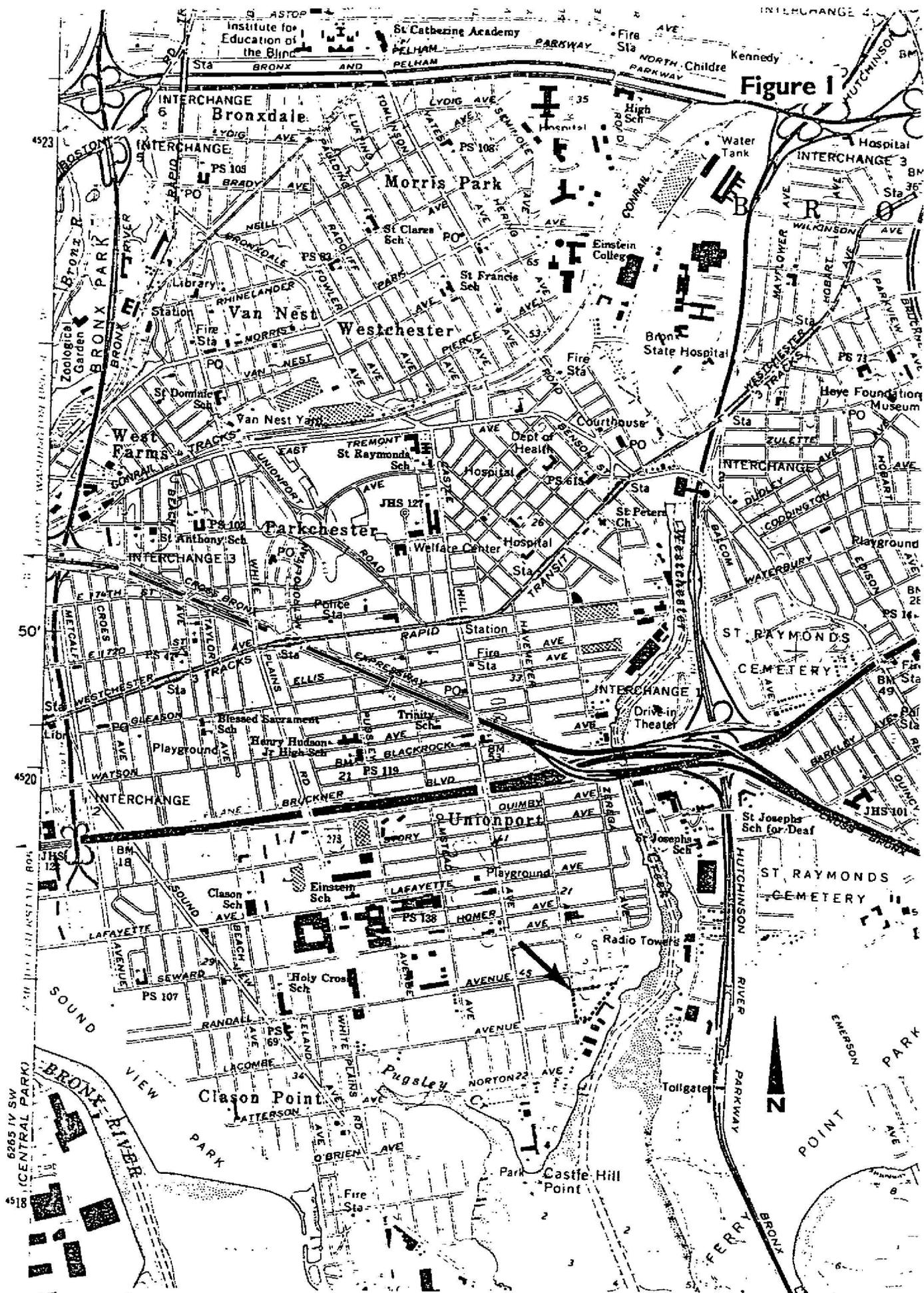


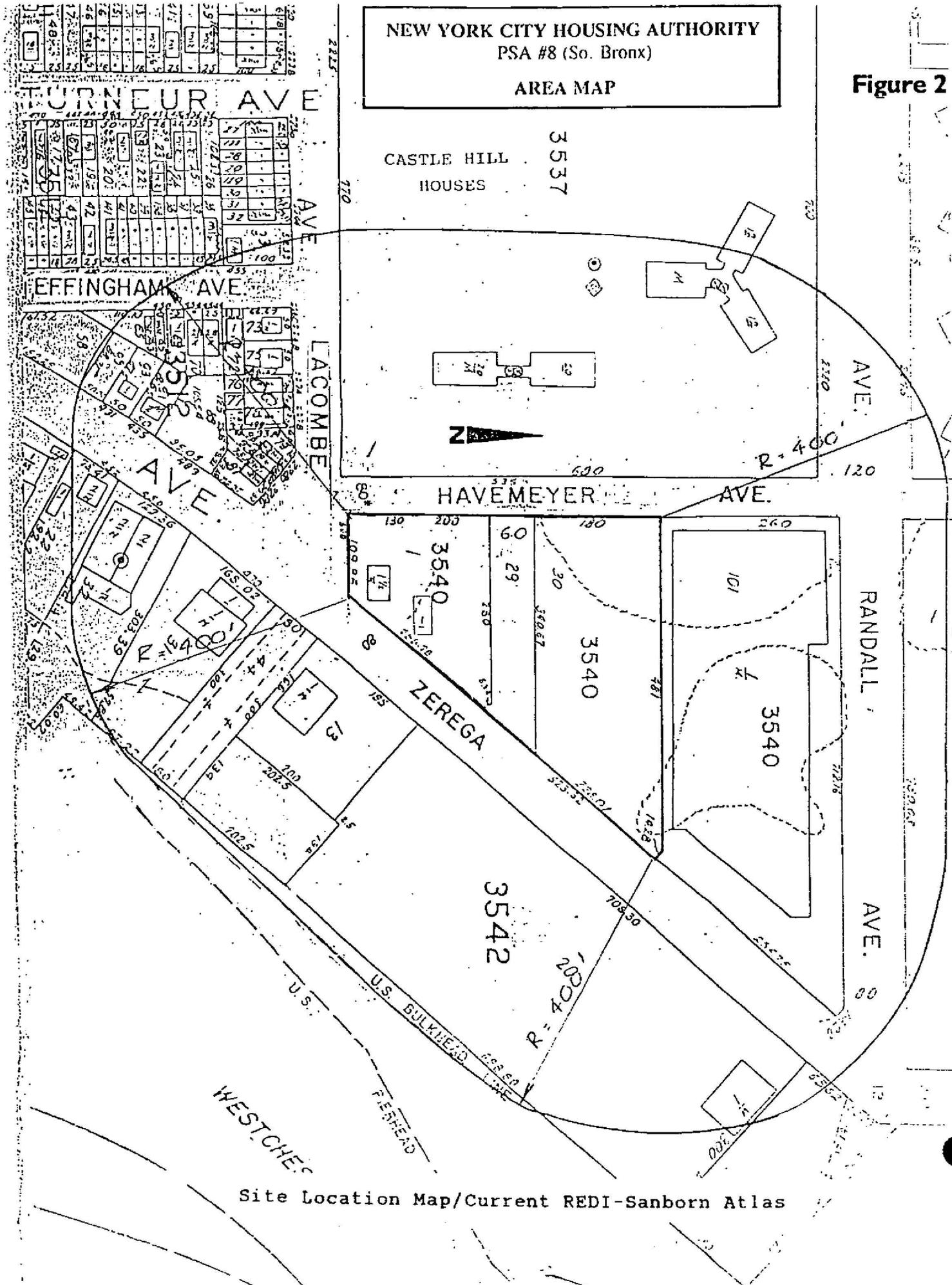
Figure 1

Current U.S.G.S. Topographic Map, Flushing Quadrangle
 (1 inch = approx. 2,000 feet)

ENC 19

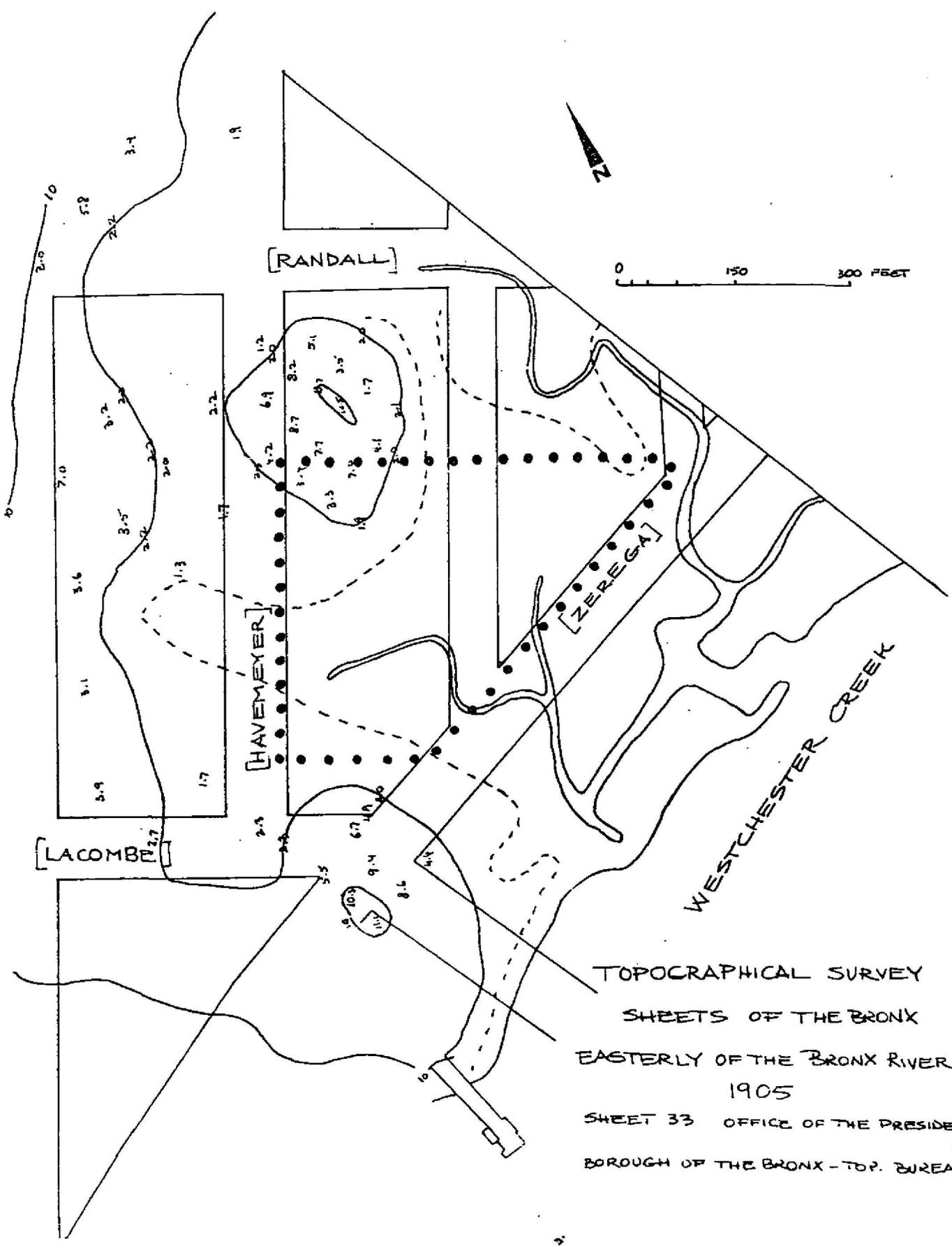
NEW YORK CITY HOUSING AUTHORITY
PSA #8 (So. Bronx)
AREA MAP

Figure 2



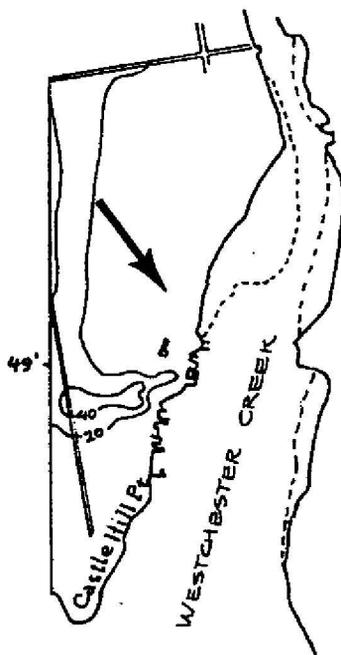
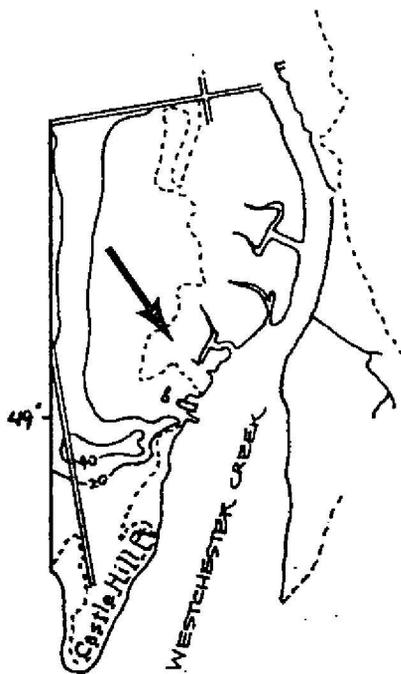
Site Location Map/Current REDI-Sanborn Atlas

Figure 4



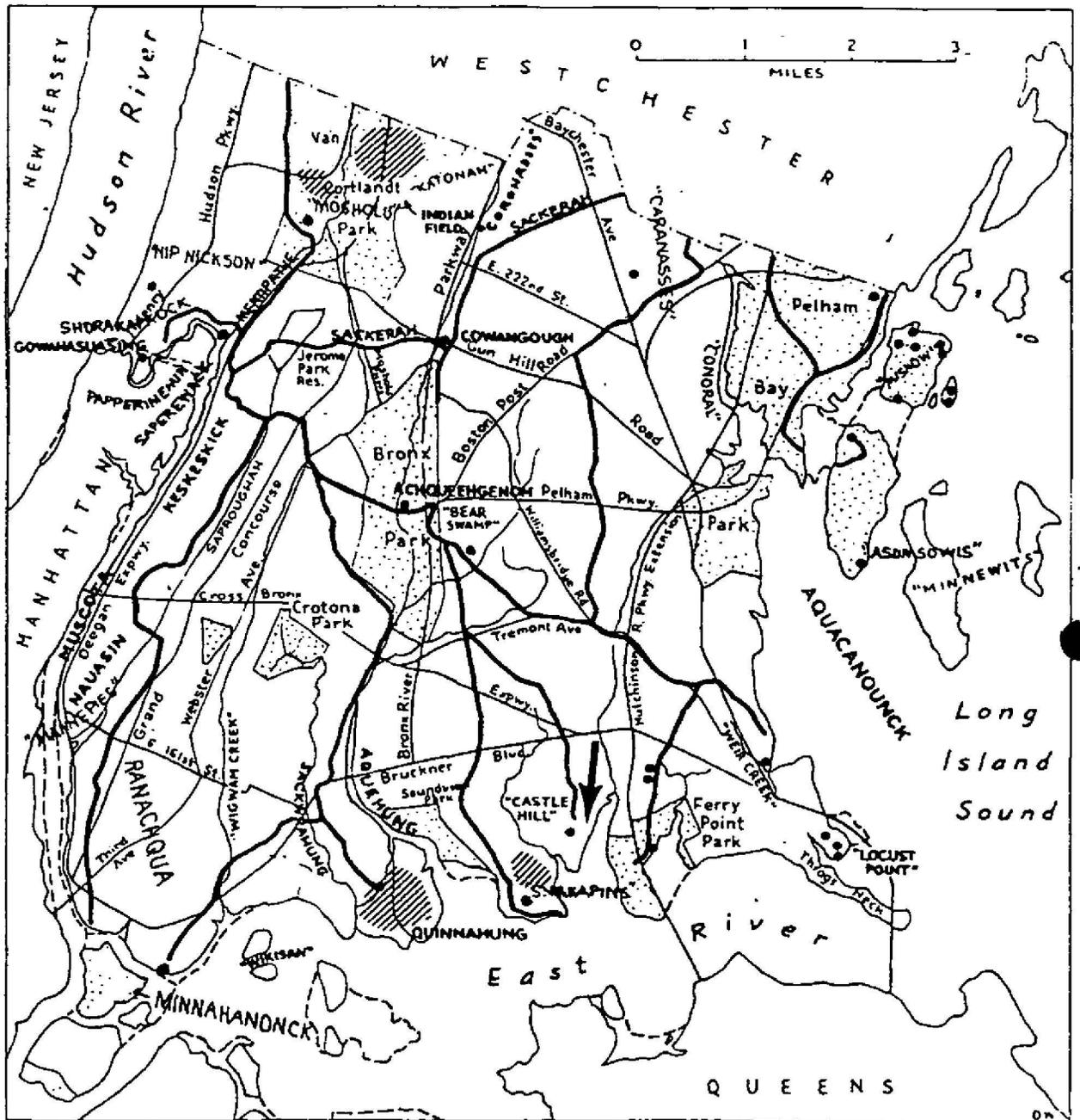
TOPOGRAPHICAL SURVEY
SHEETS OF THE BRONX
EASTERLY OF THE BRONX RIVER
1905
SHEET 33 OFFICE OF THE PRESIDENT
BOROUGH OF THE BRONX - TOP. BUREAU

Figure 5

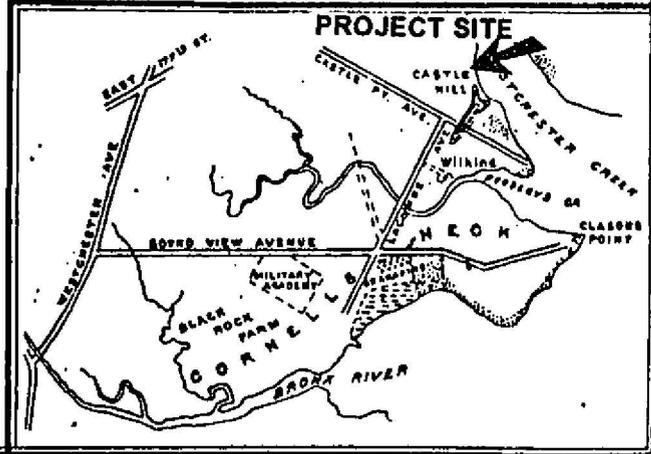
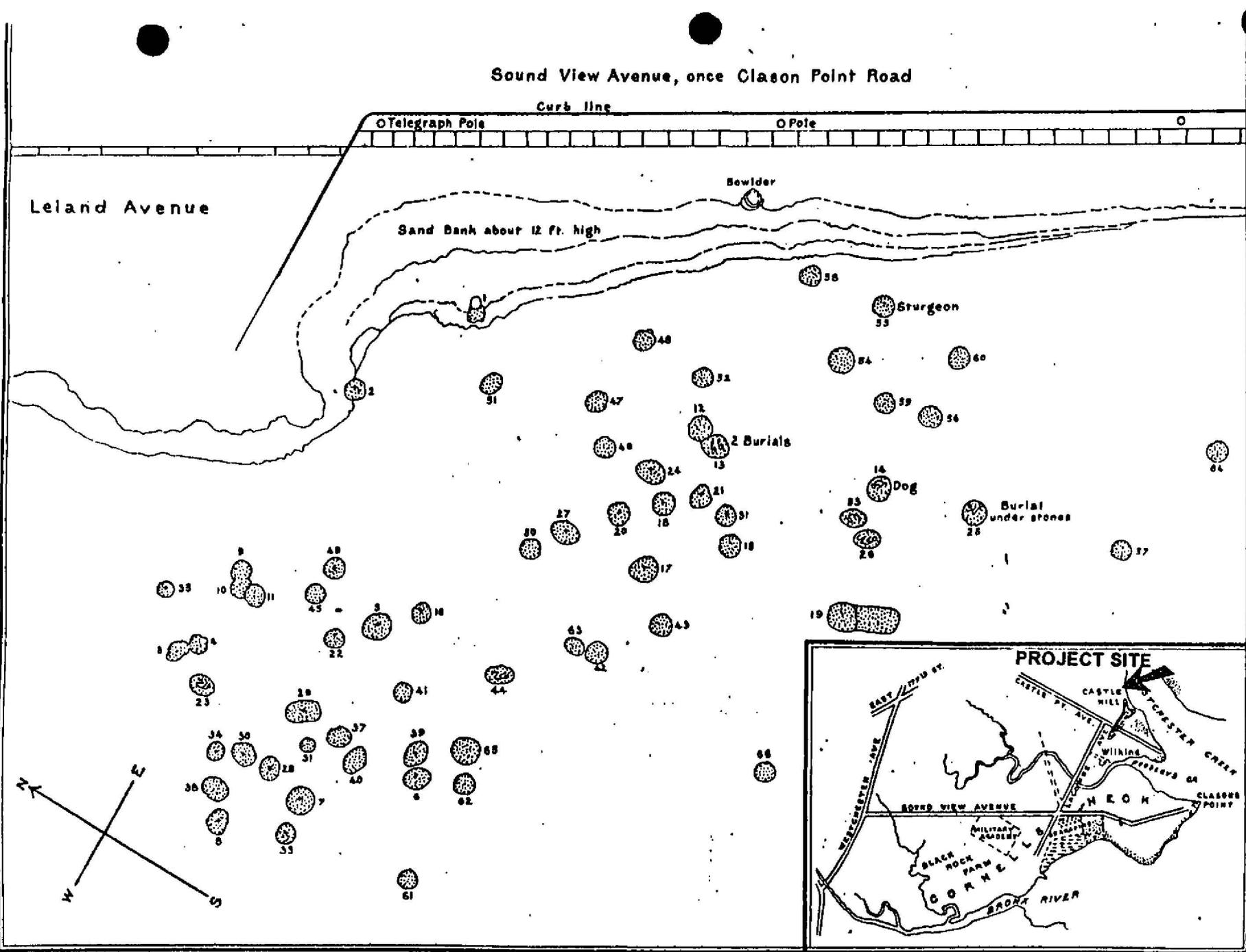


U.S. COAST AND GEODETIC SURVEY
LONG ISLAND SOUND & EAST RIVER
HEMPSTEAD HARBOR TO TALLMAN ISLAND
SHEET #223, WASHINGTON, D.C.

Figure 6



Map of Indian Trails, Planting Fields and Habitation Sites (Grumet 1981:69)



Site plan of Snakapins Village (Skinner, 1919, plate IX).

SITE OF THE SIWANUY INDIAN VILLAGE OF SNAKAPINS AT CLASONS POINT, FROM THE SURVEY BY REGINALD PELHAM BOLTON
SCALE, ABOUT 85 FEET TO THE INCH

Figure 7

Map showing Native American Sites and Trails close to the project area (Bolton 1922, map VII, D).

Figure 9

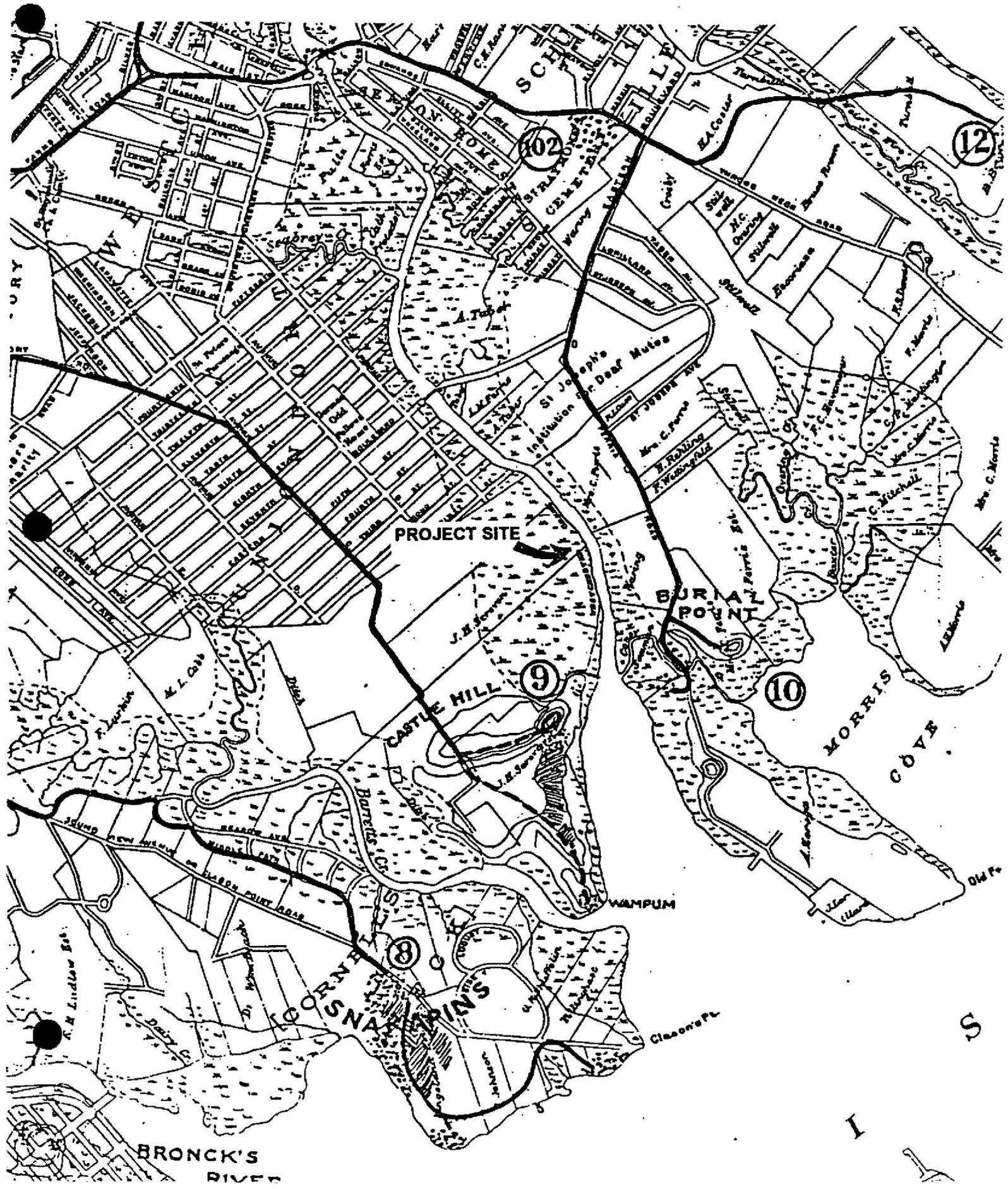
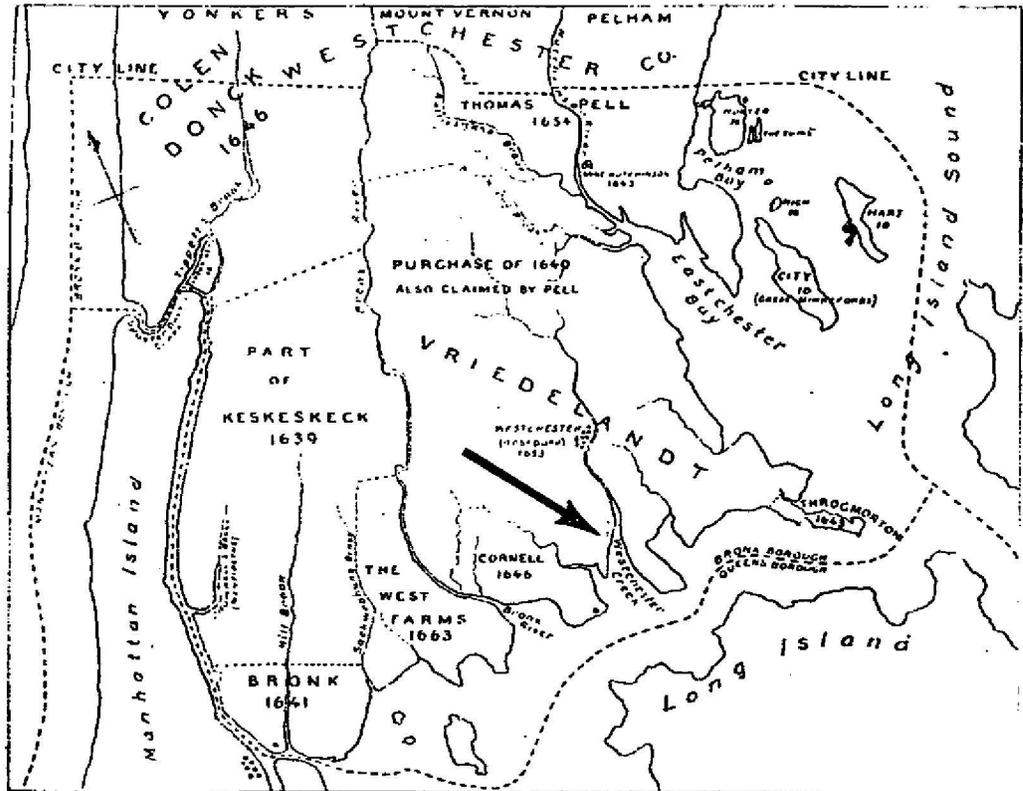
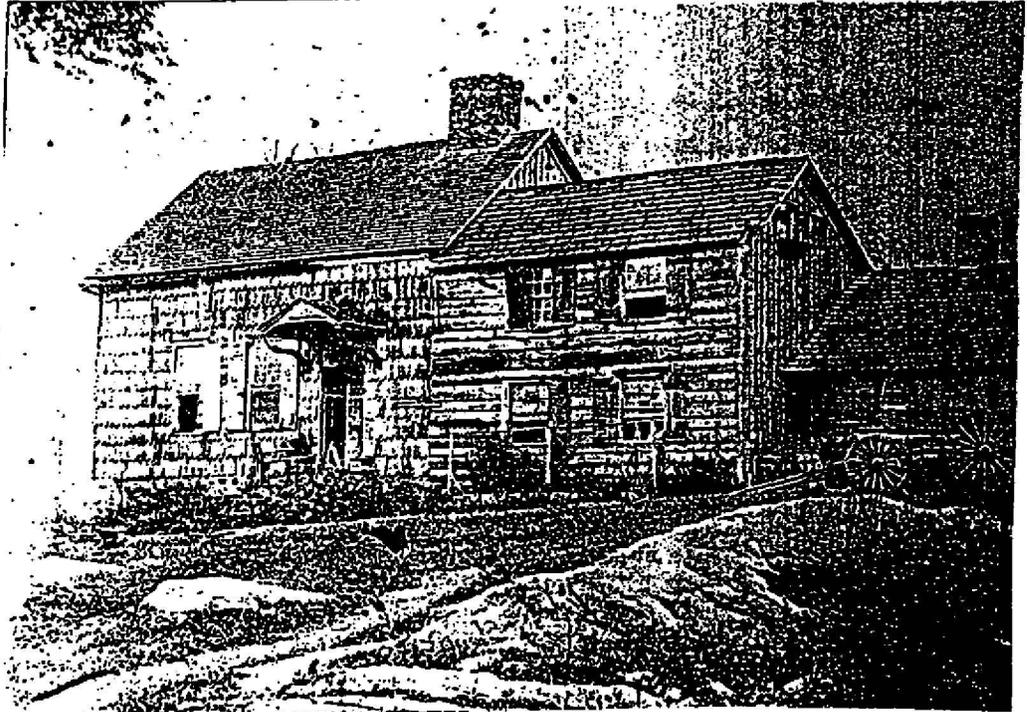


Figure 10

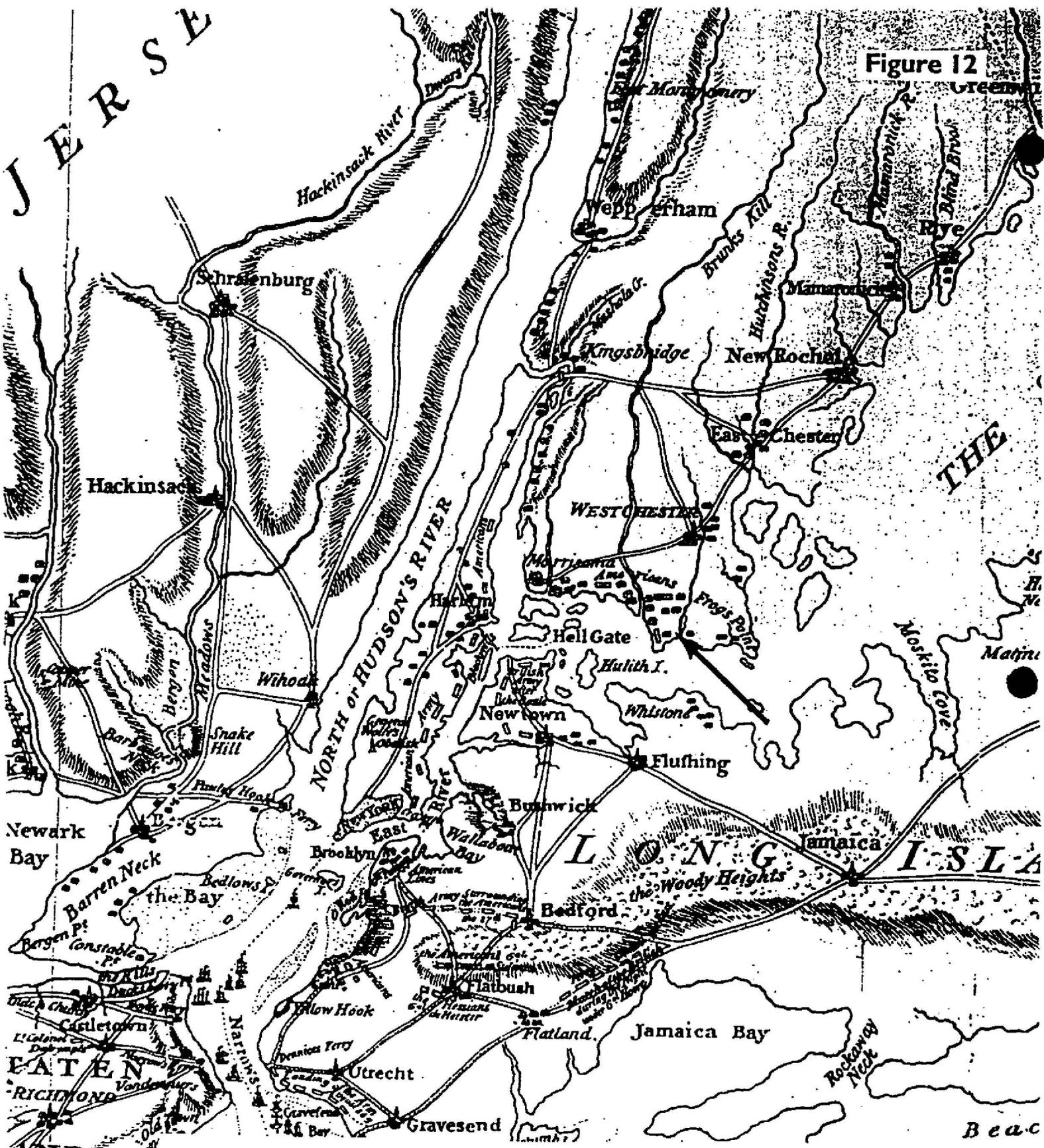


The Bronx at the End of the Dutch Period, c.1664
(Jenkins 1912:opp.44)



Photograph of the Isaac Wilkins House, 1905
West of Castle Hill Avenue, built supposedly in 1765 ("Views of New
York City" microfiche 0029, D5)

Figure 12



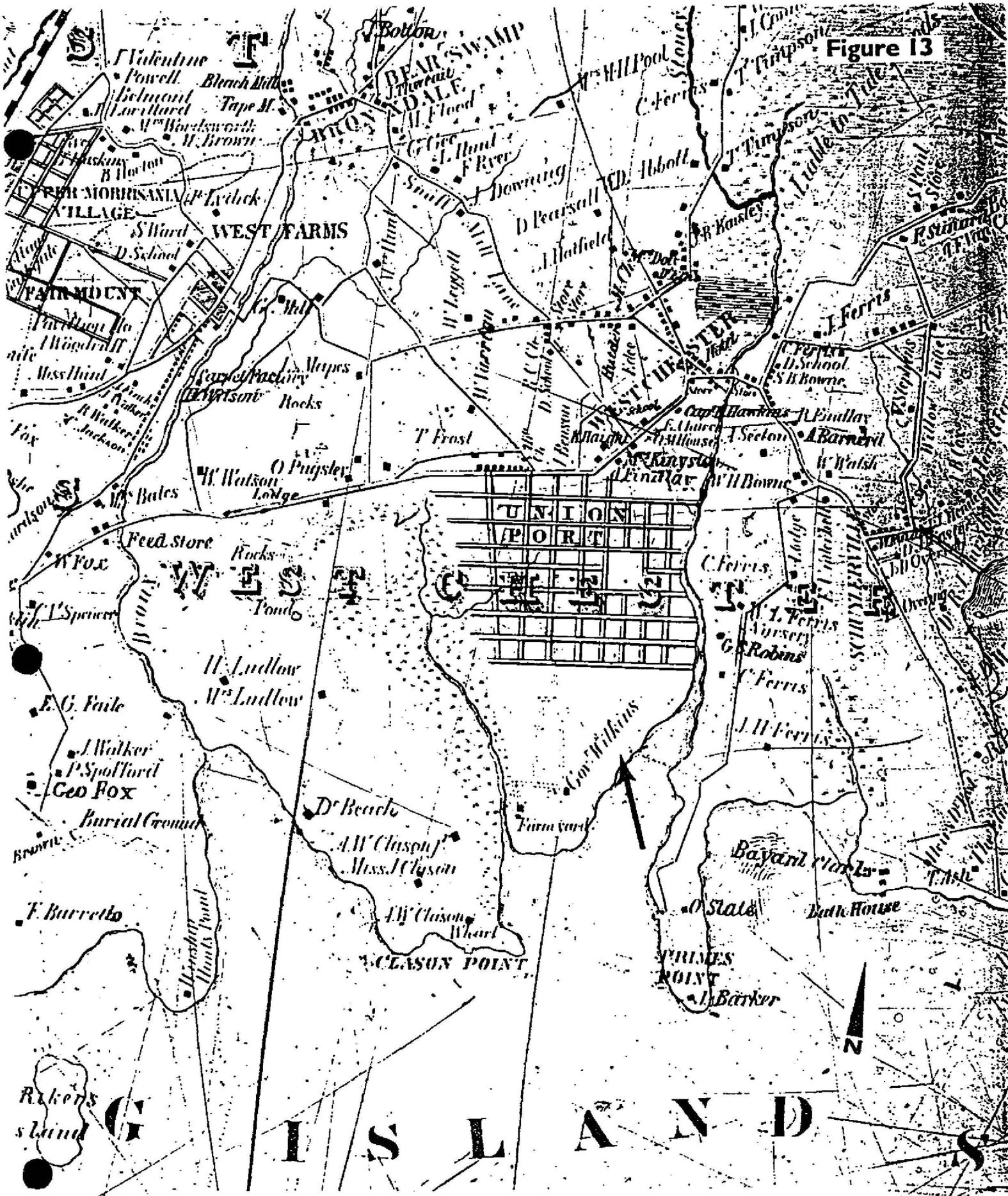
The Seat of Action between the British & American Forces or An Authentic Plan of the Western Part of Long Island with the Engagement of the 27th of August 1776, between the Kings Forces and the Americans: from the surveys of Maj. Holland.

East Bank

Ship Channel

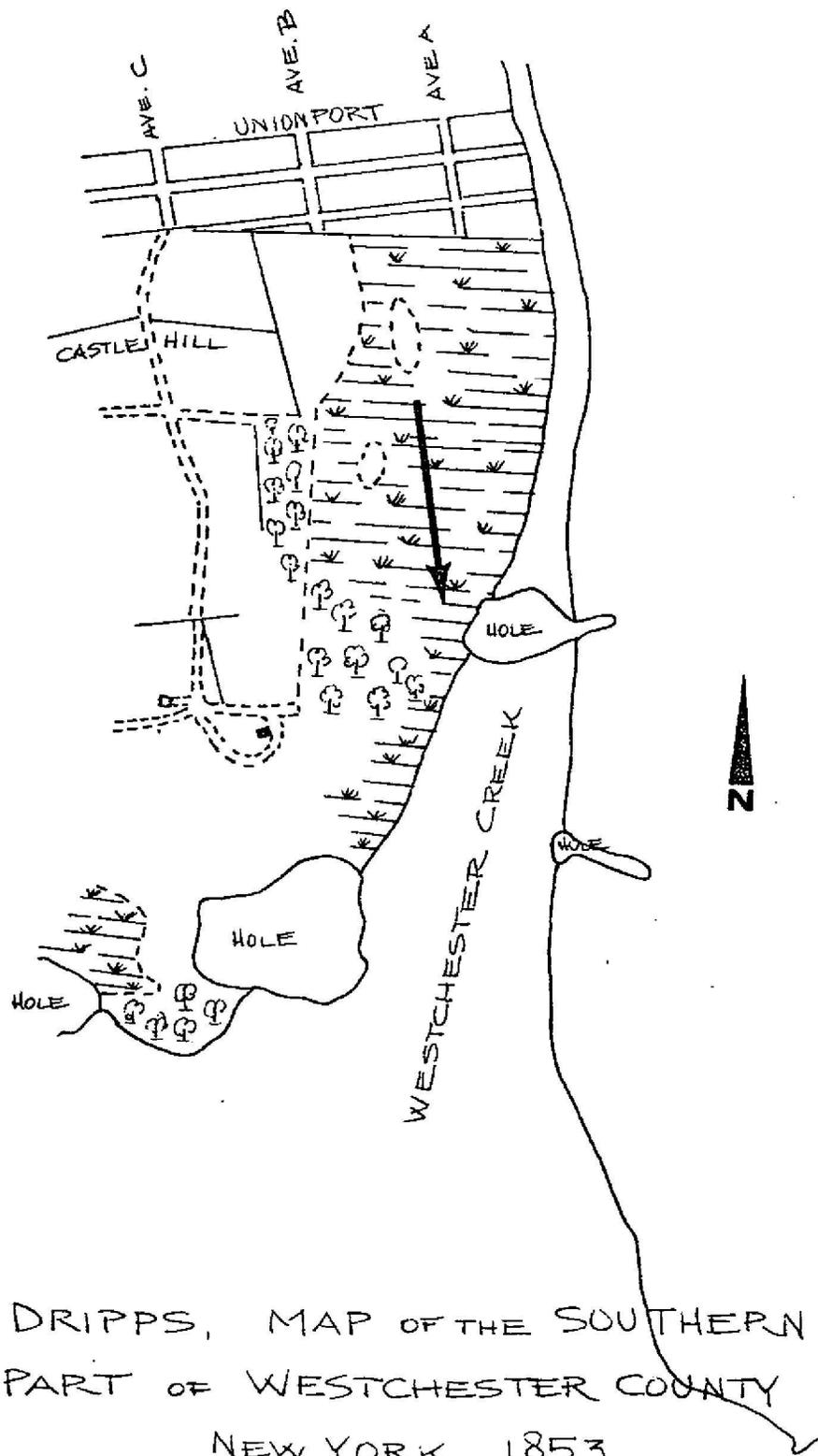


Figure 13



Sidney and Neff, Map of Westchester County New York, 1851

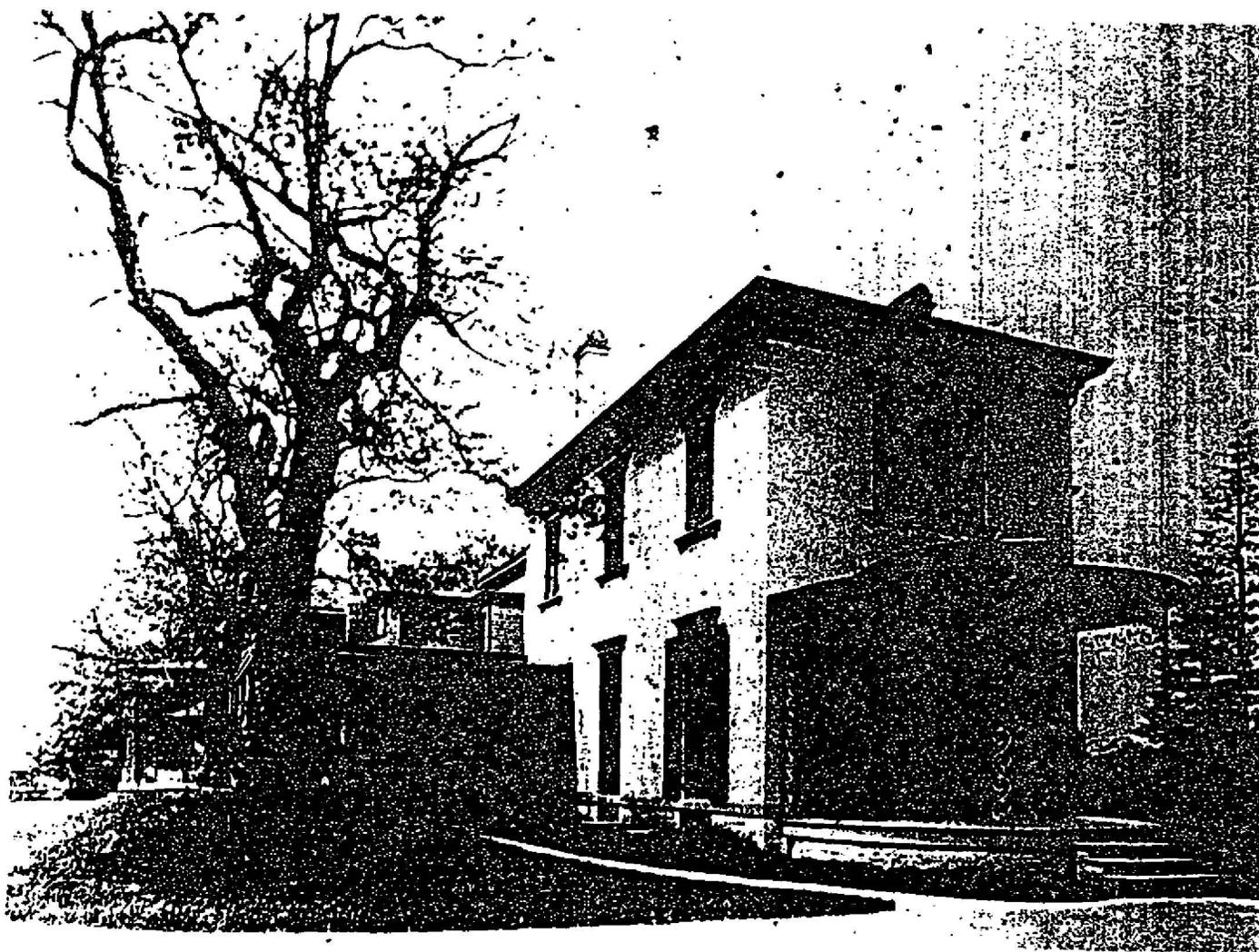
Figure 14



M. DRIPPS, MAP OF THE SOUTHERN
PART OF WESTCHESTER COUNTY

NEW YORK, 1853

5 INCHES = 1 MILE RGS



Photograph of the Wilkins Mansion, 1900-1913
East side of Castle Hill Avenue, north of Norton Avenue ("Views of
New York City" microfiche 0029 D4)

Figure 16

10

RANDALL

(NOT OPENED)

3541

15

CAESAR

(NOT OPENED)

PL.

3540

16

CICERO

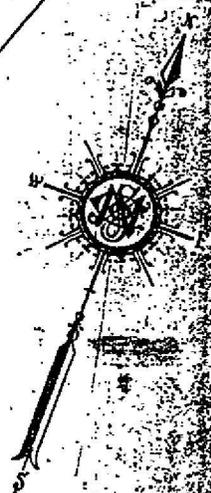
(NOT OPENED)

AVE.

3540

ZEREGA

HAVEMEYER

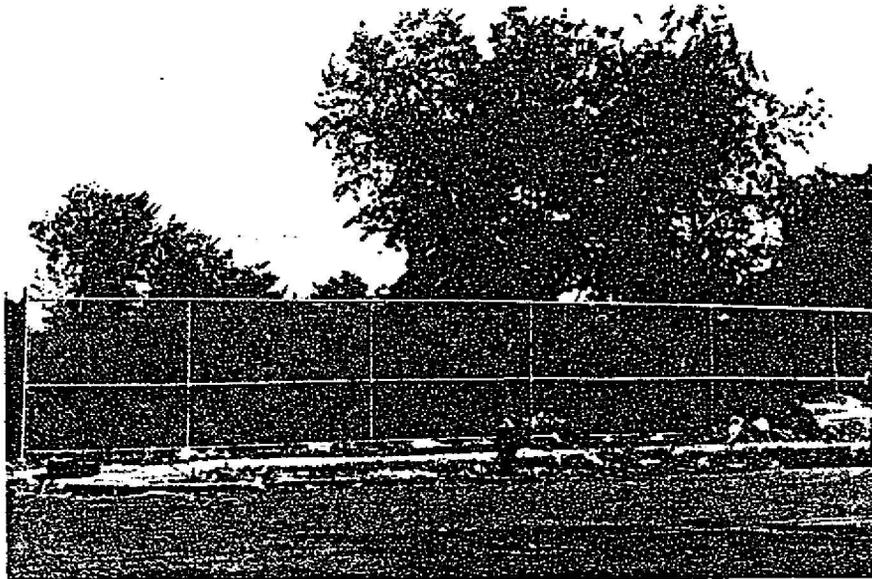


Scale 60 Ft. to One Inch.



Copyright 1929 by the Sanborn Map Co.

LACOMBE AVF



View of the Northwest Corner of the Project Area.



View of the PSA #8 Site facing East.



View of the PSA #8 Site facing West.



View of the PSA #8 Site facing Northwest.

APPENDIX

Test Boring Data on Police Service Area #8 (See map following log)

Performed by W. M. Walsh Company, Inc., Cresskill, New Jersey, November 8-12, 16-18, 1993. Elevations from ground surface (0'). Abbreviations: decomp=decomposed misc=miscellaneous org=organic tr=trace

B-1 water at -8'7"	B-2 water at -8'5"	B-3 water at -13'2"	B-4
Misc fill to -16'	Misc fill to -17'	Misc. fill to -23'	Misc fill to -16'
Gray org silts, tr fine sand, tr clay to -23'	Gray org clayey silt to -25'	Gray org clayey silt to -34'	Gray org clayey silt to -31'
Decomp. rock to -25'	Gray org silt, tr marine shells to -33'	Gray org clayey silt, tr marine shells to -43'	Decomp rock to -43'
Rock below -25'	Decomp rock and rock below -33'	Decomp. rock and rock below -43'	Rock below -43'

B-5 water -8'2"	B-6	B-7 water -9'0"	B-8 water -7'6"	B-9
Misc fill to -13'	Misc fill to -18'	Misc fill to -16'	Misc fill to -14'	Misc fill to -15'
Gray org clayey silt to -22'	Gray org clayey silt to 24'	Gray org clayey silt to -25'	Gray org clayey silt to -20'	Gray org clayey silt to -34'
Decomp rock to -27'	Gray brown fine sand and decomp rock to -30'	Gray org silts, tr marine shells to -33'	Decomp rock to -30'	Gray org silt, tr marine shells to -41'
Rock below -27'	Decomp rock and rock below -30'	Decomp rock and rock below -33'	Rock below -30'	Decomp rock and rock below -41'

RANDAL

HAVEMEYER AVENUE

ZEREGA AVENUE

LACOMBE AVE



Boring Location Map

Note: Design changes have been instituted since borings were completed. For the most recent PSA #8 plans, see Fig. 3.

