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TWO BRIDGES URBAN RENEWAL AREA

MANHATTAN, NEW YORK

CEQR NO. 94-HPD-019M

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ENVIRONMENTAL

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LANDMARKS PRESERVATION
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PHASE 1A ARCHAEOLOGICAL STUDY

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September 1995

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HISTORICAL
PERSPECTIVES INC.



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CEQR NO. 94-HPD-019M

PHASE 1A ARCHAEOLOGICAL STUDY

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- > **Prior Disturbance** The majority of these lots were disturbed over time by construction and other activities.
- > **Undisturbed Areas** Two areas comprised of Lots 20-23 and Lots 64-65/78-79 were not proven to be totally disturbed prior to 1994 (Fig. 9).
 - Area 1 - Lots 20, 21, 22, and 23
 - Area 2 - Lots 64, 65, 78, and 79
- > **Sensitivity** Areas 1 and 2 were examined in depth in order to assess the possible presence and/or character of potential cultural resources.
 - Lots 20-23 Although a portion of Area 1 will be impacted by the construction of the 21-story building. However, due to lot functions over time, the lots were determined to have minimal archaeological visibility and no further archaeological consideration is recommended.
 - Lots 64-65/
78-79 Area 2, which is in the location of the proposed one-story structure, may contain the remains of a portion of a late eighteenth-early nineteenth-century wharf and a nineteenth century iron foundry.
 - Recent and extensive "hazardous materials" test trenching has severely disturbed Lots 65 and 78.
 - Lots 64 and 79 have experienced the least recorded disturbance.
- > **Conclusion** The total extent of disturbance is unknown in Area 2. Based on current design plans, it was concluded archaeological monitoring of the construction excavations might be considered in the lots with the least amount of identified disturbance: Lot 64 and Lot 79 (Fig. 29).
- > **Recommendation** HPI recommends that, based on the final construction plans, a monitoring program be designed for the observation of excavations within Lots 64 and 79. These lots were identified as possibly sensitive for a portion of the c. 1797 waterfront wharf and the c. 1835 iron foundry (see Fig. 29).

INTRODUCTION AND METHODOLOGY

The Two Bridges Urban Renewal Area Project, supported by the Settlement Housing Fund, has advanced a proposal to develop a portion of Block 248 in the Lower East Side of Manhattan (Fig. 1). At present, the project site is a vacant L-shaped parcel bounded by South Street to the south, Rutgers Slip and a ten-story apartment building to the east, the Pathmark Super Center and parking lot to the west and Cherry Street to the north (Fig. 2). Plans call for the construction of residential, retail, and community facility space in two buildings on the 1.3 acre site. The first and largest proposed structure is a 21-story building with retail space on the first floor, community facility space on the second and third floors, and residential space (approximately 200 units) on the upper floors. This building will have an attached parking facility (containing 11 spaces) over which community space will be constructed. The adjacent structure proposed is a one-story retail building (Fig. 3).

The location of the proposed project is near identified prehistoric and historical sites. Historical maps indicate that this area was submerged by the time that Europeans travelled to the New World. However, it is possible that during the prehistoric era this area may have been exposed during a period when there was a lower sea level (c. 12,000 - 5,000 Before Present) (Historical Perspectives 1987: 6-7). The ground immediately underlying the surface of the project site is nineteenth-century "made-land" that was introduced to horizontally expand the waterfront. Much of New York City's development as a city, and a major participant in the world market, is centered around the development of its waterfront for commercial enterprise (first mercantile and later industrial). The project area is in a location that therefore was examined for cultural resources relating to the commercial development of the East River waterfront. This report will present a documentary study addressing specific concerns of the Landmarks Preservation Commission focusing on determining the sequence of landfilling and subsequent land use associated with nineteenth century waterfront, industrial and residential activities (Personal Communication, Daniel Pagano, Landmarks Preservation Commission, to Cece Saunders Kirkorian 4/21/95).

Historical Perspectives, Inc. was retained to complete a Phase IA archaeological examination of the project area. Several sources of data were researched in order to assess the character of potential cultural resources at the site. Much of the information was gathered at the New York Public Library's Map Division and Local History Room. The Topographic Office at the New York City Municipal Building also supplied information on the project locale. In addition, data files at the New York State Museum, the State Historic Preservation Office, and the New York City Landmarks Preservation Commission were reviewed for information regarding recorded sites in and around the project area. A review of Block and Lot files at the New York City Building's Department was also

conducted. Unfortunately, no files for the early construction of buildings on the project site were found. In addition, a site visit and photographic record was conducted in order to assess the current conditions of the lot (see Photos 1-6).

Maps and atlases provided invaluable information on the changing topography of the study area, as well as furnishing information on the lot's building history. Land Records, City Directories, Real Estate valuations, and Census material were also examined for data relevant to the historical development of the lots within Block 248. Local histories were researched for the historical background of the project area. One of the most helpful historical resources was I. N. P. Stokes' *Iconography of Manhattan Island*, which yielded abundant information on the historic development of Manhattan. In addition, Ann L. Bittenwieser's *Manhattan Waterbound* furnished considerable data on the growth of Manhattan's waterfront. William Ritchie's *The Archaeology of New York State* provided helpful information and details regarding Native American lifeways during the prehistoric era. Ritchie also provided valuable descriptions of prehistoric sites and artifacts recovered within New York State. Finally, various archaeological reports were consulted for descriptions on waterfront features and coastal sites, as well as specific information on any identified prehistoric and historical sites near the present project area (Appendix 1).

The purpose of this Phase 1A Archaeological Assessment Report, in accordance with the established CEQR Manual Guidelines, is to determine the presence and type of any cultural resources which may be below the surface of the Two Bridges Urban Renewal project plot. Although the block and the surrounding area will be discussed in the report, the evaluation of cultural resource sensitivity will be based upon the area to be directly impacted by the proposed construction.

ENVIRONMENTAL SETTING

Manhattan Island lies within the Hudson Valley region and is considered to be part of the New England Upland Physiographic Province (Schuberth 1968:10). The underlying geology, much like that of the Bronx and lower Westchester County, is made up of "gneiss and mica schist with heavy, intercalated beds of coarse grained, dolomitic marble and thinner layer of serpentine" (Scharf 1886:6-7). During the three known glacial periods, the land surface in the Northeast was carved, scraped, and eroded by advancing and retreating glaciers. With the final retreat during the Post-Pleistocene, glacial debris, a mix of sand, gravel, and clay, formed the many low hills or moraines that constitute the present topography of the New York City area. Along these low hills many rivers, streams, lakes, and ponds were formed. The constant flow of these rivers and streams as well as the corresponding rise in sea level continued to mold the landscape. Manhattan, a low lying island marked by hills, is surrounded by rivers and a large protected deep water bay, and was formed following the last of the three glacial periods. Along the east coast of the island is a distinct geologic formation known as Corlears Hook. This formation, also referred to as the Ravenswood Granodiorite, consists of both granite and diorite.

The project site is located along the East River in Manhattan's Lower East Side (see Fig. 1). During the late Prehistoric and early Historical Periods the project site was submerged under the East River and the land north and west of the site was tidal marshland (Fig. 4). After curving around Corlears Hook, the East River travels through a constricted passage between Manhattan and Brooklyn (see Figs. 1 and 7). Because the river narrows in this location, the water currents move at a swift and sometimes turbulent rate between Corlears Hook and the Brooklyn Bridge (Buttenwieser 1987: 22).

During the historic period the coastline of Manhattan along the East River has been altered by land-filling. At the end of the late prehistoric era the coastline was at the western side of present-day Cherry Street and by the middle of the nineteenth century the shoreline had been extended eastward to its present boundary, the east side of South Street. Throughout the historical period, the desire for new commercial, waterfront real estate spurred many politicians and businessmen to enthusiastically support landfilling activity along the East River. During the nineteenth century, the filling episodes were also conducted in an effort to support and maintain the waterfront along the East River as the coastline became overburdened with trash and the build-up of river silt.

Historic maps indicate that during the early historical period the coastal area was used as farmland or pastureland. The southern tip of Manhattan, on both the east and west sides was the location of most waterfront activity (wharves, slips, and warehouses). To the north only a few docks and slips were present. As the city

expanded and the population grew, the commercial waterfront extended up the East River transforming the landscape from an agricultural to an urban setting.

The most recent U.S.G.S. topographical map shows the project area as a well defined urban setting at an elevation of 5-10 feet above sea level (see Fig. 1). There are no longer any wharves or piers extending out into the river directly east of the project area, however, one can be found one block north of the site. The Manhattan Bridge crosses the East River to Brooklyn one block south of the project site. The actual site area is chiefly comprised of "made land". There are no standing structures and the lot is enclosed by a fence on all sides except the west where it borders the Pathmark Super Center. The ground is almost entirely covered with weeds and small vegetation and in some places mounds of architectural rubble (e.g., bricks, mortar, glass, etc.) can be seen. A cement surface is present on the southeastern portion of the lot adjacent to the Pathmark building. (See Photos 1-6)

PREHISTORIC OVERVIEW

Archaeologists have divided North American prehistory into three periods, the Paleo-Indian, Archaic, and Woodland. The latter periods are generally divided into subperiods using the appellations Early, Middle, and Late. Changes in the prehistoric environment, the characteristics of prehistoric peoples, and the cultural artifacts that were left behind enable archaeologists to present a chronological framework for the prehistory of North America. What follows is a brief overview of these periods with emphasis on the characteristics of, and archaeological evidence for, each period in the New York City area.

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

Near the end of the Wisconsin glacial age the first humans crossed into the New World via a narrow land bridge in the vicinity of the Bering Strait. These nomadic hunters, known as the Paleo-Indians, are identified by their utilization of a distinctive artifact, the fluted point. Archaeological evidence suggests that although Paleo-Indians were limited in number and travelled in small groups, they soon spread across the pristine environment of North America. Perhaps they were following the migration patterns of the game animals they depended upon for subsistence. Numerous Paleo-Indian "kill sites" have been discovered in the western and southwestern United States. In contrast, none have been recovered in the Northeast. Several camp sites have been excavated in the Northeast, however, leading scholars to suggest that seasonal patterning or perhaps territorialism commenced during the latter part of this period (Ritchie 1965: 3,9).

The environment during the Paleo-Indian period was dominated by the retreating glaciers and the change toward the deciduous woodland setting prominent in the Archaic Period. The warmer climate and the new open river valleys provided ample hunting grounds. As a result, the favored location for Paleo-Indian sites, and all prehistoric sites, were well-elevated large fertile valleys close to a fresh water source. Along with the fluted point, scrapers and borers were part of the nomadic hunter's "tool kit." These tools were used to hunt and butcher mastodon, elk, caribou, bison, and other smaller mammals. A variety of these animals, dated to this time period, have been excavated in New York State, particularly in the vicinity of former glacial lakes and moraines (Ritchie 1965: 9-16).

Although Paleo-Indians were dispersed across the North American continent no human skeletal material, or artifacts such as animal hides or wood objects have been recovered. Perhaps due to the transitory nature of these people little remains of their culture but lithic material. In New York State a few camp sites have been examined (For a detailed discussion on Paleo-Indian, Archaic, and Woodland sites in New York see Ritchie 1980). The closest recorded Paleo-Indian site to the project area is Port Mobil, a small camp site, recovered in Staten Island (Ritchie 1980: 1,3,7).

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

The transition from the Paleo-Indian period to the Archaic was marked by the availability of a larger variety of plants and small-game as the post-glacial Archaic peoples exploited the now dominant deciduous woodland environment. The decreased population of big-game animals led to the hunting of smaller game including the white-tailed deer, moose, wild turkey, and rabbit. In addition, Archaic peoples began to exploit the marine environment. Although not as mobile as the Paleo-Indians, archaeological evidence indicates that early Archaic peoples continued to travel seasonally. Their group movements, however, were within well-defined territorial boundaries and the camp sites that have been recovered indicate that they were repeatedly occupied over time.

River valleys and around other sources of fresh water were locales that could support the game animals exploited by Archaic hunters. The tool kit of the Archaic Period was expanded to include the grooved axe, beveled adz, and narrow bladed projectile point. In addition, the mortar and pestle, grinders, and various implements used for fishing, are evidence of the Archaic peoples expanded diet (fishing and increased gathering).

An increase in the number and size of archaeological sites recovered from the Archaic period suggests that the human population had expanded and that Archaic peoples were becoming more settled and therefore having a greater impact on the landscape. A result of becoming more settled, and the establishment of specific territories, was the emergence of different cultural phases. A phase has been defined "as a recurring complex of distinctive archaeological traits" representing an individual cultural group (Ritchie 1965: xvi). The Lamoka, Vosburg, and Brewerton phases are among those identified in New York State by Ritchie (1980).

A number of small multicomponent sites have been recovered in coastal New York. Like the inland sites, they are usually located near fresh water ponds, tidal inlets, coves, and bays. These locales provided abundant resources including small game, fish, shellfish, and a large variety of plants and tuberous grasses. Sites discovered in coastal areas around New York City indicate that by the Late Archaic there was a distinct reliance upon shellfish, particularly oysters and clams. No large camp site or settlement has been found within the boundaries of the five boroughs and the few Archaic sites recorded within the city are isolated finds.

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

The Woodland period is characterized by the introduction of pottery and horticultural activity, as well as the establishment of clearly defined trade networks. During the Woodland Period primary habitation sites, or villages, had increased in size and were permanent (year-round) settlements. As in the Archaic Period these sites were located near a large fresh water source (e.g., pond,

lake, tributary, or river). Secondary sites, where specific activities took place (e.g., shellfish gathering and/or processing, tool making), were usually situated near the location of the resource.

The first significant and identifiable use of pottery in New York State can be traced to the Early Woodland Period, around 1,000 B.C. By the Middle Woodland Period a wide variety of stamped, impressed and cord-decorated pottery types were developed. Smoking pipes, another Woodland innovation, reflected different cultural styles which archaeologists have been able to link to specific groups. The tool kit of the Woodland peoples expanded to include a larger variety of knives, drills, hammerstones, etc. Although some Archaic human burials have been recovered, those discovered dating from the Woodland Period suggest that more complex ceremonial burials commenced during the later period. Furthermore, this widespread mortuary ceremonialism (mound building) peaked during the beginning of the Middle Woodland and was essentially nonexistent by the close of the Period.

Although the use of cultigens was evident in many areas of North America during the Early Woodland, it was not until near the end of the Middle Woodland stage (c.800-1000 A.D.) that agriculture may have played a part in the economy of New York State culture groups. By the Late Woodland, cultigens had become an essential element in daily life. The introduction of agriculture brought about a major change in settlement patterns as larger villages, some fortified or palisaded, were established. One such site was noted by the early Dutch explorer Adriaen Block, who described seeing "large wigwams of the tribe on Castle Hill" in the Bronx (Skinner 1919: 76). With the creation of more permanent sites came the development of extensive trade networks for the exchange of goods between the coastal and inland areas.

Much of what is known about the Late Woodland Period has been acquired from the documentary record. Using legal documents and early ethnohistoric accounts, archaeologists have been able to learn much about the Native groups that were present upon contact with Europeans. One example is the journal of Robert Juet who travelled with Henry Hudson on his 1609 voyage. Juet provided a description of the native population encountered and the exchange of "Indian Wheate" (maize) and tobacco for beads and knives (Van Zandt 1981: 10-11). In *Native American Place Names in New York City* (1981), Robert Steven Grumet categorized data from historical documents and the work of previous scholars in an attempt to synthesize and verify known information on Native American sites, pathways and culture groups.

Grumet notes that the 1610 Velasco map used the name *Manahata* as the designation for the native inhabitants of both banks of the lower Hudson River (1981: 24). The Manhattan Indians were identified on Dutch seventeenth-century maps but not on many other documents. In addition, no individual Manhattan Indian was referred

to by name in the documentary record. The Manhattan Indians were probably only about 300-500 in number and were last identified in the historical record in 1680 when they were described as the former inhabitants of Manhattan Island. Most likely, following 1626, when the infamous sale of Manhattan Island occurred, they moved to join the Wiechquaesgeck (who were in northern Manhattan, the Bronx, and Westchester).

Figure 5 shows the Native place names and trails that have been identified for Manhattan Island. A large path leading to the area called "Nechtanc," translated as "sandy point," can be seen near the project location. Grumet's research indicates that this place was also known as "Corlaers Hook" (1981: 39). A search through the files at the New York State Museum identifies this area as site number 4060, described as an unnumbered village on the Arthur C. Parker map. No further information for this site has been found. This "village" may be the site of Nechtanc which has yet to be verified archaeologically. Grumet identifies the area called Nechtanc as being "contiguous to Jacob van Curler's plantation." If this is true, then the actual location of this area would be approximately 3/4 of a mile to the northeast of the present project locale.

Historical documents attest to the fact that the land at Corlears Hook was the location of a terrible massacre during the Governor Keift War (Grumet 1981: 39, 61; Stokes 1967 (1): 22-23). In February 1643 the Mahicans, a cultural group from the Northern Hudson River area, attacked two lower Hudson River tribes, the Tapaens and the Wiechquaesgecks (Wickquagecks). The survivors sought refuge with the Dutch and set up camps at Corlears Hook and Pavonia (New Jersey). Governor Keift, the director general of the Dutch West India Company, called for an attack on these camps. On the night of February 25, 1643 eighty natives were massacred at Pavonia and over forty at Corlears Hook. In response, the survivors and tribes affiliated with the Wiechquaesgeck, renewed their attacks on the Dutch and began striking outlying farms and villages. This event prolonged the war for another two years until its termination on August 30, 1645 (Stokes 1967 (4): 98).

Prehistoric Potential

It is impossible to travel through Manhattan without seeing the many changes brought about by ongoing construction. The constant modifications made to the landscape present an ideal opportunity to examine the urban locale for the possible recovery of buried cultural material. In general, the prehistory of coastal New York is poorly understood, which is why it is so important to research potential sites. Information gathered from several sources indicate that the coastal area, southwest of Corlears Hook, possesses some of the attributes that may have attracted prehistoric peoples. The Native pathway (see Fig. 5) that terminated in the vicinity of the project locale may indicate that at one time there was a village, camp site, lookout, or processing station in the

general project area. However, as will be noted in the subsequent historical era discussion, the river/tidal action along the submerged project block shoreline was turbulent. It is highly unlikely that any prehistoric remains, if they ever existed on the site, would have survived subsequent tidal action and dredging episodes. The prehistoric archaeological potential on the project site is very low.

HISTORICAL OVERVIEW

In a few short pages it is difficult to compress the history of one of the world's leading cities. New York City, with Manhattan Island as its commercial and locational center, developed at a rapid pace over the last three centuries. An important factor was the flourishing commercial waterfront and the growth of the surrounding mercantile and later industrial ventures. The expansion and development of the waterfront along the East River began in the early seventeenth century. Although the current project area was submerged at that time, landfilling along the East River began before the end of the seventeenth century and continues today. Early historical maps indicate that the area adjacent to Rutgers Slip, within the present project site, contained small piers. By the mid nineteenth century the project area had been completely filled and was now supporting several structures. What follows is a summary of the historical development of Manhattan with emphasis on the East River waterfront.

In the early seventeenth century, Europeans were attempting to establish world-wide trade connections. The Dutch West India Company, formed by a group of merchants, focused their attention on the Americas. In 1623 the Company received a grant for all of the land rights on Manhattan Island (Buttenwieser 1987: 25). After setting aside parcels of land for Company use and the colony's fortifications, land was granted to individual settlers for private homes and gardens. The majority of these settlers were merchants and fur traders who needed access to the shipping routes. As a result, much of the land granted was located along the rivers surrounding the island.

Since the Dutch first established the settlement of New Netherland, the growth of the waterfront has played a vital role in the history of Manhattan Island. The first public dock on the East River was constructed in 1647 near the area of Pearl and Broad Streets (Buttenwieser 1987: 26). Ships would anchor in the river and passengers and cargo would be transported via a small boat to the narrow wooden dock. Less than twenty years later, the British, now ruling the colony renamed New York, transferred ownership of vacant (unpatented) and public (wharves, streets, and highways) land to the City of New York (Buttenwieser 1987: 26). In an effort to bolster trade, City leaders concentrated on developing the waterfront (e.g., the construction of the Great Dock in 1675). The Dongen Charter of 1686 granted all unencumbered lands to the City of New York (Buttenwieser 1987: 28). In addition, this allowed the city to expand eastward to 200 feet, or the low water mark in the East River. While the population of Manhattan was increasing, soil removed from sections where new homes were built was deposited along the lower East River bank, horizontally extending the shoreline one block to the east (from Water to Front Street) by 1700 (Buttenwieser 1987: 27,31). Within the Lower East Side waterfront area, however, landfilling activity did not extend the shoreline significantly until the end of the eighteenth century.

Throughout the colonial period the construction of wharves and fill-retaining structures was constant. The three types of wharves constructed were made of stone, timber, and, in a few cases, the remains of ships (Heintzelman 1986: 125-132). Although stone wharves were built during the colonial period, the most common type of wharf constructed was made of timber. The two types of timber wharves are "crib" and "cobb." Crib wharves are made out of rough timbers that are placed in alternating rows of "headers" (running lengthwise) and "stretchers" (spanning the width). In most cases a floor is built at the base to support the fill placed within. The cobb wharf is an openwork variant of the crib wharf. It's name comes from the cobblestone fill used to fill and sink the wharf. The least common wharf is that made out of wrecked or burned ships. After securing the ship in the desired place, the framework of the hull is filled in much the same manner as the cobb wharf. While the primary function of these wharves was to provide docking space, in some cases they were later used as bulkheads for the continuing landfill along the East River. Most of the bulkheads constructed were of stone, although in some cases timber bulkheads were driven into the river bottom.

For the first two decades of the eighteenth century houses and stores sat on the banks of the East River adjacent to the stone bulkheads and in some cases supported by wooden stilts extending out over the water (Buttenwieser 1987: 32). It was during the eighteenth century that the urbanization of Manhattan Island began in earnest. Most of the landfilling that took place from 1700-1776 was conducted by private citizens (Buttenwieser 1987: 31). The need for more waterfront land promoted the Montgomerie Charter of 1730, which extended the boundary for development around the island to 400 feet (Buttenwieser 1987: 28). Waterfront construction escalated and a number of shipyards were established along the shores of the East River. The number of ships owned by residents of Manhattan increased dramatically from approximately 60 ships at the turn of the century to 447 by 1760, and nearly doubled to 709 by 1770 (Buttenwieser 1987: 35-36). This rapid increase in the number of ships accentuated the shortage of waterfront dock space.

Along with the lack of dock space, Manhattan merchants had the additional problem of having their shipping curtailed by British taxation. In the few years before the Revolutionary War, waterfront expansion was reduced by the lack of freedom in colonial trading. During the War the occupation of the Harbor by the British also prevented waterfront construction and in most cases even the maintenance of the existing facilities (Fig. 6). In addition, the population of Manhattan dropped from approximately 20,000 to 10,000 during the war years.

Following the war the recovery of the city was swift. Central to this revitalization was the establishment of new trade routes to China which gave "fresh impulse and energy to American industry" (McKay 1969: 5). The China trade and open markets encouraged buying, filling, repairing, and building along the banks of the East

River. In order to address the problem of the lack of dock space, the East River waterfront was filled, expanding the boundaries of lower Manhattan to South Street (McKay 1969: 7). By the end of the eighteenth century, the waterfront all along the East River was covered with wharves of all sizes (Fig. 7).

During the early nineteenth century the continued growth of maritime trade made New York the most important port in the United States. Historical documents are full of requests for more docking space including an 1803 letter from Comptroller Strong to the Common Council where he states there is a

"great want of accommodations for market boats and coasting vessels . . . there being no public slips between Catherine & Rutgers slips the distance of near half a mile" (Stokes 1967 (3): 1403).

The Randall Plan, or Commissioner's Map of 1811, established new roads for Manhattan's unoccupied and newly filled areas along the waterfront. Many coastal landowners built narrow private piers at the end of the new streets laid out. The area directly adjacent to the waterfront became the location for supplementary shipping activities (e.g., machine works, sail makers, ship's carpenter tool makers, iron and brass foundries and lumber yards). Between 1800 and 1820 a shipbuilding community was located along the East River from Catherine Street to Corlears Hook (McKay 1969: 69). The closest market was the Grand Street Market at Corlears Hook. During the first decade of the nineteenth century, Thomas Morrell and James Hazard established a ferry from Williamsburg in Brooklyn to the market (Willensky and White 1988: 682-3).

As nineteenth century New York continued to expand in both size and population, sources for landfill were abundant. Many of the low hills on the island were cut down and the material deposited along the shoreline. One nearby source were the hills to the north of Corlears Hook approximately one mile from the project area. These hills, many of which stood 80 feet above sea level, were cut down between 1800 and 1830 (Stokes 1967 (4): 1460). In addition, the construction of streets and new buildings, especially those with cellars, provided soil, sand, rocks, and other debris for fill. Another source of fill was the immense amount of garbage generated by the inhabitants of the island. Some of the refuse was used to fill in swampy areas along the East River. The majority of the garbage was brought to dumping boards or to Blackwell's Island, the first organized landfill site in New York (Buttenwieser 1987: 43). Dumping Boards were older docks used to "dump" materials collected. The refuse was allowed to spill into adjacent slips. Because clean landfill was scarce this practice was an inexpensive way to rid the city of garbage and to fill in slips to create land for additional growth and construction. The closest dumping board to the project area was the Jefferson board which was located on Jefferson Street,

one block northeast of the site in 1844 (Fig. 8; Buttenwieser 1987: 43).

By the mid-nineteenth century most of eastern Manhattan had been filled to South Street. Several events occurred toward the middle of the century that had a profound effect upon the character of the Lower East Side. The first was the influx of waves of new immigrants from European countries. Second, was the change in the types of ships that came to New York Harbor.

During the nineteenth century, the Lower East Side of New York was often described as a community of immigrants, tenement slums, and sweatshops. In other words, a ghetto. In 1833, one of the earliest multifamily tenements was constructed near Corlears Hook (WPA 1982: 108). Following that date, a great many of these large structures were built all over the Lower East Side. It was to this small district that many of the over two million Irish immigrants came between 1846 and 1860. Not all of the structures were as slum-like and notorious as the infamous Five-Points, but the entire area was overcrowded and extremely poor. Most of the new immigrants found work along the waterside as carpenters, joiners and calkers. This flood of new residents caused the population of Manhattan to double between 1840 and 1860. Many of the older residents of the area moved to northern Manhattan, leaving the Lower East Side to the immigrants and the market activities of the busy port.

By 1870, New York, with over ten thousand vessels moored in the harbor, was distinguished as one the world's preeminent seaports (Buttenwieser 1987: 56). Shipwrights, riggers, sailmakers, merchants, and blacksmiths, as well as lumber yards, and iron foundries were among the many commercial establishments crowding the riverfront. The made-land all along the waterfront in the Lower East Side became the center of the economic life of the city, while the streets further inland were lined with overcrowded tenements. The majority of the commercial activity between Cherry and South streets was directly tied to the fluctuating shipping industry. Along with the many boat builders and lumber yards, iron foundries dotted the many blocks along the shore of the East River. These industrial enterprises were needed for constant ship repairs, as well as boiler and engine work. While some foundries employed only a few workers, large establishments, such as the Delamater Iron Works on the Hudson, had over one thousand workers in the last quarter of the nineteenth century (Rutsch 1983: 356).

As mentioned above, during the first quarter of the nineteenth century, City officials were concerned with the overcrowded East River waterfront. "Made land" was used for new waterfront construction and landowners built long thin piers to allow deep water wharfage to ships (see Fig. 12). In many areas land was generated at the expense of harbor space. The shift from sail to steam power changed the construction of the large cargo ships. Longer, faster boats were now being used to ship goods in and out of New York. These ships could not move easily on the East River

and many of the narrow piers became obsolete. The immense investment in the new shipping was witnessed by diarist Philip Hone who, in 1850, wrote

I witnessed this morning, at nine o'clock, a novel, exciting, and glorious exhibition. Three steam vessels, of the aggregate cost of more than \$1,000,000 were launched in succession from the shipyard of William H. Brown, at the foot of Twelfth Street, East River (1927: 882).

Increased shipping traffic also amplified the difficulty of docking along the East River. The new longer, and, in many cases wider, ships began to use the western side of Manhattan, on the much wider Hudson River, for berth space. Although there were markets and warehouses all along the shore in the late-nineteenth century, many of the piers on the East River were in terrible condition and insufficient for most ships.

One of the more descriptive passages from Philip Hone's diary relates both problems with new technology and the urban poor. Hone writes

Wed. February 18, 1850

When we read the accounts of the loss of human life by steam and its machinery, boilers bursting, flues collapsing, running into each other at sea, and running off the track on land, besides the dreadful shipwrecks, the accounts of which occupy the principle column of every newspaper, there would seem to be some reason to apprehend a diminution of the human family. But in a walk up the Bowery, in the slums of Corlears Hook, or through the classic region of the Five-Points, the swarms of ragged, bare-footed, unbreeched little tatterdemalions, free-born Americans (free enough, in all conscience), will afford abundant proof that suitable means are taken to keep up the supply (1927: 884).

The crowded residential areas of the Lower East Side was the location of most of the city's labor force during the mid-nineteenth century. Like the decaying waterfront, the crumbling residential area just a few blocks inland was the source of much concern to many New Yorkers.

The lack of Harbor space was compounded by the buildup of cultural material on the river bottom. The accumulation of refuse and natural sedimentation contributed to the problems plaguing the shipping lanes on the East River. In addition, the build-up of sewage and garbage adjacent to the shoreline was also a major

problem for both sanitary and economic reasons. The piers and jettys that lined the crowded waterfront were preventing the removal of debris by the River's natural tidal fluctuations. Although dredging was conducted along the East River beginning in 1785, most of the activity took place in the vicinity of slips and wharves, leaving the channel to fill with debris (Historical Perspectives 1987: 23-24). By the end of the nineteenth century, dredging alone could not keep up with the accumulation of refuse.

A few blocks inland the residential areas were also changing. After the wave of Irish immigrants, thousands of Germans began to settle in this area. Unlike their predecessors, many were skilled workers who supported the trade union movement. The German Jews created a tight knit community and were known as furriers, jewelers, traders and clothing manufacturers. Throughout the rest of the century, the flood of immigrants continued from Russia, Greece, Turkey, Poland, Romania, and Italy. At the end of the nineteenth century, the Lower East Side was recognized as the largest Jewish community in the world as many of the 1,562,000 Jewish immigrants who arrived in New York between 1881 and 1910 settled there (WPA 1982:109).

The wave of foreign arrivals continued until the 1920s when new immigration quotas were put into effect. The population of the district was reduced from over 500,000 to under 250,000 in less than twenty years. In addition, increased road traffic after the turn of the century, called for the removal of tenements to widen roads and install the Williamsburg (1901) and Manhattan (1909) bridges (see Fig. 1).

The character and view of the Lower East Side did not change much during the first quarter of the twentieth century. However, by the late 1920s many New Yorkers focused on the renewal of this once active waterfront. In January 1929, while the construction of the West Side highway was proceeding, a plan was presented to the Board of Estimate for the construction of a road along the East River (Buttenwieser 1987: 165). The road was to be built to ease traffic and to create a more aesthetic appearance for the riverside. Many of the proponents of the new road believed that an attractively landscaped East River Drive would encourage slum removal and rebuilding in the adjacent area.

Several plans were submitted for the new road including ones that incorporated housing changes. One plan, designated the "Rutgers Town" plan, called for low-moderate income housing to be built on eighteen blocks of former slum property below Corlears Hook (Buttenwieser 1987: 177). At this time many of the older slums were being torn down or boarded up. The population of the Lower East Side dropped as immigration quotas went into effect and many residents moved on to other neighborhoods within the city or to the suburbs. Although none of the above plans were used, a pattern of community involvement in the renovation of the Lower East Side had started. In 1935 the Mayor of New York applied to the Public Works

Authority for funds to construct the East Side Drive (Buttenwieser 1987: 180). Instead of an aesthetic showpiece, plans were drawn up to build a road for continuous fast traffic. Construction began within a few months and the road was completed in sections over the next few years.

The Lower East Side, however, was still in a state of physical deterioration. During the 1930s the neighborhood around Corlears Hook was the location of some of the most decayed real estate in New York City. The area was replete with disintegrating commercial buildings, boarded-up warehouses, and out of date tenements. The East River was bordered with dumps, lumber and coal yards, decaying piers, and the remains of a once prosperous shipbuilding industry (Buttenwieser 1987: 165).

Toward the middle of the twentieth century a new phase of rebuilding commenced that continues today. A number of public housing projects were established as the community became involved in seeking improvements and new low-income housing. The Lower East Side waterfront, once the most flourishing in the world, has only a few docks still in use. The following section is a review of historical maps and a description of the Project's lot use over time.

TOPIC INTENSIVE LOT BY LOT EXAMINATION

For this study a variety of documentary resources were examined with regard to compiling information on the historical development of the project site. These sources included:

- > Cartographic material (maps and atlases)
- > Land conveyance records
- > Real estate valuations
- > Census data
- > City directories
- > Block and Lot construction files
- > Water and Sewer data
- > Soil Boring Test data
- > State and Local histories

For this examination the lots within the project area were identified using the lot numbers depicted on the 1902 and 1925 Bromley maps, following the consolidation to the current lot designations (see Figs. 21 and 24). These 1902 lot numbers also coincide with those found in the Manhattan Land Record Books.

Previously Disturbed Lots

Each lot on the 1902/1925 project parcel was researched to establish a disturbance record so that it could be evaluated for potential site integrity. While documentary data on all of the lots within the project site were examined, this report will focus on the only two areas identified as likely locales for the possible presence of undisturbed historical material. Figure 9 depicts the two segments to be examined within the project site, Area 1, including Lots 20-23, and Area 2 which is comprised of Lots 64, 65, 78, and 79. The other lots in the project site were all determined to have been disturbed by late nineteenth and twentieth century construction and demolition activity (Table 1). Several lots (14, 15, 17, 24-27, 32, 33, 62, 63, 80, 81) have been identified as the location of former buildings with basements, nine lots (14, 16-19, 28-31) have been identified as having had underground fuel tanks, and a portion of Water Street, which is also within the project site, is the location of public utilities (e.g., water pipes). In addition, because this area is "made land," there is no indication that there were any historical structures within the confines of Water Street.

Area 1 and Area 2: Pre Landfill History

Before c. 1803 the land mass of Area 1 and Area 2 was submerged. The following discussion relates the Area 1 and Area 2 water lot history prior to and including early filling documentation. Early maps of New Netherland and New York depict the locale north of the project site as uninhabited land and later farmland. Although the actual project site was submerged up until the mid-nineteenth

Table 1. Record of Disturbed Lots within the Project Site.

<u>Lot/Address</u>	<u>Approximate Date of Disturbance</u>	<u>Type of Disturbance</u>	<u>Evidence</u>
14/253 South*	1865	4-story building with basement	Tax Records 1894 Sanborn 1905 Sanborn F. 22
"	1851	Filling station with underground tanks	1851 Sanborn
15/254 South*	1865	4-story building with basement	Tax Records 1894 Sanborn 1905 Sanborn
16-19/ 255-258 South*	1923	Large Garage with buried fuel tanks	1923 Sanborn 1925 Bromley
17/256 South*	1884	3-story building with basement	1884 Robinson 1905 Sanborn
24-27/ 515-511 Water*	1905	7-story building with basement	1905 Sanborn 1994 Soil tests
28-31/ 509-503 Water* (same as Lots 16-18)	1923	Large Garage with buried fuel tanks	1923 Sanborn 1925 Bromley
32/501 Water*	1865	4-story building with basement	Tax Records 1894 Sanborn 1905 Sanborn
33/499 Water*	1865	4-story building with basement	Tax Records 1894 Sanborn 1905 Sanborn
63, 80/ 500 Water, 237 Cherry	1900	6-story building with basement	1900 Federal Census 1902 Bromley 1905 Sanborn
62, 81/ 498 Water, 235 Cherry	1900	6-story building with basement	1900 Federal Census 1902 Bromley 1905 Sanborn

* Lots disturbed by soil tests conducted by Eldon Environmental Management Corp (7/94, 3/95; see Appendix 2).

century, historical maps indicate that the area immediately to the north of the project site is in the location of the former Hendrick Rutgers Farm (Figs. 10, 11, 12). This farm was a large parcel of land (c. 100 acres) located along the East River. Originally, the land that later formed the Rutgers farm was divided into several parcels. One section was a narrow strip of land, approximately 57 acres in size, that bordered the East River. Known as Bouwery No. 6, this lot was initially reserved by the Dutch West India Company for itself, probably because of its suitability as a location for ship repair work (Stokes 1967 (1): 134). Stokes has identified Wolphert Gerritsen van Couwenhoven as the first European occupant of Bouwery No. 6 (1967 (1): 134). Gerritsen began a six year lease for the property in 1630 and moved to Long Island when the lease expired in 1636. Although three years later, the Company, under the direction of Keift, leased the property to Jan Cornelissen van

Vorst, there is no indication that he ever farmed the land. Instead, eight months later a twenty year lease was made with Abraham Piertersen Gorter, who farmed the land for several years. A formal ground-brief for the property was made on March 18, 1647 to Cornelis Jacobsen Stille. This parcel remained in the Stille family until it was conveyed to Harmanus Rutgers in January 1727. Rutgers purchased several tracts in this area which were passed down to his son, Harman, and later his grandson Hendrick. The Rutgers farm covered a large portion of what is now known as the Lower East Side of Manhattan.

In 1745, Harmanus Rutgers was asked by a joint committee of the Common Council for permission to place a battery of ten guns, with associated block houses, on a hillside near his home (Stokes 1967 (2): 589). This battery was placed inland from the project area, which was still submerged, and depicted on several late-eighteenth century maps of Manhattan (see Fig. 6). By the late eighteenth century, the battery had been removed and several docks were now present along the riverside (see Fig. 7). The land along the coast was still unimproved by 1803 and plans were made to divide the area into streets (see Fig. 8).

An 1803 map shows the proposed lay out of the street system in the location of the former Rutgers Farm including the area out to the low water mark in the East River (Stokes 1967 (4): 1399). The examination of the land records for the late eighteenth and early nineteenth centuries indicate that although the area had not been filled several land transactions were recorded for the project site. A 1789 deed indicates that Samuel Ackerly purchased much of the waterfront in the location of Block 248 and the site is described as a

"lot intended to be made ground and now also lying under water in the East River formerly granted to the said Hendrick Rutgers in his lifetime" (Liber 45, page 513).

Hooker's 1824 map of Manhattan, shows the Rutgers' property, now reduced to a small parcel two blocks to the north of the project site (Fig. 13). At this date, the shoreline had been filled in to Water Street and the land (including Lots 64, 65, 78, and 79) was no longer depicted as fields as in earlier maps. The shipyards to the northeast of the site were part of the early nineteenth century shipbuilding community mentioned above. A deed dating to 1827 also demonstrates that the area between Water Street and South Street (including Lots 20-23) had not yet been filled as Lots 22-25 were described as "that certain water lot ... to be made land and gained out of the East River" (Liber 213, page 180).

Area 1: Lots 20, 21, 22, 23

As mentioned above, Area 1 is a small group of lots located in the southeastern section of the project site (see Fig. 9). These lots,

which were historically treated as a unit, were also examined as a group for this report. Lots 20, 21, and 22 front onto South Street and Lot 23, abutting the northern boundaries of the first three lots, fronts Rutgers Slip. Table 2 contains the recorded land deeds for these lots.

The first European owner of these lots was Hendrick (or Henry) Rutgers, who retained the water rights in this locale. Rutgers, according to a 1785 deed, jointly owned these inundated lots with several family members. He sold these lots, along with several others to Thomas Buchanan two years later. Lots 20-23 remained underwater until sometime between 1827 and 1848 when the project site was filled in and the shoreline expanded horizontally to the present boundary of South Street.

Included in the 1881 Speilmann and Brush Atlas of New York is an 1848 map of the project area. The map was made of the former Thomas Buchanan estate showing the distribution of property to his heirs (Fig. 14). At that time Block 248 was bisected by Water Street. Thomas Buchanan, the first identified owner of the newly filled lots, possessed twenty lots along the west side of Rutgers Slip. Seven of these lots, including those in Area 1, were located within the project site. Upon his death, the three lots facing South Street (later divided into the four lots 20-23) were bequeathed to Eliza Gilford, and the four lots facing Rutgers Slip were allotted to Frances Pearsall (see Fig. 14). An 1842 pamphlet titled "Wealth and Pedigree of the Wealthy Citizens of New York City," published by the *Sun*, indicates that two of his heirs were among the wealthiest New Yorkers. The pamphlet states that a Miss Buchanan, daughter of Thomas Buchanan (deceased) was worth \$150,000, and the fortune of Mrs. Thomas Pearsall, also a daughter of the "rich Scot merchant Thomas Buchanan" was valued at \$200,000 (1842: 6, 19). According to the pamphlet, Thomas Buchanan, although deceased by this date, was worth \$250,000.

An examination of New York City Directories for the second half of the nineteenth century yielded information regarding some of the occupants of Area 1 following Buchanan's death (Table 3). Doggett's 1851 New York City Street Directory proved to be very helpful as it provided a list of the individuals who occupied the project site by street address rather than a general alphabetical inventory. Table 3 shows the names of the individuals that were listed as being present within Areas 1 and 2, as well as the entire project site in 1851 (Figs. 15 and 25 for corroborating street addresses 1857 Perris and 1925 Bromley).

The four lots within Area 1 remained in the Gilford family until 1950. During that time, the lots were leased to several people for a variety of different commercial purposes. The 1857 Perris Atlas depicts four narrow 1 or 2-story structures and a wood yard contained within Area 1 (see Fig. 15). Perhaps the wood yard on the map was the remnants of the Dannant Lumber business operating within Area 1 during the early 1850s. By 1857, the heirs

Table 2. Land Records for Lots 20-23.

Date	Grantor	Grantee
January 19, 1785	Bedlow, William & Catherine Bancker, Anna McCrea, Stephen & Mary	Rutgers, Henry
July 11, 1787	Rutgers, Henry Bedloe, Wm & Catherine Bancker, Anna McCrea, Stephen & Mary	Buchanan, Thomas
January 10, 1827 (lots 22,23 only)	Mayor Alderman Commonality, City of NY	Heirs of Thomas Buchanan
Feb. 16, 1856	Gilford, Jacob Townsend (heir)	Gilford, George Gilford, Almy Gilford, Thomas B.
Lots divided among heirs		
Feb. 29, 1856	20 -- Gilford, George A 21-- Gilford, Jacob Townsend 22-- Gilford, Almy 23-- Gilford, Thomas Buchanan	
Date	Grantor	Grantee
May 24, 1889	Gilford, Thomas, Sarah Thomas, Samuel, & John	NY Floating Dry Dock Company (lease)
Nov. 9, 1926	Bloom, Simon	Lipman, Fay (lease)
Jan, 16, 1934	US Trust Company of New York Trustee of Gilford, Thomas B.	Kunhardt, Marian Slade, Winthrop Gilford, Lenthorn Almy (lease)
Dec. 26, 1950	Release of lien of Estate Tax Anna Gilford (decd)	
Dec. 26, 1950	Estate of Anna Gilford	Metropolitan News Co.

of Jacob Gilford, likely the son or spouse of Eliza Gilford, had divided the four lots within Area 1 among them. An examination of Real Estate valuations for Manhattan (1865-1895) identifies Jacob Townsend Gilford as the owner of the buildings located on lot 20-22 and described as "small shops."

Although not depicted on any of the historical maps another lumber yard was in operation in the lots adjacent to Area 1. (507 Water-257 South streets). The Dannant yard, it's neighbor, and others depicted on subsequent maps may have been the supply areas for the boat builders and shipwrights that worked in the neighborhood. Rosevelt & Griffiths were listed as the proprietors of a nearby shipyard in a number of nineteenth-century City Directories. George W. and Warren Rosevelt, both shipwrights, enjoyed a profitable union with Roland Griffiths that lasted for over thirty years. An advertisement placed in the 1865 Commercial

Table 3. Proprietors listed in City Directories for Block 248.

<u>Address (Lot)</u>	<u>Name</u>	<u>Occupation/Description</u>	<u>Last Date Listed</u>
Cherry Street			
233(82)	S. Wines	Boats (vacant lots)	1857
239(79), 241(78)	Henry Waterman	Machinist	1852
243(77)*	A. T. Briggs	Cooper	1881
245(76)*	" "	"	"
247(75)*	George Valentine	Hay	1865
Water Street (north side)			
498(82)	Salom Wines	Boatbuilder	1857
500(83)	H. S. Bruah	Boatbuilder	1869
502(84)	J. Maher and Co. John McNally	Iron founders	1851
504(85)	John Friedman	Liquors	1851
506(88)*	J. J. Reinhard	Smith	1865
508(88)*	Frances West Margaret Jones	Grocer Boarder	1851
510(89)*	P. M. McBride	Iron	1856
512(70)*	Durlen Peareall T. H. Swart	Wheelwright Bellowsmaker	1869 1852
Water Street (south side)			
513(26)	Mathew Poland	Liquors	1853
South Street			
253(14)	R. S. Place C. J. Dodge Cornelius VanStratton John Verhoff & Co.	Blacksmith Caneer Rigger Sailmakers	1875 1857 1861 1851
254(15)	W. A. Freeborn & Co J. F. Freeborn Sectional Dry Dock Co. Hatcher & Dixon	Shipchandlers Riggers	1890 1865
255(16)	G. E. Bussey	Liquors	1851
256(17)	Storage		?
257(18)	Henry Jones & Son	Blacksmiths	1851
258-259 (19-23)	J. L. Dannat	Lumber	1853

out of project area

out of proj area

partially distributed

* Parcels outside of project site in the location of the Two Bridges Senior Housing lot.

Register indicates that as well as performing a variety of tasks, they had a ready supply of timber, perhaps from the nearby lumber yard (Fig. 16a).

1880? → 1870
D Homeinder
Very importantly, the Area 1 lots did not host residential units. The City directories examined indicated that all of the operators of commercial businesses within Area 1, and almost all of the entire project site, resided elsewhere. In addition, an examination of the 1870 Federal Census, which was inventoried by street address, does not list any residents for these lots. At that date the buildings in the northeast corner of the project parcel (outside the project site under the present Elderly Housing structure) were inhabited by a large number of Irish immigrants.

An 1879 view of New York published by Galt and Hoy shows the project site completely covered by brick structures (Fig. 17). While it is likely that there were structures across the lot at this time, the historical maps reviewed indicate that all of the buildings were only one or two stories high and not as tall as those shown here. The view also depicts the two dry docks that were operated between the piers along South Street adjacent to the project site. The 1884 and 1885 Robinson Atlases indicate that the rear wood lot was now used for coal (Figs. 18, 19). Land records indicate that the New York Floating Dry Dock Company leased the lots within Area 1 from the Gilford family in 1889. This company was likely that which is depicted on the 1879 view of the area.

The 1894 Sanborn Atlas indicates that the northern portions of Lots 20-22 and all of Lot 23 was now used as a location for "Packing Boxes" (Fig. 20). Less than four years later, the 1898 Real Estate valuations indicate that Lots 20 and 21 were now vacant and only the three story building on Lot 22 remained standing (Fig. 21). This structure was not likely used for residential space, as the 1900 Federal Census does not indicate anyone living within Area 1. In contrast, the large residential buildings outside the project bounds but in the northeast of the corner of the project block now accommodated Russian immigrants exclusively.

By 1905, Lots 20, 21, and 23 were being utilized as a Wagon Yard (Fig. 22). The function of the lot changed again by 1923, when it was described as a "Scrap Iron Yard" on the Sanborn Atlas of that date (Fig. 23). This map also indicates that a fenced yard was added to the north side of the three-story building located on Lot 22. A 1926 deed indicates that a Simon Bloom, likely acting for the Gilford's, leased the four lots within Area 1 to Fay Lipman. The deed states that that property is "to be used and occupied for the storage and sale of scrap iron and kindred line" (Liber 3580, page 146). The fifteen-year lease also stipulated that the landlord reserved the right to the second story of the building.

Area 1 continued to be used for the storage and sale of scrap iron for over twenty-five years and no structures were built on any of the four lots (Figs. 24 and 25). Following the death of Anna Gilford, the lots within Area 1 were sold to the Metropolitan News Company in 1950. The following year, the Sanborn Atlas indicates that while the three-story building on Lot 22 was now vacant, the scrap metal yard was still active (Fig. 26). Area 1, along with

most of the southeastern portion of Block 248 was cleared in the late 1970s and has remained vacant until the present time (Figs. 27 and 28). In summary, historical research indicates that throughout the nineteenth and twentieth centuries Area 1 was not used for commercial manufacturing or industrial processing. Instead Lots 20-23 were used for storage and office space.

Soil investigations were conducted by Eldon Environmental Management Corporation (1994) within the bounds of Area 1 in the location of Lot 20, the former metal scrap yard (see Appendix 2). Test Pit # 3, approximately 10 feet long, was excavated to a depth of 10 feet using a backhoe. The excavation revealed a large variety of metal objects found beneath the surface including automobile tires, steel cable, and a partially shredded drum. Groundwater was reached at approximately 5 feet below the surface. Analysis of the soils indicated a high concentration of lead and beryllium, which exceeded HEAST values.

Area 2: Lots 64, 65, 78, 79

Although not as thoroughly documented as Area 1, the earliest specific record for the lots located in Area 2 (Lots 64, 65, 78, 79) is a 1796 deed which indicates that these lots were purchased from the Cheeseman family by Samuel Ackerly (Table 4). Thomas Cheeseman was the earliest recorded New York shipbuilder, although little is known about the types of vessels he constructed (McKay 1969: 36-37). Thomas had a restricted operation on the banks of the East River, southwest of the project site. His son Forman, also a shipbuilder, was one of the few naval architects in New York. Although prior to 1800 he owned the land within the project site, his shipyard was located northeast of the project area at the foot of Rutgers Street. While he had a reputation for dependable design and construction, little else is known about the Cheeseman family enterprise because shortly before Forman retired, all of his business and family records were lost in a fire.

Ackerly, much like Thomas Buchanan, purchased a large number of the inundated waterfront lots at the close of the eighteenth century. Following in the footsteps of the Cheeseman's, Samuel Ackerly was a well-known shipbuilder. His shipyard was located west of the project area at the foot of Market Street and was the site of the launching of one of the earliest American-built ships called the *Favorite*, which was constructed for London Trade (McKay 1969: 18). Ackerly had a wharf on the East River between Pike and Rutgers slips, immediately to the west of the project site named appropriately Ackerly's wharf (see Fig. 7; McKay 1969:451). Ackerly, who owned many of the lots within the project site, was one of the small circle of shipbuilders that through skill established New York as one of the shipbuilding centers of the world (McKay 1969: 39).

Table 4. Land Records for Lots 64, 65, 78 and 79*.

Date	Grantor	Grantee
February 27, 1796	Cheeseman, Forman and heirs of Thomas Cheeseman	Ackerly, Samuel
Deed missing or not recorded		
Sept. 7, 1846	Ruggles Philo T. (Master in Chancery) Gideon Freeborn et al. (defendants)	Hitchcock, Agnes (foreclosure)
Nov. 1, 1851	Hitchcock, Agnes Clark, Joshua & Sarah Ann	Hall, Martha M. (lease)
March 9, 1898	Hall, Augustus, Henry, Alice, William, and Agnes	Hall, Martha (lease)
June 19, 1929	Hall, Martha	Nelson, Marris S. (lease)
Deed missing or not recorded		
February 26, 1946	East Side Fee Co.	Cherry Hill Realty

* These four lots were always identified as a single entity called Lot 64.

Adjacent to the Ackerly wharf was a larger wharf structure that was located within the boundaries of Area 2 (see Fig. 9). No information on the ownership of this wharf has been recovered, although Ackerly did own the water lots in that location. Following the filling of these water lots, and the corresponding removal or encasement of the Ackerly wharf and its eastern neighbor, Samuel began to sell his lots along the waterfront. The exact date of sale for the lots within Area 2, however, was not recorded. The 1803 map of the project area shows the outline of the two wharves extending south past Water Street (see Fig. 8). However, this map was a plan of proposed streets to be laid out within the project area and is not accurate as to the location of the southern end of the piers in relation to Water Street as it was eventually "regulated." By 1824, when a portion of the waterfront was filled, a different wharf/pier structure was located along Rutgers Slip and a smaller pier is depicted to the west (see Fig. 13). After the final landfilling activity took place, Front Street was not laid out in this area, the proposed Water Street was moved slightly south, and a single large wharf was constructed on the East River (see Fig. 14).

The examination of the real estate valuations for Area 2 indicates that by 1835, Freeborn and Hitchcock were paying taxes for a foundry on these lots. An 1846 deed indicates that Agnes Hitchcock foreclosed on Gideon Freeborn and became sole owner of the foundry and lots within Area 2 (see Table 4).

The commercial guides appended to the New York City directories are full of advertisements for the many competing foundries in the

city. The large iron foundry located on the project site in Area 2 (500-502 Water Street) was present in this location for over 65 years. In 1852, John Maher & Co., along with John McNally, were the proprietors of the foundry labeled as the "Clinton foundry" on an 1857 map (see Fig. 15; Table 3). New York City Directories listed Edward Farrel as the operator of this foundry from 1853 until 1856 when it was taken over by neighbor William McKinley when he went into partnership with Robert Smack. Land records indicate that McKinley also leased lot 63 to the west of Area 2 before finally purchasing it from the Jauncey family in 1876 (Liber 1405, page 226). An advertisement from the 1861 Commercial Register indicates that McKinley and Smack were involved in producing a variety of machine parts and castings at both sites (Fig. 16b).

William and James Freeborn also operated a small iron foundry directly to the west of Area 2, within the project site boundaries. Their establishment at 498-500 Water Street was adjacent to the McKinley and Smack foundry and was in business for almost twenty five years. In addition, they opened a brass foundry immediately to the west of their iron foundry at 498 Water Street, only half of which lies within the project site boundaries (see Figs. 18 and 19). The brass foundry was disturbed by the 1900 tenement construction on Lots 62 and 63.

Although no records of leases have been recovered, the real estate valuations for Manhattan indicates that the estate of C. Hitchcock continued to pay the taxes on this lot (64) from 1845 through 1895. Documentary research turned up no additional information on Martha Hall and/or the others listed in the land books as leasing the property during the late nineteenth through early twentieth century. As with Area 1, the 1870 Census does not indicate anyone residing within Area 2.

The 1895 real estate valuations indicate that the owner of record for Lot 64 (502-504 Water Street) was a Mrs. J. Jennings, who had owned the adjacent Lot 63 (498 Water Street) since prior to 1885. After 1894, the lots owned by Mrs Jennings were transformed. Three large tenements were constructed on Lots 61-63, outside the potentially sensitive land, and according to the 1900 Federal Census they housed a large number of Russian immigrants. Historical maps indicate that the iron foundry was present here until 1905 (see Figs. 18, 19, 20, 21, and 22). By that date, however, the foundry was replaced by a lumber yard. This yard remained in business until sometime prior to 1934 when the Area 2 lots were used for scrap iron storage (see Fig. 25). By 1951 the tenements neighboring Lot 64 had been removed and a large bus garage was now present in the location of Lots 62, 63, and Area 2 (235-241 Cherry Street, 498-504 Water Street) (see Fig. 26).

By the late 1970s a major portion of Block 248 had been cleared, however, the Bus Garage was still in use in Area 2 (see Fig. 27). Sometime during the 1980s Water Street was closed off and the two sections of Block 248 were combined. By 1983 all of the former

structures on the project site, including the bus garage, had been demolished and the Pathmark Super Center was built to the west of the project site. The Two Bridges Senior Citizens Apartment Building, located on the northeast corner of Block 248 was completed in 1987 giving the empty project lot an L shape (see Fig. 28). Most of the former pier along Rutgers Slip, on the east side of the project site, was likely destroyed when the Two Bridges Senior Citizen Apartment building was built, perhaps leaving only a narrow portion of it intact within Area 2.

Recent soil investigations were conducted by Eldon Environmental Management Corporation (March 1995) within the bounds of Area 2 in the location of the remains of the former pier (Lot 64). One test trench and three test pits were excavated near the eastern boundary of the lot (see Appendix 2). The trench, eighty-five feet long, and test pits, 7 to 10 feet long, were excavated to a depth of 4 to 10 feet in order to locate and remove the possible underground storage tanks in this location. No fuel tanks were recovered as a result of these excavations. These significant excavation units also did not encounter any evidence of the early waterfront features.

Three additional soil borings were completed in Area 2 during June 1995. Each of the samples indicated that the depth of fill in this locale was 10 feet. Only one of the borings (# 19) encountered wood remains at a depth of 15-17 feet.

Historical Potential

Residential

The historical examination of the Two Bridges Project site has shown that the area had a number of different structures and was used for a variety of purposes. However, the 1870 and 1900 Federal Census records, inventoried by street address, do not list any residents for either Area 1 or Area 2, as well as the majority of the project site.

Waterfront Features

Originally submerged, the area was filled and used for wharf space. The examination of historical maps has shown that wharves or piers were present within the project site in the late eighteenth and early nineteenth centuries and may have been protected by the subsequent landfilling that occurred in the mid-nineteenth century. Because of the ambiguous nature of the early maps it is difficult to determine the exact boundaries of these former wharves. The majority of the small pier that was positioned along Rutgers Slip, on the east side of the lot, was likely destroyed when the Two Bridges Senior Citizen Apartment building was built. Furthermore, if any remains of the eastern pier and the smaller western pier were under the former Water Street, they would have been impacted by the placement of a 6" water pipe with associated hydrants during the late nineteenth century (prior to 1884; see Figs 18, 19, and 22).

The examination of historical maps indicates that the only segment of Water Street where the eastern pier was definitely located in the past was in the area adjacent to Rutgers Slip. This area was also disturbed when the above elderly housing structure was built. Although it is not clear if the eastern pier extended to the south beyond Water Street, this location was disturbed during the twentieth century, and wharf remains, if any, were likely impacted (see Figs. 22-26). The second, and smaller, western pier (Ackerly's), mentioned above, was located outside the western edge of the project site and would have been disturbed by the construction of c.1900 tenement buildings containing basements (see Fig. 21).

The possible recovery of historic shipwrecks was also considered for this location. Because the immense amount of water traffic on the East River and the hazardous nature of shipping there were constant reports of ships and boats being lost in the river. However, the continuous dredging activity, which began in 1785, around the wharves and piers, and the swift river currents in this location, suggest that it is not likely that the remains of ships would be recovered.

Landfilling

Presently, Manhattan is approximately 33% larger than when the Dutch arrived in the seventeenth century (Buttenwieser 1987: 21). The intense amount of landfilling that took place over three centuries ultimately claimed a three block strip of land from the East River. Beginning with the Dongen Charter in 1686, landfilling along the East River was considered the most expedient way to create more waterfront space. This charter, the Montgomerie Charter of 1730, the Outer Streets and Wharf Act of 1789, and the Ch. 172 of 1821, eventually allowed the recovery of up to 600 feet of river space for landfill activity. The Outer Streets and Wharf Act of 1789 represented municipal dissatisfaction with private owners controlling the city's waterfront. At that time the existing bulkhead had become extremely irregular (see Fig. 7). The Act called for the filling in of empty space between the private docks at the expense of the owners. At that date, The owners around Rutgers Slip were allowed to expand up to 590 feet into the East River (Buttenwieser 1987: 37). This legislation also allowed the government to oversee any landfilling activity. The project area was filled in slowly beginning in 1803. The area between Cherry and Water streets was filled by 1824, according to the earlier 1803 proposed street plan (see Figs 8 and 12). The final wave of landfilling within the project site was completed between 1824 and 1842 when Thomas Buchanan owned the land seen in Figure 13. One difficulty when researching filled land is the inability to determine, in most cases, where the fill came from. Another problem is determining what features were left intact in the area as it was filled. In general, large features, such as piers and wharfs, were not removed prior to filling in the area. If this is the case at the present site, there may be portions of two small

piers under the surface of Block 248. Soil borings indicate that there is at least 10 feet of fill across the project site.

The close proximity to the waterfront and the fact that elevations in this area are between 5 - 10 feet above sea level made it difficult to compare elevations for the project site over time. Further, the sporadic, but intense, amount of landfilling in this locale, also made it impossible to determine comparative elevations.

Commercial District

The examination of nineteenth and twentieth century historical maps, Federal Census records, and the New York City Directories demonstrates that this locale was used primarily as a commercial district. The 1852-1897 directories reviewed indicate that almost all of the individuals listed as occupying the project site had a home address in the residential areas of the Lower East Side, a few blocks to the west and north. Henry, Maddison, and Monroe streets as well as East Broadway were the preferred residential locations of the majority. Historical maps indicate that the structures built on Block 248 were for commercial use and in most cases were only one to two stories high.

The commercial environment of the project block was typical for the blocks closest to the waterfront. Shipbuilders, founders, merchants, blacksmiths, and other tradesmen set up shop all along the East River. Perhaps, the shipwrights, boatbuilders, and associated businesses were the vestiges of the larger shipbuilding community established to the east of the project site in the first quarter of the nineteenth century. The former foundry in Area 2 is one specific example of this community within the project site. Within Area 1, however, no manufacturing activities took place. Instead, this locale was primarily used for storage and office facilities.

CONCLUSIONS AND RECOMMENDATIONS

Plans to develop the Two Bridges Urban Renewal site include the construction of residential, retail, and community facility space in two buildings on the 1.3 acre site. Proposed structures include a 21-story building, with an attached parking facility, and a smaller one-story retail building (see Fig. 3). The detailed assessment conducted on the project site, and presented in this report, indicates that most of the lots within the project site have been disturbed by late nineteenth and twentieth century construction. According to the current design plans (3/20/95), the proposed construction may impact Archaeological Sensitivity Area 1 (Lot 23 and limited portion of Lots 20-22), and Archaeological Sensitivity Area 2, (Lots 64, 65, 78, 79 (see Fig. 9). The possibility of recovering potentially significant cultural resources from these limited areas is minimal because of low archaeological visibility/potential and poor integrity based on documented disturbances which were discussed in the Topic Intensive Lot by Lot examination.

Prehistoric Period

In an urban setting the rarest types of sites discovered are from the prehistoric era. Perhaps this is because of the transitory nature of the early prehistoric periods or the result of over three hundred years of change including the intense urbanization during the twentieth century. During the late prehistoric period the project site was submerged, however, there was a period approximately 12,000-5,000 years ago during which the area may have been exposed. While this was taken into consideration, the subsequent inundation of the area and the swift river currents precludes this location as having high potential for the recovery of Paleo-Indian and Archaic cultural material.

The data gathered from historical documents, observers' accounts, and maps indicates that there may have been a Native American site near to, but not within, the present project site. However, no recorded archaeological evidence has been found confirming the documentary data beyond the mention on Arthur C. Parker's Map of prehistoric sites. It is unlikely that a primary village site was located directly adjacent to the waterline. Furthermore, the land directly adjacent to the river was salt marsh and therefore also an unlikely place for the location of a primary site. Instead, the present project area may have been utilized by prehistoric peoples as a secondary site (e.g., shell midden). There is a possibility that the Native path, shown in Figure 5, was directly within the general project area. Because of the close proximity to the river, the fast tidal currents would likely have obliterated any evidence of prehistoric site exploitation during earlier periods of lowered sea levels. The few scattered or discarded artifacts that could be recovered from this site would not yield any additional information regarding prehistoric cultures in the New York City area.

Therefore, no further archaeological consideration is warranted for this category of resource.

Historical Period

Waterfront Features

The historical data used to address and consider the potential for the recovery of early waterfront features, indicates that small piers located within the project block during the late eighteenth and early nineteenth centuries (see Figs. 7 and 12). The structures that were built on the lot during the nineteenth and twentieth centuries may very well have had some impact on these waterfront features, particularly the bus garage (c. 1951). The fact that the area is only approximately 10 feet above sea level, and a significant amount of rubble can be seen on the surface, indicates a certain amount of disturbance. This has been confirmed by soil boring tests.

An 1803 map of the project site depicted the two small piers present in this locale prior to the filling of the project area (see Fig. 8). This map was created as a plan for the future streets to be laid out along the East River. While the outline of the piers is likely accurate, the actual placement of the roads was changed once landfilling occurred. Originally, there were to be two east-west streets between the former shoreline (Cherry Street) and the planned waterfront (South Street). Following the filling of the area only one street, Water Street was laid out. Therefore, the exact dimensions of possible pier remains cannot be determined from this early nineteenth-century map. The eastern pier was located along Rutgers Slip and a smaller western pier was located outside the western boundary of the project site. A comparative examination of historical maps indicates that although the exact measurements of the eastern pier are not known, a portion of this feature would have extended into Area 2. Soil investigations conducted within Area 2, and discussed above, indicate that these piers, if present, are likely covered by at least 10 feet of fill with a water table at approximately 5 feet below grade. In addition, only one out of the three soil borings placed within Area 2 found what was described as "wood fill" at a depth of 15-17 feet.

Current plans call for the construction of a one-story retail building, without a basement, in the northern section of the project site (see Fig. 3). This structure would rest on a pile foundation. Pile driving, by its nature, does not expose soil profiles and provide opportunities for deep archaeological excavations. Eldon Environmental has recommended "that the site be covered with pavement" because of some contaminants found during the 1994 soil tests. If the plans are not altered to include significant subsurface disturbance beyond that recommended by Eldon Environmental, then archaeological investigations in the relatively shallow and late fill overmantle would not likely be productive for waterfront features. However, because the data acquired through

the excavation of early waterfront features is sparse, it is recommended that archaeological monitoring of the excavations for pile cap placement be conducted in the event that such unlikely remains of waterfront features are present. Because of the soil test trenches that were excavated in the eastern section of Area 2 (Lots 65 and 78), and the possible remains of the eastern pier along the Cherry Street boundary, the northwestern portion of Area 2 is the location designated for archaeological monitoring (Lot 79, Fig. 29).

Residential Features

Historically, the project site was not used primarily as a residential area. This resource would not be present on the undisturbed lots and archaeological testing is not recommended.

Commercial District Features

While there were many small shops, shipyards, and foundries in this location representing a nineteenth century commercial/industrial community, the construction of buildings, such as the large Metropolitan News distribution Station with its associated underground tanks, and those with basements, within the project site likely disturbed any potentially significant remains of the commercial structures on the southern portion of the project site associated with waterfront activity (e.g., Rosevelt & Griffiths, shipwrights at 257 South Street). In addition, the unidentified twentieth century structure in the eastern portion of the project site, located at the corner of Water Street and Rutgers Slip, had a basement that was at least 8 feet below the present surface. This structure likely disturbed any of the remains of the stables and wagon builder's shop located in this area.

As mentioned above, the two portions of the project area that may be undisturbed by nineteenth and twentieth century development were those identified in this report as Area 1 (Lots 20-23) and Area 2 (Lots 64, 65, 78, 79). Area 1, in the southeast portion of the project site, was the location of the nineteenth century, lumber and coal yards, the New York Floating Dry Dock Company, and the site of a twentieth-century scrap metal yard. The examination of current plans for the construction of the 21-story building indicates that approximately 20 feet of the northern portion of Lots 20-22 and the whole of Lot 23 will be impacted. Plans also indicate that the southern portion of Lots 20-22, located at the southeast corner of the project site, will be a small playground.

Historical research has shown that this location was not used for residential purposes. Instead, on Lots 20-22, there were small 1-3 story commercial structures (identified as stores in many documents) and, in the case of Lot 23, open yard areas. It is unlikely that the rear lot area and open yard would contain any historical residential shaft features (e.g., wells, and privies). Other surface structures and/or features associated with commercial

activities may have been disturbed when the whole area was utilized as a scrap metal yard. The extent of disturbance in this locale is unknown and the possible resources have minimal archaeological visibility. Therefore, no further archaeological consideration is recommended for Area 1.

Area 2, in the northern portion of the project site, is the former location of the iron foundry (see Figs. 18 and 19). This site may be a potential resource for the recovery of materials relating to metallurgical technology and foundries geared toward the production of objects specifically used for ships and shipping. The fact that a diverse number of these waterfront foundries were coexisting all along the shore of Manhattan makes this type of site a potentially informative resource for understanding the industrial waterfront of the nineteenth century. The amount and types of objects cast could lead insight into the competitive world of the late nineteenth-century founder. Although it is likely that foundry deposits on the project site have been disturbed by subsequent development, (e.g., the construction of the bus garage and the 1995 soil test trenches excavated in this location), some of the cultural materials may remain buried. The soil tests and borings conducted in 1995, however, indicate that there is at least 10 feet of mixed fill in this location. While this may be a potential resource, the current construction plans for this part of the project site, discussed in more detail above, may not adversely impact these materials. Because the total extent of disturbance is unknown, it is recommended that archaeological monitoring of the excavations for pile caps be conducted in two of the former foundry lots (64 and 79) (see Fig. 29).

As construction plans are finalized, a monitoring program should be designed for the observation of possible excavations in Lots 64 and 79 within Area 2, which has been identified as possibly sensitive for a portion of the waterfront pier and the iron foundry (see Fig. 29).

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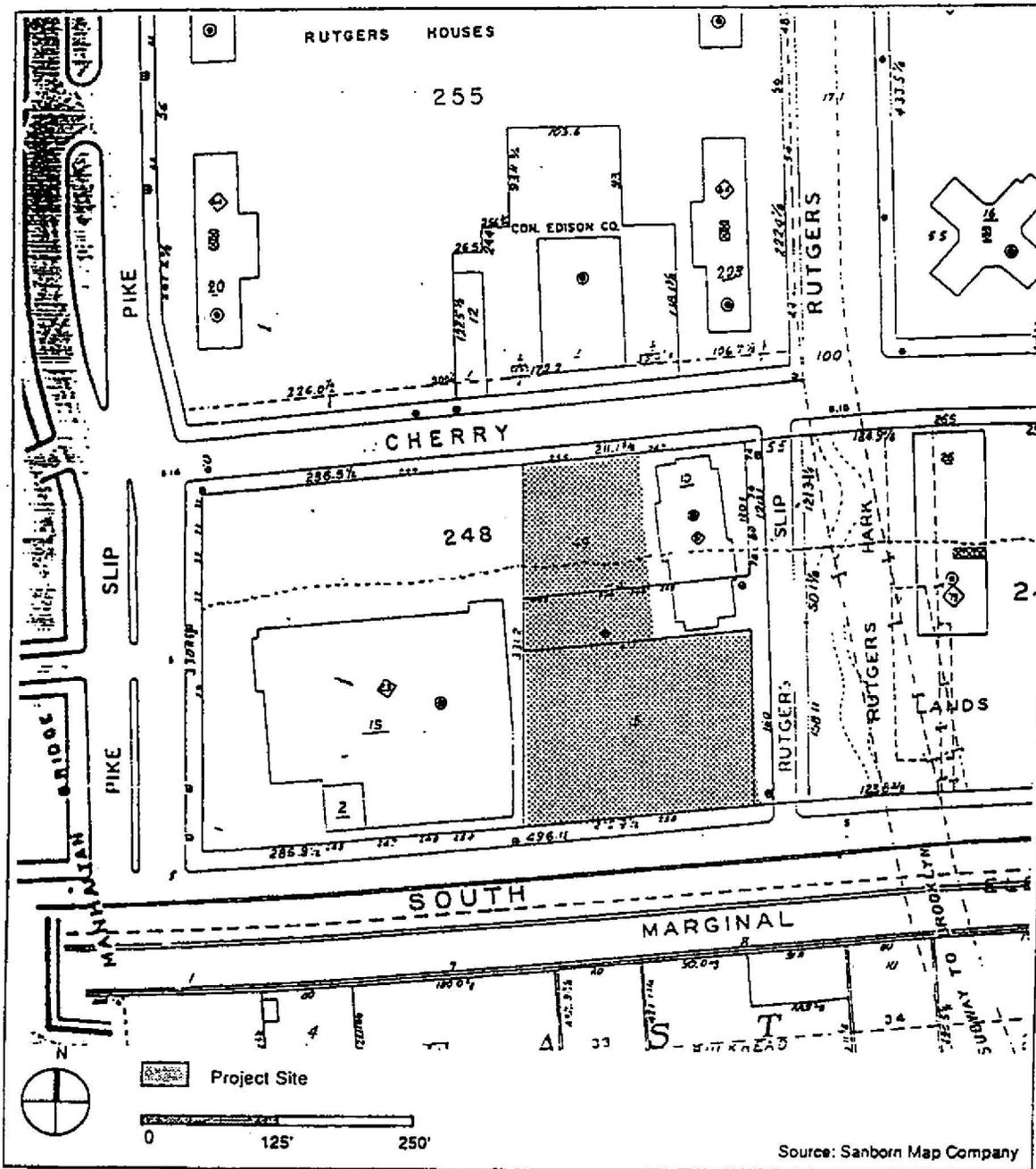


Figure 2 Current Sanborn Map Showing Project Site Location
 Source: Ethan C. Eldon Associates, Inc.

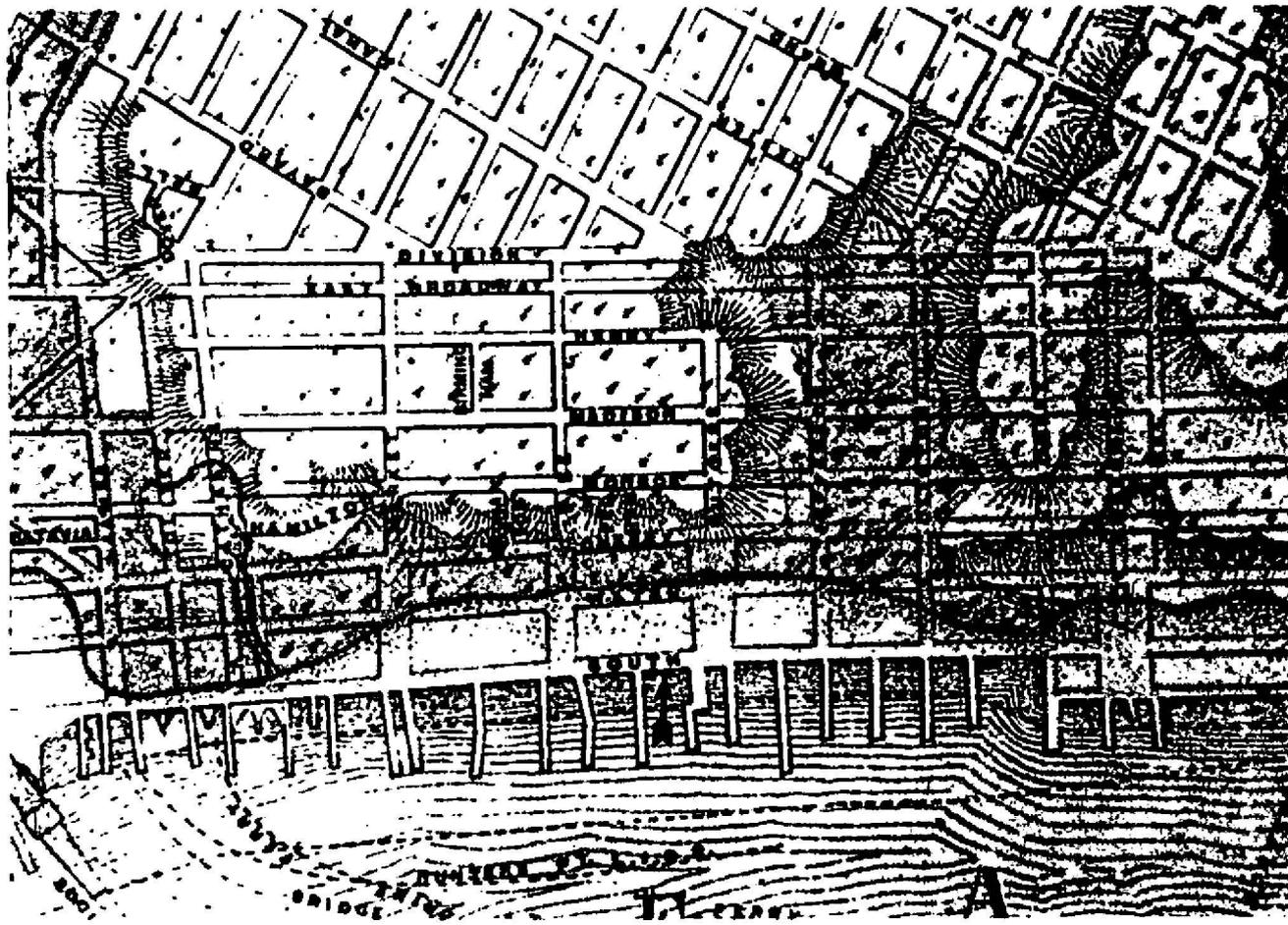


Figure 4 Topographical Atlas of the City of New York
(Egbert L. Viele, 1874)



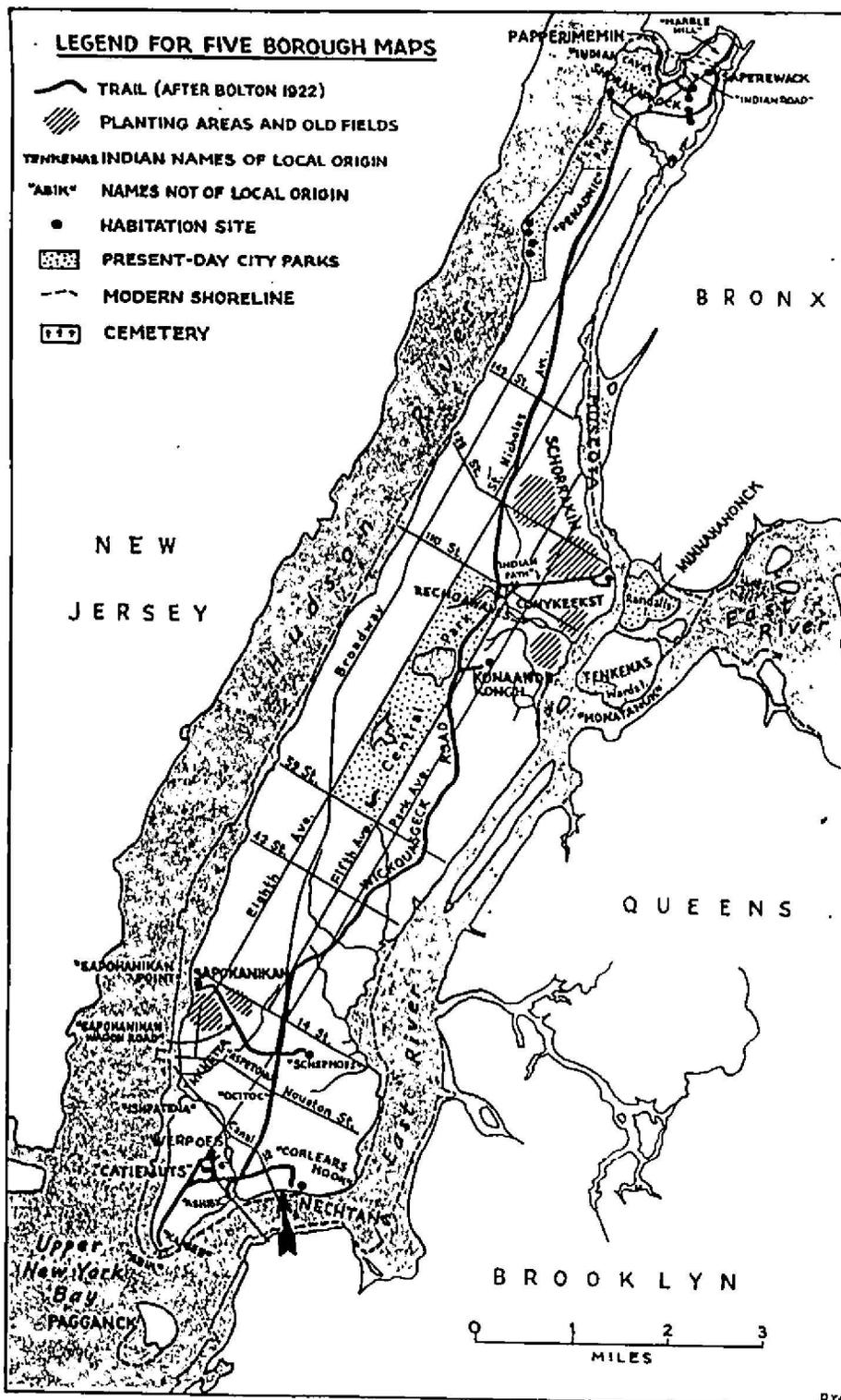


Figure 5 Map of Indian Trails, Planting Fields, and Habitation Sites (Grumet 1981: 68)

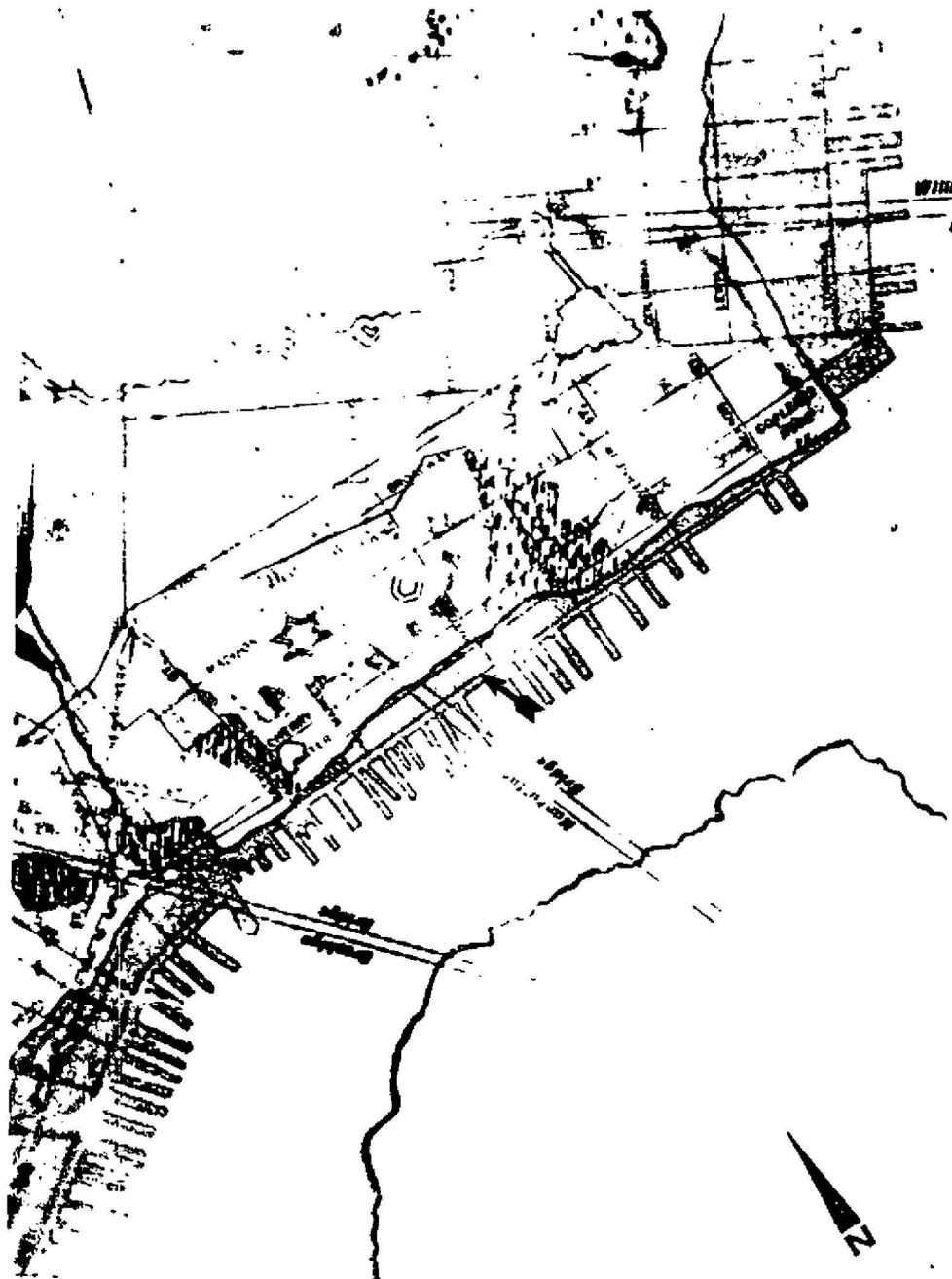


Figure 6 Manhattan Island at the Close of the Revolution showing the American City with its landmarks and The Revolutionary Fortifications on the Island (Townsend Mac Coun, 1783)

A New & Accurate PLAN of the CITY of NEW YORK in the State of NEW YORK in NORTH AMERICA. Published in 1797

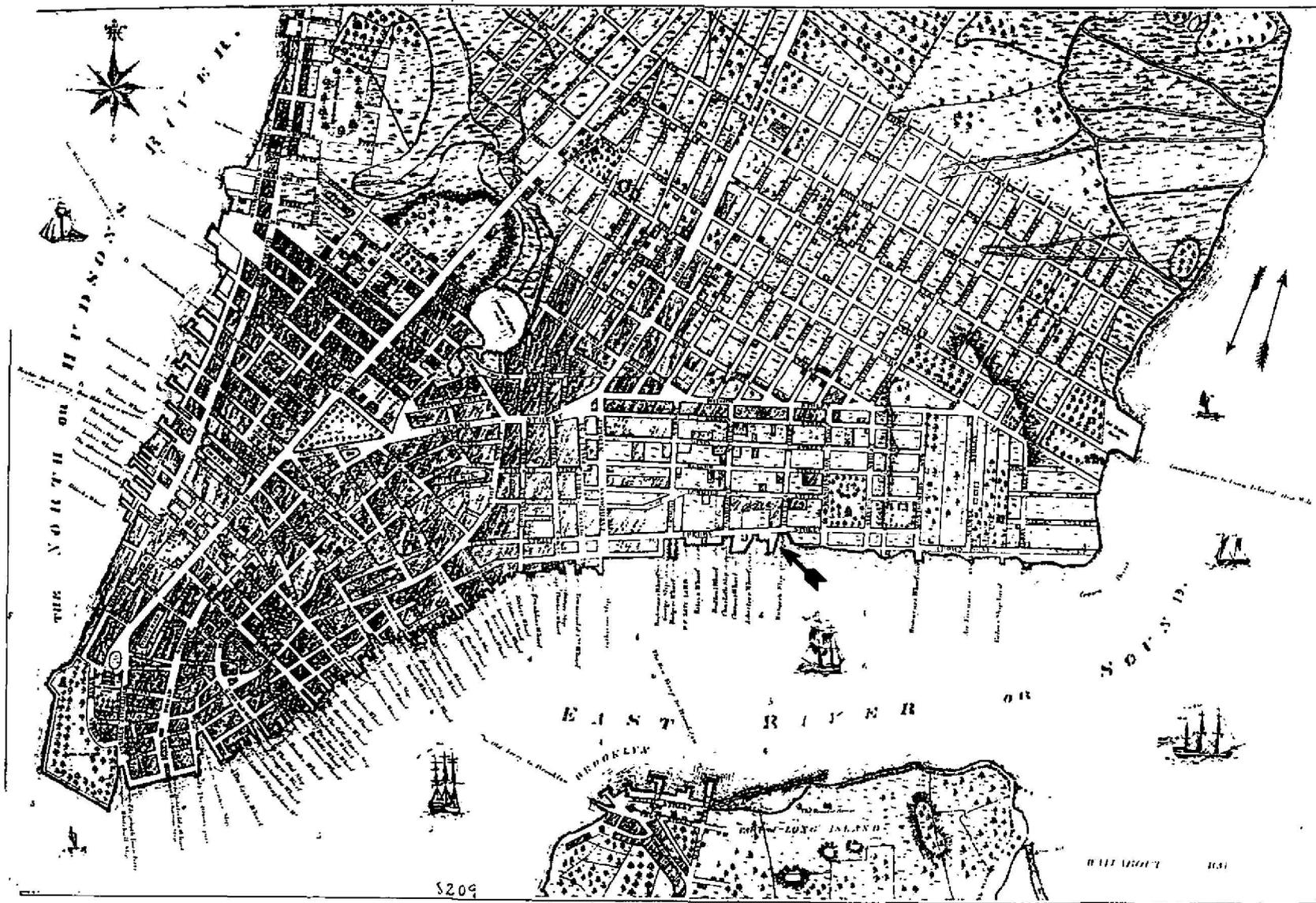


Figure 7 Manhattan at the Close of the Eighteenth Century (Stokes 1967)

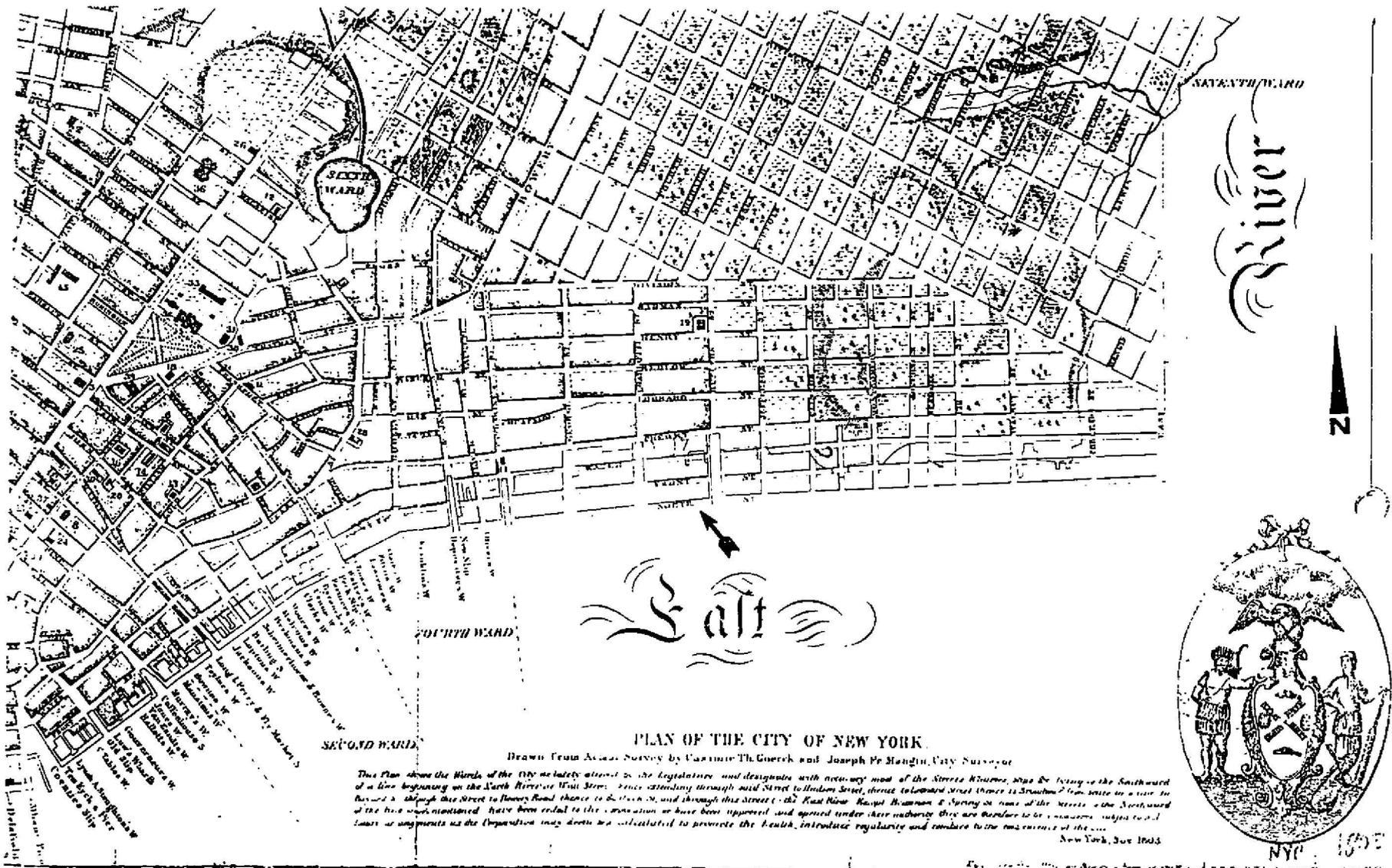
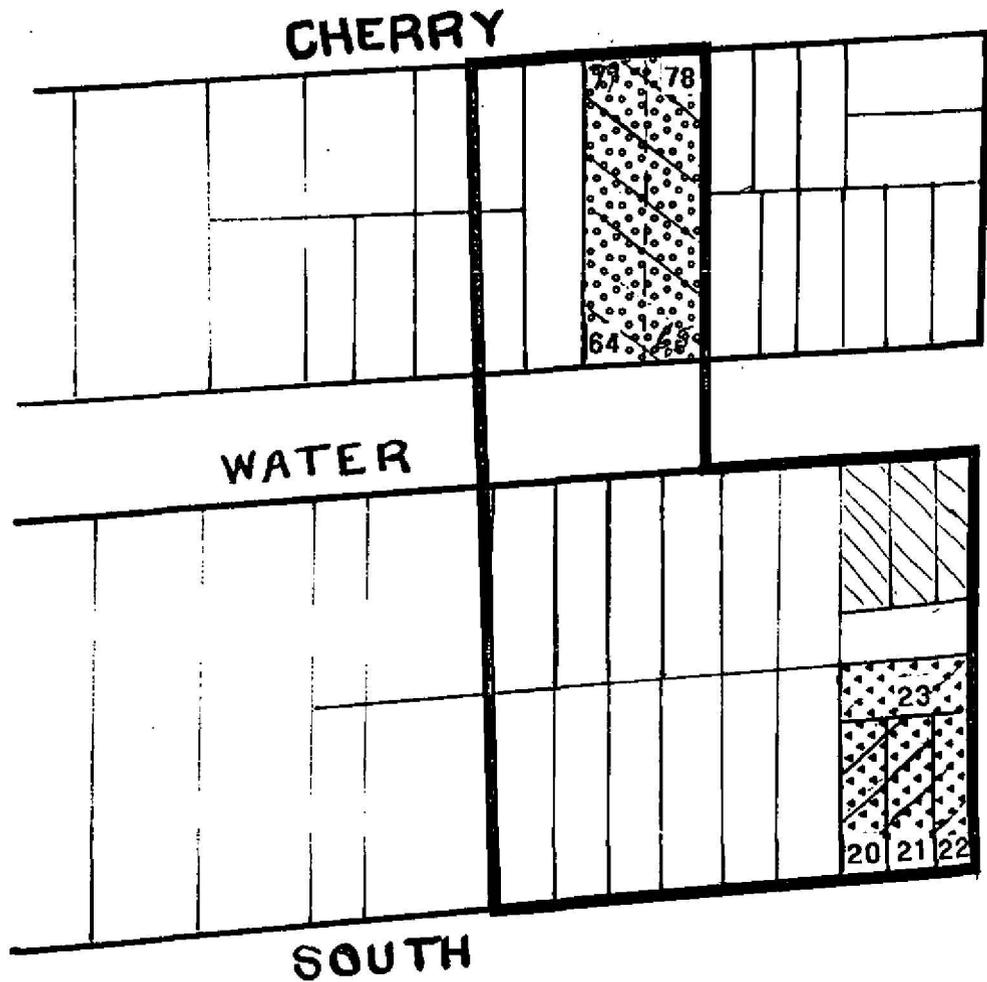


Figure 8 Plan of the City of New York (1803)



RUTGERS SLIP

KEY

-  Project Site
-  Lot
-  Area 1
-  Area 2
-  North

 zotnc disturbance (4924)

Figure 9 Location of Area 1 and Area 2 within the Project Site.

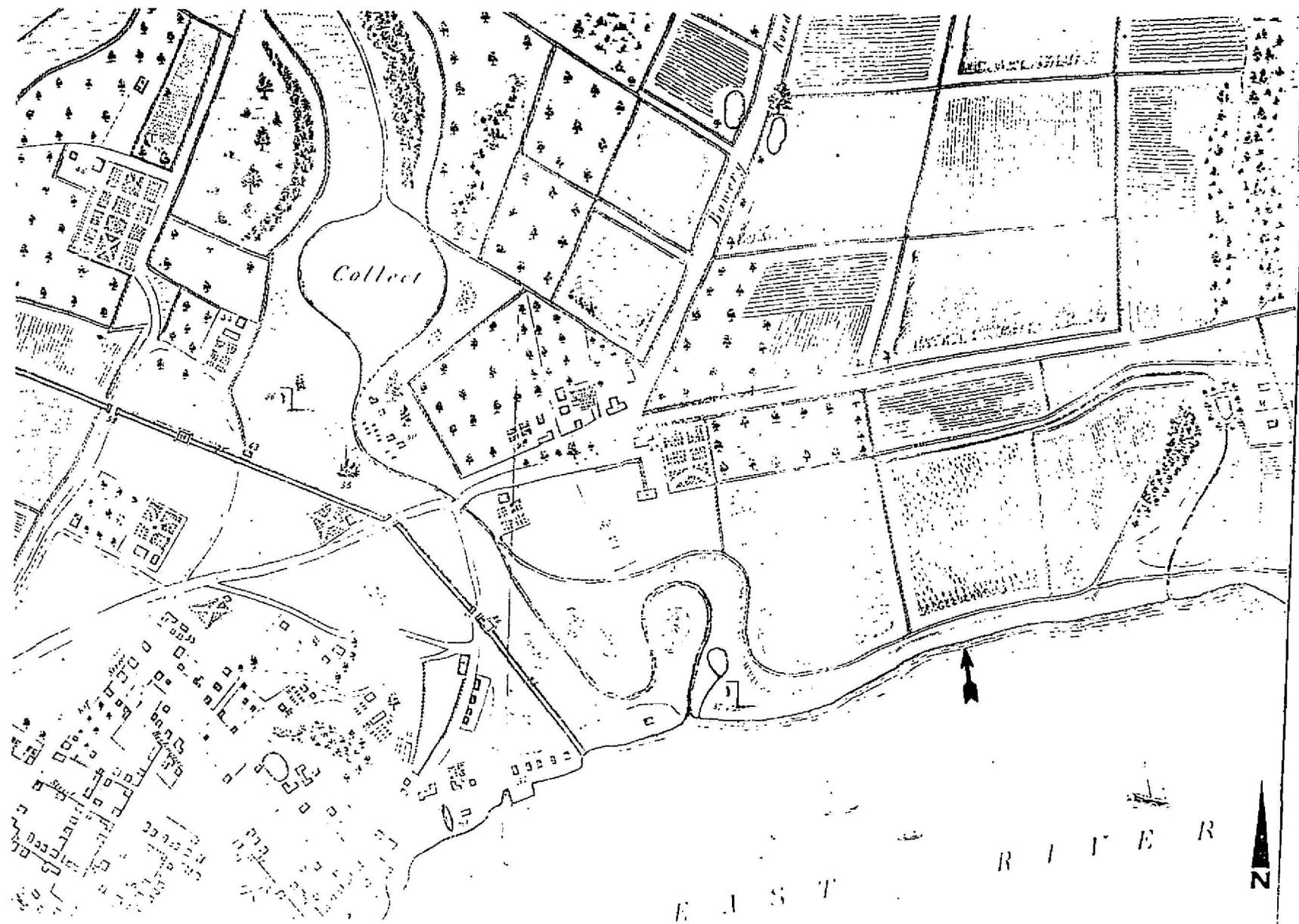
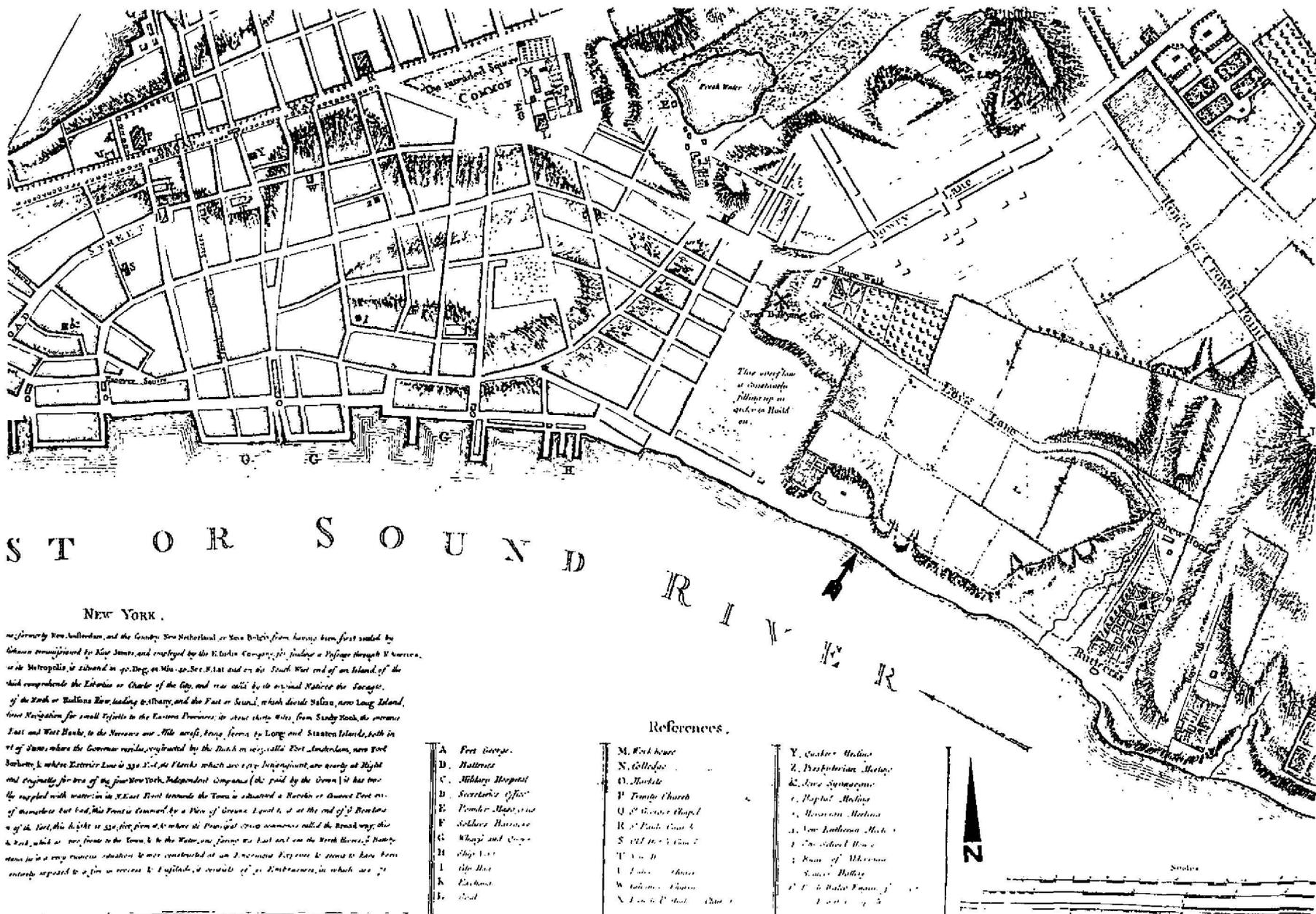


Figure 10 A Plan of the City and Environs of New York as they were in the Years 1742, 1743, and 1744 (David Grim)



STOR SOUND RIVER

NEW YORK.

formerly New Amsterdam, and the Country, Sea, and River, from having been first settled by
 between discovered by Kieft, James, and employed by the E. India Company, for finding a Passage through N. America,
 is in Metropolis, is situated on 40. Deg. 40. Min. 40. Sec. N. Lat. and on the South West end of an Island, of the
 which comprehends the Extension or Quarter of the City, and was called by its original Name, the *Sagoyes*,
 of the Dutch or *Bullens* Town, leading to Albany, and the East or Sound, which divides *Manhasset*, near Long Island,
 from Navigation for small Vessels to the Eastern Provinces, so that these Villes, from Sandy Hook, the entrance
 East and West Banks, to the Narrows are *Manhasset*, being former by Long and Sixteen Islands, both in
 of 1700, where the Governor resides, constructed by the Dutch in 1624, called *Fort Amsterdam*, near Fort
 between, & where *Christen Lane* is 330 Feet, the *Manhasset* which are 1700, being built, are nearly at Right
 and originally for use of the four New York Independent Companies (the first by the Dutch) it has been
 the supplied with water in N. East Point towards the Town is situated a *Reservoir* or *Quarantine* Pond, on
 of *Manhasset* but had, this Pond is connected by a Pipe of *Orange* Lead, &c. at the end of 200 Yards
 of the Pond, the height is 250 feet from 40, 50 where the principal 1700 Commerce called the *Broad way*, this
 is Pond, which is now from 10 to the Town, & to the Water, one facing the East and one the North River, of *Manhasset*
 stands in a very business situation to meet constructed of an *Iron* or *Iron* Pipe, &c. seems to have been
 entirely repaired to a fine in 1700, & is situated at 200 Yards from the East end of the

References.

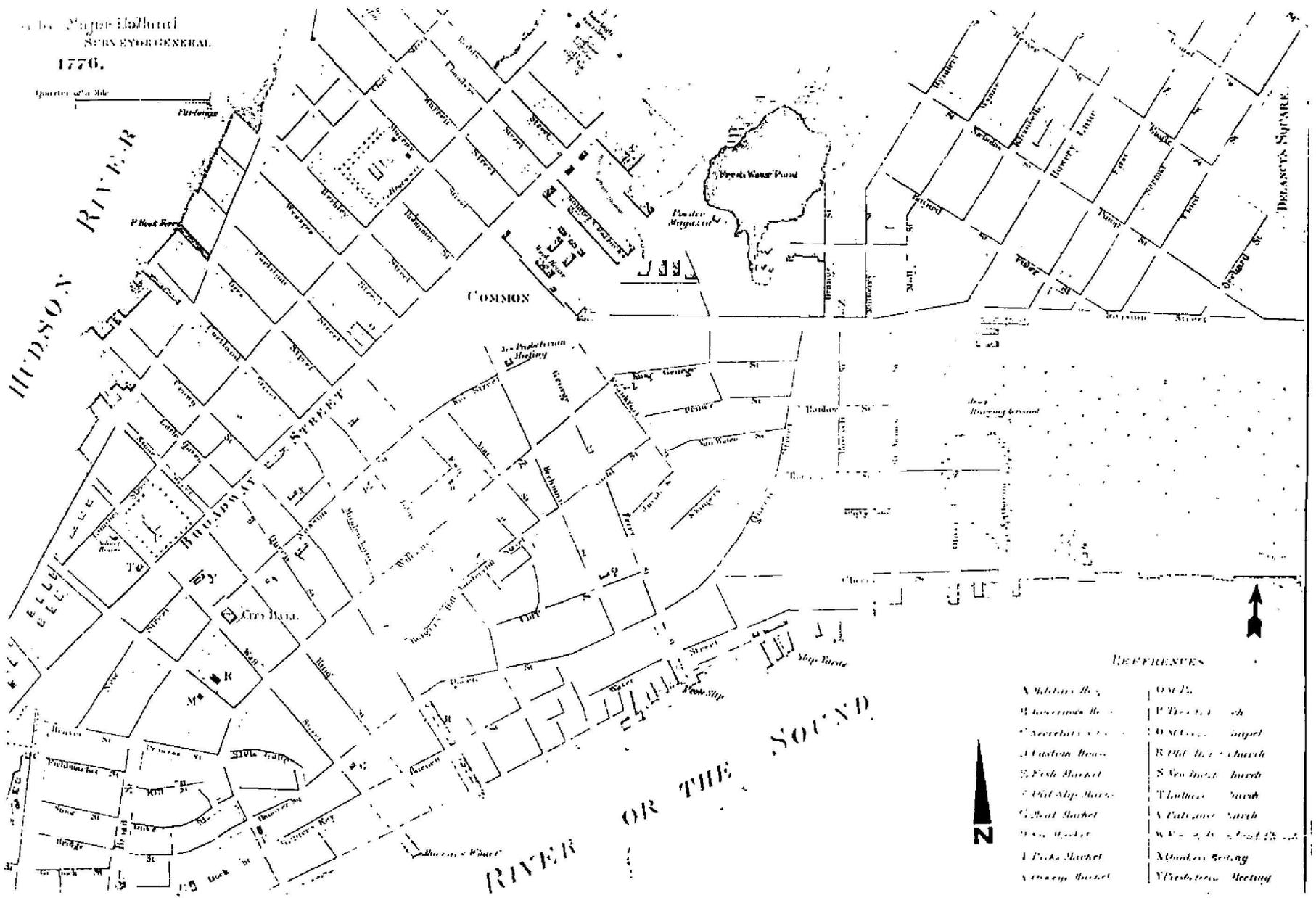
- | | | | | | |
|---|-----------------------|---|---------------------|----|----------------------|
| A | Free Passage. | M | Work house | Y | Quaker Meeting |
| B | Hatteries | N | College | Z | Presbyterian Meeting |
| C | St. Michaels Hospital | O | Market | aa | Five Synagogues |
| D | Secretary's Office | P | Trinity Church | b | Hospital Meeting |
| E | Tombs | Q | St. Andrew's Chapel | c | Methodist Meeting |
| F | Soldiers Barracks | R | St. Paul's Church | d | New Lutheran Meeting |
| G | Wharf and Quay | S | St. Andrew's Church | e | Free School House |
| H | Ship Yard | T | St. Ann's | f | Place of Execution |
| I | City Hall | U | St. James' Church | g | St. Paul's Church |
| K | Exchange | V | St. James' Church | h | St. Paul's Church |
| L | Fort | W | St. James' Church | i | St. Paul's Church |
| | | X | St. James' Church | | |



Figure 11 A Plan of the City of New York and its Environs (John Montresor, 1766)

A Plan of the City of New York
 SURVEYED AND DRAWN BY
 Major HOLLAND
 1776.

Quarter of a Mile



REFERENCES

- | | |
|----------------------|------------------------|
| A Market | ON P. |
| B Warehouse | P Tobacco Shop |
| C Secretary's Office | D S. C. C. Chapel |
| E Custom House | R Old Dutch Church |
| F Fish Market | S New Dutch Church |
| G Old Slip | T Lutheran Church |
| H Boat Market | V Custom House |
| I Wine Market | W P. A. B. School |
| J Parks Market | X Quaker Meeting |
| K Exchange Market | Y Presbyterian Meeting |



Figure 12 A Plan of the City of New York (Major Holland, 1776)

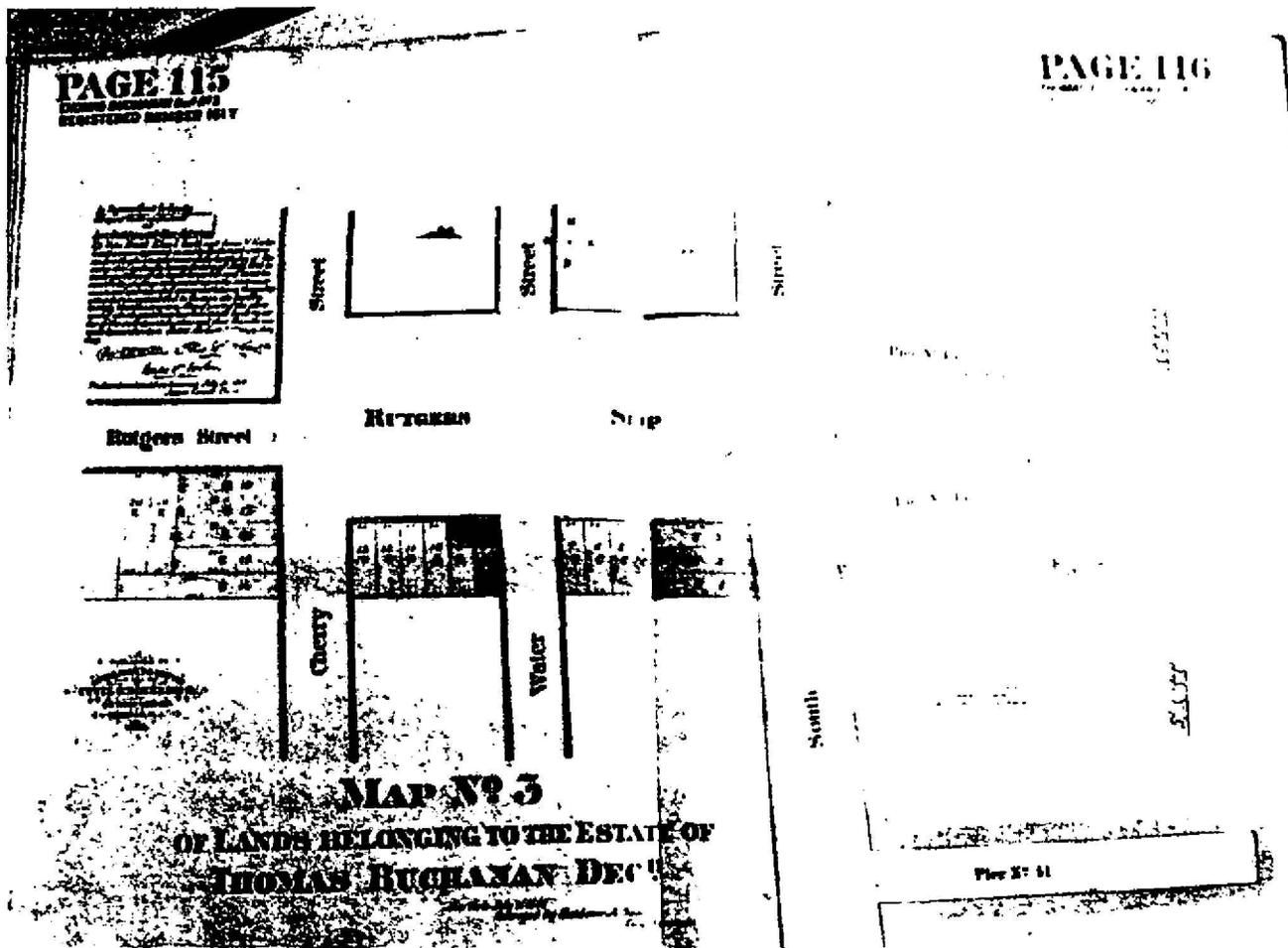


Figure 14 Map No. 3 of Lands Belonging to the Estate of Thomas Buchanan July 21, 1848 (Spielmann and Brush, 1881)

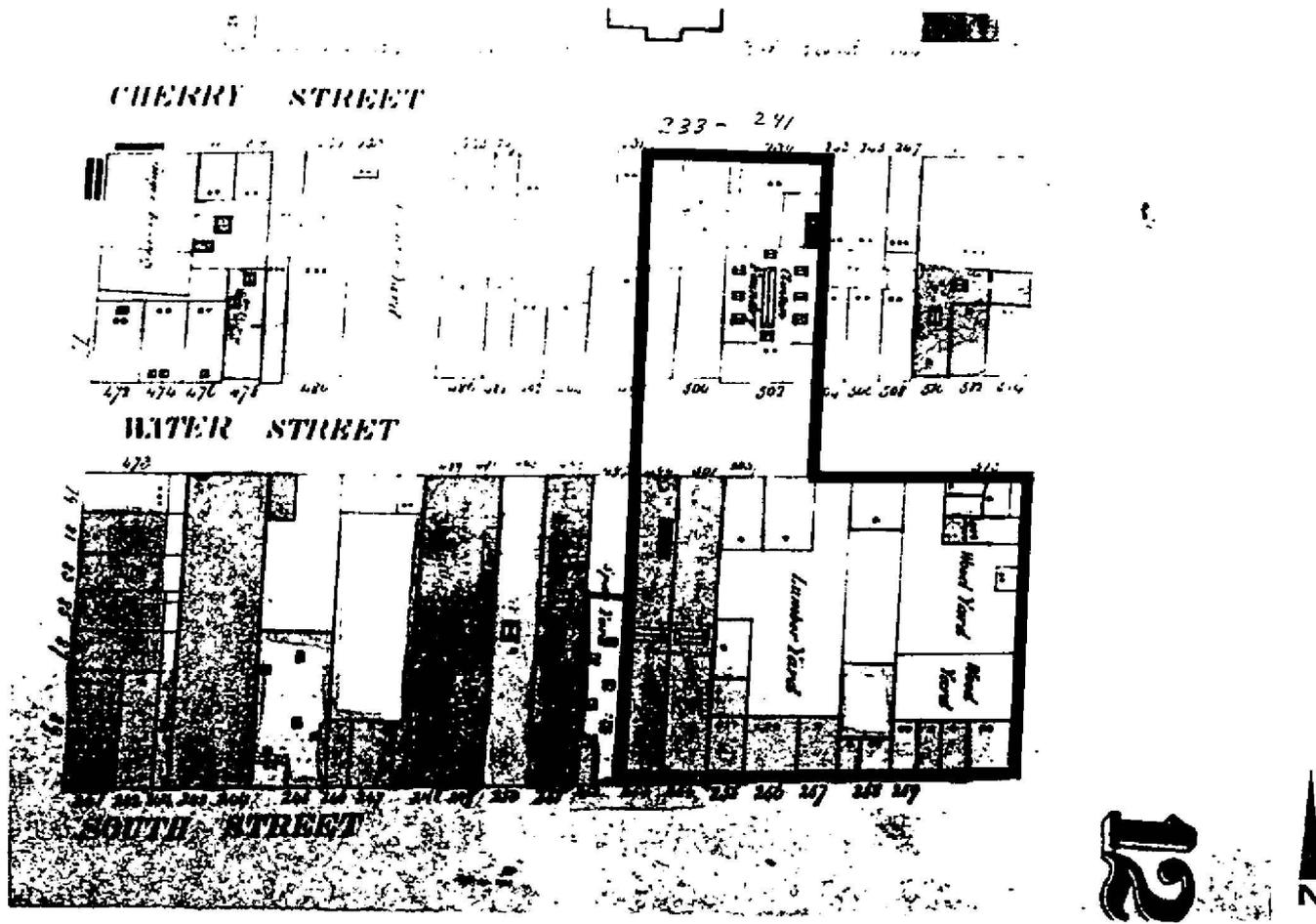


Figure 15 Portion of the Atlas of the City of New York showing Project Site with Street Addresses (Perris Vol. 1, 1857)

ROSEVELT & GRIFFITHS,
SHIPWRIGHTS, CAULKERS, AND SPAR
MAKERS, 257 South Street, near Rutgers Slip,
Opposite the Sectional Floating Dock, E. R., New
York. Repairs of every description done with des-
patch and economy, and Spars supplied either in the
rough state, or finished in a neat and workmanlike
manner. Vessels taken on all the various Docks
and Railways in New York and its vicinity. Tim-
ber furnished for Shipping.

Figure 16a Advertisement from the Doggetts Commercial Register, 1864/65

McKINLEY & SMACK,
Iron Founders,
502 & 504 WATER STREET, NEW YORK,
HAVE ON HAND A LARGE SELECTION
of Pulley and Machinery Patterns, also columns,
Girders, Windlasses, and all other Ship Castings.
Loam and Dry Sand Castings made at the shortest
notice, and on reasonable terms.
W. McKINLEY. R. SMACK.

Figure 16b Advertisement from the Doggetts Commercial Register, 1861/62



Figure 17 View of New York City (Galt and Hoy, 1879)

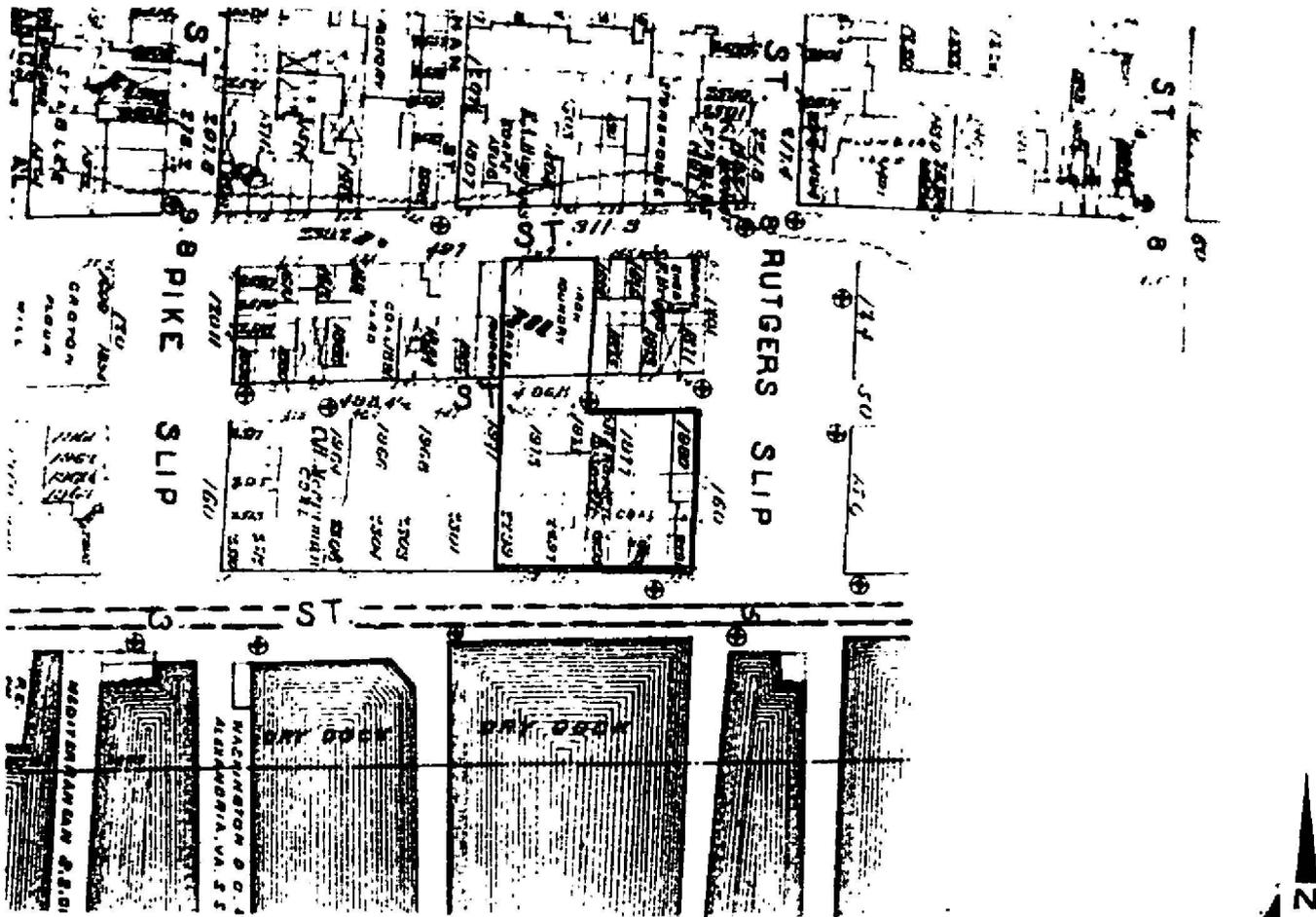


Figure 19 Atlas of the City of New York (Robinson, 1885)

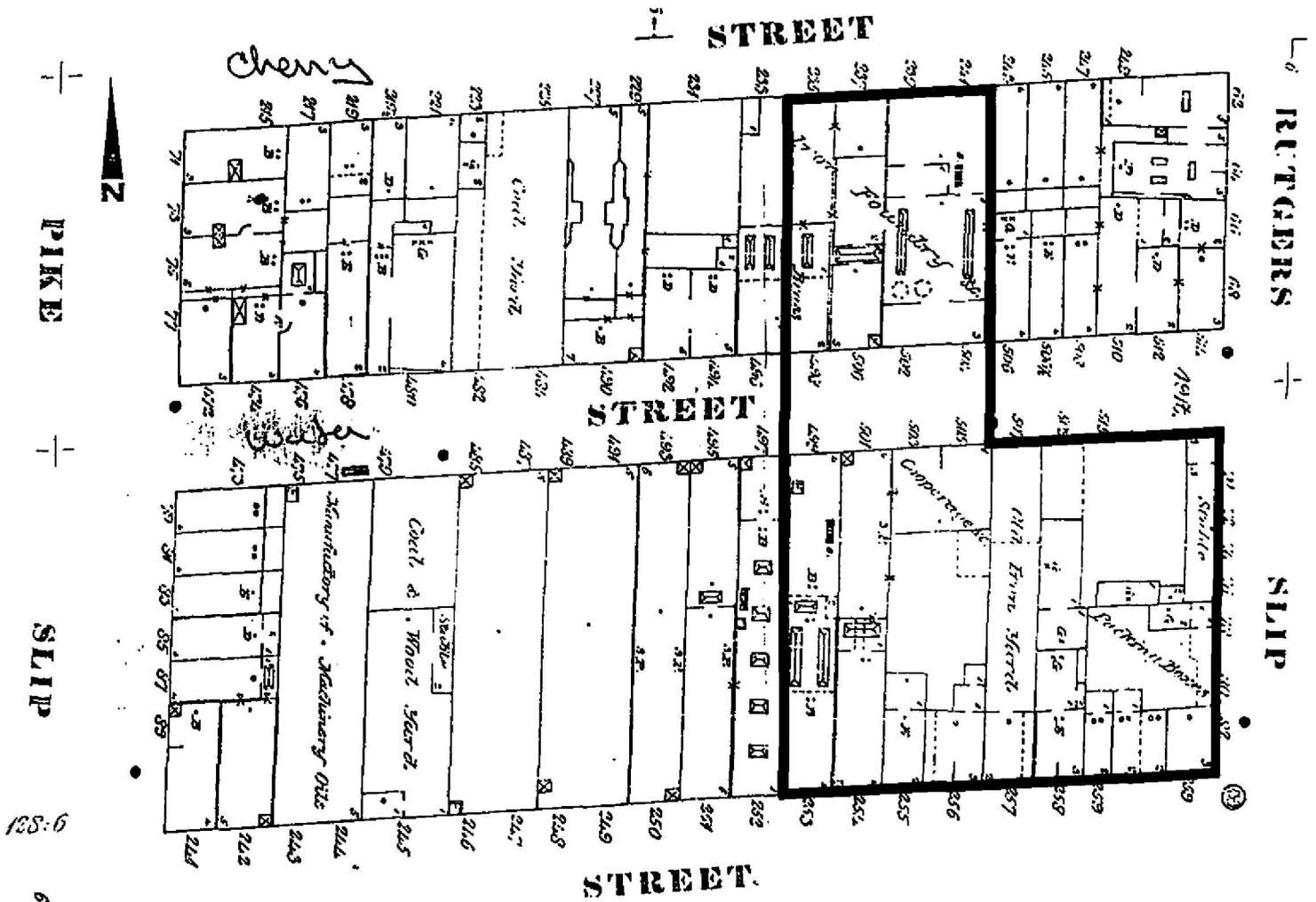


Figure 20 Atlas of the City of New York (The Sanborn Map Company, 1894)

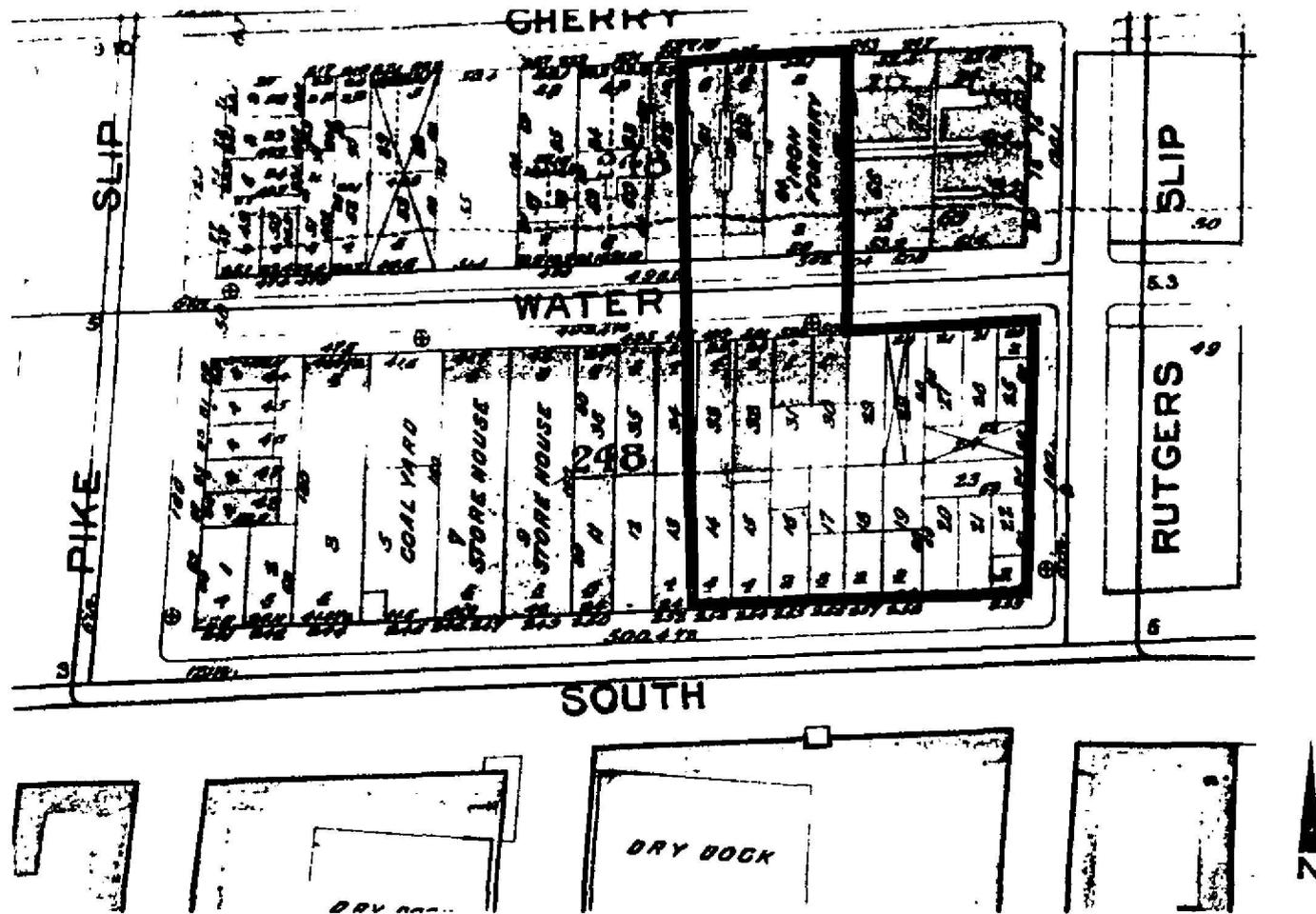


Figure 21 Atlas of New York City, Manhattan (Bromley, 1902)

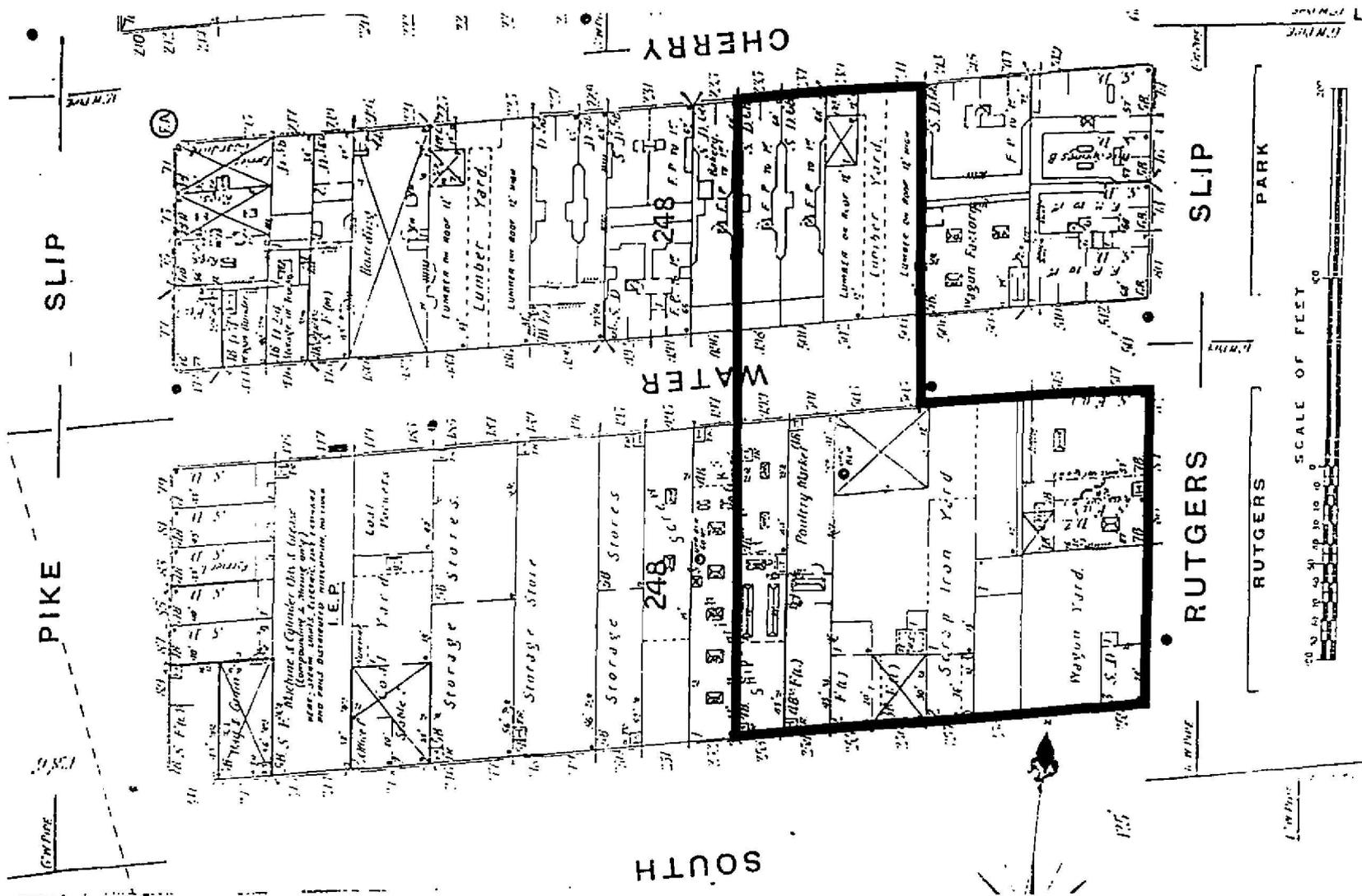


Figure 22 Atlas of the City of New York (The Sanborn Map Company, 1905)

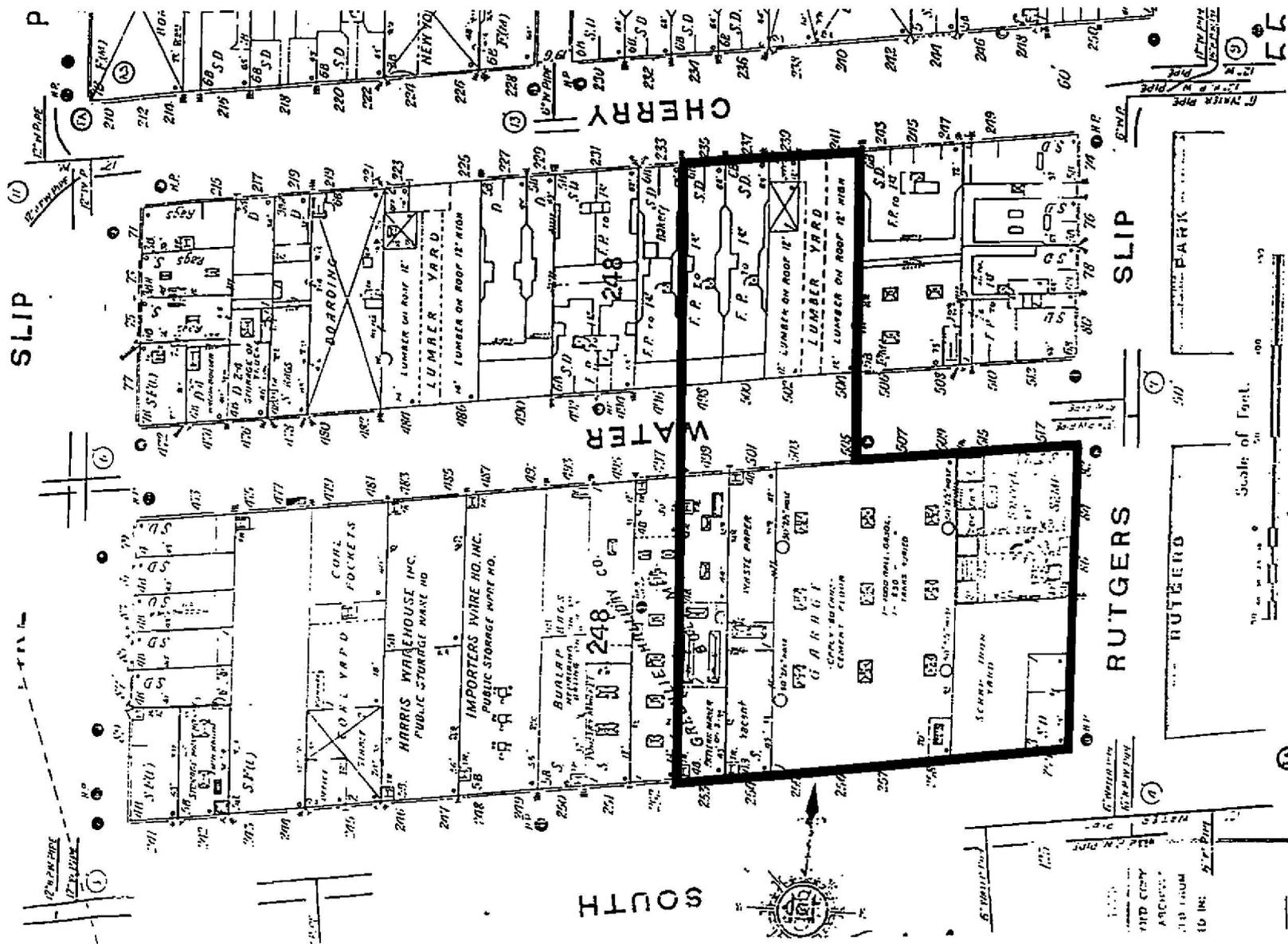


Figure 23 Atlas of the City of New York (The Sanborn Map Company, 1923)

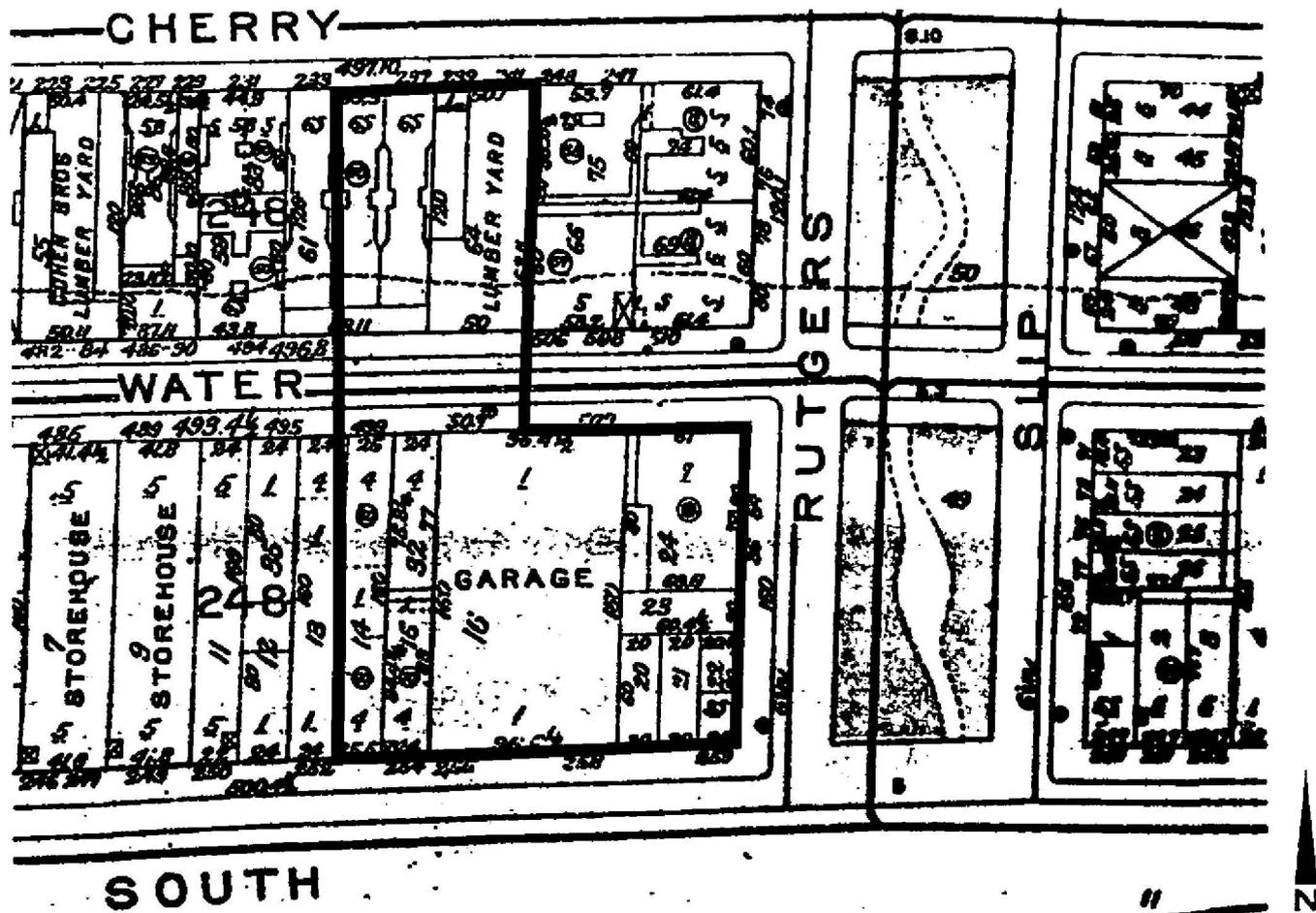


Figure 24 Atlas of New York City, Manhattan (Bromley, 1925)

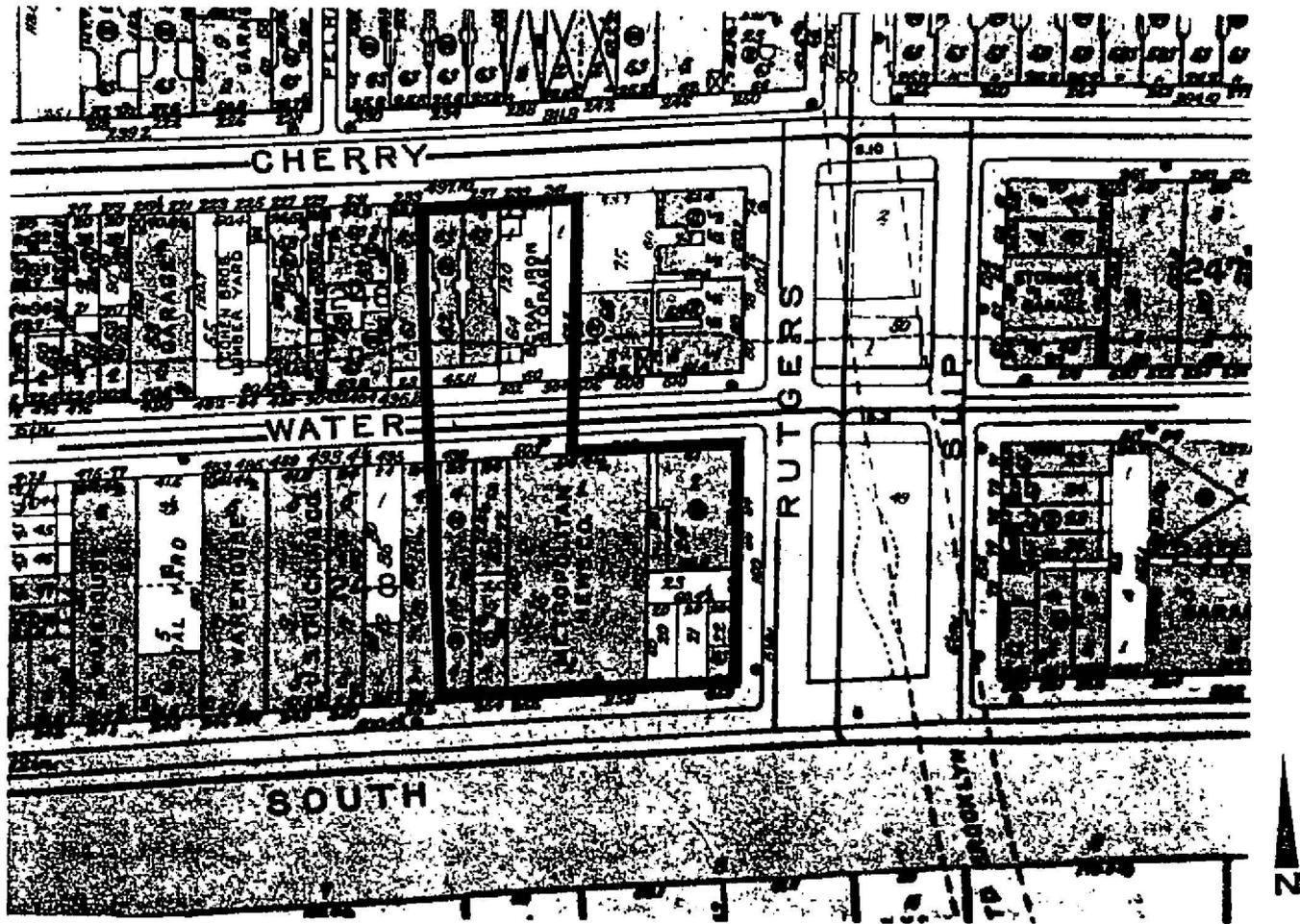


Figure 25 Atlas of New York City, Manhattan (Bromley, 1934)

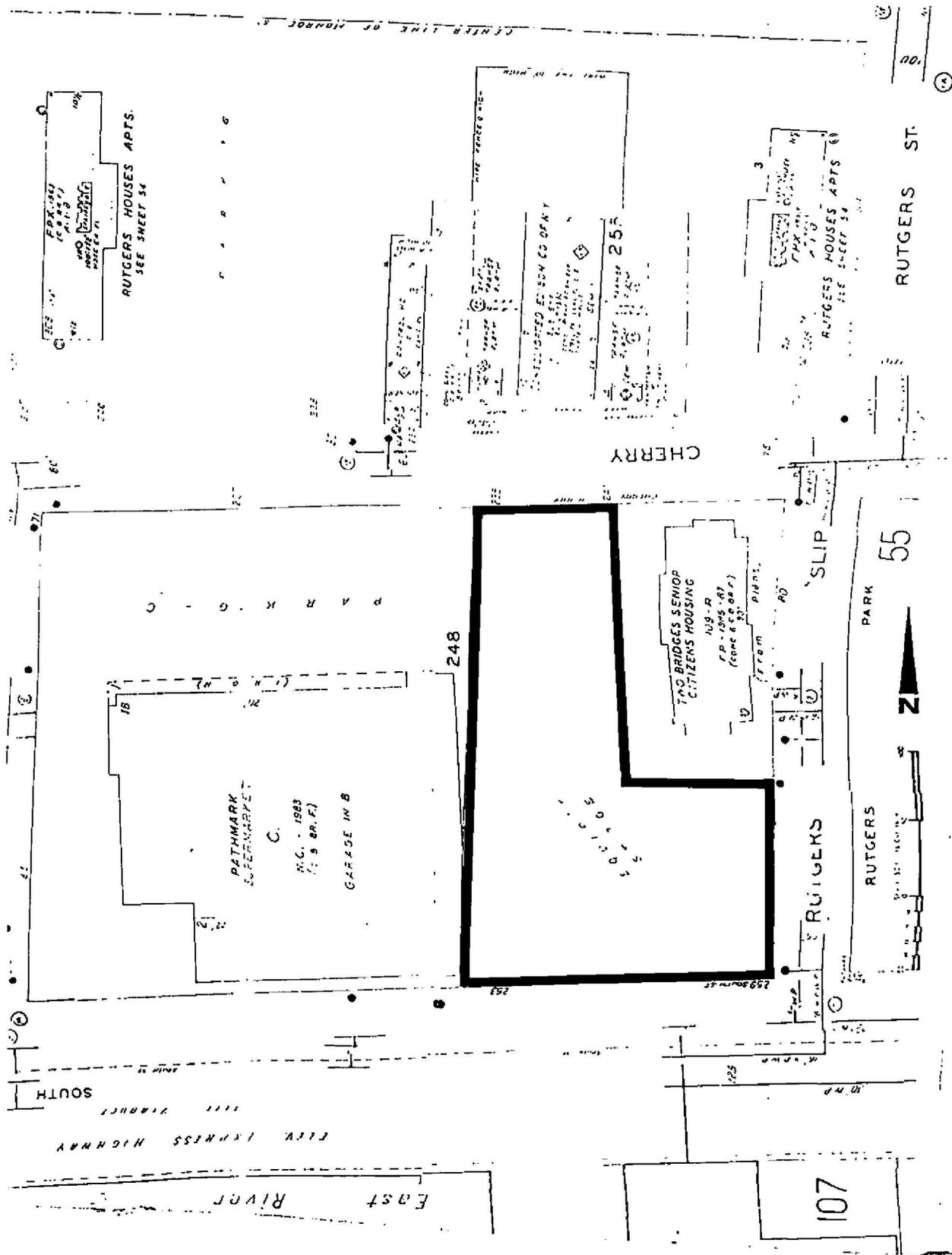


Figure 28 Atlas of the City of New York (The Sanborn Map Company, 1993)

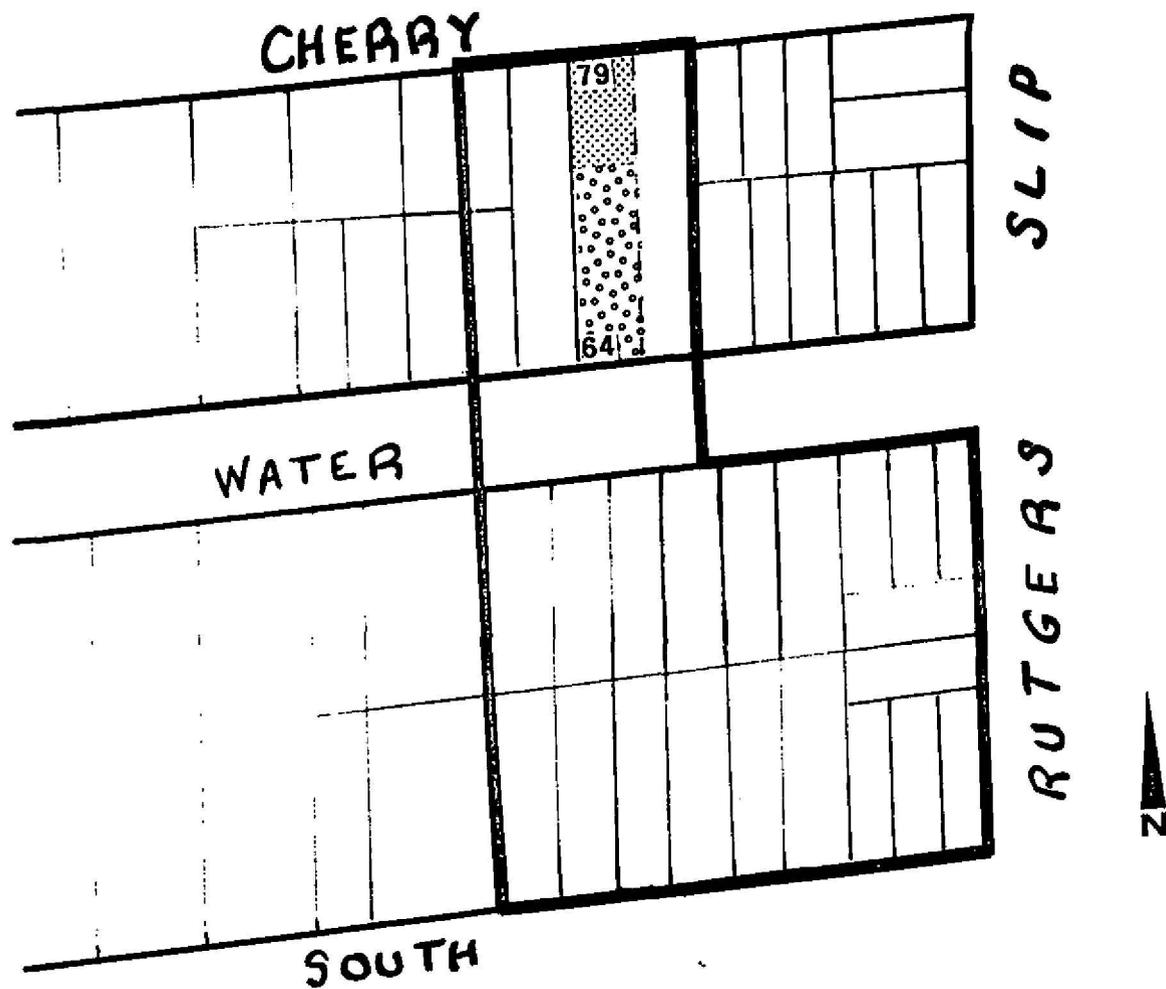
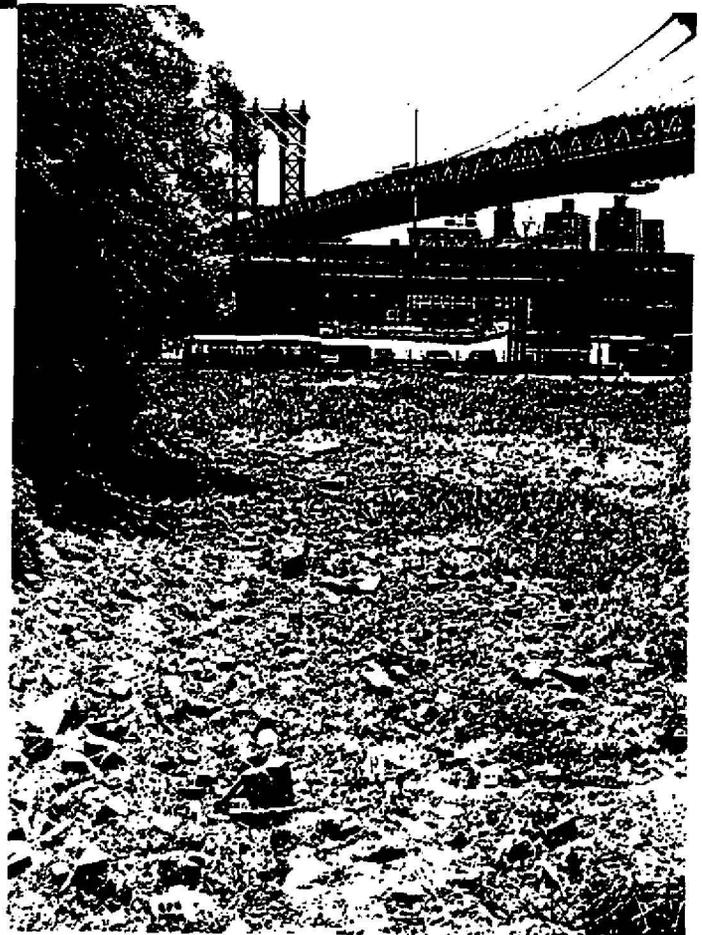
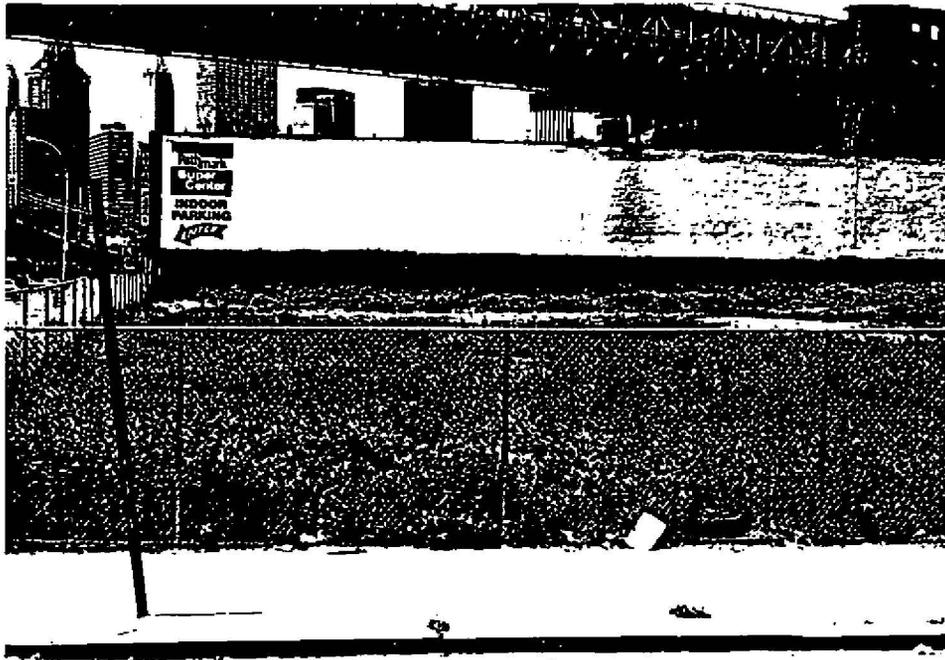


Figure 29 Location of Areas Designated for Archaeological Monitoring.
 [Stippled pattern] = Area Selected to Monitor for Wharf/Pier Remains
 [Dotted pattern] = Area Selected to Monitor for Iron Foundry Remains

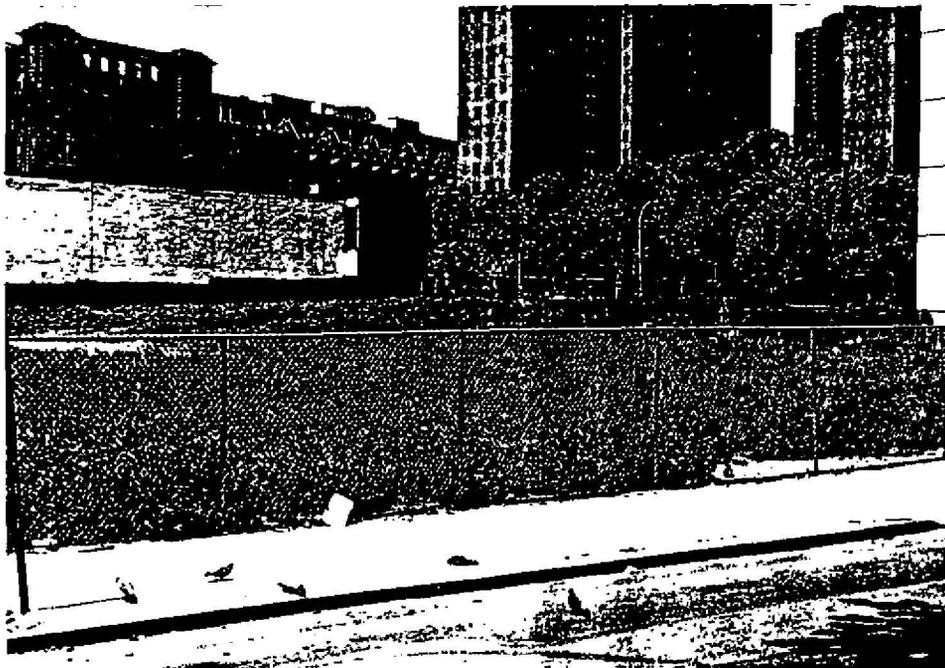
Photograph of the Two Bridges
Urban Renewal Lot Facing West,
Along South Street



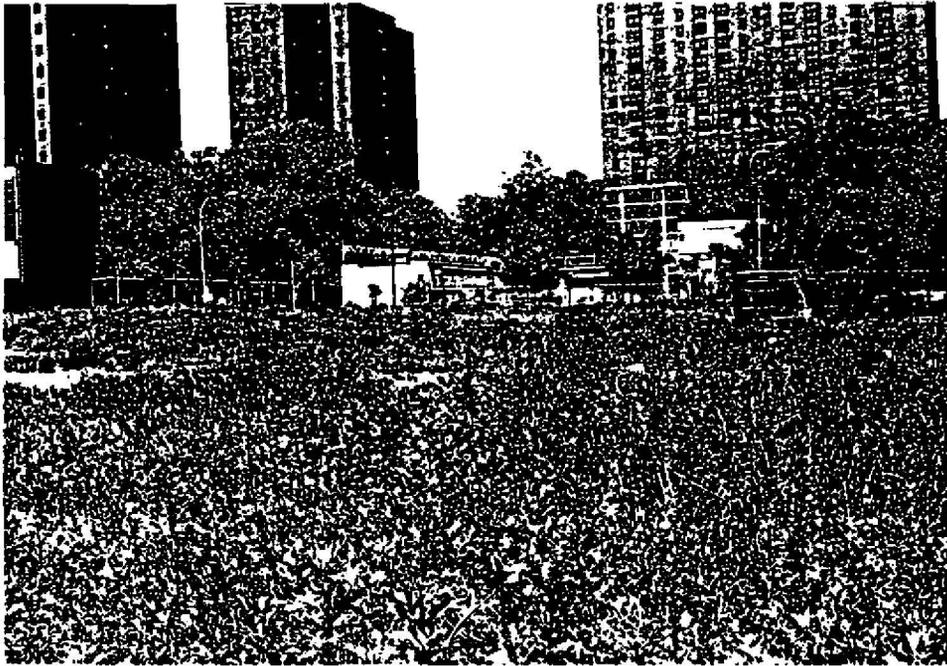
Photograph of the Two Bridges
Urban Renewal Lot Facing South



Photograph of the Two Bridges Urban Renewal Lot Facing West



Photograph of the Two Bridges Urban Renewal Lot Facing Northwest



Photograph of the Two Bridges Urban Renewal Lot Facing North



Photograph of the Two Bridges Urban Renewal Lot Facing North,
Showing the Cement and Architectural Rubble

APPENDIX 1
NYSM and OPRHP Data Sheets

ARCHEOLOGICAL SITE INVENTORY FORM

FOR OFFICE USE ONLY

DIVISION FOR HISTORIC PRESERVATION
NEW YORK STATE PARKS AND RECREATION
ALBANY, NEW YORK

518 474-0479

UNIQUE SITE NO. A047-01-0179
QUAD: Brooklyn
SERIES U.S.G.S. 7 1/2'
NEG. NO. _____

REPORTED BY: Ralph S. Solecki, Ph.D.

YOUR ADDRESS: _____ TELEPHONE: _____

ORGANIZATION (if any): Columbia University

DATE: 1/5/81

1. SITE NAME: Dock remnant

2. COUNTY: Kings TOWN/CITY: Brooklyn VILLAGE: _____

3. LOCATION: In Fulton St. opposite Everitt St. at soldier beam # 2.

4. PRESENT OWNER: _____

5. OWNER'S ADDRESS: _____

6. DESCRIPTION, CONDITION, EVIDENCE OF SITE:

- STANDING RUINS CELLAR HOLE WITH WALLS
- SURFACE TRACES VISIBLE WALLS WITHOUT CELLAR HOLE
- UNDER CULTIVATION EROSION UNDERWATER
- NO VISIBLE EVIDENCE OTHER _____

7. COLLECTION OF MATERIAL FROM SITE:

- SURFACE HUNTING BY WHOM _____ DATE _____
- TESTING BY WHOM _____ DATE _____
- EXCAVATION BY WHOM Solecki DATE 1978-79
- NONE

PRESENT REPOSITORY OF MATERIALS: Columbia University

8. PREHISTORIC CULTURAL AFFILIATION OR DATE: historic, 17th Century

9. HISTORICAL DOCUMENTATION OF SITE:

Solucki, Ralph S. (Jan. 5, 1981) Stage II Archeological Survey, The
Archeology and History of Lower Fulton and Jarulemon Streets,
Brooklyn, New York W.P. 152 Real Hawk Water Pollution Control
Project Contract 1A.

10. POSSIBILITY OF SITE DESTRUCTION OR DISTURBANCE:

11. REMARKS:

12. MAP LOCATION

7 1/2 MINUTE SERIES QUAD. NAME: Brooklyn

15 MINUTE SERIES QUAD. NAME: _____

U.S.G.S. COORDINATES: _____

D.O.T. COORDINATES: (if known) _____

ATTACH SKETCH, TRACING OR COPY OF MAP

SOURCE OF MAP:

13. PHOTOGRAPHS (optional)

(ATTACH)

ARCHEOLOGICAL SITE INVENTORY FORM

FOR OFFICE USE ONLY	
UNIQUE SITE NO.	<u>A061-01-0604</u>
QUAD.	<u>Jersey City</u>
SERIES	_____
NEG. NO.	_____

DIVISION FOR HISTORIC PRESERVATION
 NEW YORK STATE PARKS AND RECREATION
 ALBANY, NEW YORK
 518 474-0479

REPORTED BY: Dr. R. L. Schuyler, W. Aspin, R. Verin, J. Lentin
 YOUR ADDRESS: _____ TELEPHONE: _____
 ORGANIZATION (if any): City University of New York
 DATE: 1978 (Oct - Nov)

1. SITE NAME: 209 Water Street
 2. COUNTY: New York TOWN/CITY: New York VILLAGE: _____
 3. LOCATION: 209 Water Street, New York, NY

4. PRESENT OWNER: South Street Seaport Museum
 5. OWNER'S ADDRESS: _____

6. DESCRIPTION, CONDITION, EVIDENCE OF SITE:
- | | |
|---|---|
| <input type="checkbox"/> STANDING RUINS | <input type="checkbox"/> CELLAR HOLE WITH WALLS |
| <input type="checkbox"/> SURFACE TRACES VISIBLE | <input type="checkbox"/> WALLS WITHOUT CELLAR HOLE |
| <input type="checkbox"/> UNDER CULTIVATION | <input type="checkbox"/> EROSION <input type="checkbox"/> UNDERWATER |
| <input type="checkbox"/> NO VISIBLE EVIDENCE | <input checked="" type="checkbox"/> OTHER <u>ruins of foundation of structure</u> |

7. COLLECTION OF MATERIAL FROM SITE:
- | | | |
|--|---------------------|--------------------------|
| <input type="checkbox"/> SURFACE HUNTING | BY WHOM _____ | DATE _____ |
| <input type="checkbox"/> TESTING | BY WHOM _____ | DATE _____ |
| <input checked="" type="checkbox"/> EXCAVATION | BY WHOM <u>1978</u> | DATE <u>Oct-Nov 1978</u> |
| <input type="checkbox"/> NONE | | |

PRESENT REPOSITORY OF MATERIALS: _____

8. PREHISTORIC CULTURAL AFFILIATION OR DATE: _____

9. HISTORICAL DOCUMENTATION OF SITE:

10. POSSIBILITY OF SITE DESTRUCTION OR DISTURBANCE: *none*

11. REMARKS: *Items discovered include various stoneware, white-ware, pearlware, porcelain, delftware, slip-ware and bottles.*

12. MAP LOCATION

7 1/2 MINUTE SERIES QUAD. NAME: *Long City*

15 MINUTE SERIES QUAD. NAME: _____

U.S.G.S. COORDINATES: _____

D.O.T. COORDINATES: (if known) _____

ATTACH SKETCH, TRACING OR COPY OF MAP

SOURCE OF MAP:

13. PHOTOGRAPHS (optional)

NEW YORK STATE HISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

For Office Use Only--Site Identifier A047-01-0074

Project Identifier Empire Stores Monitoring Date 3/2/84
 Your Name Betsy W. Kearns Phone () _____
 Address Cecilia Kirkorian

 Zip _____

Organization (if any) Historical Perspectives

1. Site Identifier(s) Empire Stores (within the Fulton Ferry Historic District)
 2. County Kings One of following: City Brooklyn
 Township _____
 Incorporated Village _____
 Unincorporated Village or Hamlet _____

3. Present Owner New York State
 Address _____
 Zip _____

4. Site Description (check all appropriate categories):
 Structure/site

Superstructure: complete partial _____ collapsed _____ not evident _____
 Foundation: above below (ground level) not evident _____
 Structural subdivisions apparent _____ Only surface traces visible _____
 Buried traces detected _____
 List construction materials (be as specific as possible):

Grounds man-made land in the East river
 Under cultivation Sustaining erosion Woodland Upland
 Never cultivated Previously cultivated Floodplain Pastureland
 Soil Drainage: excellent _____ good _____ fair _____ poor _____
 Slope: flat _____ gentle _____ moderate _____ steep _____
 Distance to nearest water from structure (approx.) _____
 Elevation: _____

5. Site Investigation (append additional sheets, if necessary):

Surface--date(s) _____
 Site Map (Submit with form*)
 Collection
 Subsurface--date(s) August/September 1982
 Testing: shovel _____ coring _____ other backhoe trenching unit size _____
 no. of units 7 (Submit plan of units with form*)
 Excavation: unit size 3x3' no. of units 3
 (Submit plan of units with form*)

* Submission should be 8 1/2"x11", if feasible

Investigator Betsy W. Kearns & Cecilia Kirkorian
 Manuscript or published report(s) (reference fully):

1982 Empire Stores Report on Archaeological Monitoring for the Two Trees Management Company, Kings County (Brooklyn)

Present repository of materials _____

6. Site inventory:

- a. date constructed or occupation period ca. 1810
- b. previous owners, if known
- c. modifications, if known

(append additional sheets, if necessary)

7. Site documentation (append additional sheets, if necessary):

a. Historic map references

- 1) Name _____ Date _____ Source _____
Present location of original, if known _____
- 2) Name _____ Date _____ Source _____
Present location of original, if known _____

b. Representation in existing photography

- 1) Photo date _____ Where located _____
- 2) Photo date _____ Where located _____

c. Primary and secondary source documentation (reference fully)

See Archaeological report cited in "5."

d. Persons with memory of site:

- 1) Name _____ Address _____
- 2) Name _____ Address _____

8. List of material remains other than those used in construction (be as specific as possible in identifying object and material):

If prehistoric materials are evident, check here and fill out prehistoric site form. _____

9. Map References: Map or maps showing exact location and extent of site must accompany this form and must be identified by source and date. Keep this submission to 8½"x11", if feasible. See Plot on U.S.G.S. Topo. Sheets

USGS 7½ Minute Series Quad. Name Brooklyn

For Office Use Only--UTM Coordinates _____

10. Photography (optional for environmental impact survey): Please submit a 5"x7" black and white print(s) showing the current state of the site. Provide a label for the print(s) on a separate sheet.

APPENDIX 2

Summary of the 1994 Soil Test Investigations

In July of 1994 Eldon Environmental Management Corp. conducted below ground soil testing at the Two Bridges Urban Renewal Site in Manhattan. Originally five test pits were placed in the southeastern portion of the project lot (Fig. A-1). A brief summary of the testing is presented below.

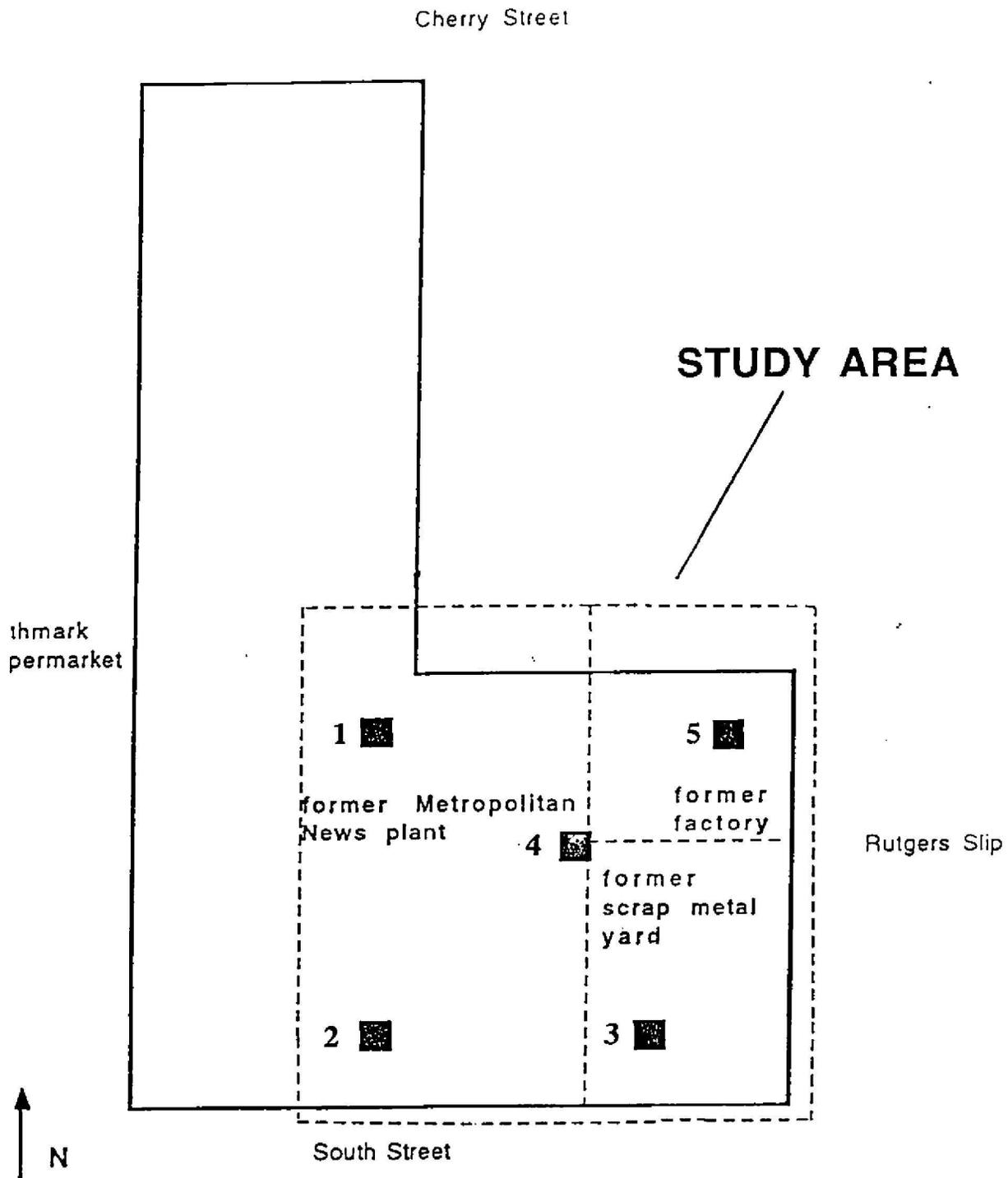
Test Pit 1 was located in the area of the former Metropolitan News Company's distribution center. Testing revealed alternate layers of silty sands and clays. At a depth of 6 feet a layer of peat was found. Groundwater was encountered at a depth of 8 feet. (1994: 4).

Test Pit 2 was placed in the southwestern portion the Metropolitan News building. Here, layers of brown silty sands mixed w/boulders, building debris, and fill materials (brick asphalt cement) were found. A layer of gray silty clay was discovered at a depth of 3 feet and once again groundwater was encountered at a depth of 8 feet (1994: 5).

Test Pit 3 was positioned in the former metal scrap yard. As was expected, steel cable, auto tires, and other metal debris were recovered near the surface. The soil was composed of sands mixed with the metal debris, and architectural fragments associated with fill debris. In this Test Pit groundwater was encountered at a depth of 5 feet (1994: 7).

Test Pit 4 was placed at the juncture of the Metropolitan News Building and the metal scrap yard and what was identified as an unknown factory. Here medium brown sand mixed with brick debris was encountered. (1994: 8).

Test Pit 5, placed along the eastern boundary of the project area, was put in the location of the former factory. Fill and associated architectural debris (bricks, mortar, wood) was found on top of a large concrete slab. The slab was encountered at a depth of 8 feet. A portion of the building's foundation was also located. A second pit was excavated 8 feet to the west of Test Pit 5. Once again the concrete slab was uncovered at a depth of 8 feet (1994: 10).



Scale 1" = 60 ft.

dashed lines indicate former property boundaries as per Sanborn Map

Figure A-1 Location of 1994 Soil Test Trenches. Source: Eldon Environmental Management Corporation.

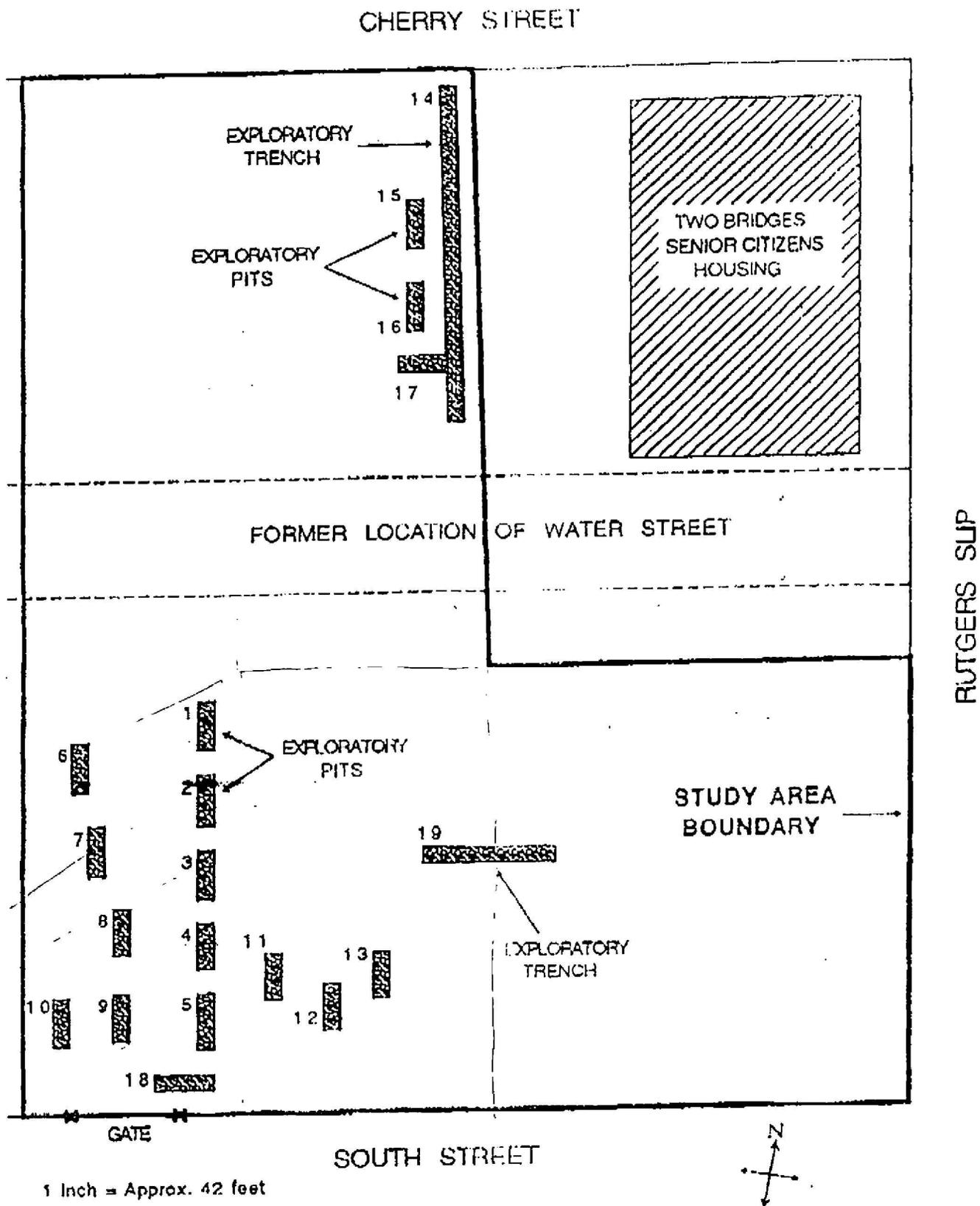


Figure A-2 Location of 1995 Soil Test Pits and Trenches.
 Source: Eldon Environmental Management Corporation.

Summary of the 1995 Soil Test Investigations

During March 1995 Eldon Environmental conducted subsurface testing in order to determine the location of possible underground storage tanks. A total of 17 test pits and two trenches were excavated by backhoe within the project site (Fig. A-2). The test pits were 7-10 feet in length and reached depths of 4-10 feet. The two trenches were 20 and 85 feet in length. These were also excavated to depths of 4-10 feet.

Three test pits and one 85 foot trench were excavated within the lots designated in the present report as Area 2 (Units 14-17). Although Sanborn maps depicted the presence of storage tanks in this location, none were uncovered during testing. While a three-foot long rusted metal pipe was recovered, there was no indication that this object was *in situ*. Instead it was mixed in with "rubble and disturbed material typical of the study area" (Eldon Environmental Management Corporation 1995: 9).