

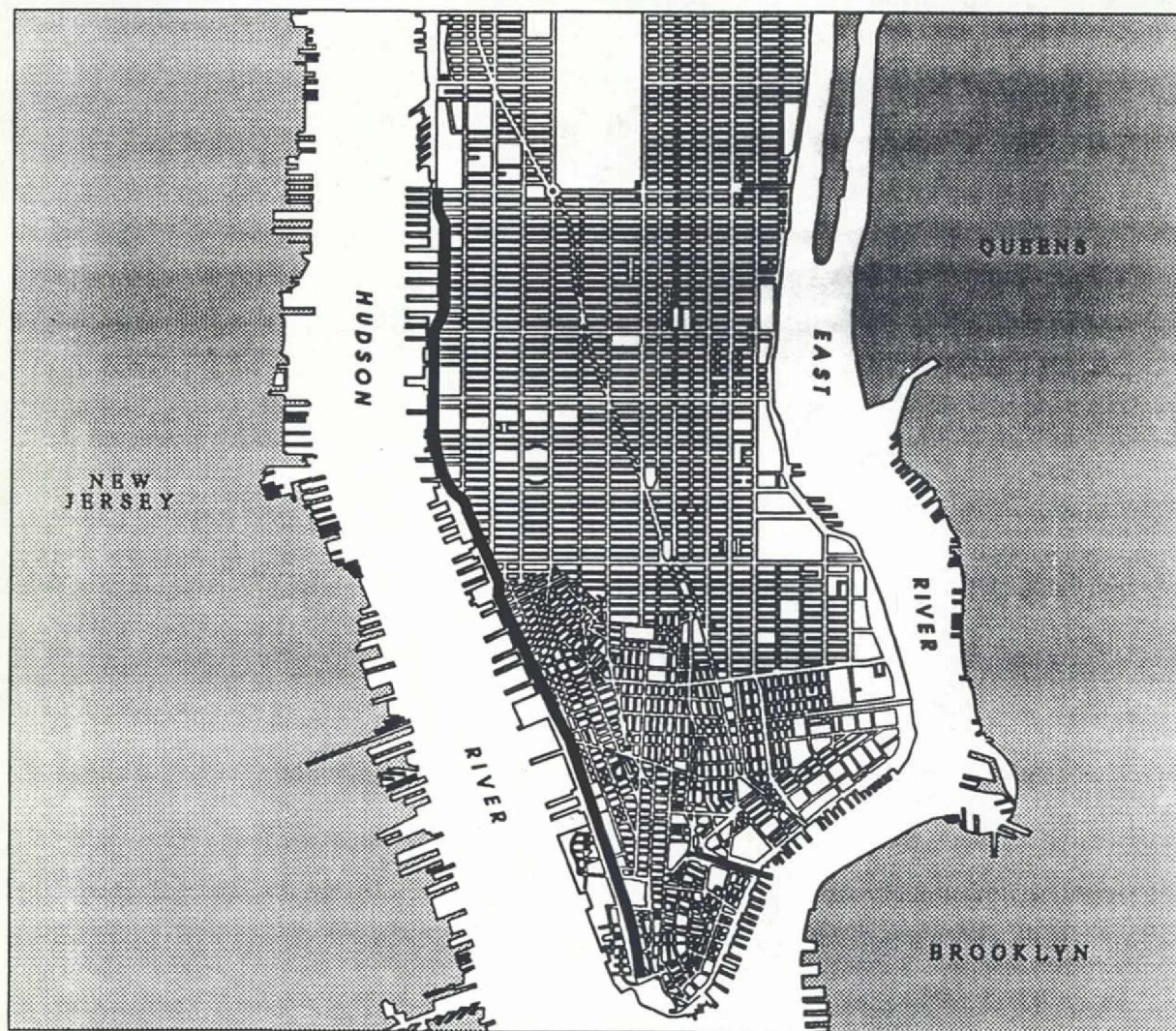
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ROUTE 9A

RECONSTRUCTION PROJECT



DRAFT

ARCHEOLOGICAL ASSESSMENT REPORT

WEST 44TH STREET TO WEST 59TH STREET

March 1990

360

ROUTE 9 A RECONSTRUCTION PROJECT

DRAFT ARCHEOLOGICAL ASSESSMENT REPORT WEST 44TH STREET TO WEST 59TH STREET

March 1990

Prepared By:

Hartgen Archeological Associates, Inc.
in association with
Historical Perspectives, Inc.

Prepared For:

New York State Department of Transportation
in cooperation with
Federal Highway Administration & The City of New York

EXECUTIVE SUMMARY

INTRODUCTION

The Route 9A Reconstruction Project from Battery Place to West 59th Street has been undertaken in a collaborative effort between the New York State Department of Transportation (NYSDOT), the City of New York and the Federal Highway Administration (FHWA). The planning and engineering process of the proposed reconstruction entails preparing an Environmental Impact Statement (EIS). As part of this EIS, potentially sensitive archeological resources within the archeological area are being identified, and the effects of prior disturbance (demolition, excavation, or a change in historic context) on these cultural resources are being determined. The object of this study is to compile a list of sites which may meet the criteria for nomination to the National Register of Historic Places and an assessment of the impacts of the various alternatives on each of these resources. Hartgen Archeological Associates, Inc. (HAA), in association with Historical Perspectives, Inc. (HPI), has undertaken preparation of an inventory of potential archeological resources in the project area, an investigation of prior disturbance, and the final assessment of the impact by the proposed project alternatives.

The sites preliminarily identified as potentially sensitive archeological resources for this study area of the Route 9A project area will be re-evaluated after completion of research on the entire project area.

ARCHEOLOGICAL STUDY AREA

The proposed Route 9A Reconstruction Project spans from Battery Place to West 59th Street. This report is concerned with the section between West 44th and West 59th Streets. On the west, the study area is bounded by the U.S. Bulkhead line. On the east, it is bounded by the west ends of numbered city blocks but includes sidewalks along the block ends. At crossroads the study area extends an additional 50 feet eastward to include the first 50 feet of the crossroad and sidewalks.

METHODOLOGY

Background research was conducted to establish a prehistoric and historic framework for the interpretation of potential resources. As part of this context, general categories were defined for these resources. The following categories were utilized for classifying potentially sensitive archeological remains:

- A) prehistoric remains
- B) historic remains
 - 1) dwellings and associated outbuildings
 - 2) industrial buildings/complexes

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- 3) piers and wharves
- 4) landfill
- 5) other

Archeologically sensitive areas were identified through archival and cartographic research. Several phases of research have been performed including documentary research, cartographic analysis, and site files review at numerous repositories in Manhattan and Albany, New York. Reports from previous archeological projects and the New York City Landmarks Preservation Commission's predictive model for archeological site formation in New York City were consulted for data pertinent to the Route 9A project area.

A block by block summary of development in the project area was compiled based on this research. The disturbance record, which includes road construction and reconstruction, utility line installation, and general demolition activities, has been established based on utility maps and the documented historical development of the area.

Cartographic reconstruction of the prehistoric shoreline is necessary in order to assess the potential for deeply buried prehistoric archeological sites to exist beneath landfill. The cultural resource report prepared for the Westway project in 1983 by Historic Conservation and Interpretation, Inc., (HCI) was not applicable to this section of the project area since it addressed the area south of West 44th Street. A paleo-environmental study, comparable to the 1983 HCI analysis, was conducted on the northernmost section of the Route 9A corridor (West 41st Street to West 59th Street) by Dr. Dennis Weiss. Data from 360 boreholes was analyzed and mapped, indicating that by 6000 years ago this portion of the project corridor was experiencing wide-spread estuarine conditions. Dr. Weiss' evidence indicates that a small tidal embayment extended from West 46th Street to midway between West 48th and West 49th Streets in the project corridor.

Specific areas, identified below, categorized as potentially sensitive for prehistoric habitation were identified based on Dr. Weiss' study, topography, and characteristics known to be conducive to prehistoric habitation. These areas are now deeply buried beneath nineteenth century fill and river silts.

PREHISTORIC SENSITIVITY

Professional and amateur archeologists have been excavating prehistoric sites on Manhattan since the late nineteenth century. However, until after the 1930s, their field techniques and recording procedures were not comparable to the more scientific procedures that are used today. The data from the earlier excavations are generally ambiguous so that findings cannot be assigned to a particular period and properly assessed. Thus it is necessary to continue trying to gather additional information on prehistoric lifeways in the metropolitan New York area.

- o Research indicates that Block 1094, located between West 46th and West 47th Streets, may house intact potentially sensitive prehistoric archeological remains. A narrow cove located at the foot of West 47th Street would have been a resource rich area, possibly utilized by Native Americans for fishing or shellfish collecting. The cove would have provided protection from northerly winds, offering the opportunity to exploit riverine resources in a protected environment. The flat land directly surrounding the southern part of the cove within Block 1094 may have been occupied by Early Archaic through Middle Woodland peoples, since use of coves and bays appear to be associated with these groups' settlement pattern. The only historic subsurface disturbances documented were several small, relatively shallow utility lines traversing this area.

Because relatively little is known about Manhattan prehistory, these potentially sensitive archeological resources are significant and warrant further investigation prior to construction activities.

HISTORIC SENSITIVITY

Archeologists have become increasingly concerned with research issues focusing on the development of urban landfill and the development and change in waterfront construction, two issues important for understanding the process of urbanization. Resources that can potentially address these issues include: 1) early dwellings or 2) industrial buildings and complexes located along the shorefront, 3) piers and wharves, 4) possible sunken ships, and 5) landfill, including architectural features such as retaining devices. The significance of potential cultural resources located within the project area must be examined in this light.

Historical development has altered many of the natural topographic features that once characterized Manhattan. Prior to filling and development during the nineteenth century, the area was characterized by knolls and coves along the Hudson River and rolling hills with intermittent streams. Development was slow in this area since the shores of the Hudson River were steep and rocky and undesirable for docking. Shoreline development has contributed to the disturbance of these natural topographic features.

The extensive documentary and cartographic research to date for the project area between West 44th and West 59th Streets has revealed the location of several areas potentially sensitive for cultural remains. Prior impacts were assessed and a final list of areas deemed to be potentially sensitive was created. A preliminary evaluation of the resources in each of five categories as applicable is presented here. These include dwellings and outbuildings; industrial complexes; piers and wharves; landfill; and other. The conclusions presented may be altered when research on the entire project area is completed and a final list of all potentially sensitive areas along the entire length of the project corridor is compiled.

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- o Documentation has suggested that only one pier, at the foot of West 47th Street on Block 1095, may have become part of the Twelfth Avenue landfill and remained sufficiently undisturbed to render it potentially significant. Since the West 47th Street area also has potential for prehistoric remains, this particular area may necessitate additional research. There is the possibility that undocumented piers, wharves, quays, and fill retaining devices may be discovered.
- o Potential resources associated with the Mott house, formerly located on West 54th Street, date to 1796. These resources deserve further investigation since potentially intact remains could reveal information pertaining to a house and lot continuously occupied by the same family for approximately 100 years.
- o In the industrial buildings or complex category, only the potentially sensitive resources associated with the Bloomingdale Flint Glass Manufacturing Company located in the vicinity of West 47th Street are considered to be potentially significant at this time. Further deed research is necessary to confirm its presence within the project area.

As stated above, this is a preliminary evaluation and the conclusions presented may be altered when research on the entire project area is completed.

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A. INTRODUCTION

The Route 9A Reconstruction Project from Battery Place to West 59th Street has been undertaken in a collaborative effort between the New York State Department of Transportation (NYSDOT), the City of New York, and the Federal Highway Administration (FHWA). The planning and engineering process of the proposed reconstruction entails preparing an Environmental Impact Statement (EIS). Part of this EIS entails identification of potentially sensitive archeological resources within the project area, and then determination of the effects of prior demolition, excavation, or a change in historic context on these cultural resources. The result of this study is a preparation of an inventory of probable archeological sites, and recommendations of which sites are potentially significant and may meet the criteria for nomination to the National Register of Historic Places. This introductory chapter provided for each individual report will eventually be replaced by a final overall introductory section.

Vollmer Associates is coordinating the preparation of the EIS, while Allee King Rosen and Fleming, Inc. (AKRF) is directing the cultural resources portion of the EIS. Hartgen Archeological Associates, Inc. (HAA), in affiliation with Historical Perspectives, Inc. (HPI), has undertaken preparation of an inventory of potential archeological resources in the project area, an investigation of prior disturbance, and an assessment of the impact of the proposed project alternatives.

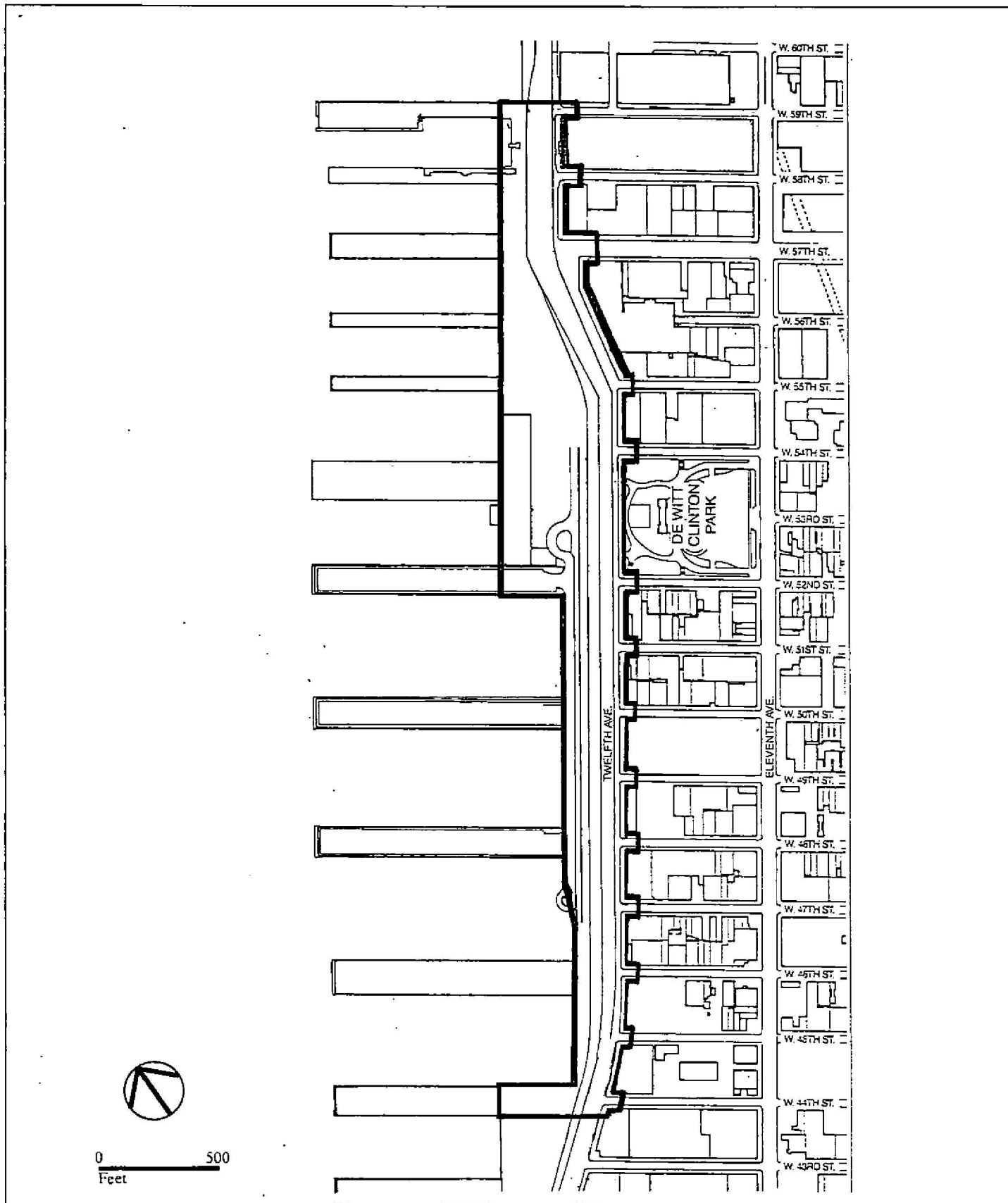
The proposed Route 9A Reconstruction Project spans from Battery Place to West 59th Street. This section of the report is concerned with the section between West 44th and West 59th Streets (Figure 1-1). The project area bounds are as follows: The west ends of numbered city blocks including the sidewalks on the east and the U.S. Bulkhead line on the west. At crossroads, the project area extends an additional 50 feet eastward to include the first 50 feet of the crossroad and sidewalks on the north and south borders of the road. The northern boundary is West 59th Street and the southern boundary is West 44th Street (Figure 1-2). Technically, Route 9A or West Street is 70 feet wide, and north of West 23rd Street is known as Twelfth (12th) Avenue. Historically, portions of the road were also named Thirteenth Avenue and today is locally called the West Side Highway (hereafter referred to as the Highway). Marginal Street borders between the 70 foot span of West Street and the U.S. Bulkhead to the west.

Prehistorically, the area was characterized by small streams, marshlands, and knolls along the Hudson River. Native Americans, occupying the New York area between 12,000 years ago and European Contact, would have undoubtedly found some of these topographic features inviting for settlement. The diverse floral and faunal communities of the riparian environment would have been attractive for resource procurement. Specific topographic features often utilized prehistorically were knolls above fresh water sources and protected coves along the Hudson River. It is probable that Native Americans visited the project area at some point during the

prehistoric period and may have actually settled along the shore. While areas along the Hudson's shore have been identified by archeologists active in the Hudson Valley Region as potentially sensitive for Native American remains, only one such area, at West 47th Street, exists within the study area. At this time, the historic disturbance of this potentially sensitive area has not been adequately documented to allow a judgement about the potential integrity of the site.


Historically, the middlewest side was occupied by Dutch farmers for over 200 years. Development was slow in this area since the shores of the Hudson River were steep and rocky and undesirable for docking. It was not until the nineteenth century that new developments in shipping and overcrowding in the city at the southern tip of the island spurred the development of the area. Specifically, only a few dwellings were present in the area of Eleventh and Twelfth Avenues between West 44th and West 59th Streets in the nineteenth century. Of these, only the Mott house was actually within the project area on West 54th Street. The majority of the area was characterized by post-1850 industrial buildings and complexes which utilized the river front for shipping. The only industry which existed prior to 1850 was the Bloomingdale Flint Glass Works which stood in the vicinity of West 47th Street.

The following archeological study, addresses the potential prehistoric and historical archeological sensitivity of the project area between West 44th and West 59th Streets. The analysis has provided a synopsis of these potentially sensitive areas together with a record of the subsequent disturbance to these areas. A prehistoric shoreline reconstruction has been conducted and is presented as an appendix. A final list was compiled to present those features considered to be archeologically sensitive and previously undisturbed.



ROUTE 9A RECONSTRUCTION PROJECT

Legend

 Archeological Study Area

Archeological Study Area Boundaries
West 44th Street to West 59th Street

A. METHODOLOGY

Background research was conducted to establish a prehistoric and historic framework for the interpretation of potential resources. Areas of prehistoric and historic sensitivity were identified through archival and cartographic research. The previously compiled Cultural Resource report prepared for the Westway project in 1983 by Historic Conservation and Interpretation, Inc., was not applicable to this section of the project area, since it addressed the area south of West 44th Street.

For the cultural resource assessment of the Route 9A Reconstruction Project it was only necessary to assess potential prehistoric sensitivity for the area north of West 44th Street. Historic topographic maps were employed to identify areas along the shoreline that may have once possessed features conducive to Native American utilization. In addition, a cartographic prehistoric shoreline reconstruction of the West 44th to West 59th Street section is currently being compiled by Dennis Weiss, co-author of the cartographic shoreline reconstruction for the area south of West 44th Street. A comparable reconstruction has also been performed by Dennis Weiss for the Hudson River shoreline between West 59th and 72nd Streets leaving only West 44th to West 59th Street section undocumented. The currently underway reconstruction is not only essential to maintain the same level of research throughout the entire project corridor, but it will also prove to be a valuable asset towards any future research projects on the west shore of Manhattan.

The historic research conducted for the Westway project also differed from that conducted in this report due to the differences in project area boundaries as well as changes in methodological and theoretical concerns. Research concerns have changed through time as new techniques became available and topics of investigation became more refined. The research conducted for this report is guided by such projects. The previous report provided details of historical development at interchange areas, outside of the current project area. Because of current boundary differences, a cartographic reconstruction of historical development in the corridor has been compiled, and landowner lists and building histories were acquired for areas where the Highway traversed previously lotted city blocks. Episodes of filling, construction, and disturbance were also traced for the entire length of the corridor.

Currently, several phases of research have been performed including documentary research, cartographic analysis, and site files review. The scope of each of these is presented below. The disturbance record has been established based on utility maps and the documented historical development.

DOCUMENTARY RESEARCH

A literature search was conducted of available ethnographic and historic accounts, and reports and data pertinent to the historical and prehistoric archeological record. Archeological reports for the surrounding area were reviewed. In addition, permit

Route 9A Reconstruction Project

applications from various state, city, and federal agencies were examined. Where available, photograph, print, and clipping files were also reviewed. The following libraries and agencies were contacted and researched in New York City and Albany:

- American Museum of Natural History
- Holland Society Library
- Municipal Art Society Library
- Museum of the City of New York-Reference Collection
- New York City Landmarks Preservation Commission
- New York City Municipal Reference Library
- New York City Municipal Archives
- New York City Society of Mechanics and Tradesmen Library
- New York Historical Society Library
- New York Public Library
- New York State Library-Manuscripts and Special Collections
- New York State Museum
- New York State Office of Parks, Recreation and Historic Preservation (SHPO)
- Port Authority of New York and New Jersey
- Regional Plan Association Library
- Society of Engineers Library
- South Street Seaport Library

CARTOGRAPHIC ANALYSIS

Historical maps and atlases were obtained and examined to establish the presence of standing structures and features within the project parcel throughout documented history, and to establish the prehistoric topographic and environmental conditions. Numerous maps and atlases were reviewed. It was sufficient to review maps and atlases at five-to-ten year intervals, since buildings of shorter duration would probably not greatly contribute to the archeological record. In addition, short-term temporary structures which would have stood for less than five-to-ten years, usually lack permanent subterranean foundations and therefore do not cause substantial disturbance.

In addition to the above libraries researched, the Olmstead Center in *Flushing*, Queens was contacted for maps of early parks existing within the project area. Maps at the United States Army Corps of Engineers were also reviewed for shoreline disturbance, but the review process was not completed since research at this facility was temporarily postponed, pending further approval. NYSDOT is currently attempting to gain access. At the Borough President's Office, the Topographic Bureau provided historical and geological maps.

PROPERTY RESEARCH

In order to determine the previous owners of land currently within the bounds of the project parcel, and the development and subsurface disturbance of these parcels, land transaction records were reviewed at the New York City Department of

Chapter III:

Finance, Index Division. Individual lot development was followed by obtaining Block and Lot files and microfiche from the New York City Buildings Department. This level of research was limited to reviewing ownership records and did not include deed research.

SITE FILES REVIEW

The New York City Landmarks Preservation Commission (NYCLPC) was contacted for information on culturally significant areas previously identified in the project area and vicinity. In addition, the NYCLPC provided a predictive model of prehistoric site location for the project area. Site files were also reviewed at the New York State Museum and New York State Office of Parks, Recreation and Historic Preservation.

FIELD VISIT

A walkover survey was conducted of the entire project area between West 44th and West 59th Streets and photographs were taken at each intersection of a cross road with Twelfth Avenue. Photographs were taken facing east and west from each corner and in other areas where deemed necessary. In addition, photographs were taken of the piers and bulkhead from the river.

A. PROJECT AREA CONDITIONS

ENVIRONMENTAL CONDITIONS

During the Pleistocene period, ice advanced in North America four times. In the last 50,000 years, the Wisconsinian period, ice was 1,000 feet thick over Manhattan. Gravel and boulders deposited at the ice sheets melting margin formed Long Island about 15,000 years ago (Kieran 1982:26). During the last 10,000 years, glacial till and outwash was covered by the fluvial deposits of the Hudson River. Sea levels have gradually risen as glaciers retreated, and the velocity of the Hudson River has decreased (Vollmer Associates 1989:6). Estuary formation in the Hudson began between 11,000 and 12,000 years ago. Between 8,000 and 10,000 years ago, the river experienced a reduction in salinity, which then increased between 7,000 and 8,000 years ago when the estuary obtained its maximum extent (Rutsch et al. 1983:25). The Hudson River is known for freezing up in the winter, with ice floating down river during spring thaws (Luke 1953:10).

The project area between West 44th and West 59th Streets along the Hudson River is part of the embayed section of the Coastal Plain which extends along the Atlantic Coast and ranges from 100 to 200 miles wide (Figure 4-1). The Manhattan prong, which includes southwestern Connecticut, Westchester County and New York City, is a small eastern projection of the New England uplands, characterized by 360 million year old highly metamorphosed bedrock (Schuberth 1968:11). The Manhattan ridge generally rises in elevation towards the north, and sinks towards the south. Between 31st and 110th Streets the underlying rocks are mica schist and hornblende gneiss, known as the Manhattan Formation (Vollmer Associates 1989:6).

The prevalent gneissoid formation is known as Hudson River metamorphosed rock. The city is characterized by a group of gneissoid islands, separated from each other by depressions which are slightly elevated above tide and filled with drift and alluvium. The principal gneissoid island is between West 32nd and West 125th Streets (Lewis 1928:8). There is also a high percentage of granite between West 48th and West 55th Streets (Gratacap 1909:73). Between West 44th and West 59th Streets serpentine is also present and, several blocks to the east, sienite and hornblende slate are found (Cozzins 1842). There is a shallow rock section where bedrock is found at a depth of 25 feet or less at West 52nd Street (Hoag 1905:109). Crystalline rocks of greater New York include quartz, feldspar, and dolomite (Gratacap 1909:11).

Soil within Manhattan is mostly glacial till, clay, sand, gravel, mud, and assorted debris (Kieran 1982:24). At West 57th Street there is a soft bottom or deep mud bottom section, with a minimal bedrock depth of 40 feet (Hoag 1905:111). Within the project area, the soils include silty clay, clayey silt and fine sand, silty coarse to fine sand, and glacial till (Vollmer Associates 1989:7). The groundwater level corresponds to tidal variations of the river (Ibid.:9). A subsurface soil and fill profile

was constructed using existing boring records, eight showing bedrock at a depth ranging from 5 to 40 feet within the project area (Figures 4-2 and 4-3).

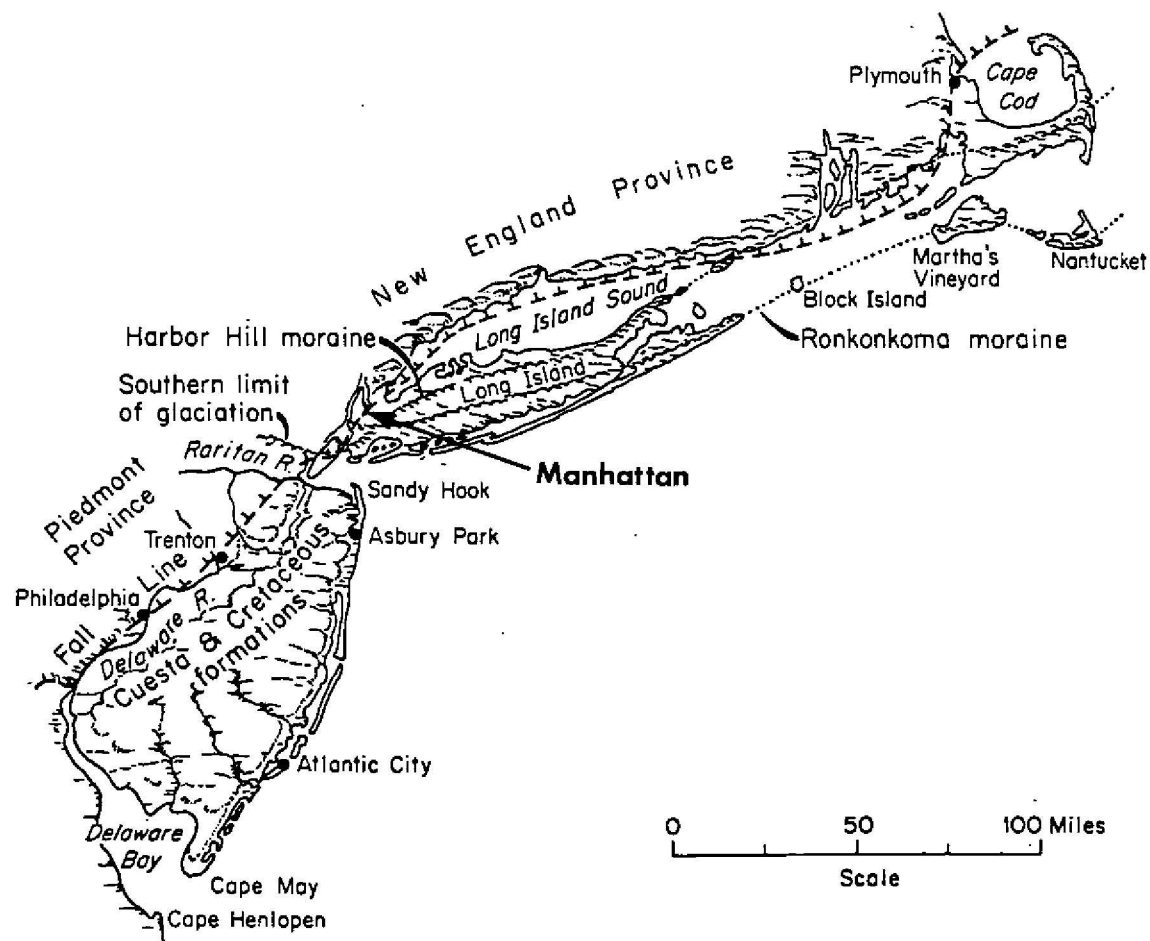
Prior to filling and development during the nineteenth century, the area was characterized by knolls and coves along the Hudson River and rolling hills with intermittent streams. In close proximity and between West 44th and West 59th Streets, three small streams emptied into the Hudson River, at West 53rd Street, West 56th Street and West 60th Street. In addition, the Great Kill, a large stream and associated marshlands between West 40th and West 45th Streets, emptied at the foot of West 42nd Street. Since the project area is on historic period fill north of West 54th Street, only the West 53rd Street stream was actually in the project area.

CURRENT CONDITIONS

Currently the West Side Highway is in the process of being dismantled in preparation for proposed reconstruction. Project area photographs taken from April to September 1989 show the current area conditions along the shoreline (Figure 4-4). The area is generally non-residential, characterized by small shops, municipal facilities, and shipping related facilities. The piers within this section, once active during the 1930s, have experienced a decline in use. Between West 48th and West 52nd Streets, steamship piers were rebuilt in the 1970s and remain active.

The condition of the bulkhead was evaluated for the project area. Between West 44th and West 56th Streets the top portion of the bulkhead is a concrete structure. In the southeast corner of the bulkhead is a wooden deck on piles constructed past the concrete wall to the west. There is a one-foot deep depressed area in the deck, perhaps indicating a loss of landfill (Mueser Rutledge 1988:11). Between West 44th and West 52nd Streets the bulkhead wall changes from pile supported to one supported on rock. From West 47th to West 52nd Street the bulkhead is not visible due to a high level platform outboard. At West 52nd Street the bulkhead is a concrete structure resting on concrete bags on top of rocks, with granite facing on the tidal side (Mueser Rutledge 1989:13). Between West 58th and West 59th Streets, the bulkhead wall is faced with concrete and has a timber fender (Ibid.:13).

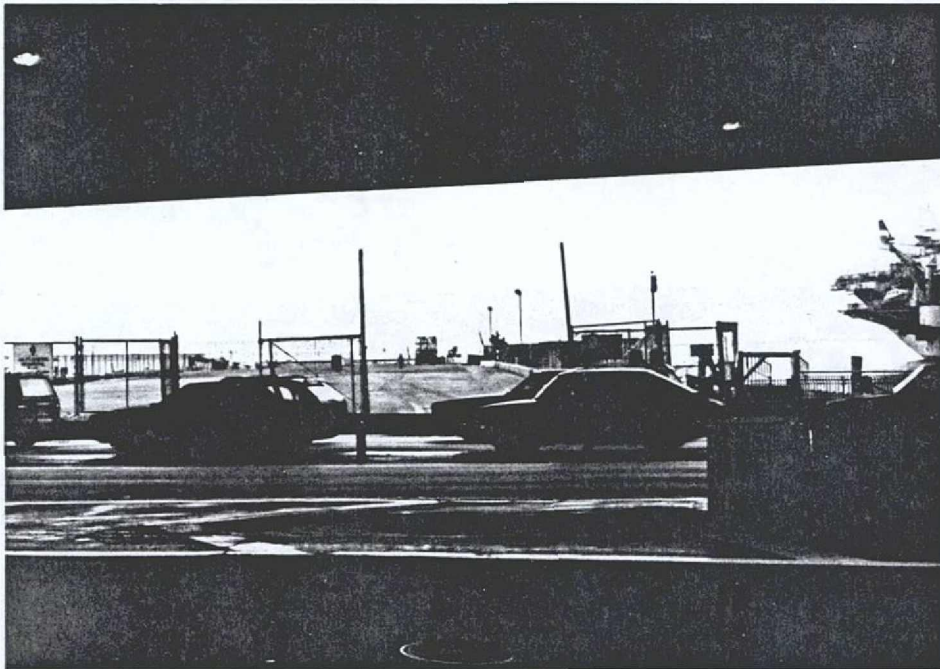
The project area itself is situated partially on original land and partially on historical fill. Subsurface conditions undoubtedly "contain cribs, old bulkheads, sections of old piers, abandoned utility lines and other remnants of abandoned previous construction" (Vollmer Associates 1989:11). More recent utility lines are also present.



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Physiographic Map of the North End of the
Embayed Section of the Coastal Plain
Source: Eisenberg 1976:10

West 44th Street to West 59th Street Archeological Study Area Site Photographs



Pier 84

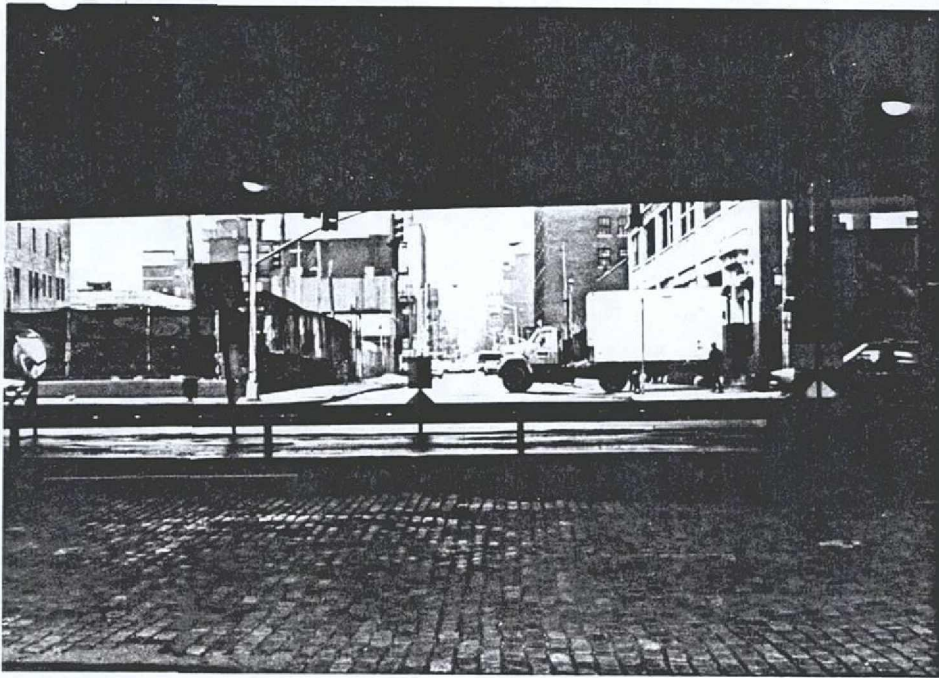
Looking west from W. 44th Street 3/15/89



West 44th Street

Facing east from Marginal Street from between Piers 84 and 86 3/15/89

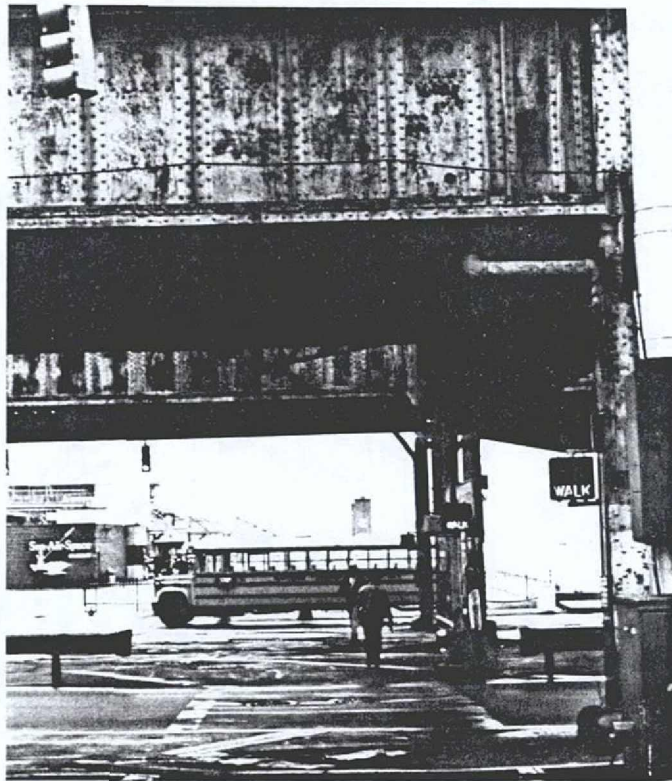
This section contains photographs of study area site conditions as of April 1989. Included are photographs showing the east and west extensions of the archeological study area into the streets intersecting Twelfth Avenue.



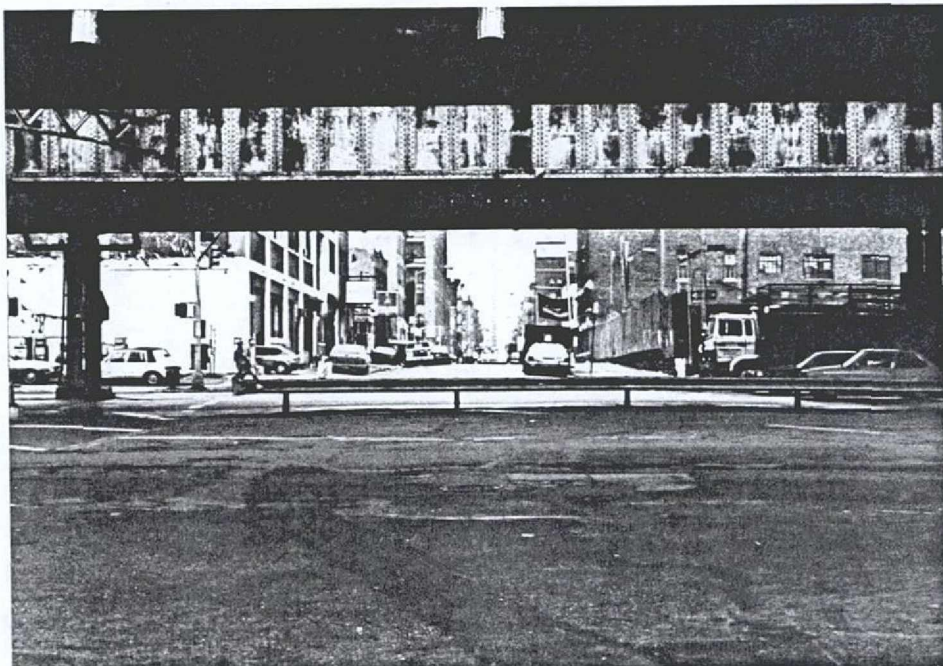
West 45th Street
Facing east from Marginal Street between Piers 84 and 86 3/15/89



Pier 86, U.S.S. Intrepid at right
Facing west from West 45th Street 3/15/89

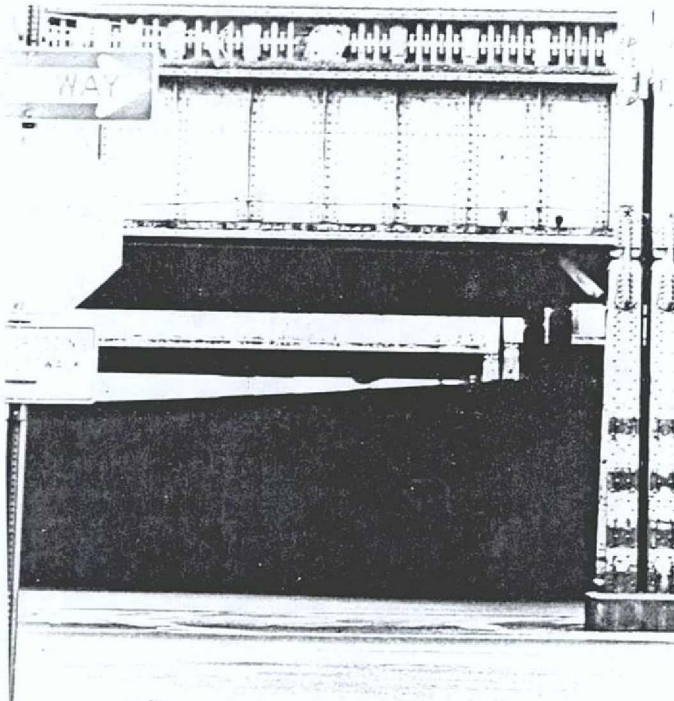


Sea, Air, Space Museum Pier 86
Facing west from West 46th Street 3/15/89

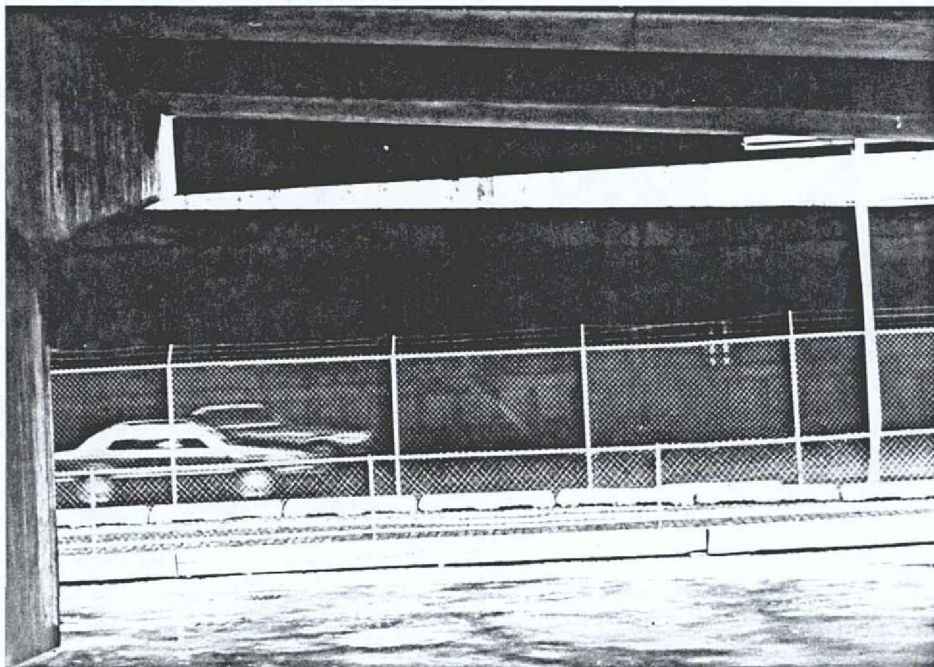


West 46th Street
Facing east from Marginal Street at foot of Pier 86 3/15/89

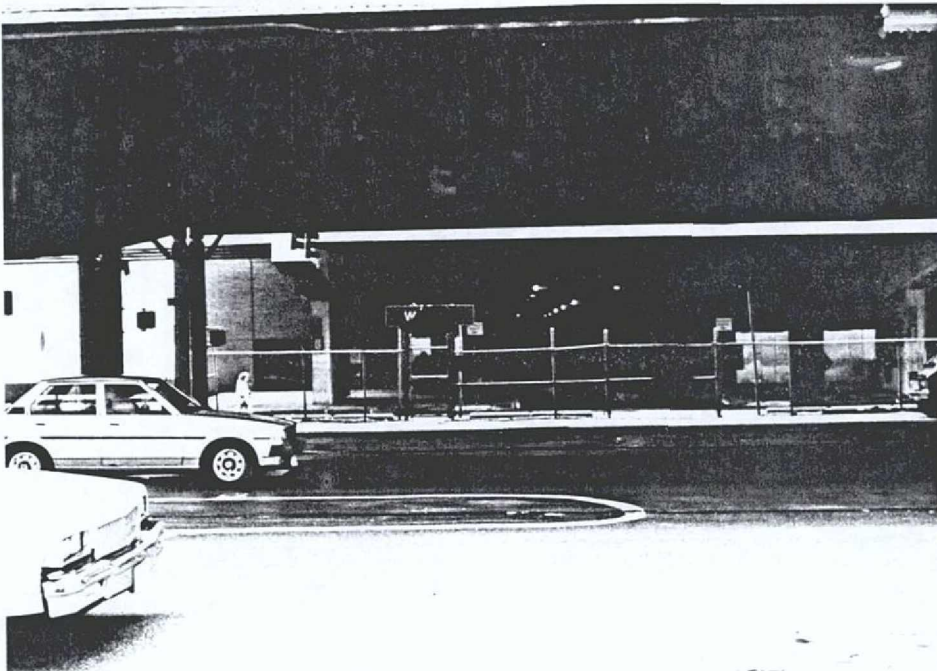
Figure 4-2 (cont'd)



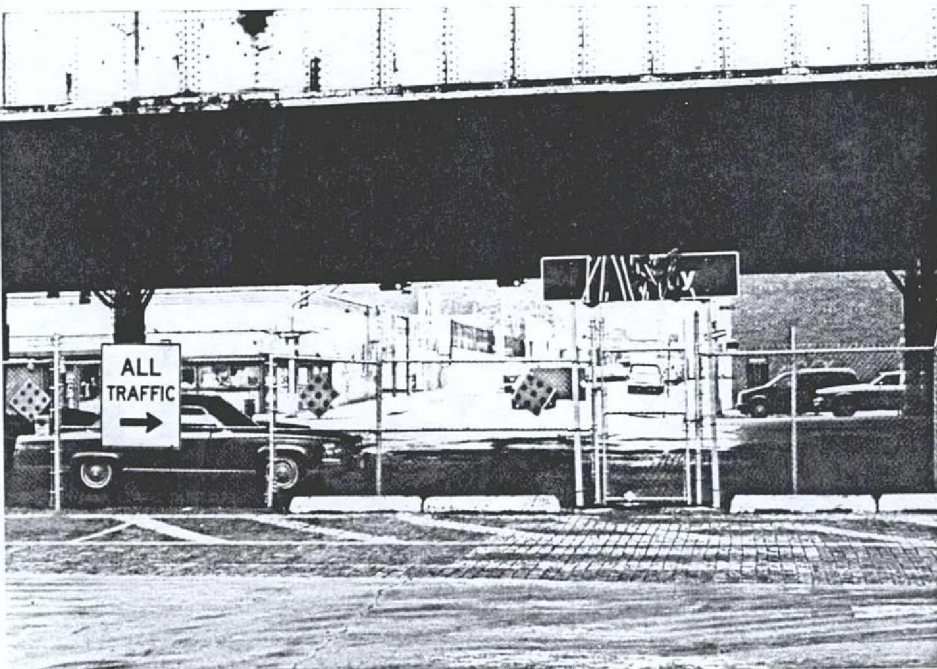
Superstructure and highway access ramp
Facing west from West 47th Street 3/15/89



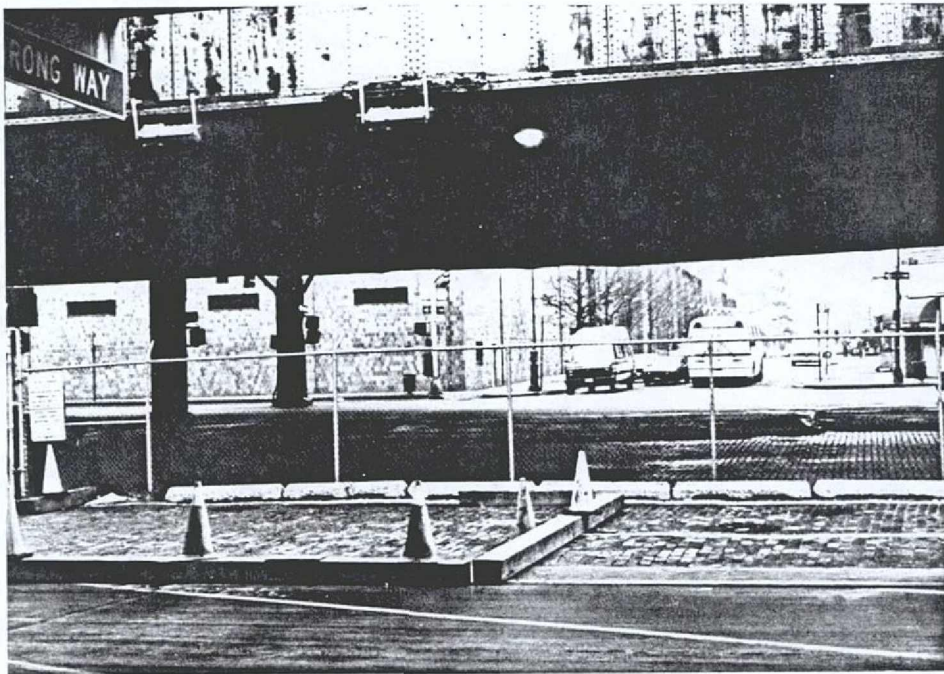
Marginal Street and ramp dividing Twelfth Avenue
Facing east from Marginal Street between Piers 86 and 88 3/15/89



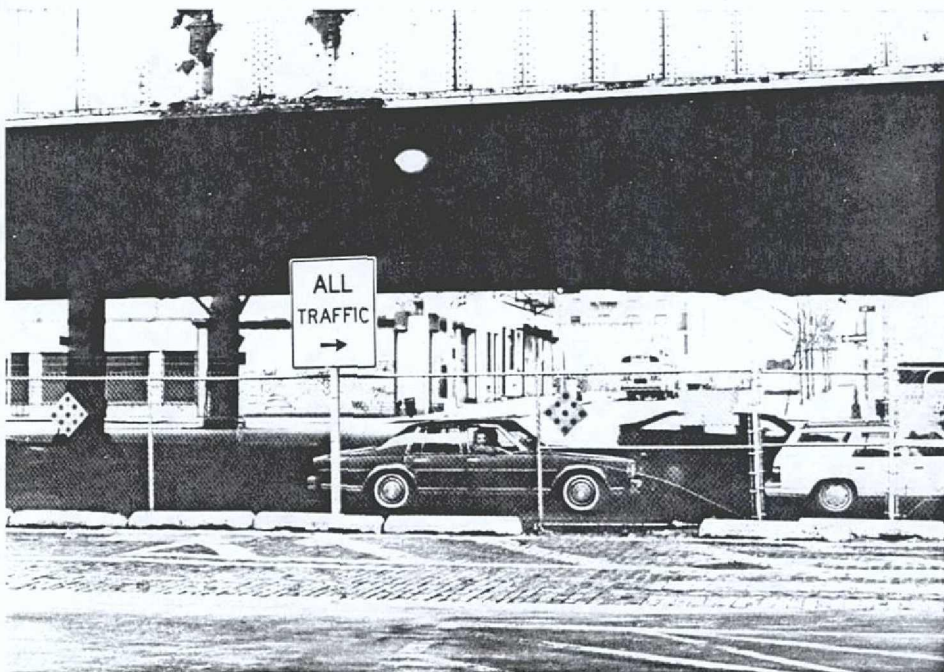
Pier 88 parking garage, one of the "Superliner Piers"
Facing west from West 48th Street 3/15/89



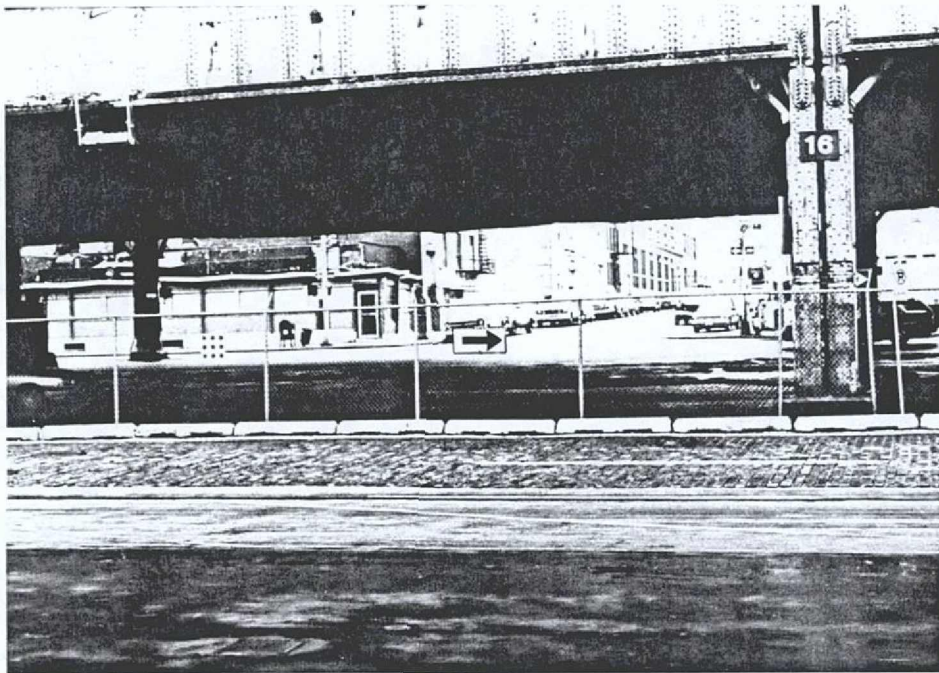
West 48th Street, Marginal Street, and closed pedestrian walkway
Facing east from Marginal Street at foot of Pier 88 3/15/89



West 49th Street, Twelfth Avenue, and closed pedestrian walkway
Facing east from Marginal Street at foot of Pier 88 3/15/89



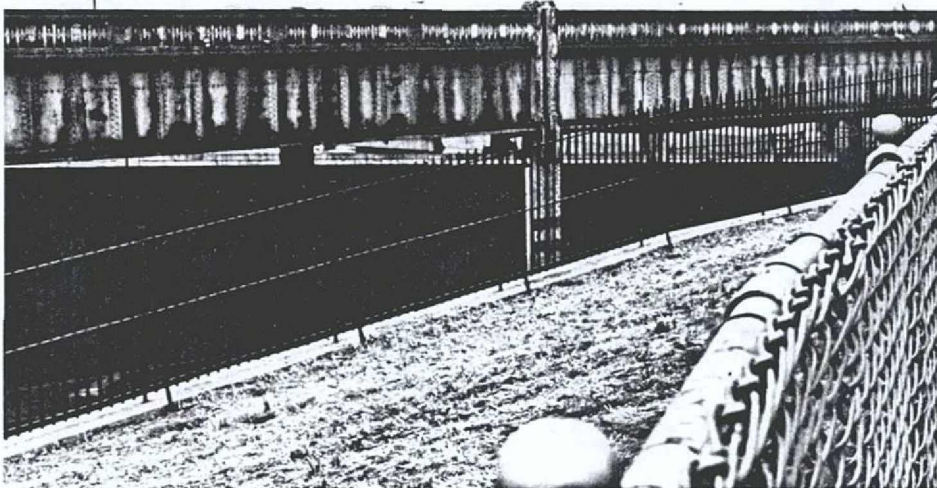
West 50th Street
Facing east from Marginal Street at foot of Pier 90 3/15/89



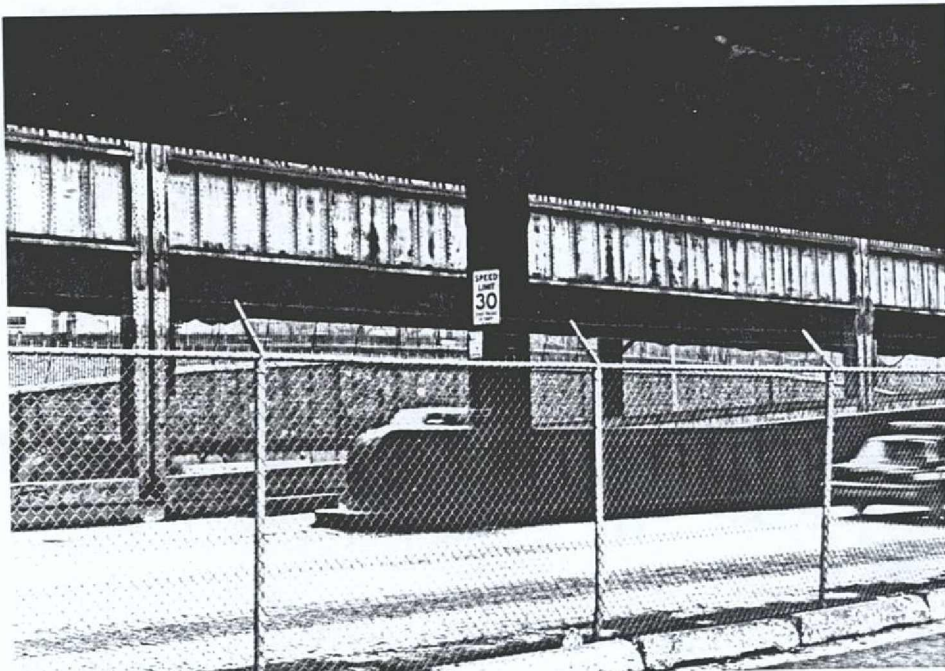
West 51st Street
Facing east from Marginal Street between Piers 90 and 92 3/15/89



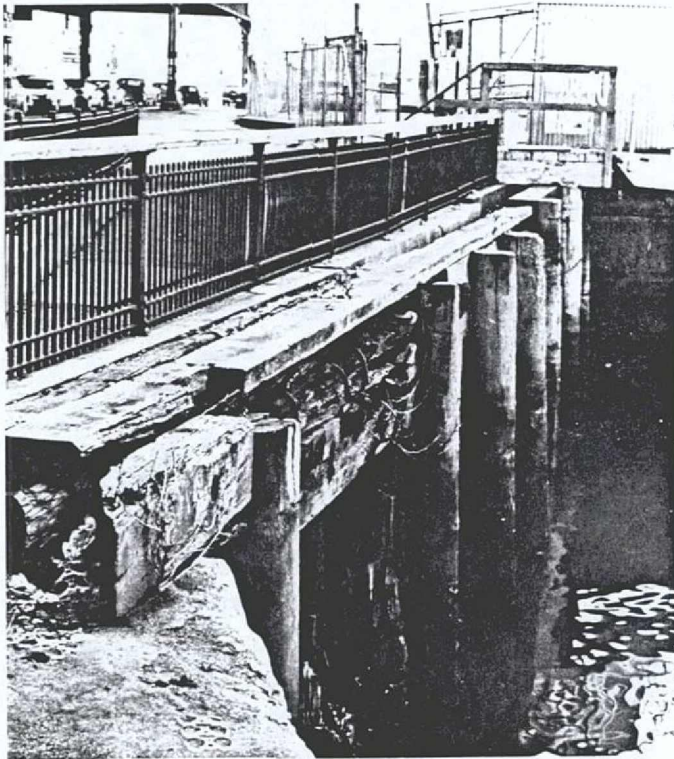
Marginal Street, walkway, and fencing down center of Twelfth Avenue
Stairs leading up to Dewitt Clinton Park from West 52nd Street visible at center
Facing east from Marginal Street at foot of Pier 92 3/15/89



View from Dewitt Clinton Park
Facing northwest from former path of West 53rd Street 9/13/89



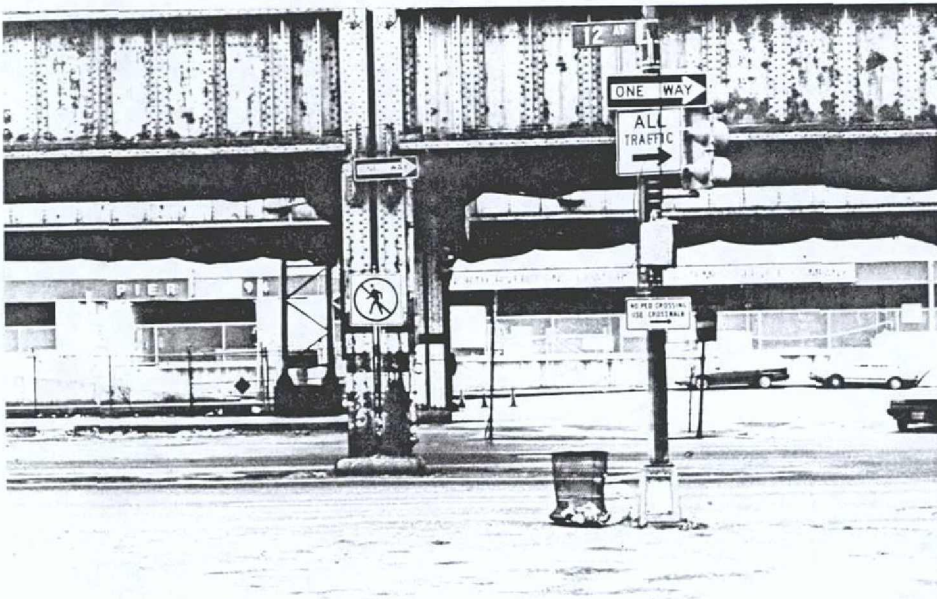
Twelfth Avenue, base of highway ramp, and the retaining wall of the park
Facing southeast from Marginal Street in front of Pier 94 3/15/89



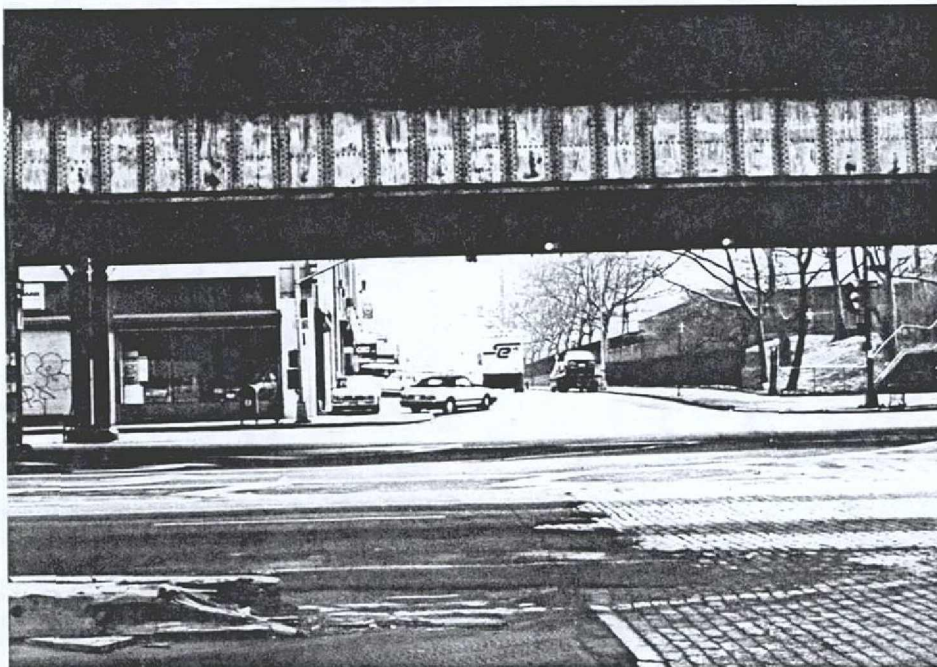
Bulkhead and condition of pilings on the bulkhead line
Facing southwest from foot of Pier 84 3/15/89



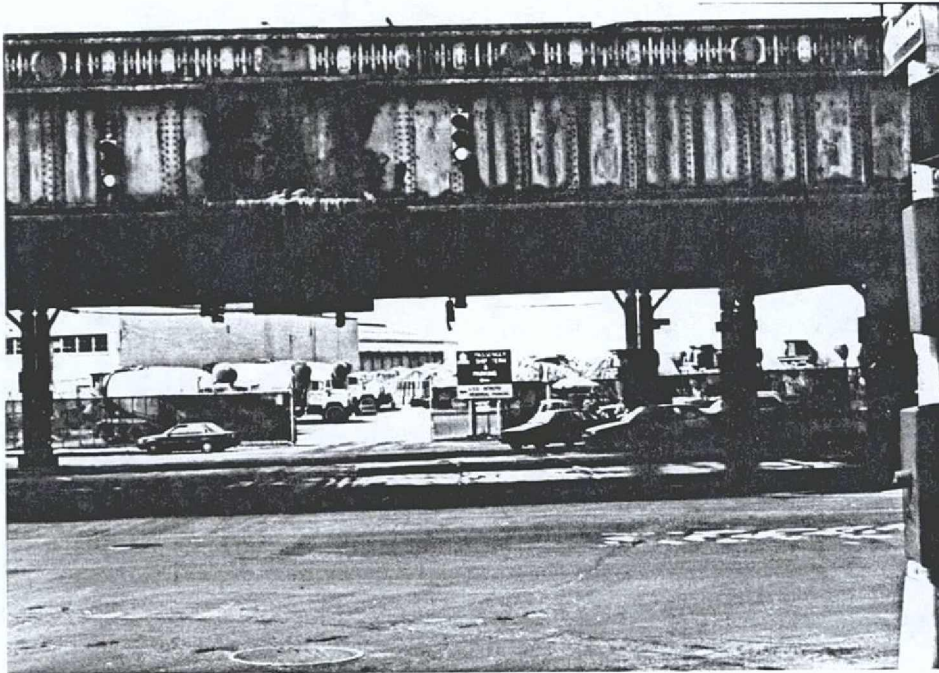
Abandoned highway ramp
Facing south from center of Twelfth Avenue at West 54th Street and Pier 94 3/15/89



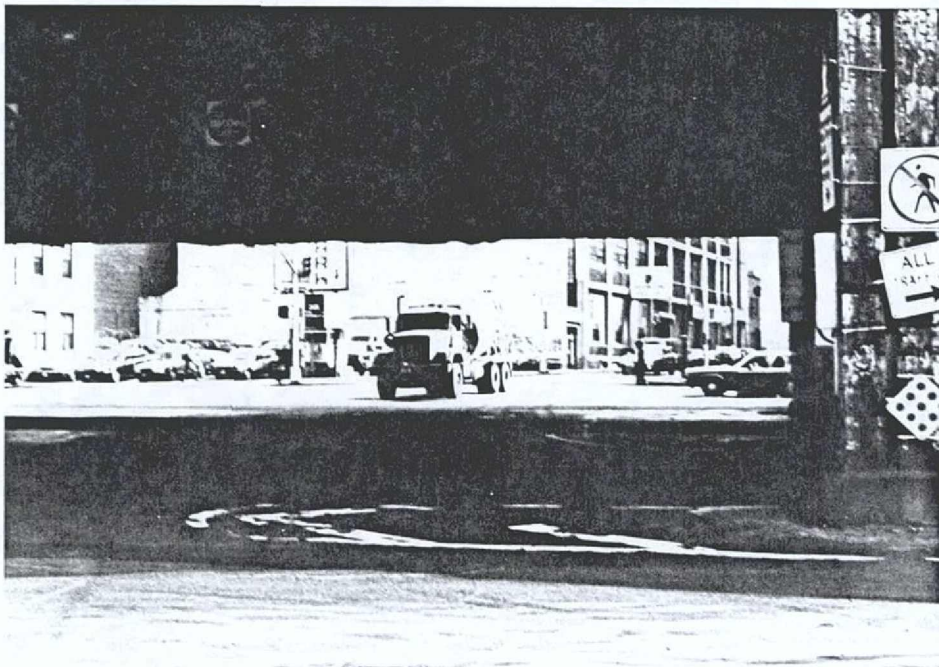
Twelfth Avenue and Pier 94 facilities
Facing west from West 54th Street 3/15/89



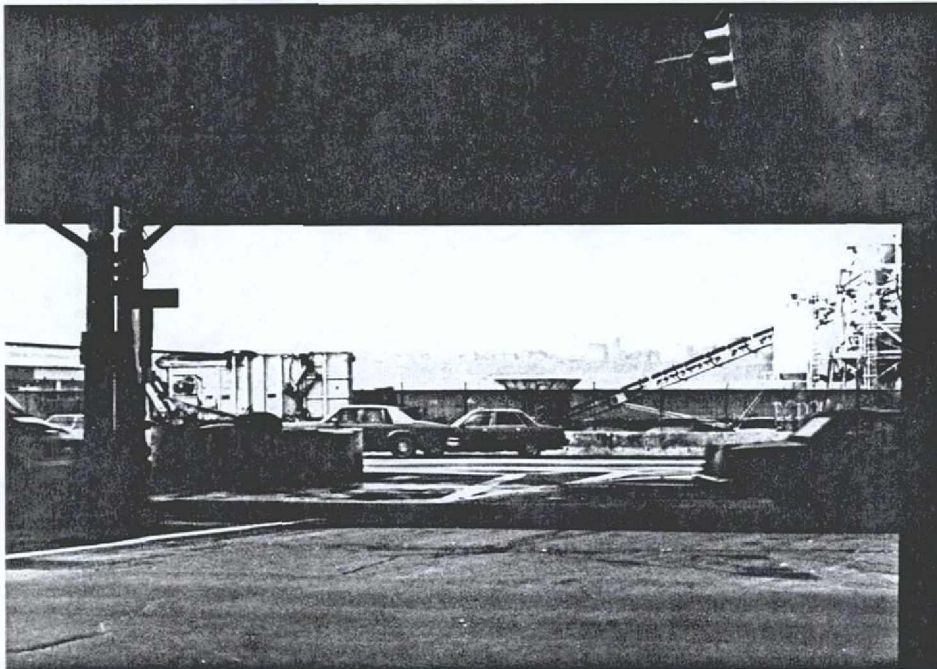
West 54th Street
Facing east from Marginal Street at Pier 94 parking lot 9/13/89



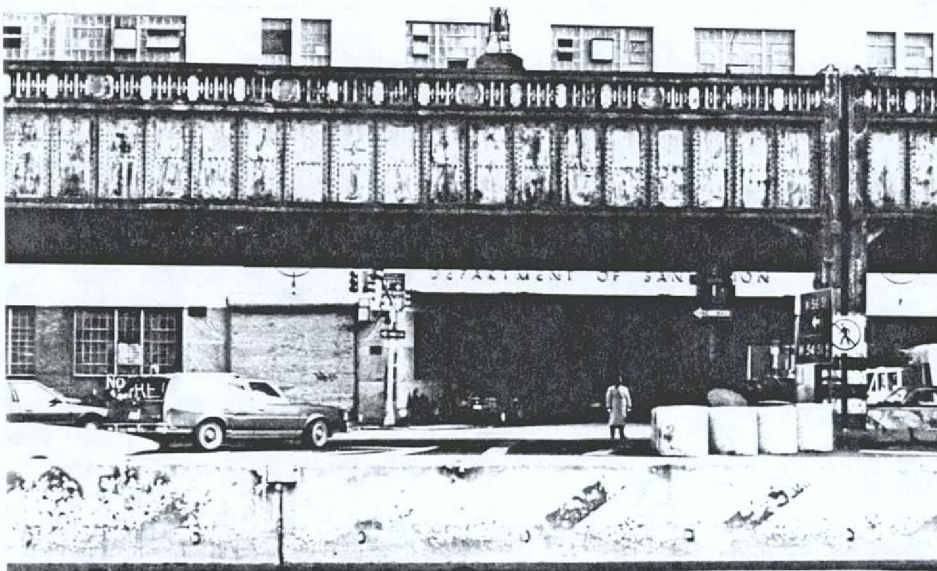
Pier 94 facilities, concrete company parking lot in study area
Facing west from West 55th Street 3/15/89



West 55th Street
Facing east from Marginal Street in front of Pier 94/company parking lot 3/15/89



Concrete company machinery at right in study area
Facing west from West 56th Street 3/15/89

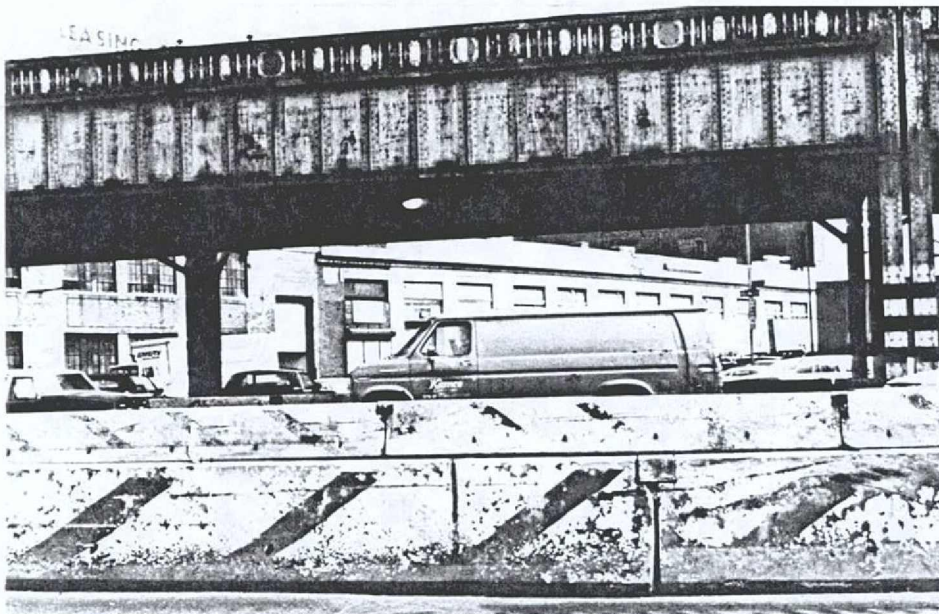


West 56th Street through Department of Sanitation building
Facing east from Marginal Street in front of Pier 96 3/15/89



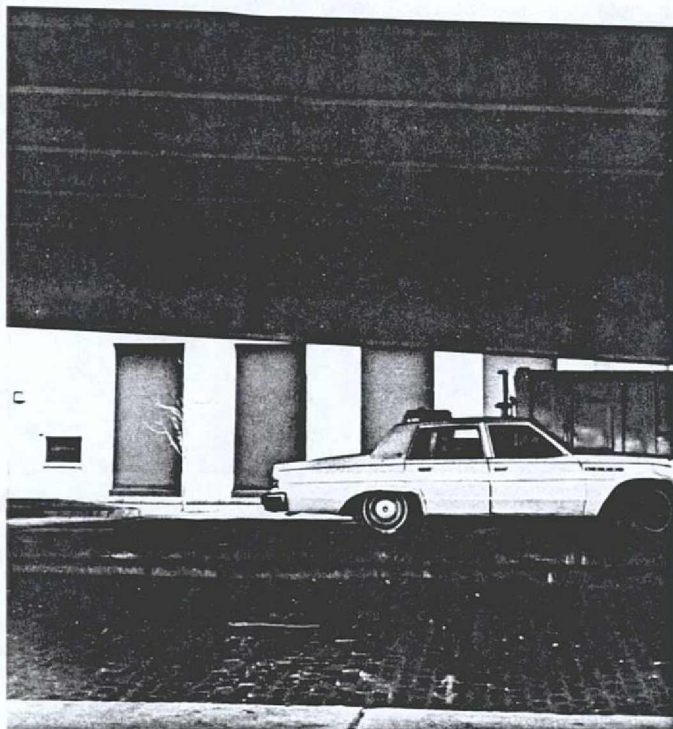
Twelfth Avenue traffic, Department of Sanitation parking lot in background in study area

Facing northwest from West 57th Street 3/15/89

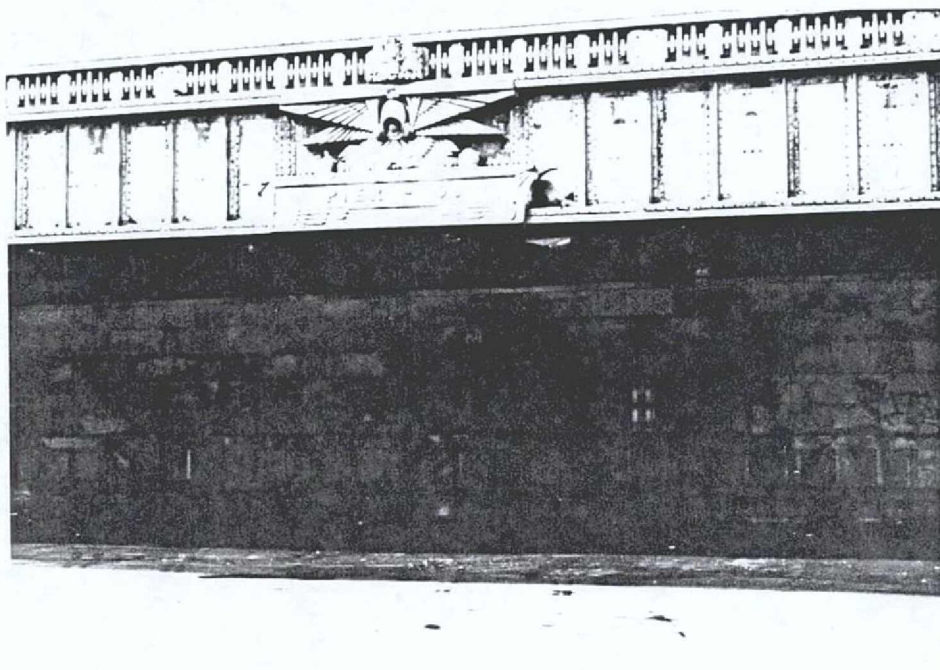


West 5th Street view obstructed by barriers dividing Marginal Street and Twelfth Avenue

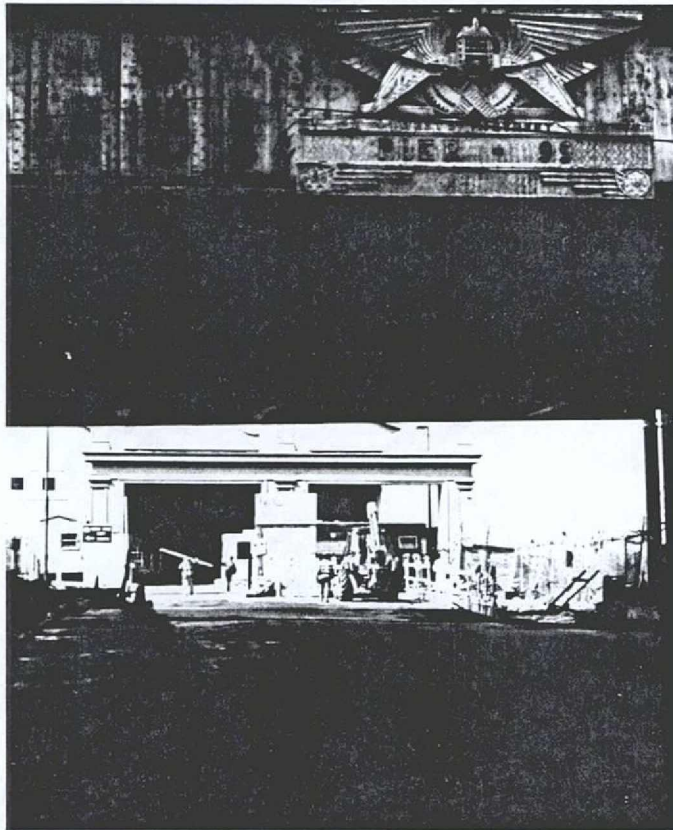
Facing east from Marginal Street in front Pier 97 3/15/89



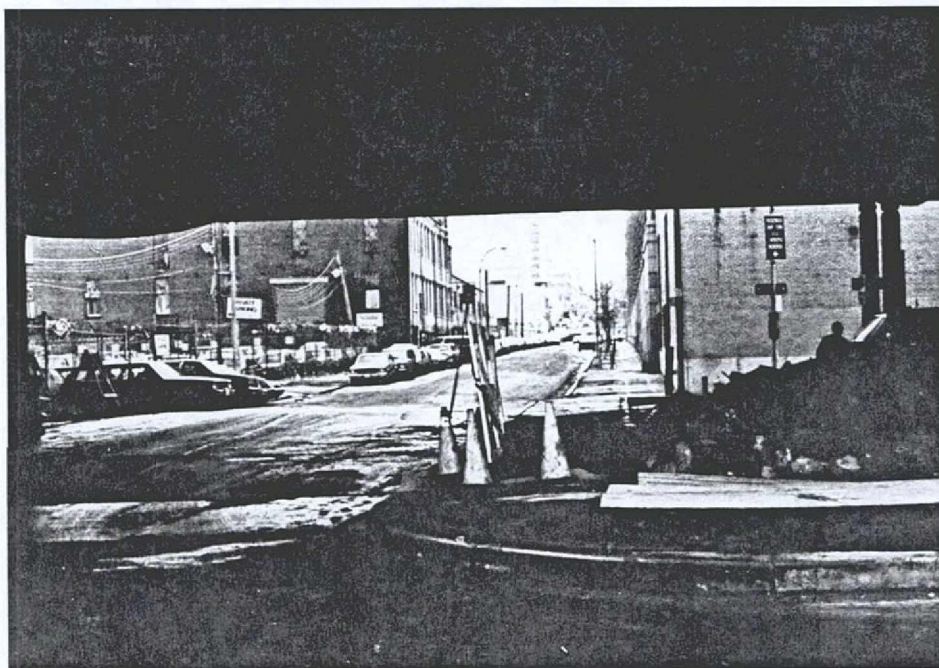
Car parked beneath highway, wall of access ramp in background
Facing east toward West 58th Street from Marginal Street at foot of Pier 98 3/15/89



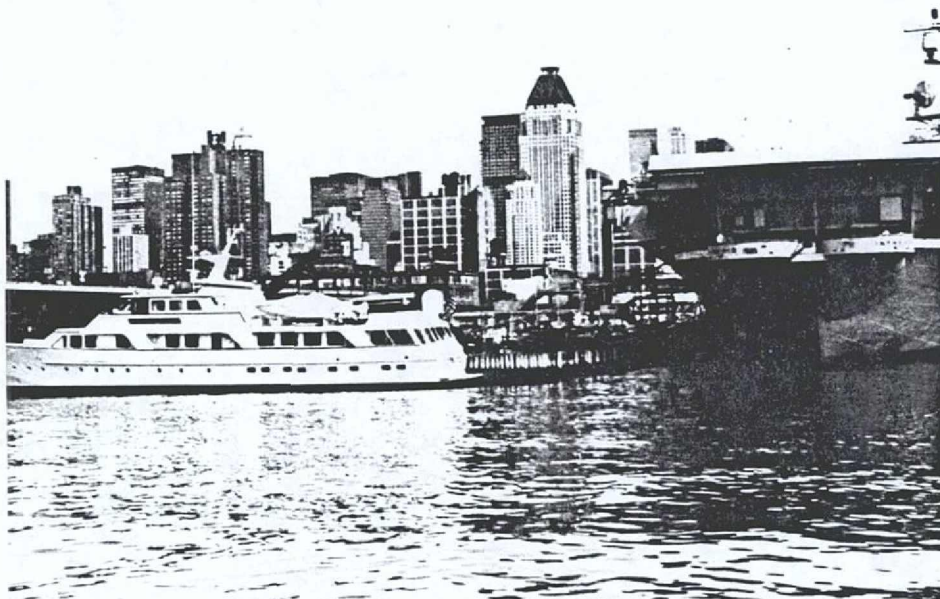
Remaining "cartouche" that served as pier and street sign, wall of access ramp
obstructing view toward Pier 98
Facing west from West 58th Street 3/15/89



Department of Sanitation Pier 99
Facing west from West 59th Street 3/15/89



West 59th Street and utility excavation beneath highway
Facing west from Marginal Street at foot of Pier 99 3/15/89



Sea, Air and Space Museum Pier 86, U.S.S. Intrepid at right
View from the Hudson River facing northeast 4/27/89



Pier 88 facilities, concrete parking lot ramp west of study area at right
View from the Hudson River facing northeast 4/27/89



Pier 88 facility, elevated walkways at left and right west of study area
View from the Hudson River facing east 4/27/89



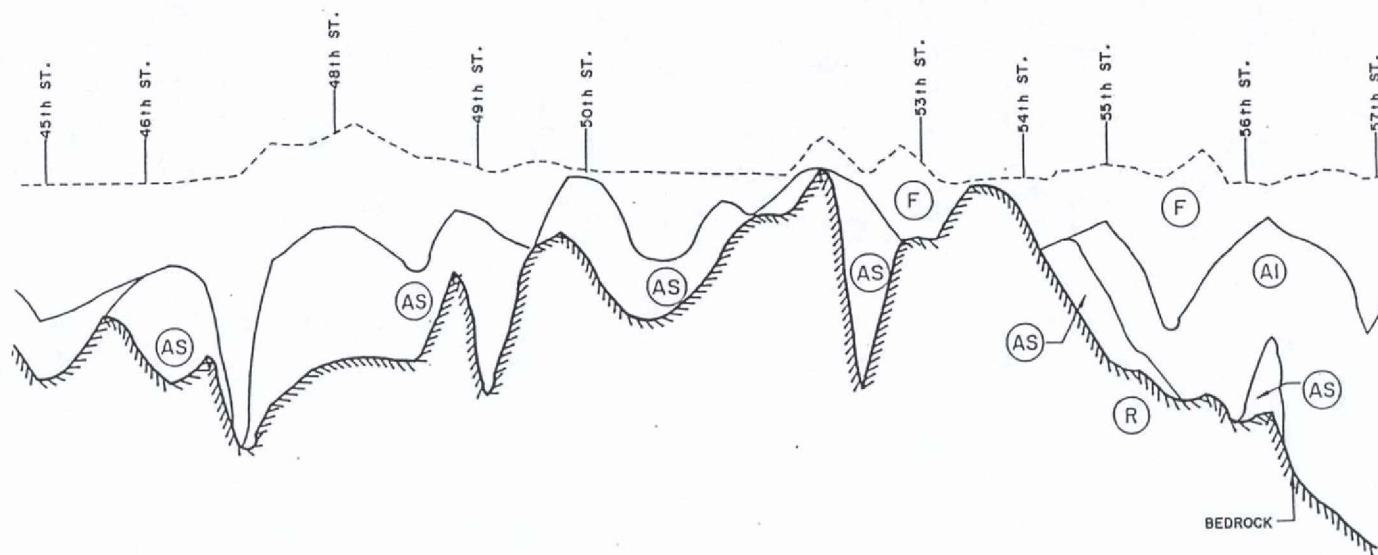
Pier 90 facilities
View from the Hudson River facing northeast 4/27/89



Cunard Line Pier 94 facility, Pier 92 at right
View from the Hudson River facing northeast 4/27/89



Piers 94 to 99
View from the Hudson River facing northeast 4/27/89



Horizontal Scale: 1" = Approx. 300'
Vertical Scale: 1" = Approx. 30'

ROUTE 9A RECONSTRUCTION PROJECT

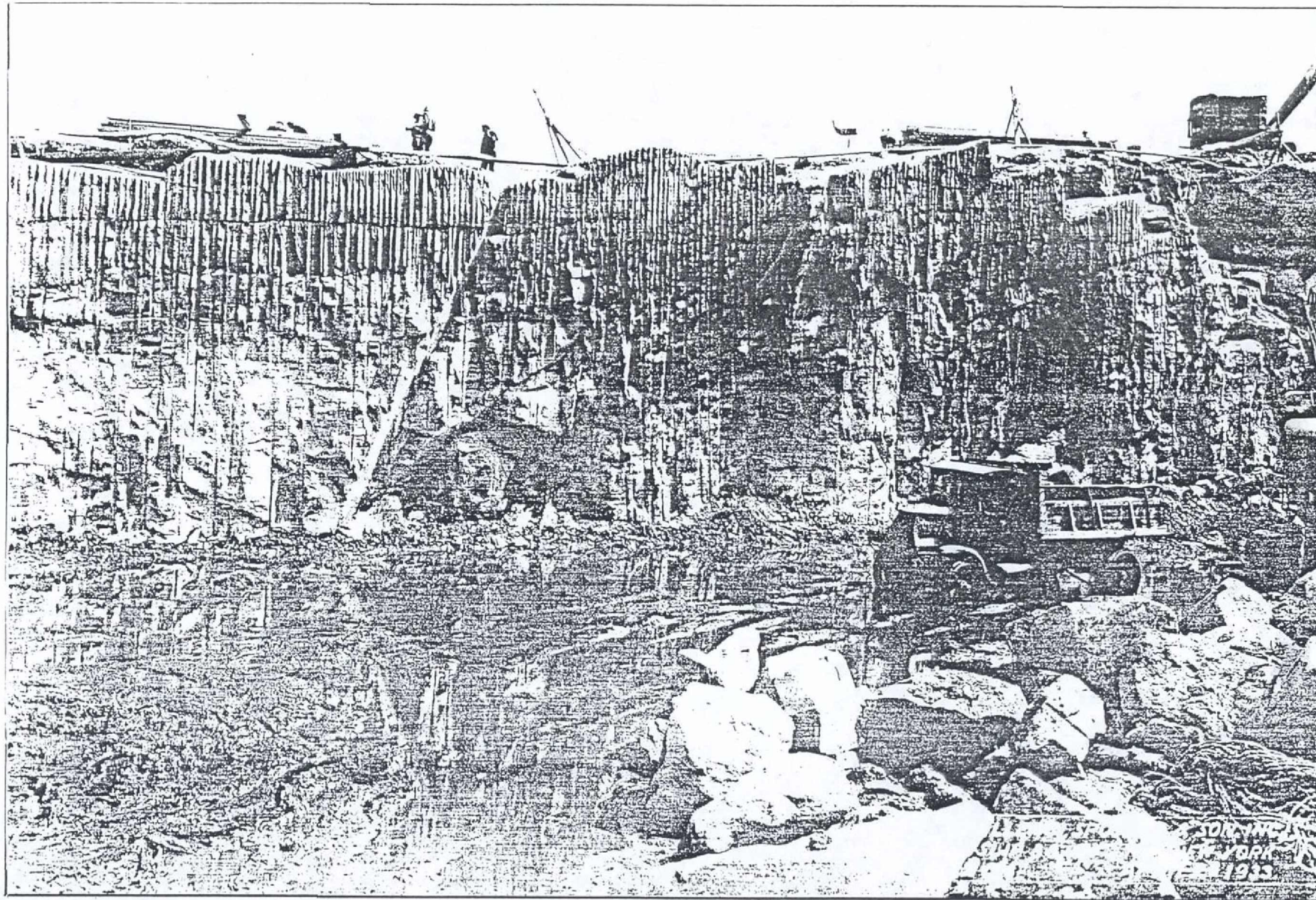
Legend

- F1 Fill
- A1 Silty Clay
- AS Silty Coarse to Fine Sand
- R Bedrock

Soil Profile Between West 45th Street and West 57th Street

Source: Vollmer 1989

Figure 4-3



ROUTE 9A RECONSTRUCTION PROJECT

Rock Excavation for Pier Construction at Foot of West 48th Street
Courtesy of the New York Public Library

Figure 4-4

A. PREHISTORIC RESEARCH

PREHISTORIC BACKGROUND

The scant archeological record that characterizes Manhattan renders it necessary to rely on regionally established models of prehistoric sequences for a comparative reference. Prehistoric settlement and subsistence trends have been established for the lower Hudson Valley and coastal New York areas, providing a contextual understanding of prehistoric land and resource utilization. The outline presented summarizes the prehistory of the region, based on long term archeological research. It should be noted that as research in the area continues, theoretical issues become more refined, affecting this regional chronology.

Prior to the arrival of Native Americans and subsequently Europeans, the Northeast experienced heavy glacial activity. During the last episode of the Pleistocene in the Northeast, the Wisconsinian ice reached its maximum advance between 18,000 and 16,000 years ago. After this period, glaciers slowly began to retreat north, with glacial gravel being deposited along the melting margin. By 13,000 years ago, ice had retreated north far enough so that the lower Hudson Valley and surrounding area was open for the re-establishment of flora and fauna. As ice melted, glacial lakes formed, eventually filling with sediments and becoming swamps. Current studies indicate that shortly after deglaciation, Native American populations arrived in the Northeast.

PaleoIndian Period (12,000 - 9,500 B.P.)

Between 14,000 and 12,000 years ago the Northeast was generally characterized as open woodland, rich in spruce. By 10,000 years ago, this had changed and the region was predominately pine (Gaudreau 1988:240). Pollen analysis shows that the southeastern New York region was comprised of a mixed coniferous hardwood forest following deglaciation (Salwen 1975:43). The post glacial environment supported a diverse array of mega-fauna including mammoth, giant ground sloth, horse, and giant beaver, undoubtedly hunted for prehistoric subsistence. The PaleoIndian period represents the earliest documented human occupation in the Northeast, dating approximately between 12,000 to 9,500 B.P. (Before Present).

Few remnants of these first inhabitants have been encountered. It is quite possible and probable that Native Americans first occupied the continental shelf which was exposed during glaciation. The massive amount of water locked up in ice sheets and glaciers drastically lowered the sea level, extending the Atlantic coastline twenty to thirty miles south and east of what it currently is (Ibid.). The exposed continental shelf, now submerged beneath the ocean, would have possessed the resources necessary to support the emergent PaleoIndian population (Edwards and Emory 1977:19).

Artifacts attributed to this period from sites in the Hudson River Valley and throughout the Northeast include diagnostic Clovis-type fluted projectile points and processing tools such as scrapers, graters, and drills. Often these were made from cherts originating in eastern New York, and jasper from Pennsylvania and New Jersey. Lithics recovered far from their sources suggest well-defined or extensive travel or trade networks in operation at that time. Research in the Northeast has led to the postulation that small bands of hunters nomadically roamed large territories, relying predominantly on post-pleistocene mega-fauna. Alternative hypotheses based on research in eastern New York suggest that PaleoIndians inhabiting the area utilized a wide array of resources and had a restricted territory in which they operated (Eisenberg 1978:139). Additional research continues to assist in developing and refining models of subsistence and settlement.

There are many unanswered questions regarding the settlement and subsistence systems of PaleoIndians. Sites that have been identified tend to be located in three specific geographic locales: on lowlands near coniferous swamps and larger rivers; on upland bluffs in areas where deciduous trees dominated; and on ridge tops also dominated by deciduous trees (Eisenberg 1978:138). Throughout the Northeast it has been more common to locate isolated spot finds of diagnostic artifacts than habitation sites. The lack of recovered habitation sites may be due to post-glacial changes in topography or development where habitation sites once existed (Saxon 1973:252). The rising sea levels and resultant changes in water courses have probably inundated numerous encampments. However, since the Hudson River is a fjord (a narrow inlet of the sea bordered by steep cliffs), it is possible that early occupation sites may be preserved along the naturally elevated post-glacial shoreline (Snow 1980:180). Currently, no habitation sites have been identified on Manhattan Island.

Nearby on Staten Island, a PaleoIndian habitation site was located at Port Mobil (Ritchie 1980:xvii). The site was situated on high ground, sloping down to the Arthur Kill, about 1000 feet away. Although the site experienced significant disturbance, several fluted points were recovered together with additional tools made of eastern Pennsylvania tan and yellow jasper, and eastern New York Normanskill flint. Nearby along the tidal beach of the Arthur Kill, six fluted points were also found, made of New York jasper and exotic flints (Ibid.). This represents the only PaleoIndian component recovered within the metropolitan New York area. Spot finds further north have occurred along the Hudson River and its tributaries (Funk 1976:205).

Archaic Period (9,500 - 3,000 B.P.)

The Archaic period, spanning approximately 6,500 years, has been subdivided into the Early, Middle, Late Terminal periods. During the Early Archaic (9,500 - 7,000 B.P.) fluctuations in the environment occurred, eventually giving way to a gradual warming trend, allowing newly available resources to become established. Although sea levels were rising, New York Harbor was still considerably smaller than it is today (Salwen 1975:49). As a result of environmental changes, it appears that the

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primary dependence on big game gave way to a hunting, fishing, and gathering economy, reliant upon a diversity of resources. The more reliable resource base may have facilitated population growth.

Artifacts of the period include bifurcate-base points which are often found along major drainages. Early Archaic sites in the coastal New York area tend to be located on tidal inlets, coves, bays, and on fresh water ponds (Ritchie 1980:143). Few inland sites of the Early Archaic period have been found in northern New York and New England. However, on Staten Island four sites containing cultural materials dating to this period were reported (Salwen 1975:50). Salwen attributes the earlier and more prolific population of the southeastern New York area to the early establishment of hardwood forests in that region (Ibid.). Although resources may have been abundant in the more northern areas, the climatic instability would not have provided a reliable resource base. The established hardwood forests may have attracted people to the more stable, southern New England and New York area (Dincauze and Mulholland 1977:450).

Middle Archaic cultures thrived from about 7,000 to 5,500 years ago, as the climate continued to warm allowing new flora and fauna to become established. Dincauze and Mulholland (1977) suggest that at this time seasonal movements based on the exploitation of specialized resources became well established, which may have encouraged territoriality. Tool kits expanded in response to diverse resource utilization, and artifacts include Neville and Stark projectile points.

During the Middle Archaic period the exploitation of oysters along the Hudson River is represented by numerous shell middens. At Croton Point and Montrose Point, north of the project area along the Hudson River in Westchester County, shell middens yielded dates of between 5,600 to 5,800 B.P. (Brennan 1974:85).

From approximately 5,500 to 4,000 B.P., Late Archaic cultures flourished across the Northeast. Warming trends promoted a resource-rich environment. Point types diagnostic of this period include small stemmed points such as Lamokas and Taconics, as well as Squibnocket and Brewerton points. The lower Hudson Valley experienced increased habitation, with numerous shell middens along it dating to this period (Brennan 1974:87). Sites of this period include rockshelters, open woodland camps, and on high bluffs along the Hudson River. Archaic points found in the metropolitan New York area represent a high percentage of quartz use for this period (Suggs 1966:42). The dependence on local lithics could represent decreased areas of seasonal migration or a reduction in trade with neighboring groups.

The subsistence pattern in operation may have been one of a centrally based wandering pattern focused on the exploitation of seasonal resources. A high degree of cultural complexity is represented by the wide range of site types and the great diversity in site locations. More Late Archaic sites have been reported than for either of the two previous periods. The increase in the number of sites may reflect either an increase in the population brought on by the stabilizing environment, or a bias in site visibility. By the Late Archaic period, sea levels were much as they

are today, and sites of this period would have less of a chance of being inundated. In addition, archeologists in the Northeast have postulated that small stemmed quartz points attributed to this period, actually represent an underlying cultural tradition, persistent through later periods (McBride 1984:133). Therefore, sites attributed to this period based on projectile point typologies may actually have been misidentified.

Three cultural traditions persisted in the Northeast during the Terminal Archaic period (4,000 - 3,000 B.P.). These include the Laurentian tradition represented by the Vergennes phase and the Vosberg complex; the small stemmed tradition represented by the Sylvan Lake complex; and the Susquehanna tradition represented by the Snook Kill and Orient phases (Funk 1976:250). Although Funk defines these three separate traditions as persisting in the Hudson River valley, Snow reassesses the distribution of Terminal Archaic points and suggests that the Susquehanna tradition dominated the first half of the period, comprised of Snook Kill, Perkiomen and Susquehanna Broad points, while the latter half of the period was dominated by the Orient complex characterized by the Orient Fishtail point (Snow 1980:237). The precise sequence of Terminal Archaic traditions, complexes and phases is a continued source of debate.

It is postulated that these traditions, based on distinct projectile point types, have different settlement patterns representing utilization of specific resource niches. According to Funk and Ritchie (1973:342), authors of Aboriginal Settlement Patterns in the Northeast, sites of the Snook Kill Tradition, predominant in the southern sub-area, tend to be located on high, sandy river terraces. Orient phase habitation and burial sites have been recovered from eastern Long Island (Ibid.:344). Whether these three distinct traditions, Laurentian, small stemmed and Susquehanna, represent the migration of new people into the area or the spread of technologically new ideas, has yet to be determined. Lithic technologies were predominantly based on locally available raw materials, with the small stemmed point tradition relying heavily upon quartz.

Terminal Archaic groups ground and polished soapstone into bowls and other items. The majority of sites encountered in the region thus far existed along the Hudson River and its major tributaries. This appears to result from high visibility along major river drainages as opposed to the actual lack of sites in remote settings, as continued research from interior areas has produced sites of this period. Orient points have been radiocarbon-dated to approximately 4,000 to 2,800 B.P. in the Hudson Valley.

Woodland Period (3,000 - 500 B.P.)

The Woodland period persisted in the Northeast from approximately 3,000 to 500 years ago. Again divided into three sub-categories, this period consists of the Early, Middle, and Late periods. The first of these, the Early Woodland period, lasted from about 3,000 to 1,700 years ago and is represented by the Middlesex Phase in eastern New York. This period is marked by the introduction of ceramic vessels as part of the material culture. Crude, undecorated pottery called Vinette 1 was

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often tempered with steatite. Simply designed pottery of this type has largely been recovered from sites on major waterways and tributaries. Early Woodland, Middlesex Phase sites are commonly discovered during sand and gravel mining operations near a lake or river, as sites tend to be located on well drained knolls adjacent to fresh water (Ritchie 1980:201).

During this period a gradual cooling of the climate occurred, perhaps limiting resource availability. Settlement systems varied as a result of the desire to exploit alternative resources. Coastal resources providing year round stability were often sought, while upland hunting and gathering remained an important activity. Fish runs in rivers provided a stable and reliable resource. Woodland period fish weirs were utilized in the Hudson River and smaller tributary rivers for the recovery of large quantities of anadromous fish (Brumbach 1986: 35).

The Middle Woodland period, lasting from c. 1,700 to 1,000 B.P., is marked by regional changes in ceramic styles. Stone tool assemblages of this period are characterized by Jack's Reef Corner Notched and Pentagonal as well as Fox Creek projectile points. A significant amount of exotic lithic materials were utilized, perhaps indicating increased trade networks. By this time, subsistence and settlement seems to have been characterized by semi-permanent settlements with task-specific locations utilized for the purpose of exploiting target resources. Ritchie and Funk (1973:349) identify several settlement types for Middle Woodland cultures including recurrently occupied and semi-permanent large camps, small temporary camps, cemeteries, burial mounds and workshops.

Numerous shell middens along the coast and the Hudson River attest to the importance of aquatic resources. During this period, maize was introduced from Meso-America and horticultural practices were slowly adapted into the lifeways of local Indians. The nature and extent of maize use prehistorically has been much debated by archeologists working in the Northeast. Research on Long Island has led to the hypothesis that prior to European contact, maize was not cultivated on the sandy, nutrient-poor soils of the island. The desire to trade with Europeans led Native Americans to settle more permanently along the coast where shells were available for wampum manufacturing. Concurrent with this shift in the settlement system was the need for a stable, storable economic resource. It is thought that maize horticulture was adopted to provide the support required for these villages (Ceci 1979:72). In addition to the research conducted in coastal New York areas, archeologists throughout the Northeast are now questioning the distribution and adoption of non-indigenous horticultural goods.

Material items of this period include ornamental pendants, pins, and the bow and arrow. Ceramics became technologically more advanced as walls became thinner and overall shape became rounded. It is suggested that the change to a rounded bottom corresponds with the introduction of maize and resulted from the desire to cook food longer (Braun 1980:100). Netmarking became a popular mode of decoration associated with this period. Ornamentation of the collars and bodies of pots also increased, often suggesting the cultural affiliation of the maker. Overall

the remains representative of this period recovered from eastern New York are limited in number, compared to those found further to the west in the Great Lakes region (Funk 1976:298). This may be a misrepresentation resulting from biased sampling and preservation rather than the actual lack of sites.

The Windsor tradition was established in this period, with components of this tradition found along the Long Island Sound, and the Hudson and Connecticut drainages. In the lower Hudson Valley and on western Long Island, the tradition is represented by the Windsor North Beach and Clearview phases (Snow 1978:63). The Fox Creek Phase of the Middle Woodland period appears to have its center of distribution in the New York coastal region, and in the eastern New York drainages (Ritchie and Funk 1973:356). Settlement patterns reflect a restricted wandering system, excluding large base camps and semi-permanent villages. However, general trends of the period show a move toward a settlement system incorporating semi-permanent village occupations.

During the Late Woodland period, 1,200 to 500 years ago, the climate was similar to that of today. The documented settlement pattern indicates the use of diverse environmental settings including inland rockshelter sites, coastal and island sites, inland sites on major drainages, and campsites located near swamps and along streams. There is marked evidence of an overall increase in site size and abundance, and artifact frequencies. An annual subsistence round of seasonal movements between riverine, coastal and inland wintering sites may have existed. The increase in horticultural activities may have affected seasonal movements, with spring and summer spent planting crops. While maize, beans and squash became available, these did not comprise the entire subsistence base, as deer, small mammals, nuts, berries, and shellfish continued to be utilized. The semi-permanent settlement pattern may have led to competition and defense of arable land, contributing to regional territoriality (Mulholland 1988:163).

Artifact types of this period include the Levanna triangular projectile point and Cayadutta Incised pottery. The Windsor tradition was replaced by the East River tradition by about 600 B.P., and the Bowmans Brook and later Clasons Point phases are local manifestations of this period (Snow 1978:63). It is thought that the Bowmans Brook culture entered New York from New Jersey through Staten Island, where artifacts of this phase have been found (Ritchie 1980:269). Sites of this phase are situated on tidal streams or coves, with large village sites containing between fifty to one hundred pit features (Ibid.). Shellfish utilization is apparent at such sites. Ritchie notes that sites of the Clasons Point culture tend to be located on the second rise of ground above high-water level, on tidal inlets, and have many of the characteristics of the Bowmans Brook Phase (Ibid.:271).

Contact Period (500 - 300 B.P.)

The Contact period dating from 500 to 300 B.P. is typified by the initial interactions between Native American groups and Europeans. Native settlement patterns at the beginning of this period were essentially the same as those of the Late Woodland,

and consisted of seasonal hunting and gathering. In spring and fall, areas along streams were occupied to take advantage of fish runs. Upland and inland task specific sites were occupied for short periods for hunting, trapping, and lithic procurement activities. Semi-permanent villages near planted fields were also located in the interior, containing oval and round, bark and mat covered houses. Large pits were used for storing dried meat, fish, and corn, and it was common practice to burn fields to facilitate hunting, trapping, and planting. It was not uncommon for horticultural villages to move to new locations after ten or twenty years as soil fertility, firewood, and nearby game resources were depleted (Salwen 1975:57).

The first contacts between Native Americans and Europeans occurred when early explorers began to trade with the native population. As European materials were introduced, settlement and subsistence patterns changed drastically. Traditional tools were replaced by adopted European goods such as copper and iron. Shell beads and wampum were produced and furs were collected by Native Americans as a medium of exchange. Europeans were anxious to acquire furs from Native Americans, thus numerous trading posts were established along the Hudson River. Although early historic accounts suggest the presence of stockaded villages or forts in the Hudson Valley and coastal New York, archeological data indicate they were not present prior to the middle of the seventeenth century (Ritchie and Funk 1973:368).

During the seventeenth century, Manhattan was occupied by Indians speaking a Munsee dialect of the Eastern Algonquian language (Goddard 1978b:73; Figure 5-2). Northern Manhattan was primarily occupied by Native Americans, identified by the colonists as Wiechquesgeck (Grumet 1981:60). Large scale conflicts did not break out in New York until the arrival of Governor Willem Kieft in 1638, who maintained a hard-line policy with the local Indians. This policy caused the death of 1000 Native Americans between 1640 and 1645 due to conflicts (Washburn 1978:98). In 1655 Native Americans attacked New Amsterdam, and the ensuing Esopus Wars, named so for the involvement of the Esopus Indians, lasted until 1664. As a result, Algonquian bands in the lower Hudson Valley lost independence and fell under Dutch control (Ibid.).

The subsequent breakdown of native sociopolitical organization during the seventeenth century was caused by inter-tribal stress, plagues, and the desire of newcomers to obtain land rights. The plagues of 1616-1620, introduced by Europeans, depopulated many groups, with population losses in southern New England and New York estimated between 70-90 percent (Snow 1980:34). The conflicts engendered by rapid colonial expansion, war, and epidemics, caused many Native American groups either to leave the area or take up habitation in established communities (Brasser 1978:85).

At the time of European contact, the closest known Native American habitation site to the project area between West 44th and West 59th Streets was Sapohanikan Point now in Greenwich Village (Figure 5-1). Bolton reports that Sapohanikan was probably a landing place for canoes arriving from and departing to New Jersey

(Bolton 1934:53). At that time the Native Indians referred to the Hudson River as "Mahicanituk," which translates to "the great waters or seas, which are constantly in motion" (Grumet 1981:22). The island of Manhattan itself was called "Minna-atn" which meant "Island of Hills" (Bolton 1934:47).

Established cultural chronologies are based on prehistoric sites found in the Metropolitan New York Area. On Staten Island, numerous prehistoric sites have been reported, ranging from the PaleoIndian through Woodland periods. A burial site on the southern portion of the island was found on a bluff overlooking the shoreline. The Tottenville site may include a wampum manufacturing station (Jacobson 1980:5). In total, over one hundred prehistoric sites have been reported from Staten Island, although significantly fewer have been scientifically studied. It has been postulated that cultural groups occupying the island were probably affiliated with groups in New Jersey and the mid Atlantic region. The island may have been between the bounds of New York and New Jersey groups (Ritchie 1980:145). If this is the case, then the role of Manhattan Island may have been similar. Because of the closeness of New Jersey cultural groups, as well as Long Island Sound groups, cultural traits of Manhattan Indians would undoubtedly reflect these associations.

The apparent settlement systems established for the coastal New York area have been based primarily upon the large and highly visible shell midden sites along the coast. An intensive survey of Shelter Island in the Long Island Sound has yielded a number of small short term lithic workshops and food processing stations, previously unseen and excluded from settlement pattern studies (Lightfoot et al. 1985:59). Further research and unbiased testing strategies in upland areas have shown that numerous sites exist in these locales. While the coast of Manhattan was undoubtedly attractive for Native American habitation, smaller interior sites may have been utilized as well.

SITE SURVIVABILITY

Professional and amateur archeologists were excavating on Manhattan from the late nineteenth century to the 1930s, but their field techniques and recording procedures are not comparable to the more scientific procedures that are used today. While there are records of these excavations, the data are generally ambiguous so that findings cannot be assigned to a particular period (Baughner-Perlin et al. 1982:5). According to Alanson Skinner's research at the turn of this century, in southern Manhattan there had been Indian settlements at the Collect Pond along the east end of Canal Street, on Corlear's Hook at the East River, and at the village of "Sappokanican," situated on the Hudson River just south of West 14th Street. His estimation was that the only Indian remains left on Manhattan Island apparently were located at the extreme northwestern end (Skinner 1926:51). He does note, however, that the preponderance of findings from northern Manhattan is a reflection of both lower Manhattan's earlier development and northern Manhattan's relatively late occupation by Native Americans.

It has been demonstrated that prehistoric archeological sites do still exist in the highly developed borough of Manhattan. "In 1980 during the excavation of Stone Street, as part of the Stadt Huys block, aboriginal pottery and lithics were found in the lowest levels of the excavation" (Baughner-Perlin et al. 1982:12). In the later Broad Street field investigation led by Joel Grossman, an in situ Contact period feature was found in direct association with the Dutch West India stockhouse (Karen Rubinson, personal communication to Cece Kirkorian, June 27, 1989). In addition to these in situ prehistoric finds, secondary deposits of prehistoric materials have also been recovered.

SHORELINE RECONSTRUCTION

A cartographic reconstruction of the prehistoric shoreline is necessary in order to assess the potential for deeply buried prehistoric archeological sites to exist beneath landfill. A subsurface soil and fill profile of West Street was constructed by HCI during the original survey for the proposed Westway project. However, the northernmost section of the current Route 9A project corridor (West 41st Street to West 59th Street) was not part of this reconstruction effort. In order to maintain a consistent quality of analysis for prehistoric potential throughout the corridor, a paleo-environmental study was conducted on this northernmost section by the same professional paleoecologist, Dr. Dennis Weiss, who had developed the HCI study. His complete analysis is a technical appendix to this report.

Data from 360 boreholes taken within and just beyond the northernmost-section boundaries of the project corridor were examined. The borehole spacing allowed for detailed examination and interpretation of geologic and paleo-environmental conditions for the area and resulted in a series of paleo-shoreline maps that depict the shoreline position from 500 to 6000 years B.P. The composite paleo-shoreline map is presented in the Appendix.

The research concluded that the area was progressively inundated from the north and the south between 8,000 and 500 B.P. The first marked indication of wide-spread estuarine conditions in this study is indicated by the year 6000 B.P. level. The inundation in the more northerly portion of the study area apparently corresponds to earlier stream channels flowing westward. As sea level rose, the shoreline progressively transgressed southward ultimately reaching the area of West 54th Street. At the southern end of the project area (West 41st Street), estuarine conditions migrated to the north ultimately developing a small tidal embayment extending from West 46th Street to midway between West 48th and West 49th Streets.

The central part of the project site, West 49th to West 54th Street appears never to have been affected by estuarine conditions. Also, the borehole analysis shows a relatively steep bedrock surface between the project corridor and the present bulkhead line. Existing data appears to indicate that the paleo-shoreline position from the West 47th Street to West 54th Street section would lie west of the Route 9A corridor except for the narrow cove at West 47th Street.

PREHISTORIC SENSITIVITY

It has been demonstrated that sites tend to be located on well drained elevated soils near fresh water resources. Environments providing diverse resource availability are conducive for prehistoric habitation. Coastal and riverine areas are particularly attractive habitation spots for this reason, providing a mix of aquatic, estuarial, and terrestrial resources. In particular, the confluence of streams and/or rivers were considered primary sites for habitation, and have a high potential to yield prehistoric archeological resources. Coves and inlets, providing protection from the strong winds coming down the Hudson River would have also been desirable habitation sites. Archeological research on islands within the southern New England area shows that settlement patterns are often affected by strong prevalent winds. Research on Nantucket and Block Island, each with strong northerly winds, shows a preference for settlement on south facing slopes (Little 1985:26). Presumably the strong winds coming down the Hudson River would have had a similar affect on settlement patterns.

Archeological research conducted for the United States Army Corps of Engineers on the western side of Manhattan between 34th Street and the Harlem River, identified areas sensitive for prehistoric remains. The research was concerned with the potential to recover sites outboard of the current bulkhead line. According to the study, the only areas identified with potential for prehistoric remains to exist lies between the George Washington Bridge and Dykeman Street. South of West 158th Street, all prehistoric sites were considered to have probably been disturbed by previous dredging (Raber 1986:1). If a comparison of dredging records with shoreline depth was undertaken, it would undoubtedly confirm the destruction (Roselle Henn, United States Army Corps of Engineers, personal communication to Cece Kirkorian, April 6, 1989).

According to a study done by the New York City Landmarks Preservation Commission (NYCLPC), areas sensitive for prehistoric remains exist between West 44th and West 59th Streets along the Hudson River. Specifically, the land adjacent to the stream draining at West 56th Street has been identified as a potentially sensitive area (Figure 5-3). Land in close proximity to the Great Kill marsh was not identified as sensitive, nor were coves or knolls along the Hudson River. The model developed by the NYCLPC was designed as a step towards developing sensitivity models for the metropolitan area and is subject to alteration as more detailed analysis, such as this, is performed. Given the original topographic conditions of the project parcel, it is quite possible that prehistoric Native American populations would have occupied several areas along the Hudson.

A block by block summary of historical development was compiled to help establish the disturbance record of these potentially sensitive areas (See Section on Block Histories). Based on this reconstruction, conclusions were made regarding the potential survivability of the below listed sites. Between West 45th and West 59th Streets, the following areas along the original shoreline may have possessed the

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topographic and environmental features attractive for utilization and habitation by Native Americans, during distinct cultural periods.

Block 1092 - West 44th Street to West 45th Street

Between West 44th and West 45th Streets the two knolls on either side of the wetlands drained by the Great Kill would have been likely spots for prehistoric sites. The knolls would have been within close proximity to the Hudson River while not being directly on the shore. However, the block between West 44th and West 45th Streets experienced tremendous grading and construction during the nineteenth and twentieth centuries, rendering this area completely disturbed and not sensitive for prehistoric remains.

Block 1094 - West 46th Street to West 47th Street

A narrow cove at the foot of West 47th Street would have also been a resource rich area, possibly utilized for fishing or shellfish collection. A pier built in this cove by 1836 attests to its sheltered nature. The cove would have provided protection from northerly winds, while affording Native Americans the opportunity to exploit riverine resources in a protected environment. A small knoll directly adjacent on the southeast side of this cove may have been occupied on either the top or the south-facing slope.

Many of the "backyards" of lots were not developed, such as the south two-thirds of contiguous Lots 56 through 60, each 25 feet wide. In addition, none of the buildings shown within the project area were listed with basements. The coal yard and lumber yard activities would have probably caused minimal impact. The only subsurface disturbance documented were several small relatively shallow utility lines traversing this area. The majority of the land surrounding the cove within this block has remained fairly undisturbed and is therefore sensitive.

The cove at the foot of West 47th Street may have been occupied by Native Americans at some point during the prehistoric period. Rises along the Hudson River are known to be favored habitation spots of PaleoIndians, however the Randel Survey shows that the closest knoll is adjacent to the cove, east of the project area (Figure 6-10). There are no indications that this knoll, which would have been potentially sensitive for PaleoIndian remains, still exists (Figure 1-1). As shown on a current topographic map, the area is now relatively flat. The knoll was probably razed to regulate West 47th Street. However, the flat, possibly undisturbed land directly surrounding the southern part of the cove within Block 1094 may have been occupied by Early Archaic through Middle Woodland peoples, since coves and bays were part of the settlement patterns associated with these periods.

Block 1100 - West 52nd Street to West 53rd Street

The natural spring and stream emptying into the shallow cove at the foot of West 53rd Street would have also been ideal for Native Americans. As described, the bay

was rich with bass and oysters (Mott 1908:392), resources commonly utilized prehistorically. While the shore here was described as rocky, jagged, and probably not habitable, further inland, closer to the spring, may have been suitable for habitation. The rise, above the Hudson River where the Striker estate once stood, was probably a favored location by Native Americans. However, the spring at the foot of West 53rd Street is considered not sensitive for prehistoric cultural remains due to extensive historical development and disturbance.

Block 1104 - West 56th Street to West 57th Street

Further north, the stream emptying into a well protected cove at West 56th Street would have also been a good location for habitation. A small knoll about a block north of this cove would have probably provided a breaker for strong winds, making this cove habitable. However, the original historical shoreline at West 56th Street is actually slightly east of Twelfth Avenue, placing this potentially sensitive area out of the project area.

Block 1106 - West 58th Street to West 59th Street

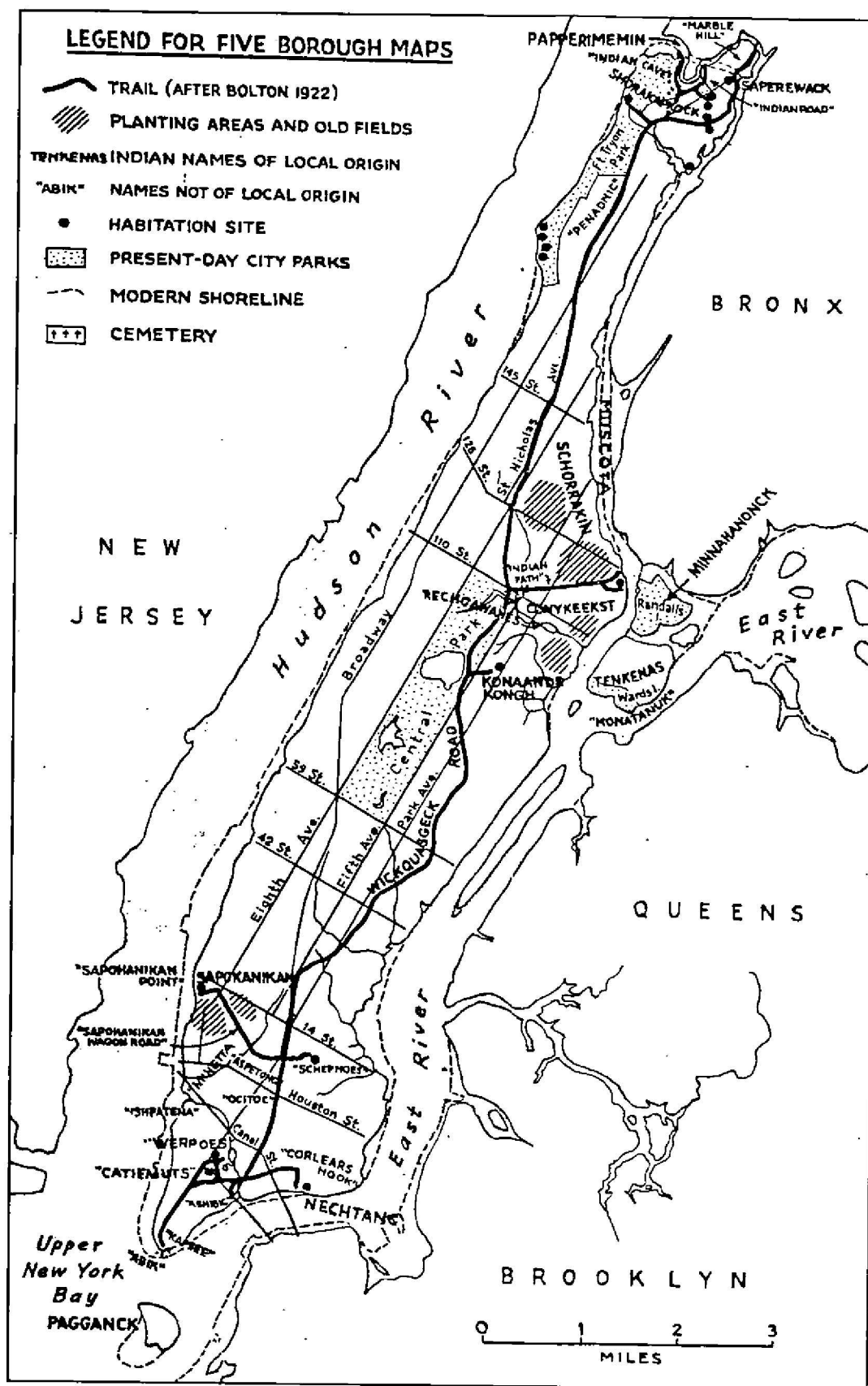
At West 49th Street a large knoll ran to the north, ending in a peak at the Hudson River. Directly north of this knoll, at West 60th Street, a small stream drains into the Hudson River. It is possible that the knoll would have been occupied due to its close proximity to the small stream and cove. As is the case for Block 1104, the original historical shoreline is also somewhat east of the present route of Twelfth Avenue and is therefore not within the project area.

Summary of Prehistoric Sensitivity

These areas identified as having strong potential for once housing prehistoric archeological remains were situated either along what was once the original coastline or slightly east of the coast, further inland. Since the historical development that took place within this area is quite extensive and includes periods of filling and land removal, it was necessary to determine which portions of the sensitive prehistoric topography could possibly still exist within the current project area.

Based on this cartographic reconstruction the only area identified as sensitive within the project area is the cove at the foot of West 47th Street, at the end of Block 1094. All of the sensitive areas north of West 54th Street are west of the project area, and the areas between West 44th and West 45th Streets and at West 53rd Street have been leveled, or greatly disturbed with historical development. At this level of research, the cove at the foot of West 47th Street appears to have not experienced extensive subsurface disturbance.

The remainder of the project area blocks have no sensitivity for prehistoric remains since they are either on late nineteenth and twentieth century landfill or there were no land form features present that would indicate a preference for habitation by Native Americans.

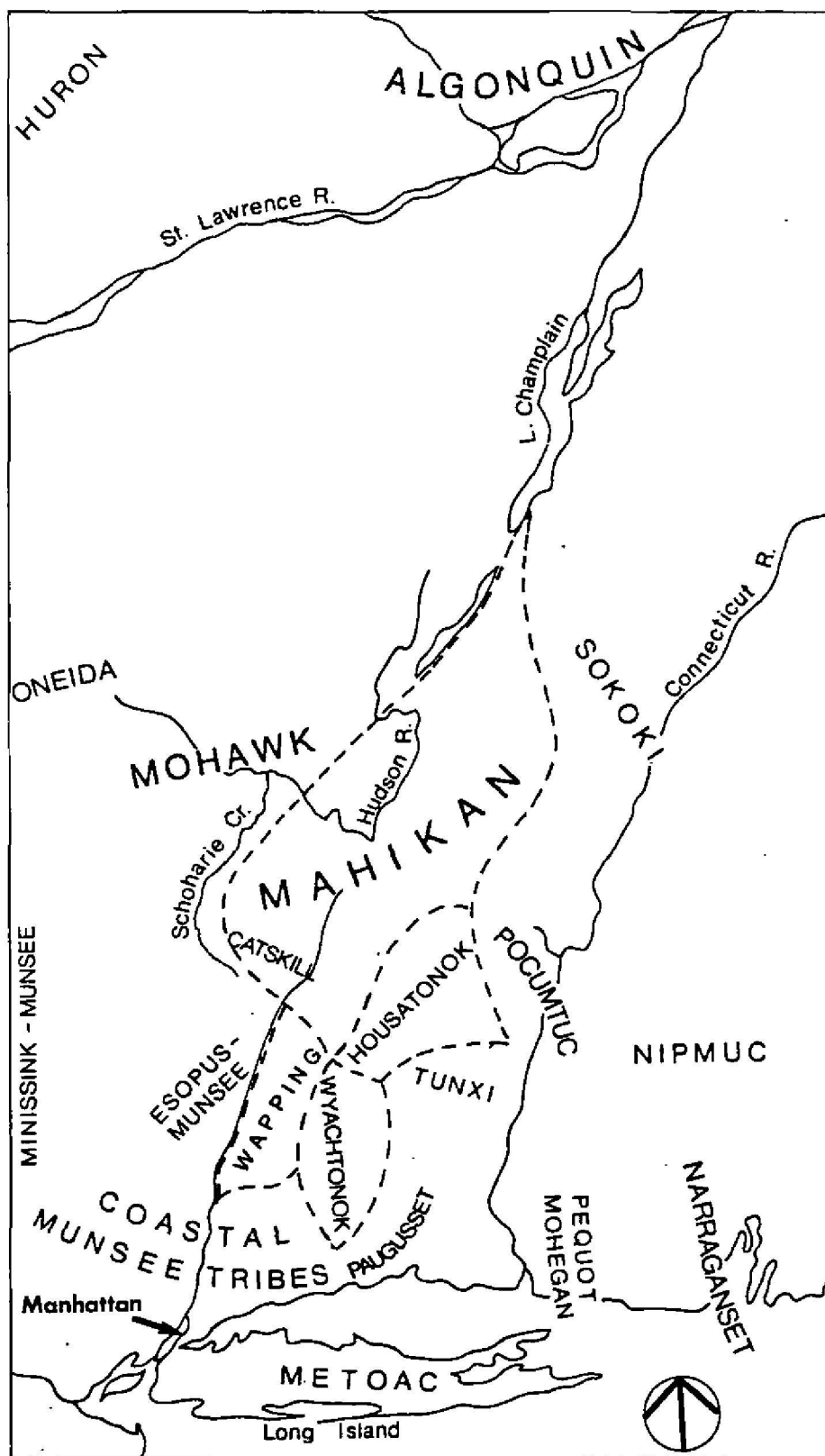


ROUTE 9A RECONSTRUCTION PROJECT

17th-century Native American Trails and
Place Names on Manhattan Island

V-13

Figure 5-1



ROUTE 9A RECONSTRUCTION PROJECT

17th-century Native American Territories

Source: Brasser 1974



V-14

Figure 5-2



ROUTE 9A RECONSTRUCTION PROJECT

Legend

-  High Potential Site
-  Approximate Boundary of Study Area

Detail of Fig. 2: Prehistoric Sites, from the New York City Landmarks Preservation Commission Report "Towards an Archaeological Predictive Model for Manhattan: A Pilot Study"

A. HISTORIC RESEARCH

HISTORIC BACKGROUND

The first European to view Manhattan was probably Giovanni de Verrazano, when he sailed into New York Harbor in 1524. Despite reports of Portuguese explorers entering into the bay prior to Henry Hudson's voyage, historical accounts are sketchy and often can not be verified (Kieran 1982:2). The nature of early trading voyages suggests that even if they did sail into the bay and up the Hudson River, activities were probably confined to the traders' ships, so as not to set foot on unexplored territory. It was not until 1609, when Hudson sailed up the great river now bearing his name, that Europeans first landed on the island.

In 1613 the New Netherland Company, which sponsored many voyages to the new world in search of trade goods, set up a storage and trade house on the southern tip of Manhattan (Wilson 1902:395). In addition, several shacks were built for traders settling on the island. As the fur trade grew, so did the population of Manhattan, and the small village expanded. In 1623 the Dutch West India Company received from the Dutch States General, a grant for all lands within Manhattan (Hoag 1905:32). Later, in 1626 Peter Minuit, the Director General, purchased Manhattan Island from the local Indians for what amounted to less than 25 dollars (Jones 1978:10). By 1664 the English had obtained possession of the island, and King Charles II granted the land to the Duke of York.

Shortly after the Dutch settled Manhattan, the western portion of the island, spanning between what are now West 14th and West 125th Streets, including the project area, became farmland. Now known as the middle-west side, "Bloomingdale" was described as "Fertile, rolling fields, for the most part free of crags or clumps of underbrush" (Works Progress Administration 1939:146). The land was farmed for nearly two centuries and farms in Bloomingdale grew as demand for produce to supply the city increased. In 1642 a land grant was issued for a tract of land north of the Great Kill (a large stream fed marsh which drained at West 42nd Street) along the North (Hudson) River.

In 1667 Governor Nicholls reissued the 1642 land patent to Jans Vigns and Jacob Leenderts Van de Grift, each of whom acquired a tract of land along the North River. The tracts became known as the Great Kill region which was subsequently surveyed and divided into ten lots, each one-hundred acres in size (Stokes Vol. 6, 1926:125). The one thousand foot wide lots were divided among the owners, with the southern two tracts owned by J. Leendertsen Van de Grift. The Van de Grift farm, encompassing the project area between West 44th and West 59th Streets, eventually became the Hopper and Cosine Farms. In 1714 Matthys Adolphus Hoppe (Hopper) from Holland owned the tract between West 42nd and West 54th Streets, called the Hermitage Farm. By the end of the eighteenth century much of this tract was divided between the descendents of Matthys Hoppe (Works Progress

Administration 1939:146). Between West 54th and West 59th Streets the property was part of the Cornelius Cozine (Cosine) Farm, first acquired by Garrit Cozine in 1763, and willed to his descendents upon his death in the latter part of the eighteenth century.

When the English took over Manhattan, English Common Law was imposed and land title conveyances as well as civil laws and rules were altered. One of the old Dutch titles that persisted through political changes was the 1642 title given to the Hopper-Striker-Mott property, near Stryker's Bay in the vicinity of West 55th Street and the Hudson River in Bloomingdale (Real Estate Record Association 1967:240). The area was a popular place to settle, since the population growth and overcrowding at the southern tip of the island had resulted in plagues and illnesses. Following the first yellow fever epidemic in 1795, the desire to flee the plagues and problems of the city spurred the need for new lands to develop and the middle-west side was soon characterized by country homes and small clustered settlements (Wilson 1902:395).

In 1686 the Dongon Charter was put forth by Lieutenant Governor Thomas Dongon, who granted a charter to the Mayor Alderman of New York City, transferring land ownership to the City of New York out to the low water mark (Hoag 1905:32). The rapidly growing city was sprawling in all directions, seeking new land to develop. As a result, in 1807 the city was granted an additional 400 feet outside of the low water mark for filling and expansion, as far north as West 75th Street on the Hudson River. About thirty years later a law was enacted to provide for an exterior street along the Hudson River between West 11th and West 135th Streets, designated as Thirteenth Avenue (Ibid.:35). Although parts of this were never constructed, sections of it became what was historically Twelfth Avenue. Between West 44th and West 59th Streets, portions of Twelfth Avenue were constructed but it was not a continuous road.

In 1811 a city plan was devised to provide for a system of streets and avenues for Manhattan. The Commissioner's Plan laid a grid system over the city, disregarding natural topographic features which may have impeded road construction. Regulating the streets involved grading and filling, removing massive rocks and boulders, and tearing down houses standing in the path of proposed roadway construction. Following the 1832 Asiatic Cholera epidemic which killed approximately 3,500 people, much of the city's population fled north to Murray Hill and Bloomingdale (Jones 1978:38). Within 25 years after the adoption of the City Plan, all of the estates within the project area were subdivided, and many were lotted and sold (Works Progress Administration 1939:146).

Although the Commissioner's Plan was enacted in the early nineteenth century and proposed streets and avenues appeared on many maps and atlases throughout the 1800s, the actual date of the regulation of individual roadways varied throughout the city, with some streets remaining unopened through the latter part of the century. One example is West 54th Street which was not opened in its entirety until 1898 (Mott 1908:2). As streets were regulated, the streams that historically dotted the

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landscape of Bloomingdale were filled in, and the Great Kill, once abounding in trout, pickerel, and perch, was drained and channeled out to the Hudson River (Jones 1978:247).

As a result of the northward migration during the nineteenth century, massive earth moving activities to accommodate development also involved filling in valleys and shoreline, while grading knolls and hills. Along the Hudson and East Rivers, the shoreline was slowly pushed further and further out to provide for the growing population. The rate of coastal filling and expansion was slower along the Hudson River than the East River for several reasons. The Hudson River is up to 44 feet deep in some places, making it difficult to fill. In addition, much of the land along the Hudson River was historically owned by a small number of wealthy families, who controlled the use of the waterfront (Buttenwieser 1987:33).

The demand for piers along the Hudson River was also minimal prior to the nineteenth century since the East River sufficiently accommodated the shipping industry. The Hudson River is one of the only fjords in the northern hemisphere. The high bluffs along the shore impeded usage and provided ships little protection from the strong winds coming down the river. In addition, during the winter months the Hudson River was more likely to ice up than the East River (Buttenwieser 1987:27).

By the middle of the 1800s the use of the Hudson River changed as newly designed ships required deeper berths. The introduction of the steam boat in 1807 and the production of larger vessels by local shipbuilders contributed to the need for longer piers in deeper water. The opening of the Erie Canal in 1825 and the demand for coal in New York City also contributed to this need (Buttenwieser 1987:39). Piers were built extending into the Hudson River to accommodate industries located along the shore, such as glass manufacturers, saw mills, and tanneries. In the 1830s a large influx of immigrants spurred the filling of water lots west of Tenth Avenue to provide land for tenements. However, the blocks between Eleventh and Twelfth Avenues remained largely industrialized. Subsequently the shore along the Hudson River was filled by private owners and the City of New York, with refuse of all types including ballast, street trash, and sunken ships (Ibid.:21).

Two distinct processes were associated with land reclamation and filling which entailed either unstructured harbor buildup and river accretion or carefully engineered fill placed within deliberately placed retaining devices (Geismar 1983:672). In lower Manhattan, ships have been sunk as cribbing in order to stabilize fill (Berger 1983:9). After wharves and piers were built, derelict ships were often sunk, and together these features contributed to and operated to retain fill. In one such case, a burned seventeenth century Dutch ship named the "Tiger" was sunk, only to be encountered during subway excavation at the corner of Dey and Greenwich Streets in 1916 (Solecki 1974:109). During the excavation of the adjacent World Trade Center, archeologists unsuccessfully searched for a portion of the ship not found during the subway construction.

Wood was a popular material for maritime use since it preserves well in water. Wooden cofferdams, wharves, and bulkheads were also built as retaining devices, framed with hewn logs, filled with loose stone and covered with earth (Geismar 1983:30). The use of timber grillage as cribbing, common in Manhattan, has been traced to fifteenth century architect Marcus Vitruvius Pollio (Ibid.). Colonists continued to use this method as both the Dutch and English had previously, largely aided by the abundant supply of wood in the new world. Quays were built which entailed driving a row of wooden piles into the river with diagonal braces bolted to the inside, forming the face work of the quay. Behind this would be filled with earth and excavated materials, and the quay was then planked over to form a roadway level with adjacent streets (Geismar 1983:31). Wooden jetties helped to enlarge the accommodations of ports and were built in the same manner as quays.

By 1851 the Hudson River Railroad, opened by Cornelius Vanderbilt, maintained a station at West 30th Street and Eleventh Avenue. In 1852 the Eighth Avenue Railroad opened a line between West 51st and Chambers Streets (Works Progress Administration 1982:146). By the 1850s the middle-west side housed numerous lumberyards, brickyards, kilns, stables, warehouses, slaughterhouses and industrial plants, utilizing the nearby railways for shipping (Ibid.). Through the 1870s the western section, along the Hudson River, had continued industrial growth. In 1871 the Ninth Avenue Elevated Train, the first rapid transit system in the city, ran from the center of the city north to West 30th Street. Ease of access to the area enticed speculators to construct densely clustered tenements north of West 30th Street, on cheaply acquired land (Ibid.:147).

The post Civil War development of New York concentrated on the acceleration of the production of industrial goods, as agriculture was no longer an economically feasible activity for the expanding city (Simpson 1981:160). New York City was well on its way to becoming an international center of commerce. The middle-west side became one of the industrial areas of the city. Piers needed by gas companies for coal barges were built in the 1860s between West 44th and West 46th Streets (Buttenwieser 1987:57). The first gas company to appear in the project area was built between 1868 and 1879, between West 44th and West 46th Streets (Dripps 1868; Bromley 1879). The use of gas was so widespread that miles of cast-iron gas mains, as much as 20 inches in diameter, were laid under the city streets by 1853 (Jones 1978:77). However, the gas plants themselves were not popular places because they produced intolerable odors.

The industrial nature of the middle-west side is also documented through a report of the neighborhood's sanitary conditions during the nineteenth century. The ill effects of industrial factories on the lives of New Yorkers living at the southern end of the island had driven industries further north into the cheap, undeveloped land of the middle-west side. The "Special Nuisances" particular to the area included swill milk producers, stables, breweries, hide and fat companies, among others, all associated with "the necessarily offensive materials and operations which are incident to civic life" (Citizen's Association Report 1865:xcii).

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Shanties were common along the shores of the Hudson River and were often occupied by Irish and German rag-pickers. Gutters along streets were formed of unevenly laid stones, often trapping solid waste. The sewers themselves were "ten to fifteen feet below the open surface" (Citizen's Association Report 1865:296). The Weehawken Ferry Dock at the foot of West 42nd Street facilitated coal shipping and was often covered with animals transported into the city for slaughtering. The privies of houses along West 45th Street between Ninth and Tenth Avenues were reported as often overflowing into the yards and streets (Ibid.).

Above West 50th Street the area was characterized by low marshy ground with hills and numerous intermittent streams. In 1865, all of the cross streets from West 50th to West 59th Streets were graded except for parts of West 53rd, West 54th, and West 58th Streets near the Hudson River (Citizen's Association Report 1865:298). At that time, sewers were only complete on West 59th Street in the project area. The other streets had either partially installed sewers or none at all (Ibid.:300). Drainage was extremely poor and a sanitation report stated that "cellars in this locality are apt to contain water, in some instances through all the seasons, as for example a cellar in Fifty-third Street, where fish have lived for months" (Ibid.:305).

Prior to 1844 private parties or individual owners built the piers, wharves, and slips along the rim of Manhattan (Hoag 1905:36). The waterfront conditions along either side of the island during the middle of the nineteenth century were considered deplorable. The solid base construction of the piers prohibited the flow of sewage out to sea which created disease-infested waters (New York Pier and Warehouse Co. 1965:58). The piers themselves were always in a state of disrepair. Transportation of goods to and from the waterfront on the Hudson River was difficult due to the Eleventh Avenue railroad and numerous pedestrians.

In 1870 the Department of Docks was created, and in the following year, the commissioner of the land office granted rights and land to New York City for the construction of wharves, bulkheads, docks, piers, basins, and slips. As a result, a solid block and granite wall around Manhattan between West 61st Street and East 51st Street was constructed (Figure 6-1). The wall was placed outside of the previously existing bulkhead to allow for the expansion of streets, and the construction of Marginal Street. Directly along the shoreline, adjacent to the bulkhead, Marginal Street was designed to handle shorefront traffic, relieving congestion from Twelfth Avenue (Buttenwieser 1987:73). In 1898 the Department of Docks and Ferries was created with jurisdiction bounded by the eastern line of the proposed Marginal Street, only portions of which had been constructed (Hoag 1905:45). After sixty years of filling, by the early twentieth century, the distance between Manhattan and New Jersey had shrunk from its original 4,180 feet to 3,260 feet, including the filling on the New Jersey side as well (New York City Department of Docks and Ferries 1913:5).

The early twentieth century development of "Bloomingdale" was slow compared to other areas of Manhattan. The presence of a railroad on Eleventh Avenue

prevented residential development in the vicinity (Stern et al. 1987:427). The area remained characterized by poor industrial conditions, and undesirable living conditions for industrial workers (New York City Department of Docks and Ferries 1913:3). Little private development occurred on cross streets due to the restricted movement. The railroad tracks on Eleventh Avenue made crossing it hazardous to pedestrians. The 1906 Saxe Law eliminated railroads from grade level, which resulted in the West Side Improvement Plan for the removal of the tracks from Eleventh Avenue (Buttenweiser 1987:159). The plan was implemented between 1910 and 1920. Below West 59th Street tracks were elevated and north of this point they were depressed.

In the early twentieth century middle-west side piers received freight from New Jersey terminals on float cars which would unload and reload onto Marginal Street (Smith 1916:13). At that time, where Marginal Street did exist, it was 180 feet wide, and where Twelfth Avenue was built it was 70 feet wide. Neither of these roads was continuous. Shippers were permitted to construct bulkhead sheds upon the outshore 50 feet from Marginal Street for freight storage and many of these sheds were temporary in nature (Ibid.:14). Development of upland properties on Twelfth Avenue was stagnant, not benefiting from the vast volume of waterfront commerce. In 1916 a proposal to alleviate traffic congestion along the waterfront included elevating pedestrian crosswalks and providing truck platforms (Ibid.). This plan was never adopted and the City subsequently acquired land between West 44th and West 50th Streets, slated for the construction of new ocean steamship terminals for passenger and package freight businesses.

The pier plan was modified by the Docks Department to provide for 1000 foot piers in the vicinity of West 50th Street (Smith 1917:45 as cited in Buttenwieser 1987). The War Department declared that no further encroachments on the river should be permitted. Thus the piers were built out to the existing pierhead line, extending the piers inland. This required removing 250 feet of land and fill along the shoreline, pushing the shore eastward by 250 feet and relocating Twelfth Avenue to allow for the longer slips (New York City Department of Docks and Ferries 1913:7). In the late 1920s, additional piers were built between West 48th and West 52nd Streets, also requiring 250 feet of land and fill to be removed along the shoreline. As a result, there was a sweeping curve along Twelfth Avenue between West 44th and West 57th Streets, where the avenue was moved approximately 250 feet inland (Figure 6-2). The original path of Twelfth Avenue and Marginal Street was completely obliterated between West 44th and West 57th Streets.

Because of the relocation of Twelfth Avenue, all of the blocks between West 44th and West 57th Streets, were shortened by 250 feet, and at least "fourteen buildings were taken down, including a Fire Department Repair Shop, an incinerator and a number of industrial plants" (Levy 1931:19). The route of Twelfth Avenue was reconstructed directly on top of the previous location of these and many other buildings. Often the foundations of these buildings were filled and paved over (Ibid.:19).

Excavation for the piers, north of West 44th Street, was somewhat impeded by the large amount of rock excavation required (Figure 4-3). A tremendous amount of nineteenth century fill and original land was removed during the excavation. Construction of the piers required building a temporary cofferdam, designed to hold back the river while excavating for the slips (Figure 6-3).

Below West 59th Street, between Eighth and Twelfth Avenues, the area was dubbed Hell's Kitchen and was characterized as one of the most dangerous sections of the city during the late nineteenth and early twentieth centuries (Works Progress Administration 1939:155). Plagued by gangs unimpeded by local police, a special task-force was organized in 1910 by the New York Central Railroad to cease criminal activities. The West Side Improvement Plan, the construction of the Lincoln Tunnel in the 1930s, and the newly assigned task-force contributed to cleaning up the neighborhood (Ibid.:156).

The only non-industrial area between West 44th and West 59th Streets in the early twentieth century was the DeWitt Clinton Park, located between West 52nd and West 54th Streets and Eleventh and Twelfth Avenues. Acquired under the provisions of a law enacted in 1887 for obtaining park lands (City of New York, Department of Parks 1902:11), land for the park was purchased in 1901 and "a contract (was) let for regulating and shaping the lands and furnishing filling where required" (Ibid.). The buildings previously standing on Blocks 1101 and 1102 were removed from the site of this park early in 1902 (Ibid.:36). At one time the park was used for nature study classes, with the Children's Farm Garden established for the cultivation of plants by children on public property.

The middle-west side is currently not as industrialized as it was historically. The decline of the shipping industry has rendered many of the old piers along the shoreline useless, although the 1000 foot piers between West 44th and West 59th Streets still receive trans-atlantic vessels. Since 1974 the Port Authority of New York and New Jersey has rebuilt three obsolete piers, dating from 1933, between West 48th and West 52nd Streets, providing six ship berths. These were the old 1000 foot steamship finger piers constructed for the giant oceanliners of the 1930s (Adams 1981:90). The Marginal Street that currently exists along the shore between West 52nd Street and West 54th Street, which had been removed with the original 1000 foot pier construction, was reconstructed in the 1970s as well.

WEST SIDE HIGHWAY CONSTRUCTION

In 1925 Nathan Miller, Manhattan Borough President, outlined plans for an elevated highway running from Canal to West 72nd Street, to alleviate traffic from Twelfth Avenue and Marginal Street. The plan was approved by Governor Smith in 1926 and construction was started in 1927 (Stern et al. 1987:698). The City and Hudson River Railroad Company shared in the expense of construction. In 1929 the Depression caused a temporary halt in construction, and when funds ran low, Robert Moses convinced Governor Herbert Lehman that the entire highway was a continuous grade crossing and thus could receive funding from the Grade-Crossing

Route 9A Reconstruction Project

Elimination Fund (Ibid.:698). Highway construction was completed between Canal Street and West 72nd Street and opened by 1938 (Csanyi 1938:177).

According to the Contract Bid proposal for the construction of the West Side Highway, the construction entailed numerous stages. The following is a list of requirements for the construction of the highway:

Fill and Backfill-"All trenches shall be backfilled, and backfill shall include clean earth, clean ash, clean cinders, and stone."

Sidewalks-"Sidewalks shall be graded to a depth of 10" below the finished sidewalk grade."

Piles-"Piles that are less than 24' shall be constructed of cement and reinforced steel." Some piles are over 40' long.

Width of Excavation-"For each as follows: sewers, basin counts, drains, manholes, inlets...6" wide pipe=2'6" wide trench. 8" wide pipe=2'8" wide trench. 10" wide pipe=2'10" wide trench. 12" wide pipe=3' wide trench. 15" wide pipe=3'3" wide trench. 18" wide pipe=3'6" wide trench. 24" wide pipe=4' wide trench. For all concrete sewers, one foot on each side of the sewer, above the foundation. For manholes, risers, basins, overflow chambers, and inlets, one foot on all sides of the structure above the foundation."

Depth of Excavation-"Water pipe trenches: 4" pipe=2.4' wide, and 1' below top of pipe. 6" pipe=2.5' wide, and 1.1' below top of pipe. 8" pipe=2.7' wide and 1.3' below the top of pipe. 12" pipe=3' wide and 1.6' below the top of pipe. 16" pipe=3.3' wide and 2' below the top of pipe. 20" pipe=3.7' wide and 2.3' below top of pipe. 24" pipe=4' wide and 2.7' below top of pipe."

Hydrants-"Total excavation in addition to the pipe trench is 4' long and 4' wide, the depth to 15" below the bottom of the hydrant."

Restoration of Park Areas-"Excavate, regrade and replace top soil and subsoil within the limits of...park." This would have applied to the DeWitt Clinton Park between West 52nd and West 54th Streets. General construction activities which caused subsurface disturbance entailed the following: "Remove rock ledge from areas adjacent to

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sewer structures by blasting, barring and wedging. If necessary to relocate water lines-permission must be granted by the Department of Water Supply, Gas and Electric. Fence posts extend 3' into the ground. Need new bulkhead. Existing granite-block pavement will be covered with cement. Install underground lead-covered cables in the conduit provided for the Fire Alarm System." (City of New York 1926:45-138).

The construction of the highway during the 1930s entailed sinking cast-iron caissons between 40 and 48 feet deep, and 4 to 5 feet wide. Between West 45th and West 54th Streets they were sunk into rock by rotating (Engineering News Record, May 21, 1936:750). The construction methods differed between West 38th and West 48th Streets because north of West 42nd Street the underlying rock was only a short distance below the surface of the street (Levy 1931:19). In general, the construction along the shoreline for the piers and highway caused a tremendous amount of disturbance (Figures 6-4 and 6-5).

According to a report on the construction of the Miller Elevated Highway, subsurface conditions encountered during excavation proved to be quite interesting.

The original shore line was much farther inland than it is at present and various buildings, docks and piers were built in what is now Twelfth avenue. All these subsurface structures were allowed to remain when the area was filled in to form Twelfth Avenue... Rock-filled cribs and old bulkhead walls were frequently encountered. Such conditions were not at all unusual (Harrington 1934:124; Figure 6-6).

BLOCK HISTORIES

The block histories presented are based on cartographic sources. An extensive array of maps and atlases were reviewed in order to observe potentially sensitive archeological features within the project area. Maps and atlases were reviewed at approximately five-to-ten year intervals. It was believed that this would be sufficient, at this stage, to identify potentially sensitive areas and accurately track landfilling episodes. Buildings or features present for less than five to ten years rarely are constructed in such a manner as to leave a horizontal or vertical footprint on the landscape. Additionally, disturbance by these short term structures tends to be minimal. The chronological description presented is based on the atlases and maps reviewed. A full title list of cartographic sources referenced is provided in the Map and Atlas section of the Bibliography, and the repositories where research was conducted are listed in the Methodology section. This section only presents potentially sensitive areas without assessing disturbance. Subsequent impact to these areas is presented in the Subsurface Disturbance section.

All lot numbers referenced correspond to those presented on Figure 6-8 for clarification of each lot's location. For consistency, the lot numbers presented reflect the location of the lots as per the 1879 Bromley atlas. At later dates, lots were often renumbered, subdivided, or expanded to include a number of lots. In order to avoid confusion, the 1879 lot numbers were consistently used to refer to the specific locations of features.

While performing cartographic research, it was noted that there were several inconsistencies and problems with some of the resources as discussed below.

The 1820 Randel Survey map proved to be the "most complete and valuable topographic record of the period that exists...(it) compares exactly with later filed maps" (Stokes, Vol. 3, 1918:565). The map is detailed in showing topographic features and confirms references to small streams made by residents of the area (Mott 1908:392). The 1859 Viele Map of the City of New York, showing the original topography of Manhattan Island, does not pay attention to detail and obliterates many of the smaller features noted by Randel within the project parcel. For this reason, the Randel survey was relied upon for reconstructing topography prior to *historical filling*.

Documenting development in the 1860s posed a problem since there were few resources found dating to this period. During the Civil War, New York's cartographers were redirected and atlases were not produced in the abundance that they were in the 1850s (Alice Hudson, Director of the Map Division, New York Public Library, personal communication to Faline Schneiderman-Fox, April 1989). The only detailed map found depicting structures within the project area, Dripps 1868 Plan of New York City, showed Twelfth Avenue as a continuous road along the shoreline of the river. However, later maps all indicate that at no point in time was Twelfth Avenue continuous between West 44th and West 59th

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Streets. It seems that Dripps simply depicted the road as it was supposed to be for convenience.

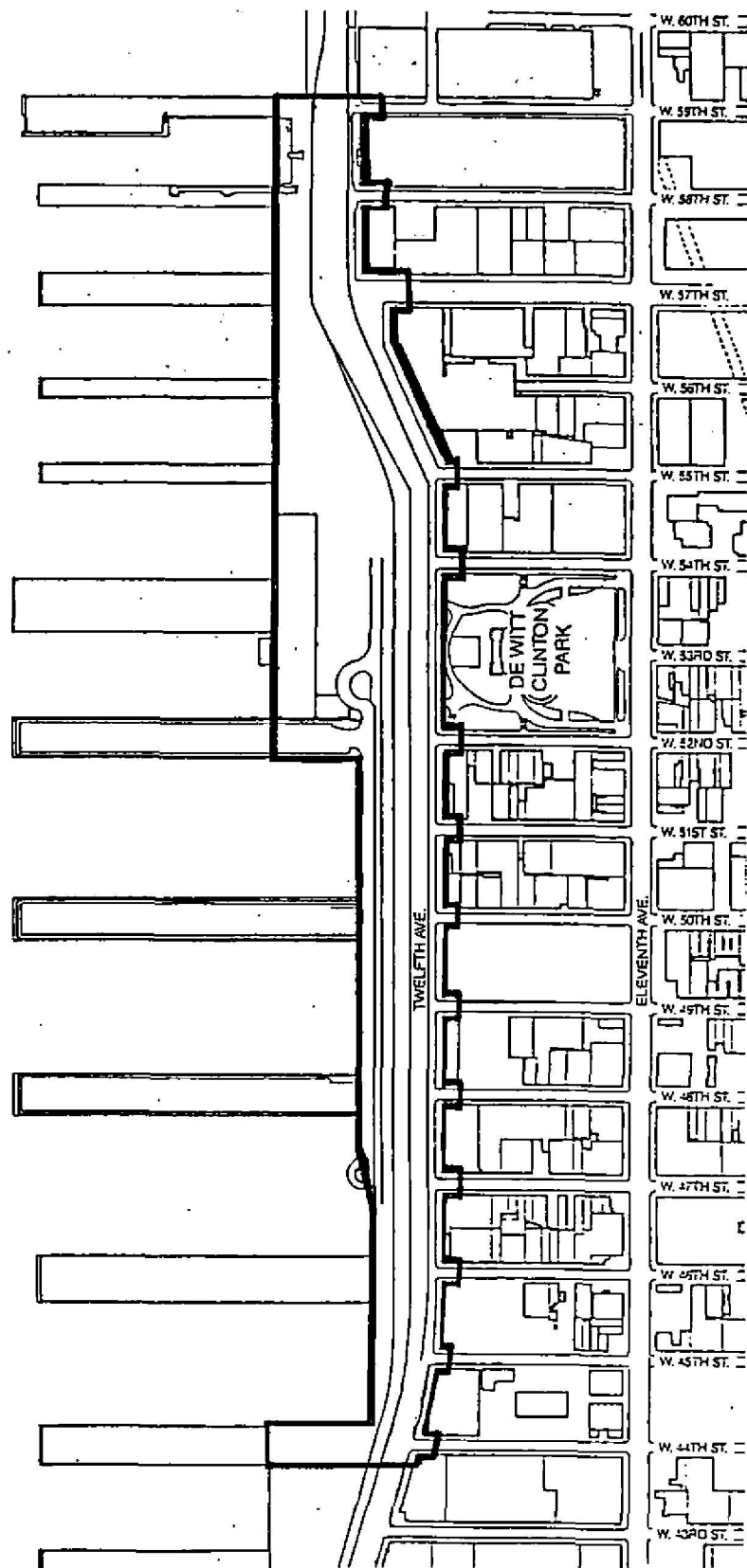
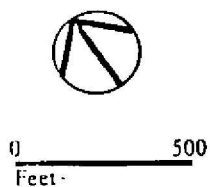
The 1872 and 1880 Farm Maps, created by the City Surveyor, were helpful in determining the location of the original shoreline in relation to the lots subsequently imposed upon the landscape, however, they did not accurately reflect the shoreline of 1872 and 1880. For this reason, they were consulted for verifying the location of historical dwellings and buildings, but not for shoreline reconstruction.

The 1879 Galt and Hoy Birds-Eye View of New York more accurately reflected the development shown on the later 1883 Robinson Atlas, therefore the Galt and Hoy map was not heavily relied upon. The 1879 Bromley Atlas of The City of New York was more reliable for that date. The 1902 Department of Docks and Ferries map was a good source for shoreline reconstruction, however it often did not depict inland buildings or lots since this was not the intention of the cartographers. The final cartographic problem encountered was the 1932 Bromley Atlas of the City of New York. Although this was an update of a 1920 atlas, it appears to have neglected some of the changes shown on the 1930 Hyde Atlas of The City of New York. The 1930 atlas was more heavily relied upon for this period.

With the construction of the West Side Elevated Highway in the 1930s, the project area was effectively created in its present configuration. Later cartographic sources showed no changes in this route and therefore were not presented. It should be noted that in the following section 'original land' refers to an exposed landform that existed prior to 1620.

The following section presents the historic land owners within the bounds of the project area. The blocks have all been presented individually and, where possible, lot numbers have been included. The information was acquired from the New York City Iconography of Manhattan Island (1915-1926). In some cases, information from Stokes was limited or unclear so only the Index Division's material was presented. In the case of the northern most blocks, 1105 and 1106, no historic lots were in the project area so land owners were not listed.

According to the Index Division's records, in 1929 the New York Central Rail Road Company released the right of occupation of Twelfth Avenue to the city of New York for the entire parcel between West 44th and West 59th Streets.



ROUTE 9A RECONSTRUCTION PROJECT

Legend

Archeological Study Area Boundaries

Reference map for the following section
West 44th Street to West 59th Street

Chapter VI:

Block 1092 - Formerly block 225, between West 44th and West 45th Streets, including West 44th Street.

The lots included within the study area are east halves of 1 through 4, and 61 through 64, all of Lots 5 through 8, and 57 through 60.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, this block was part of the Robert B. Norton Farm (Vol. 6, 1926:125). The following is a list of landowners as portrayed by Stokes:

1667	Governor Nicolls to Johannes Van Brugh
?	Heirs of Van Brugh to Aernout Webbers
1713	Aernout Weners to John Balme
1714	John Balme to Matthias Hopper
1778	Matthias Hopper to William, Matthew and John Hopper
1785	Matthew Hopper to John Leake
?	John Leake to Martha Norton
1797	Martha Norton to Robert B. Norton

As per the Index Division's Block summary:

"This block lies wholly in the tract of Robert B. Norton, left to James C. Norton and Mary E. Spencer, partitioned in 1830. J. Norton left his portion to his children in 1840, who sold off lots. In 1835 Mary Spencer gave the land to Francis B. Cutting, who sold half to George and Ed Curtis. Cutting & King sold lots. In 1845 the land was conveyed to F. Cutting, C. King and A. Spencer. The adjacent water rights belonged to John V. Westervelt." Menzies bought the water rights to lots 1 through 10 and 56 through 64 from the City of New York in 1870. "This block has been changed by altering the westerly boundary to a line running 50 feet west of the new easterly line of Twelfth Avenue."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
A. & J. Webbers	Hoppe & Matthias		1727	31	227
M. Hopper	John Leake		1786	194	352
Spencer	Norton		1830	260	209
Spencer	Cutting		1835	332	359
Cutting	Seaman		1835	340	290
A. Alsop	Cutting	9-12	1845	407	22

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Spencer	Edward Hall		1845	68	451
Edward Hall	William Brady	8-11	1847	492	429
William Brady	Townsend, Westervelt, & Wright	8-12, 53-57	1850	537	107
Mayor Alderman	Westervelt	1-8, 56-64	1850	549	18
Wright	Westervelt	1-12, 53-64	1850	546	396
J. Westervelt	William Menzies	8-11, 54-57	1852	602	40
William Menzies	Mun. Gas & Light	1-27, 41-64	1878	1452	102
Mun. Gas & Light	Con. Edison	1-28, 41-64	1885	1863	44
Con. Edison	City of New York	1	1924	3434	303

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is west of the shoreline, in the Hudson River.

1817 Poppleton - (Figure 6-9) The project area is still submerged.

1820 Randel - (Figure 6-10a) A house is shown east of the project area. The topography is mostly level land near a marsh surrounding the Great Kill. There is a knoll adjacent to the swamp east of the project area, which is still submerged.

1836 Colton - (Figure 6-11) The project area is still submerged.

1845 Ensign - The project area is still submerged.

1852 Dripps - (Figure 6-12a) The project area is still submerged.

1859 Viele - (Figure 6-13) Shows no detail of the topography shown on the 1820 Randel map.

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1859 Perris - (Figure 6-14a) The shoreline appears to have been filled and moved westward. There is a saw mill in the project area.

1868 Dripps - (Figure 6-15) Menzies Saw Mill is shown straddling the original shoreline. The west half of the building, which is on fill, is in the project area.

1872 Farm Map - Although this shows the original shoreline, it is a reconstruction and does not reflect the actual 1872 shoreline. The Cutting house is fronting West 44th Street, 350 feet east of the original shoreline, east of the project area. There are no buildings within the project area, however the block has been lotted for selling.

1879 Bromley - (Figure 6-16a) On West 44th Street fire hydrants are shown, indicating water was available by this date. There is a brick building spanning the southern two-thirds of Lots 5 through 8 fronting West 44th Street. A second brick building is shown spanning the north halves of Lots 57 through 60 and the eastern ends of Lots 61, 62 and 63, fronting West 45th Street. Both buildings are associated with the Municipal Gas Light Company. The saw mill had been removed by this time.

1883 Robinson - West 44th Street is lined with Belgian Block. A sewer line runs the length of the entire block and a 6 inch water main line runs as far west as the old shoreline. The elevation at West 44th Street and Eleventh Avenue is 11 feet. The brick buildings fronting West 44th and West 45th Streets appear the same as in 1879, and a wooden building has been built spanning the western two-thirds of Lots 1, 2, and the southern half of Lot 3. The block is shown filled to the western end, but the original Twelfth Avenue has not yet been filled. All of the buildings are associated with the Municipal Gas Light Company.

1889 Robinson - (Figure 6-17a) The brick building spanning Lots 5 through 8 is still standing, as is the brick building spanning Lots 57 through 60 and the eastern ends of lots 61, 62, and 63. Another small square brick building is shown on Lot 61, set back from West 45th Street. The wooden building is shown on the western halves of Lots 1 through 4 now extending westward into Twelfth Avenue. All buildings are labeled "Municipal Gas Light Company."

1891 Bromley - The buildings are all the same as in 1889 and are labeled as one-story. These are all associated with the Consolidated Gas Company. Marginal Street and Twelfth Avenue are both entirely filled west of the project area, and the block has been renumbered from 225 to 1092.

1902 Dept. of Docks and Ferries - The only structure shown within the project area is a coal shed replacing the wooden building shown on the 1891 Bromley atlas, spanning Lots 1, 2, and 3 and extending westward onto Twelfth Avenue. Numerous buildings and planks are shown within Marginal Street and Twelfth Avenue, but these are west of the project area.

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1902 Bromley - (Figure 6-18a) All of the buildings are exactly as shown on the 1891 Bromley Atlas, and are all still associated with the Consolidated Gas Company.

1913 Hyde - (Figure 6-19a) The buildings are still in the same places as they were in 1902. The brick building fronting West 44th Street is labeled "Boiler Rooms." All are still part of the Consolidated Gas Company.

1920 Bromley - The elevation at the corner of West 44th Street and Eleventh Avenue is still 11 feet as in 1883, and the elevation at the corner of West 44th Street and Twelfth Avenue is 11.7 feet.

1921 Bromley - By 1921 the entire project area appears vacant and Marginal Street and Twelfth Avenue have been moved eastward 250 feet to accommodate extended pier berths.

1922 Sanborn - The block also appears shortened for the construction of Pier 84, occupied by the Compagnie Generale Trans-Atlantique. A 12 inch pipe is shown through the center of Twelfth Avenue.

1930 Hyde - The project area is vacant.

1932 Bromley - The project area is vacant, and the West Side Highway does not appear in the atlas.

SHORELINE FILL

The project area is submerged until at least 1852. By 1859 some filling is shown. The block has been filled to the western end by 1879. The fill within the project area probably dates to between 1852-1879.

HISTORIC SENSITIVITY

The western portion of the brick and wood Menzies Saw Mill is in the project area, and no buildings were built over its location since it was removed. The saw mill appears on maps between 1859 and 1868. The two brick buildings of Consolidated Gas Co., fronting West 44th and West 45th Streets, stood between at least 1879 and 1920. Only a small portion of the wood coal shed on Lots 1, 2, and 3 is actually within the project area, and is probably not sensitive since it only existed within several feet of the current bulkhead line. The building on Lot 61 is west of the project area and therefore not sensitive.

Chapter VI:

Block 1093 - Formerly block 226, between West 45th and West 46th Streets, including West 45th Street.

The lots within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, and all of Lots 5 through 10 and 55 through 60.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, this block was part of the Robert B. Norton Farm (Vol. 6, 1926:125). The following is a list of landowners as portrayed by Stokes:

1667	Governor Nicolls to Johannes Van Brugh
?	Heirs of Van Brugh to Aernout Webbers
1713	Aernout Webbers to John Balme
1714	John Balme to Matthias Hopper
1778	Matthias Hopper to William, Matthew and John Hopper
1785	Matthew Hopper to John Leake
?	John Leake to Martha Norton
1797	Martha Norton to Robert B. Norton

As per the Index Division's Block summary:

"The part east of the high water mark is the farm of Matthew Hopper, conveyed to John Leake in 1786. The property was divided to Robert Norton in 1792 and then James Norton and Mary Spencer. It was split, and in 1830 Ambrose Spencer inherited it from Mary Spencer, as did the trustees of Mary Spencer, Francis B. Cutting and Charles C. King." Menzies bought the water rights to lots 1 through 10 and 56 through 64 from the City of New York in 1870.

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
A. & J. Webbers	Hoppe & Matthias		1727	31	227
M. Hopper	John Leake		1786	194	352
Spencer	Norton		1830	260	209
Spencer	Cutting		1835	332	359
Cutting	Seaman		1835	340	290
Mayor Alderman	Westervelt	1-10	1850	549	24
Mayor Alderman	Cutting/King	55-64	1850	549	135
Westervelt	Morris	1-16	1851	580	538

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<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Morris	Menzies	1-16	1852	602	40
Cutting/King	Menzies	53-64	1853	648	67
Menzies	Mun. Gas & Light	1-16,53-64	1877	1417	487
Mun. Gas & Light	Central Trust Co.	1-16,53-64	1878	1455	62

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is west of the shoreline, in the Hudson River.

1817 Poppleton - (Figure 6-9) The project area is still submerged.

1820 Randel - (Figure 6-10a) The parcel is still submerged. The land to the east is part of the Robert Norton Farm.

1836 Colton - (Figure 6-11) The project area is still submerged.

1845 Ensign - The area is still submerged.

1852 Dripps - (Figure 6-12a) The area is still submerged.

1859 Viele - (Figure 6-13) There is a knoll running north-south along the river and the project area is submerged.

1859 Perris - (Figure 6-14a) There is filling within the project area bordering West 46th Street. This could either be a large pier or landfill.

1868 Dripps - (Figure 6-15) The project area is vacant and on fill. The block is shown filled to the western end.

1872 Farm Map - This shows the original shoreline and does not accurately reflect the 1872 shoreline. The project area is vacant.

1879 Bromley - (Figure 6-16a) The block has been filled to its western end. Within the project area Lots 9 and 10 have a gas storage tank. On Lots 56 through 60 is a brick building fronting West 46th Street, with a small brick building on the southern end of Lot 59 behind it. Both of these brick buildings are on the fill noted first in 1859. Also fronting West 46th Street is a brick building on the northern halves of Lots 55 and 56. All of these are part of the Municipal Gas Light Company. Hydrants are shown along West 45th Street, indicating water is available by this time.

Chapter VI:

1883 Robinson - West 45th Street is paved with Belgian Block, and the elevation at the corner of West 45th Street and Eleventh Avenue is 13 feet. The buildings and storage tank are exactly as they were on the 1879 Bromley atlas and are still labeled "Municipal Gas Light Company."

1889 Robinson - (Figure 6-17a) The brick building fronting West 46th Street still exists, with a southern brick extension on Lots 58 and 59. The metal storage tank is still on Lots 9 and 10, and a brick building is shown fronting West 45th Street spanning the southern halves of Lots 5 through 8, and the eastern ends of Lots 1, 2, and 3. There is also a wooden building spanning all of Lot 61 fronting West 46th Street. All of these are part of the Consolidated Gas Company. There is a water main running the entire length of West 45th Street and a 6 inch sewer pipe runs as far west as the original shoreline.

1891 Bromley - The buildings all appear as they were in 1889, with the addition of a wood building connecting the brick buildings on Lots 54 and 55 to the one on Lots 56 through 60. The wood shed on Lot 61 is shown as a two-story building. All buildings are still part of Consolidated Gas Company. The block has been renumbered from 226 to 1093.

1902 Docks and Ferries - The block is shown vacant, most likely because the map was designed to depict waterfront activities.

1902 Bromley - (Figure 6-18a) Consolidated Gas Company still owns the project parcel. The brick building fronting West 46th Street no longer appears, but two small brick buildings appear where the southern additions to the building were previously on Lots 57 and 58. The rest of the block is the same as it was in 1891.

1913 Hyde - (Figure 6-19a) The one-and-a-half story brick building fronting West 45th Street is still present. The two small brick buildings that are where the rear additions had been on Lots 57 and 58, are now joined into one brick building. Directly to the north of this are two small gas storage tanks. The wood building on Lot 61 is a one-and-a-half story shed. Consolidated Gas Company still owns the parcel.

1920 Bromley - The elevation at West 45th Street and Eleventh Avenue is 13 feet, and the elevation at West 45th Street and Twelfth Avenue is 11.6 feet.

1921 Bromley - The project area is vacant and Twelfth Avenue and Marginal Street have been moved eastward to allow for the expansion of Pier 86.

1922 Sanborn - Shows a wood shed on the new Marginal Street, within the project area. There is a 12 inch pipe through the center of Twelfth Avenue.

1930 Hyde - The project area is vacant and the highway does not yet appear on the atlas.

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1932 Bromley - A one-story shed shows in Marginal Street, near West 46th Street, however since this is an update of 1922, they may have neglected to remove it from the atlas. The West Side Highway does not yet appear on the atlas.

SHORELINE FILL

The project area was submerged until at least 1852. Between 1852 and 1859 a pier or landfill extends west at the end of block, and by 1879 this had become part of the landfill and the whole block was filled in to its western end. The fill appears to date between 1852 and 1879.

HISTORIC SENSITIVITY

A brick building, on Lots 56 through 60 fronting West 46th Street of Consolidated Gas Company, was built by 1879 and was removed by 1891. Another brick building, fronting West 46th Street on Lots 54 and 55, appeared between 1879 and 1913. The storage tank on Lots 9 and 10 stood between 1879 and 1913. The wood building spanning all of Lot 61 stood between 1889 and 1913.

Chapter VI:

Block 1094 - Formerly block 227, between West 46th and West 47th Streets, including West 46th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, this block was part of the Robert B. Norton Farm (Vol. 6, 1926:125). The following is a list of landowners as portrayed by Stokes:

1667	Governor Nicolls to Johannes Van Brugh
?	Heirs of Van Brugh to Aernout Webbers
1713	Aernout Webbers to John Balme
1714	John Balme to Matthias Hopper
1778	Matthias Hopper to William, Matthew and John Hopper
1785	Matthew Hopper to John Leake
?	John Leake to Martha Norton
1797	Martha Norton to Robert B. Norton

As per the Index Division's Block summary:

"This block lies partly between Robert B. and John L. Norton's tracts. Robert Norton devised to James C. Norton and Mary E. (Norton) Spencer. In 1830 James C. Norton and Mary E. Spencer split the property. In 1835 Mary conveyed it to Francis B. Cutting. Cutting conveyed it to George and Ed Curtis also in 1835, and Cutting and King retained a portion. In 1849 James Norton parceled his property into lots."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
A. & J. Webbers	Hoppe & Matthias		1727	31	227
M. Hopper	John Leake		1786	194	352
John Norton	J. & R. Fisher		1824	179	218
Fisher	J. Norton		1825	193	258
Spencer	Norton		1830	260	209
Spencer	Cutting		1835	332	359
Cutting	Seaman		1835	340	290

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
K. King	F. Cutting		1886	1911	422
W. Cutting	Cutting & Heyward		1887	2088	130
Cutting	Strong & Wickerham		1897	57	22
A. Heyward-Cutting	Constant Rlty. Corp.		1925	3497	367

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is partially on original land, as there is a point of land jutting into the river which is in the project area. The remainder of this section is submerged. The original land is vacant.

1817 Poppleton - (Figure 6-9) No structures appear within the project area, and the point of land in the Hudson River appears squared off, and may be a pier built over the natural point jutting out. The remainder of the parcel is still submerged.

1820 Randel - (Figure 6-10a) No structures or piers exist and the shoreline appeared as it did in 1811. There is a sharp rise from the river east to a north-south running knoll, east of the project area. Part of the parcel is still submerged.

1836 Colton - (Figure 6-11) Shows the "Glass House" east of the project area within Block 1094, fronting West 47th Street.

1845 Ensign - The project area is vacant and the original shoreline is shown with part of the parcel still submerged.

1852 Dripps - (Figure 6-12a) The original shoreline shows, with a pier built out from the point jutting into the Hudson River as seen on the 1817 Poppleton map. The pier is mid-block and the rest of the project area is submerged.

1859 Viele - (Figure 6-13) The topography has been generalized, and shows a small rise running towards a knoll to the east.

1859 Perris - (Figure 6-14a) The project area is still vacant. Where Lot 61 will eventually be is either filled or possesses a pier. Only the east half of this lot is within the project area.

1868 Dripps - (Figure 6-15) The project area is vacant and the block appears to be filled in, although this is incorrect according to later, more reliable maps and atlases.

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1872 Farm Map - This does not represent the actual 1872 shoreline and is a reconstruction. The block has been lotted.

1879 Bromley - (Figure 6-16a) The project area is on original land and fill. Lots 1 through 4 are labeled "Coal Yard," and are vacant. Lots 7 through 8 have one brick building spanning the south halves of each lot fronting West 46th Street. To the east of this, on the south halves of Lots 9 and 10, is another brick building, and both are labeled "Slaughter Houses." Lots 63 and 64 are vacant and are labeled "Lumber Yard." The remaining lots are also vacant. There are fire hydrants on West 46th Street indicating that water lines have been installed by this time.

1883 Robinson - Belgian Block pavement is shown on West 46th Street. The elevation at West 46th Street and Eleventh Avenue is 15 feet, and at West 46th Street and the pier it is 9.10 feet. Lots 1 through 4, and 57 through 62 are vacant. The brick building fronting West 46th Street is still a slaughterhouse, spanning lots 6 through 13. North of this, separated by a yard, are wood cattle pens also spanning Lots 6 through 13. Spanning all of Lot 63 and the western one-third of Lot 64 is a wooden building fronting the Hudson River.

1889 Robinson - (Figure 6-17a) Lots 1 through 4 have small wooden sheds fronting the river, and the Lot 4 shed covers the entire lot. The Lot 1 wood shed fronts West 46th Street. The brick buildings, spanning Lots 6 through 13, still exist as in 1883, but there are no longer cattle pens on the north halves of the lots. On Lots 63 and 64 there are two wood buildings fronting the river as they were in 1883, and Lots 57 through 62 are vacant. In West 46th Street a sewer line is shown, and a 6 inch water line runs west from Eleventh Avenue ending just west of the old shoreline.

1891 Bromley - Lots 1 through 4 are vacant and labeled "Coal Yard" as in 1879. Lots 7 through 9 have two and three-story brick buildings in the same place as the slaughter houses. The Lot 7 building is depicted as a shed or stable, and there appears to be an addition on the north end of the Lot 8 building. On the northern end of Lot 10 is a wood structure, with a vacant yard between this and the brick building on the southern end of the lot fronting West 46th Street. Lots 56 through 64 are vacant. Midblock between Lots 46 and 47 is vacant and labeled "Stone Yard." The original shoreline is incorrectly placed on this map.

1902 Docks and Ferries - On Marginal Street at the end of West 46th Street is an office, scale house, and two other small structures. These were the types of buildings, small temporary shacks for storage, consistently found in Marginal Street. However, the original Marginal Street and Twelfth Avenue are now west of the project area.

1902 Bromley - (Figure 6-18a) Spanning all of Lots 61, 62, 63, and the west half of Lot 64 is a row of wooden buildings fronting Twelfth Avenue. Lots 1 and 4 are also covered by wooden buildings, and Lots 2 and 3 have small wooden buildings on the western ends, all are labeled "Coal Yard." The brick buildings fronting West

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46th Streets on Lots 7 through 10 appear as they did in 1891, and Lots 8 through 10 each have wooden buildings covering the northern halves of the lots. Lots 58 through 60 each have wooden buildings on the northern ends of the lots, fronting West 47th Street. There is a 6 inch water main and 4 feet by 3 feet sewer line in West 46th Street.

1913 Hyde - (Figure 6-19a) At the corner of West 46th Street and the river is a wooden shed on the western halves of Lots 1 and 2. On the eastern end of Lot 1 is a one-story wood building, connected to a one-story wood building on the south portion of Lot 5, fronting West 46th Street. East of this, on Lots 7 through 10, are several connected brick one and two-story buildings, in the same location as they were in 1902. The wood buildings no longer appear on the north ends of the lots. Fronting the river, spanning all of Lot 4 and extending east onto the north end of Lot 5, is a wooden shed with a coal pocket in the same location as it was in 1902. North of this, fronting the river on Lots 62 and 63, is another one-story wood shed. Adjacent to this, on Lot 61 fronting West 47th Street, is a one-story wood building, extending onto the north end of Lots 56 through 60, labeled "Building Materials."

1920 Bromley - The elevation at the corner of West 46th Street and Eleventh Avenue is 15 feet, and the corner of West 46th Street and Twelfth Avenue is 9.10 feet. These are the same elevations as on the 1883 Robinson Atlas.

1921 Bromley - The route of Twelfth Avenue has been moved eastward 250 feet for pier construction, and the project area is vacant.

1922 Sanborn - There is a 12 inch pipe through the center of Twelfth Avenue.

1930 Hyde - The new route of Twelfth Avenue appears and the project area is vacant.

1932 Bromley - New Twelfth Avenue shows, but the highway does not. There are no buildings in the project area.

SHORELINE FILL

The project area is submerged in 1811, and a possible pier is shown by 1817. The pier did not show up on the 1820 Randel survey map, but did reappear on the 1852 Dripps map. Perhaps it was removed and replaced at a later date. Between 1852 and 1859 this pier is no longer depicted and a larger pier appears abutting West 47th Street. By 1879 this pier becomes part of the landfill, and the entire block is filled in to the border of old Twelfth Avenue. Fill in the project area dates to between 1859 and 1879.

Chapter VI:

HISTORIC SENSITIVITY

The exact whereabouts of the Bloomingdale Flint Glass Works remains undetermined, although the 1836 Colton map places it fronting West 47th Street on Block 1094. The slaughterhouse spanning Lots 7 through 10 is within the project area bounds, and probably stood between 1879 and 1913. The other lots had either short term wood sheds and buildings, or remained vacant and were part of the coal or lumber yard.

Route 9A Reconstruction Project

Block 1095 - Originally block 228, between West 47th and West 48th Streets, including West 47th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, this block was part of the John L. Norton Farm (Vol. 6, 1926:125). The following is a list of landowners as portrayed by Stokes:

1667 Governor Nicolls to Johannes Van Brugh
? Heirs of Van Brugh to Paul Richard
1744 Paul Richard to Joseph Murray
1757 Joseph Murray to John Leake
? John Leake to Martha Norton
1797 Martha Norton to John L. Norton

As per the Index Division's Block summary:

"This is wholly within the tract of John L. Norton, known as the Hermitage. John L. Norton in 1849 conveyed his property into lots and parcels. A grant of land under water adjoining this block was made in 1851 by the City of New York to Brandish Johnson."

GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
John Norton	Gilliand Fisher		1824	179	218
J. & R. Fisher	J. Norton		1825	193	258
George Rapelye	John L. Norton		1825	194	358
J. Norton	White	9,10,54,56	1849	525	19
J. Norton	A. Watson	1-8,57-64	1849	530	19
Watson	Hartshore	1-8,57-64	1849	527	385
Hartshore	B. Johnson	1-8,54-64	1850	529	574
Mayor Alderman	B. Johnson	1-8,61-64	1851	575	567
Est. of B. Johnson	Varnum	1-8,60-64	1901	83	17

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Goss & Edsall Co.	Empire Brick Sply.	1	1902	87	353
?	City of New York	1-8,60-64	1923		
R. McGehee	Fernando Wood	9-11,52-59	1915	165	334
?	City of New York	9-11,52-59	1923		

CARTOGRAPHIC REVIEW

1811 Commissioners - The south half of this section is submerged, while the north half is on original land. A pier is shown jutting into the river within the project area bounds.

1817 Poppleton - (Figure 6-9) The parcel is within lands of John Norton, and the pier is still the only feature within the parcel. The south portion is still submerged.

1820 Randel - (Figure 6-10a) The pier is still in the same place, although it appears smaller than it did previously. East of the project area is one small structure on top of a knoll, closer to Eleventh Avenue. There is a cove between Block 1094 and 1095, encompassing the pier. There is a small ridge running along the shoreline, east of the project area, in the middle of what will be designated as West 47th Street. The southern portion is still submerged within the cove.

1836 Colton - (Figure 6-11) The pier still appears between West 47th and West 48th Streets, and the southern portion is still submerged.

1845 Ensign - Shows the original coastline, without a pier. The southern portion is still submerged, and the northern portion is vacant.

1852 Dripps - (Figure 6-12a) The pier appears longer, but is in the same location. One small structure is shown fronting West 47th Street, covering about one-fourth of what may be Lot 9. The southern portion is still submerged.

1859 Viele - (Figure 6-13) The topography appears to be flat, as this map has neglected to include small rises and knolls.

1859 Perris - (Figure 6-14a) The entire block has been filled, and all of the northern lots are labeled "Lumber Yard," with the southern lots labeled "Brick Yard." On Lots 9 and 10 are two wooden buildings on the southern one-fourth of the lots fronting West 46th Street. On the north end of Lot 9 is another wood building. Spanning the eastern one-fourth of Lots 1 through 3 is a brick stable, fronting West 47th Street. Adjacent to its east side, on Lot 5, is a brick-faced wood building.

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Fronting West 47th Street is a long rectangular wood building spanning Lots 8 through 10, covering the southern one-fourth of each lot.

1868 Dripps - (Figure 6-15) Fronting West 47th Street, on the southern ends of Lots 9 and 10, are two small buildings. The rest of the area is vacant.

1872 Farm Map - The original shoreline is shown, although this is not an accurate representation of the 1872 shoreline. The pier is shown at end of the block under Lots 5 and 6.

1879 Bromley - (Figure 6-16a) On Lots 1 through 3, covering the western end of each lot, is a stable or shed, as in 1859. Entirely covering Lot 8 is another shed. On Lots 9 and 10 are two stone faced buildings fronting West 47th Street. Lots 54 and 55 also have stone-faced buildings fronting West 48th Street. All of the lots are labeled "Lumber Yard." Fire hydrants are shown in West 47th Street, indicating water was available by this time.

1883 Robinson - West 47th Street is shown as paved with Belgian Block, and the elevation at the corner of West 47th Street and Eleventh Avenue is 17 feet, and at West 47th Avenue and the pier it is 10.9 feet. A wood shed is fronting the river covering all of Lots 1 through 4, and is labeled "Brick Yard." Fronting West 47th Street, on the eastern portion of Lot 1 and southern end of Lot 5, is a small brick building. The remainder of Lot 5 and all of Lot 6 is covered by a wood shed. Fronting West 47th Street on Lot 9 is a brick building. East of this on the southern end of Lot 10 is a brick building. On Lots 54 and 55 is a brick saw mill covering the northern halves of the lots. Lots 56 through 64 are vacant.

1889 Robinson - (Figure 6-17a) Lots 1 through 3 have a wood building as in 1883, which extends west past the end of block to the waterfront onto Marginal Street. The wood and brick buildings on Lots 5 and 6 are the same as in 1883, and there is a small wood building on the southern portion of Lot 7, fronting West 47th Street. On Lot 8, spanning the eastern half of the entire lot, is a wood shed or stable. On Lot 9 fronting West 47th Street is a brick-faced wood building, and another wood building is on the north end of the lot. Lot 10 also has a wood building fronting West 47th Street. On Lots 54 and 55, the saw mill building still fronts West 48th Street, and there are two wood sheds at the southern ends of each lot. Lot 56 has a wood building adjacent to the western side of the saw mill, on the northern end of the lot also fronting West 48th Street.

1891 Bromley - The wood buildings on Lots 1 through 6 are exactly as they appear in 1889. There is now a wood building spanning all of Lot 7, also fronting West 47th Street. Lot 8 shows a wood building fronting West 47th Street. Adjacent to this is the brick-faced wood building on Lot 9 and the wood building on Lot 10. Lots 54, 55, and 56 also appear as they do in 1889. The remaining lots are vacant.

1902 Docks and Ferries - Within Marginal Street, several coal and brick yards are shown, west of the project area.

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1902 Bromley - (Figure 6-18a) The wood buildings on Lots 1 through 3 are as they were in 1891. The small brick building on the southern end of Lot 5 is still present, and the brick building on the southern end of Lot 9 is present. Both front West 47th Street. Lots 54, 55, and 56 are also still the same as in 1889. On the eastern ends of Lots 4, 63, and 64 is a wood building. The remainder of the project area is vacant.

1913 Hyde - (Figure 6-19a) Spanning all of Lots 1 through 4, 63, and 64 is a one-story brick building labeled "Brick Supply Company." The brick building on Lot 9 is still fronting West 47th Street, and together with Lot 10, is labeled "Lumber Yard." The four-story brick buildings on Lots 54 and 55 are still present, as is the wood building on Lot 56, all fronting West 48th Street. There is a 4 foot by 2 foot 8 inch brick sewer in West 47th Street as well as a 6 inch water main.

1920 Bromley - The elevation at the corner of West 47th Street and Eleventh Avenue is 17 feet, and at the corner of West 47th Street and Twelfth Avenue is 10.9 feet. These are the same elevations as in 1883.

1921 Bromley - Pier 87 at the end of West 47th Street is owned by the Department of Street Cleaning. At the corner of West 47th Street and Twelfth Avenue is the Brick Supply Company building shown in 1913. There is a small one-story addition on the northwest corner of the building fronting Twelfth Avenue. The brick building on Lot 9 is still standing as is a building spanning all of Lot 10. There is also a small building fronting West 48th Street on Lot 61. The remainder of the project area is vacant.

1922 Sanborn - Pier 87 is still owned by the Department of Street Cleaning at the end of West 47th Street, with another dock connecting on a southwest angle from the center of the block. There is a 12 inch pipe shown in the center of Twelfth Avenue.

1930 Hyde - The Brick Supply Company shows as in 1913. North of the brick company fronting Twelfth Avenue is a one-story wood building. Fronting West 48th Street at the corner of Twelfth Avenue are two one-story wood buildings. New Twelfth Avenue is shown over Lots 9 and 10, and 55, and 56 which are now vacant.

1932 Bromley - All of the buildings appeared as they did in 1913. The West Side Highway does not appear. The 1932 atlas is an update of 1920 and appears to have neglected many changes, such as the 1000 foot piers and Twelfth Avenue covering lots 9 and 10, which are vacant in the 1930 Hyde Atlas.

SHORELINE FILL

The project area was submerged until at least 1852. The first fill appeared to have occurred between 1852 and 1859, when the entire block is shown filled.

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HISTORIC SENSITIVITY

A pier first appears in the project area by 1817, and becomes part of the landfill between 1852 and 1859. The brick building on Lot 9 and the wood building on Lot 10 are both associated with a lumber yard. The Lot 9 building stood between 1852 and 1920, where the wood building on Lot 10 stood between 1859 and 1891. A brick building labeled "Saw Mill" stood on the northern half of Lot 55 between 1879 and 1913.

Chapter VI:

Block 1096 - Originally block 229, between West 48th and West 49th Streets, including West 48th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

As per the Index Division's Block summary:

"The southwest part is within the Hermitage farm of Joseph Murray. He conveyed it to John Leake, who devised it to Martha Norton in 1792. John L. Norton inherited it in 1797, and conveyed it to Harry Lynch, trustee. It was then lotted. The rest was within Wolfert Webber's land, passed to John Jacob Astor and William Cutting in 1803. It was eventually acquired by John Fisher Jr. in 1825, and the east portion was lotted in 1836."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	Joseph Haynes		1784	42	27
George Ecker	Astor & Cutting		1803	64	440
Joseph Eden	Tunis Wortman		1804	66	276
W. Cutting	Jonathan Ogden		1818	125	75
Jonathan Ogden	Paschal Hollingsworth		1821	154	71
J. Ogdon	J. Fisher	1-14,24-64	1823	167	177
J. Murry	J. Leake		1825	185	98
J. Fisher	J. Norton		1825	193	258
J. Eden	J. Ogden	1-14,24-64	1825	196	399
Eden	Astor	3-14,24-64	1825	196	399
J. Fisher	R. Fisher	3-14,24-64	1832	285	361
R. Fisher	J. Fisher Jr.	1-14,24-64	1835	346	146
W. McMurray	B. Johnson	3-23,42-64	1846	476	72
J. Norton	A. Watson	1-3,5-14	1849	530	19

Route 9A Reconstruction Project

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Watson	Hartshore	1-3,5-14	1849	527	385
Hartshore	B. Johnson	1-3,5-14	1850	529	574
Johnson et al.	B. Johnson	1-14,51-64	1857	751	74
S. Whiting	Dickey	1-14,44-64	1896	51	54
J. Varnum (ref)	Est. of B. Johnson	1-14,44-64	1901	83	17
?	City of New York	1-14,44-64	1923		

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is on original land and is vacant.

1817 Poppleton - (Figure 6-9) Labeled "William Cutting Farm" and is vacant.

1820 Randel - (Figure 6-10a) Labeled "Jonathan Ogden Farm" and is vacant. There is a rise to a knoll east of the project area.

1836 Colton - (Figure 6-11) The area is vacant.

1845 Ensign - The area is vacant.

1852 Dripps - (Figure 6-12a) The area is vacant.

1859 Viele - (Figure 6-13) Topography is the same as in 1820.

1859 Perris - (Figure 6-14a) Fronting what will be Twelfth Avenue on the western halves of Lots 3 and 4 is a wooden structure. On the eastern end of the remainder of Lot 4 is a stone building. On Lots 5 through 8 is a planing mill complex, with a small brick office building fronting West 48th Street on the southern end of Lot 7. On the northern halves of Lots 7 and 8 is a brick building. In the middle of Lot 5 is a wooden stable. On Lots 9 and 10, fronting West 48th Street, are two wood buildings, and on the northern end of each lot is another small stone building. At the corner of West 49th Street and Twelfth Avenue is a vacant boat builders yard. East of this, fronting West 49th Street, is a stone structure with another small stone building on the southern end of the lot. Set back from West 49th Street, adjoining the stone structure, is a small wooden building with another small stone building on the southern end of the lot.

1868 Dripps - (Figure 6-15) The building on Lots 3 and 4 is still fronting Twelfth Avenue although the stone building previously on the remainder of Lot 4 is now

Chapter VI:

on Lot 3. The buildings on Lots 5, 7, 9, and 10 still appear. The rest of the parcel is vacant.

1872 Farm Map - No structures appear.

1879 Bromley - (Figure 6-16a) A sheep shed spans all of Lots 1 through 3 and 5 through 7. Covering all of Lots 9 and 10 is a brick building labeled "Commercial Beef Oil, M,F,G." Lot 57 has one small wood shed on the northern end near West 49th Street, and a stone building on the southern end of the lot. Fronting West 49th Street on Lot 58 is a wood shed. On the southern remainder of the lot is a stone structure. Fire hydrants are shown along West 48th Street indicating water lines were in by this time.

1883 Robinson - West 48th Street is lined with cobblestone. The elevation at the corner of West 48th Street and Eleventh Avenue is 19 feet, and at West 48th Street and the pier is 11.8 feet, near the old shoreline. A wood building spans all of Lots 1 through 3 and 5 through 7, as it does in 1879, and is labeled "Commercial Mfg. Co." Lots 9 and 10 still possess a brick building, part of the manufacturing company. On Lot 57 there is a brick building fronting West 49th Street spanning the entire lot. A wood building also fronts West 49th Street covering the northern two-thirds of Lot 58. The remainder of the parcel is vacant.

1889 Robinson - (Figure 6-17a) The lots appear exactly as they did in 1883, except for the wood building on Lot 58 which has been extended westward to cover Lot 59.

1891 Bromley - The lots appear as they did in 1889, except the wood building on Lot 59 no longer exists. A 6 inch water main is in West 48th Street, and the sewer line spans the entire block.

1902 Docks and Ferries - Where the Commercial Manufacturing Company was is a two-story framed building labeled "Tinned Chemical Factory," fronting 195 feet along West 48th Street. The buildings on Lots 57 and 58 are labeled "Boiler Room," "Brick Engine Room," and "Frame Coal Shed."

1902 Bromley - (Figure 6-18a) The chemical factory does not appear, and Lots 1 through 3 are vacant. Covering all of Lots 6 through 8 is a large wood building. All of Lots 9 and 10 are covered by a brick building. On the southern half of Lot 55 is a wood building. Fronting West 49th Street is a wood shed spanning all of Lot 56. Lots 57 through 59 have one wood building covering all of the lots.

1913 Hyde - (Figure 6-19a) Lots 1 through 4 are still vacant, and there is a wood shed spanning the entire length of Lot 6. On the southern end of Lots 8 and 9 fronting West 48th Street are two one-story wood sheds. Fronting West 49th Street, Lot 56 has a one-story brick building on the entire lot, and spanning all of Lots 57 through 59 are three one-story sheds labeled "Degnon Contracting Company." On the northern end of Lot 60, fronting West 49th Street, is a small one-story building.

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There is a 4 foot by 2 foot 8 inch sewer pipe and a 12 inch water main in West 48th Street.

1920 Bromley - The elevation at the corner of West 48th Street and Eleventh Avenue is 19 feet, and at the corner of West 48th Street and Twelfth Avenue is 11.8 feet. These are the same elevations as in 1883.

1921 Bromley - The path of the new Twelfth Avenue is shown, and the lots have been renumbered. There is a one-story building on Lot 6, and another one-story building on Lot 8. Fronting West 49th Street is a one-story building on Lots 56 and 57.

1922 Sanborn - There is a 6 inch water pipe in West 48th Street, and a 12 inch pipe in the center of Twelfth Avenue.

1930 Hyde - The path of the new Twelfth Avenue is shown 250 feet east of its original path. The project area is vacant.

1932 Bromley - This appears exactly as the 1921 Bromley, and probably does not accurately reflect the 1932 conditions since it is an update of an earlier atlas.

SHORELINE FILL

None. The project area is entirely on original land.

HISTORIC SENSITIVITY

A planing mill complex stood between at least 1859 and 1868. Between 1879 and 1902, a brick building associated with the Commercial Beef Oil Mfg. Co. stood on Lots 9 and 10. On Lots 1 through 3 and 5 through 7 there was a wood building, also part of the Manufacturing Company, which stood between at least 1879 and 1889. On Lot 57 was a brick building which stood between 1883 and 1889, and on Lot 58 was a wood building which stood between at least 1879 and 1921.

Chapter VI:

Block 1097 - Formerly block 230, between West 49th and West 50th Street, including West 49th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

As per the Index Division's Block summary:

"Wholly within the Astor and Cutting Tract-partitioned this in 1803. The north half went to John Jacob Astor and the south part to William Cutting. In 1817 Cutting conveyed his to Jonathan Ogden who also received deeds from John Eden and others, heirs of Cutting. Richard Fisher acquired the parcel and lotted it in 1851. The north half went to John Jacob Astor in 1842, and in 1867 it was partitioned and the north half remained in Astor's possession."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	Joseph Haynes		1784	42	27
George Ecker	Astor & Cutting		1803	64	440
Joseph Eden	Tunis Wortman		1804	66	276
W. Cutting	Jonathan Ogden		1818	125	75
Jonathan Ogden	Paschal Hollingsworth		1821	154	71
Ogden	J. Fisher	1-31	1823	167	177
Fisher	R. Fisher		1832	285	361
R. Fisher	J. Fisher Jr.	1-32	1835	345	146
?	B. Johnson	1-23,64	1846	476	72
R. Fisher	B. Johnson	1-23,64	1846	476	229
T. Carnley	J. Potter	3,4,7,64	1852	614	282
B. Johnson	E. Johnson	1-10,64	1858	765	157
George Ecker	Astor & Cutting		1883		
Johnson et al.	Ludin	1-5,64	1896	45	497

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<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
E.& S. Ludin	Ludin Realty Co.	1-5,64	1900	77	28
Ludin Realty Co.	Hygia Ice Co.	1-5,64	1900	71	188
Baird	C. Baird	7-10	1900	76	103
C. Baird	F. Creamer	7-10	1901	83	40
Creamer	Baird	7-10	1902	89	222
?	City of New York	1-5,64			

CARTOGRAPHIC REVIEW

1811 Commissioners - The Jonathan Ogden house is in the middle of West 49th Street on a knoll east of the project area. The project area is vacant and is on original land.

1817 Poppleton - (Figure 6-9) The parcel is part of the William Cutting Farm and is vacant.

1820 Randel - (Figure 6-10a) The parcel is part of the Jonathan Ogden Farm and is vacant.

1836 Colton - (Figure 6-11) The project area is vacant.

1845 Ensign - The project area is vacant.

1851 Dripps - (Figure 6-12b) The project area is vacant.

1859 Viele - (Figure 6-13) Shows a steep rise from the river to a knoll east of the project area.

1859 Perris - (Figure 6-14a) A malt house is located on the corner of West 49th Street and Twelfth Avenue, covering Lots 1 through 3, 5, and 6. On the northern end of Lot 5 is a small stone building. On the northern end of Lot 6 is another small building. Fronting Twelfth Avenue on Lot 4 is a wood structure adjoining the northern side of the malt house. On Lot 61, near the corner of Twelfth Avenue and West 50th Street, is another small wood building. The rest is vacant.

1868 Dripps - (Figure 6-15) The malt house is still at the corner of West 49th Street and Twelfth Avenue, but the rest of project area is vacant.

1872 Farm Map - Shows no structures.

Chapter VI:

1879 Bromley - (Figure 6-16a) The malt house is still covering all of Lots 1 through 3, 4, and 5. There is a brick extension on the western half of Lot 4 fronting Twelfth Avenue. On Lots 61 and 62 is a brick building labeled "Stone Works." Fire hydrants are shown on West 49th Street indicating that water lines were in by this time.

1883 Robinson - West 49th Street is lined with cobblestone. The elevation at the corner of West 49th Street and Eleventh Avenue is 21 feet, and at West 49th Street and the pier is 12.8 feet. The malt house still exists, and, on Lot 64, is a brick building covering the west half of the lot fronting Twelfth Avenue. The brick building is still covering all of Lots 61 and 62, and there is a small brick building fronting West 50th Street on Lot 57.

1889 Robinson - (Figure 6-17a) All of the buildings appear as they did in 1883, although there is a small brick addition on the northern side of the malt house in the middle of Lot 4. In addition, there is a long wood building extending across Lots 58 through 60, onto the eastern end of Lot 62. There is also another wood building spanning the southern ends of Lots 55 through 60. A wood building fronting West 50th Street covers the western half of Lot 56. The remainder of the parcel is vacant.

1891 Bromley - The malt house is in the same location and the brick buildings on Lots 61, 62, and 57 are also the same. The rest of the parcel is vacant.

1902 Docks and Ferries - The malt house is listed as a five-story brick building with a cellar on Lots 1 through 3, and as a three-story brick building on Lots 5 and 6. To the north, the extension on Lot 4 is a one-story brick building, and the building on Lot 64 is also a one-story brick building. East of the malt house, on what may be Lot 9, is a small building labeled "Fr. Sta.," which is probably a fire station.

1902 Bromley - (Figure 6-18a) The malt house is still shown covering most of Lots 1 through 6. Fronting West 49th Street, on Lots 6 through 10, are two adjacent six-story brick buildings with a western extension onto Lots 59 and 60.

1913 Hyde - (Figure 6-19b) There is a 6 inch water main and 4 foot by 2 foot 8 inch sewer in West 49th Street. The malt house is now listed as the Hygia Ice Plant. On Lots 7 through 10, the two brick buildings are joined and listed as a two-story building housing the Auto Piano Company. Lot 56 has a small one-story building fronting West 50th Street, as does Lot 58. On the northern two-thirds of Lot 60, also fronting West 50th Street, is a one-story wood building. Lots 61 through 64 are labeled "Lumber Yard," and there is a wood shed spanning the eastern ends of the lots.

1920 Bromley - The elevation at the corner of West 49th Street and Eleventh Avenue is 21 feet, and at the corner of West 49th Street and Twelfth Avenue is 12.8 feet. These are the same as in 1883.

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1921 Bromley - The Hygia Ice Plant building is the same, and the building on Lots 7 through 10 is now labeled "Brumbach Piano Company." Lots 55 through 57 are vacant and labeled "Lumber Yard." There is a one-story building spanning all of Lot 60. The remainder of the parcel is vacant.

1922 Sanborn - There is a 6 inch water pipe in West 49th Street, and a 12 inch pipe through the center of Twelfth Avenue.

1930 Hyde - The path of new Twelfth Avenue is shown and several buildings have been removed. The Hygia Ice Plant and a brick building on the eastern ends of Lots 61 through 64, are still standing. Borden Company has a building spanning east through Lots 55, 56, and 57.

1932 Bromley - New Twelfth Avenue, is shown. All of the buildings on the 1921 atlas are depicted, although they have probably all been removed by this date due to highway construction and the atlas was probably not updated.

SHORELINE FILL

None. The entire project area is on original land.

HISTORIC SENSITIVITY

The Malt House/Hygia Ice Plant at the corner of West 49th Street and Twelfth Avenue stood between c. 1859 and the 1920s when it was razed. The Piano Factory stood between c. 1902 and 1920. The Stone Works buildings on Lots 61 and 62 stood between c. 1879 and 1902, and the brick building on Lot 57 stood between c. 1883 and 1902.

Chapter VI:

Block 1098 - Formerly block 231, between West 50th and West 51st Streets, including West 50th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1098 through 1102 were part of the John Hopper Farm (Vol. 6, 1926: 106). The following is a list of landowners as portrayed by Stokes:

1668	Jacob Leendersen Van de Grift sold to Isaac Bedlow
1698	Catherine Howarden (daughter of Van de Grift) and Thomas Hall to Jacobs Van Cortlandt
?	Jacobs Van Cortlandt to Aernout Webber
1713	Aernout Webbers to John Balme
1714	John Balme to Mathius Hopper
1749	John Hopper inherited farm from Mathius Hopper

As per the Index Division's Block summary:

"This is partly within the John Hopper farm and partly within the Astor and Cutting tracts. John Hopper's heirs divided it in 1782. It was conveyed by Matthew Hopper et al. to Andrew Hopper. In 1883 it passed to Gertrude Cutting. In 1851 she conveyed it to James R. Whiting, who sold lots to Philo T. Ruggles. The remaining part of the block was conveyed to John J. Astor, who in 1842 gave it to John Jacob, William and Henry Astor."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	John Balme		1727	31	227
Arnout Webbers	Joseph Haynes		1784	42	27
Ann Hopper et al.	Andrew Hopper		1784	42	176
George Ecker	Astor & Cutting		1803	64	440
J. Astor	M. Bull	1-34,37-64	1828	141	351
G. Smith	J. Astor	1-34,37-64	1848	511	109
J. Mott	G. Mott		1858	752	163
J.J. Astor et al.	William Astor	54-64	1868	1026	597

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Henry Astor	J.J. & Wm. Astor & Charles Southmayd	1-12	1869	1074	559
Southmayd, White & Morris-trust of Astor	Charles Peabody	1-12	1892	10	453
McLarnon	Auto Pneumatic Action Company	15-17	1913	154	305
NY Scaffolding Co.	American Sfty. Dev.		1915	163	350
Charles Brown	Shamrock Towing	4	1921	3153	128
Shamrock Towing	Patrick McGuirl	4	1921	3217	359
Charles Brown	American Safety Device Company	6	1920	3154	150
Col. Sand & Gravel	Rupo Realty Co.	8-10	1920	3182	181
?	City of New York		1923		
?	City of New York	6	1931		
?	City of New York	8-10	1931		
?	City of New York	54-64	1923	56	

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is on original land and is vacant.

1817 Poppleton - (Figure 6-9) The project area is vacant.

1820 Randel - (Figure 6-10a) The parcel is part of the John Jacob Astor Farm and is vacant. There are hills and knolls mid-block, east of the project area.

1836 Colton - (Figure 6-11) The project area is vacant. East in West 50th Street is a building.

1845 Ensign - The project area is vacant.

1851 Dripps - (Figure 6-12b) The project area is vacant.

Chapter VI:

1859 Viele - (Figure 6-13) A rise is shown to a knoll east of the project area.

1859 Perris - (Figure 6-14a) The project area is vacant.

1868 Dripps - (Figure 6-15) The project area is vacant.

1872 Farm Map - The whole block is on original land and is vacant.

1879 Bromley - (Figure 6-16a) There is a wood shed on Lot 60 fronting West 51st Street. Fronting Twelfth Avenue are two small wood sheds, one on Lot 61 and another on Lot 64. This whole corner is labeled "Lumber Yard," and directly to the east is vacant and labeled "Stone Yards."

1883 Robinson - West 50th Street has no sewer or water lines and is lined with Belgian Block. The elevation at the corner of West 50th Street and Eleventh Avenue is 23 feet, and at West 50th Street and Twelfth Avenue is 13.9 feet. The sheds appear as they did on Lots 60, 61, and 64 in 1879, and another small wood building is present on the southern portion of Lot 58. The rest of the parcel is vacant.

1889 Robinson - (Figure 6-17a) In addition to the wood sheds on the lots as in 1883, there is a brick building fronting Twelfth Avenue on the western halves of Lots 1 through 4. On Lots 6 and 7 is a three-story brick building, with a wood building on the northern ends of the lots. On Lots 8 and 9 are several small wood sheds, two fronting West 50th Street, and two at the northern ends of the lots. Lot 55 has a small brick building fronting West 51st Street, and Lots 56 through 59 have wood buildings also fronting West 51st Street. Lot 58 also has a wood building on the southern end.

1891 Bromley - Lots 1 through 7 are exactly the same as in 1889. There are no buildings on Lots 8 and 9, or 55 through 59. The wood buildings on Lots 60, 61, and 64 are as they were previously. Lots 49 through 58 are labeled "Stone Yards," and Lots 1 through 3 are labeled "Stone Works."

1902 Docks and Ferries - West 50th Street is not paved or curbed, and has no sewer or water lines. The brick building fronting Twelfth Avenue spanning Lots 1 through 4 is listed as a two-story brick building. Fronting West 50th Street, on Lots 6 and 7, is a three-story brick building, and Lot 8 has a shed.

1902 Bromley - (Figure 6-18a) The brick building, fronting Twelfth Avenue on Lots 1 through 4, is still present. Fronting West 50th Street, on Lots 1 and 5, is another brick building. The brick building is still spanning Lots 6 and 7, and there is a wood shed on Lot 8. A brick building covers all of Lots 60 through 64, and is labeled "Motor Car Works."

1913 Hyde - (Figure 6-19b) The brick buildings appear exactly as they did in 1902. On Lots 1 and 5 the brick building fronting West 50th Street is labeled "Cooperage."

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The Lot 6 and 7 brick building is labeled "Saw Mill." Vacant Lots 8 through 10 are labeled "Stone Yard," and the brick building on Lots 61 through 64 is labeled "Automobiles."

1920 Bromley - The elevation at the corner of West 50th Street and Eleventh Avenue is 23 feet, and at the corner of West 50th Street and the pier is 23 feet.

1921 Bromley - The buildings are the same as in 1913. The Saw Mill is now labeled "Lofts" and the automobile building is now labeled "H.W. Miller Inc." There is a small wood building on both Lots 57 and 59, belonging to the Department of Street Cleaning.

1922 Sanborn - A 6 inch pipe in West 50th Street and a 12 inch pipe in Twelfth Avenue are shown.

1930 Hyde - The route of new Twelfth Avenue appears, and the block has been shortened, removing buildings east of Lot 5, and on Lots 61 through 64. On Lots 6 and 7 is a brick Scaffolding Company. On Lots 9 through 11 is the Colonial Sand and Stone Company's two-story brick building. Lots 55 through 57 are labeled "Lumber," and Lots 58 through 60 are labeled "Department of Street Cleaning."

1932 Bromley - The route of new Twelfth Avenue is superimposed over the buildings that stood prior to the road's construction. By this time the buildings were undoubtedly removed.

SHORELINE FILL

None. The entire project parcel is on original land.

HISTORIC SENSITIVITY

The brick building on Lots 6 and 7 stood between 1889-1920, labeled as "Saw Mill" and later "Scaffolding Co." All others buildings were only present for a short period of time. Brick buildings on Lots 1 through 4 stood between 1889 and the 1920s, but there were no labels as to their function, and the western portion of these are out of the project area.

Chapter VI:

Block 1099 - Formerly block 232, between West 51st and West 52nd Streets, including West 51st Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1098 through 1102 were part of the John Hopper Farm (Vol. 6, 1906: 106). The following is a list of landowners as portrayed by Stokes:

1668	Jacob Leendersen Van de Grift sold to Isaac Bedlow
1698	Catherine Howarden (daughter of Van de Grift) and Thomas Hall to Jacobs Van Cortlandt
?	Jacobs Van Cortlandt to Aernout Webber
1713	Aernout Webbers to John Balme
1714	John Balme to Mathius Hopper
1749	John Hopper inherited farm from Mathius Hopper

As per the Index Division's Block summary:

"The block is wholly within the John Hopper farm. In 1782 Andrew Hopper inherited it, and conveyed it to Lewis Simond in 1793, and another tract went to Charles Wilkes in 1826. It was then willed to Wilkes' sons, Horatio, George and Hamilton Wilkes. All interests in the property acquired in 1833 by Gertrude Cutting. In 1851 she conveyed it to James R. Whiting-who had a water grant in 1852. It was sold in 1851 to Philo T. Ruggles, referee in lots and parcels."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	Balme & Hoppe		1727	31	227
Hopper et al.	Andrew Hopper		1784	42	176
Jordan Mott	Jacob Mott		1819	140	117
Lewis Simond	Charles Wilkes		1827	228	338
J. Wilkes	Gertrude Cutting		1833	306	529
G. Striker	M. Witlian		1842	432	131
G. Cutting	H.R. Railroad Co.		1848	508	12
Ruggles	O'Donahue	5	1852	594	60

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<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Ruggles	West	10	1852	603	505
Ruggles	Whiting	1-4,61-64	1853	632	241
Whiting	Shelton	1-4,61-64	1853	641	337
Shelton	H.R. Stone Dresng.	1,10,11	1854	672	236
Gori	Brown	1,10,11	1863	875	672
Brown	Waydell	1	1889	2264	193
J. Waydell	D. Brown	1	1896	51	257
Brown	Kohler	1	1910	137	463
Brown	D. Brown	1	1910	138	273

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is on original land and is vacant.

1817 Poppleton - (Figure 6-9) Parcel is labeled "Lewis Simond farm" and is vacant.

1820 Randel - (Figure 6-10a) The area is vacant and there is a slope up from the river towards a knoll northeast of the project area. Fronting West 52nd Street, east of the project area is a building on a knoll, which may be an outbuilding associated with the Striker house which stood along West 53rd Street.

1836 Colton - (Figure 6-11) The project area is vacant.

1845 Ensign - The project area is vacant.

1852 Dripps - (Figure 6-12b) The project area is vacant.

1859 Viele - (Figure 6-13) The whole block is on a rise towards a knoll south of West 51st Street, placing it on a north facing slope.

1859 Perris - (Figure 6-14a) There is a large frame building spanning all of Lots 1 through 4, and 61 through 64, fronting Twelfth Avenue. East of the building, on Lots 58 through 60, is a brick building fronting West 52nd Street. On Lots 9 and 10, fronting West 51st Street, is another brick building, and on the northern end of Lot 10 is a stone building. North of this, on Lots 55 and 56, are two wood buildings fronting West 52nd Street. The entire parcel is labeled "Marble Works."

Chapter VI:

1868 Dripps - (Figure 6-15) The buildings all appear as in 1859.

1879 Bromley - (Figure 6-16a) The building on the western end of the block, on Lots 1 through 4 and 61 through 64, is a brick "Shade Factory." East of this, standing mid-block on Lots 5, 6, 7, 59, and 60, is a brick Fire Brick Factory. Fronting West 52nd Street, on Lots 58 through 60 is a brick Shirt Factory, which is the same building shown in 1859 and 1868. The brick buildings on Lots 99 and 10 are still standing. Fire hydrants in West 51st Street indicate that water lines are in by this time.

1880 Farm Map - The original shoreline is shown.

1883 Robinson - West 51st Street is lined with Belgian Block. The elevation at the corner of West 51st Street and Eleventh Avenue is 23 feet and at the corner of West 51st Street and Twelfth Avenue is 13.9 feet. Fronting West 52nd Street, on Lots 55, 56, and 57, each lot contains a small wood building. The brick building fronting West 51st Street, on the southern portion of Lot 10, is still standing. The remainder of the project parcel is vacant.

1889 Robinson - (Figure 6-17a) Fronting West 51st Street on Lot 5 is a one-story wood building covering the entire lot. The brick building on Lot 10 is still present. Lot 55 has two wood buildings, one each at the northern and southern ends. Lot 57 has a wood building fronting West 52nd Street, and there is a long brick building spanning the northern one-fourth of Lots 58 through 60, extending west onto Lot 61. Behind this, on Lot 58, is a small wood extension. There is a 6 inch water line in West 51st Street, and the sewer line extends west to the end of the block.

1891 Bromley - The brick building on Lot 10 is still standing, and on the northern end of the block is another wood shed. Lot 55 is covered by a wood shed, fronting West 52nd Street. The brick building spanning Lots 58 through 61 is still standing, and there is a wood extension on the eastern end of the building on Lot 57. The remainder of the parcel is vacant.

1902 Docks and Ferries - Twelfth Avenue is listed as having all earth filling. West 51st Street is paved, and has a 6 inch water main and a 4 foot by 2 foot 8 inch brick sewer. "Browns" six-story brick factory is shown spanning the entire western end of the block.

1902 Bromley - (Figure 6-18a) David S. Brown and Co. Soap Works is a brick building covering all of Lots 1 through 9 and 56 through 64, with a small vacant square court-yard in the center of the building. The brick building is still on Lot 10, as is the wood building on the northern end of the lot. On Lot 55 are two wood buildings, still on either end of the lot.

1913 Hyde - (Figure 6-19b) The soap factory is the same as it was in 1902 and is listed as a five-story building with a basement. The brick building on Lot 10 was

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replaced by a two and three-story wood building labeled "Autos," and the two wood buildings on Lot 55 were replaced by a large wood shed spanning the entire lot.

1920 Bromley - The elevation at the corner of West 51st Street and Eleventh Avenue is 23 feet, and at West 51st Street and Twelfth Avenue is 23 feet.

1921 Bromley - The Auto Piano Company occupies the soap factory building, and Lots 10 and 55 appear the same as in 1913.

1922 Sanborn - There are no buildings within the project area.

1930 Hyde - "Standard Pneumatic Action Company" is the name of the company in the same location as the piano factory in 1921. Lots 10 and 55 also appear the same as in 1921.

1932 Bromley - The piano company building is now listed as the "River Front Garage," and Lots 10 and 55 appear the same.

SHORELINE FILL

None. The entire project parcel is on original land.

HISTORIC SENSITIVITY

All buildings on Lots 1 through 9 and 56 through 64, dating before 1902, would have probably been completely obliterated by Browns Soap Works/Auto Piano Company which had a basement. This building stood between 1902 and the late 1920s when the highway was constructed. The brick building on Lot 10 stood between 1859 and 1916 when it was replaced by a wood building and, later, a brick building.

Chapter VI:

Block 1100 - Formerly block 233, between West 52nd and West 53rd Streets, including West 52nd Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

Historic Landowners

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1098 through 1102 were part of the John Hopper Farm (Vol. 6, 1906: 106). The following is a list of landowners as portrayed by Stokes:

1668	Jacob Leendersen Van de Grift sold to Isaac Bedlow
1698	Catherine Howarden (daughter of Van de Grift) and Thomas Hall to Jacobs Van Cortlandt
?	Jacobs Van Cortlandt to Aernout Webber
1713	Aernout Webbers to John Balme
1714	John Balme to Mathius Hopper
1749	John Hopper inherited farm from Mathius Hopper

As per the Index Division's Block summary:

"Part of the John Hopper Farm Lot. In 1782 it was divided among his children, with the main part going to Andrew Hopper. In 1793 Andrew Hopper conveyed his property to Lewis Simond, and in 1826 it was conveyed to Charles Wilkes who divided it among his sons and trustees by will. In 1833 all interests were acquired by Gertrude Cutting, and in 1851 she conveyed the block to James R. Whiting. Whiting reconveyed to G. Cutting, a parcel in the north part of the block. In 1728 the north part of the block went to Yellis. In 1787 John Hopper the younger left a portion to his grandchildren, Strikers and Motts. In 1865 the parcel was further partitioned between the Striker and Mott families, and then was eventually lotted and sold in parcels."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	Balme & Hopper		1727	31	227
Matthew Hopper	Andrew Hopper		1784	42	176
Jordan Mott	Jacob Mott		1819	140	117
Ann Striker	Garrit Striker	1-32,60-64	1823	168	21
L. Simond	C. Wilkes	1-32,44-64	1827	228	338
Wilkes	G. Cutting	1-33,44-64	1833	306	529

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Cutting	Whiting	1-33,44-64	1851	573	126
Finch & Johnson	F. Palmer	1-4,61-64	1853	648	247
Palmer	Gori	1-4,61-64	1858	744	646
Gori	McMaster	1-4,61-64	1866	981	145
Striker	VanAiken	street	1892	14	381
VanAiken	Mayor City of NY	street	1893	24	409
Reynolds	Morgan	1-4,61-64	1897	58	215
Kate Treadwell	City of New York	10,11,54,55	1901	81	495
Mary Muir	City of New York		1902	83	393
John Daver	City of New York		1905	99	463

CARTOGRAPHIC REVIEW

1811 Commissioners - The project parcel is on original land. The Simond house is shown in the middle of the block with another structure east of this; both are east of the project area.

1817 Poppleton - (Figure 6-9) The project area is vacant.

1820 Randel - (Figure 6-10a) The project area is vacant. The parcel is on a rise between the river and the knoll where the Simond house is located.

1836 Colton - (Figure 6-11) The Cutting house is shown east of the project area.

1845 Ensign - The project area is vacant.

1851 Dripps - (Figure 6-12b) The project area is vacant.

1859 Viele - (Figure 6-13) This shows the parcel on a north facing slope.

1859 Perris - (Figure 6-14b) Where Lots 5 through 11 will be laid out, extending north onto Lots 60 through 55, is a brick-faced wooden structure fronting West 52nd Street, labeled "Valley Iron Forge." Also fronting West 52nd Street, on the east side of this, are two small wood buildings. Fronting West 53rd Street, to the north of this, is another wood building.

Chapter VI:

1868 Dripps - (Figure 6-15) The Valley Iron Forge building is still standing and the rest of the parcel is vacant.

1879 Bromley - (Figure 6-16a) The previous building is gone. On Lot 1, at the corner of Twelfth Avenue and West 52nd Street, is a brick building with a wood shed on the east side of it, and another brick building on the eastern end of the lot. There is also a brick building fronting Twelfth Avenue spanning the western ends of Lots 2 and 3. Another building is fronting West 53rd Street on Lot 57. The whole area is labeled "Stone Yard." Fire hydrants along West 52nd Street indicate water that was available by this date.

1880 Farm Map - The project area is vacant.

1883 Robinson - There is a 6 inch water main in West 52nd Street. The elevation at the corner of West 52nd Street and Eleventh Avenue is 23 feet, and at the corner of West 52nd Street and Twelfth Avenue is 6 feet. The buildings on Lots 1 through 3 are as they were in 1879. Mid-block on Lots 6 and 59 is a large brick shed. Fronting West 52nd Street, Lot 7 has a small brick shed. Fronting West 53rd Street on Lot 57 is a brick shed covering the entire lot, and on the southern end of Lot 55 is a small wood building.

1889 Robinson - (Figure 6-17b) All appears the same as in 1883, with the addition of a wood shed on the eastern end of Lots 2 and 3.

1891 Bromley - There is a 6 inch water main in West 52nd Street which runs to the west end of the block, although there are no sewer lines. On Lot 1, at the corner of West 52nd Street and Twelfth Avenue, is a two-story brick building covering the entire lot. On Lot 8 fronting West 52nd Street is a two-story brick building on the southern half of the lot. Fronting West 53rd Street on all of Lot 58 is a two-story brick shed, and the wood building on the southern end of Lot 55 is a three-story structure.

1902 Docks and Ferries - The western end of the block and Twelfth Avenue was used for barrel storage, and there are no utilities in West 52nd Street. Fronting Twelfth Avenue is a one-story iron sheet frame shed through the western ends of Lots 1 through 3.

1902 Bromley - (Figure 6-18b) Block 1100 is labeled "DeWitt Clinton Park," but some building outlines show where buildings existed in 1891.

1905 Park Topographic Map - Shows a 10 foot contour interval approximately where old Twelfth Avenue is located. A pavilion in the park is labeled "Pergola," and is adjacent to the Farm Garden. The location of the 1930s West Side Elevated Highway will be approximately at the 20 foot contour interval.

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1913 Hyde - (Figure 6-19b) The parcel is entirely within the park. There is a one-story brick pavilion on previous Lots 58 through 60, labeled "Childrens Farm School."

1920 Bromley - The elevation at the corner of West 52nd Street and Eleventh Avenue is 23 feet.

1921 Bromley - The entire parcel appears as it did in 1913.

1922 Sanborn - This is the same as in 1921, with a 12 inch pipe through the center of Twelfth Avenue.

1930 Hyde - The same as in 1921.

1932 Bromley - The same as in 1930.

1950 Hyde - Pier construction caused Marginal Street to be removed.

1988 Sanborn - Marginal Street had been replaced.

SHORELINE FILL

None. West Street is entirely on original land, while Marginal Street was constructed in the 1970s.

HISTORIC SENSITIVITY

None. The highway construction caused at least 12 feet to 15 feet of original soil to be removed, and the sloping topography was flattened.

Chapter VI:

Block 1101 - Formerly block 234, between West 53rd and West 54th Streets, including West 53rd Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1098 through 1102 were part of the John Hopper Farm (Vol. 6, 1906: 106). The following is a list of landowners as portrayed by Stokes:

1668	Jacob Leendersen Van de Grift sold to Isaac Bedlow
1698	Catherine Howarden (daughter of Van de Grift) and Thomas Hall to Jacobs Van Cortlandt
?	Jacobs Van Cortlandt to Aernout Webber
1713	Aernout Webbers to John Balme
1714	John Balme to Mathius Hopper
1749	John Hopper inherited farm from Mathius Hopper

As per the Index Division's Block summary:

"Part of the John Hopper Farm Lot. In 1782 it was divided among his children, with main part going to Andrew Hopper. In 1793 Andrew Hopper conveyed his property to Lewis Simond, and in 1826 it was conveyed to Charles Wilkes who divided it among his sons and trustees by will. In 1833 all interests were acquired by Gertrude Cutting, and in 1851 she conveyed the block to James R. Whiting. Whiting reconveyed to G. Cutting, a parcel in the north part of the block. In 1728 the north part of the block went to Yellis. In 1787 John Hopper the younger left a portion to his grandchildren, Strikers and Motts. In 1865 the parcel was further partitioned between the Striker and Mott families, and then was eventually lotted and sold in parcels. The whole block was condemned in 1901 by the City of New York."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Arnout Webbers	Balme & Hoppe		1727	31	227
Matthew Hopper	Andrew Hopper		1784	42	176
Jordan Mott	Jacob Mott		1819	140	117
J. & J. Mott	G. Striker	1-64	1823	140	117
Jacob Mott	James Mott	33-60 1/2	1828	228	527

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GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Y. Hopper	J. Hopper	1-64	1831	275	12
Mott	Hud. River RR		1848	501	611
J. Hopper	Hud. River RR		1848	514	133
Parceled in 1850, no lot numbers provided, sold to: J. Whiting, W. Cutting, F. Palmer, O. Gori, I. Dellapaine, J. Power and G. Soule.					
Striker/Mott et al.	James B. Wilson		1883	17	185
Striker	E. Van Aiken		1892	14	381
Mott	Wallace		1894	31	231
Van Aiken	J. Striker		1895	43	100
Striker	Wheeler		1895	43	102
Wheeler	Uhler		1895	43	100
(referee)	Wash. Life Ins.		1896	48	387
Wallace	Sweeney		1897	58	204
Sweeney	Niver		1899	70	105
Niver et al.	City of New York	(park)	1900	71	256

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is on original land with the exception of a small submerged sliver in the northern portion. The Striker house is in the middle of West 53rd Street, east of the project area.

1817 Poppleton - No Poppleton available north of West 53rd Street.

1820 Randel - (Figure 6-10b) Striker house is on West 53rd Street, on top of a small knoll, with a small structure to the northeast of it. Both of these are east of the project area. There is a stream at the western end of the block draining into the Hudson River, and the tract is part of the John Hopper Farm.

1836 Colton - (Figure 6-11) The project area is vacant.

Chapter VI:

1845 Ensign - The project area is vacant.

1852 Dripps - (Figure 6-12b) The project area is vacant, and the original shoreline still appears west of the project area.

1859 Viele - (Figure 6-13) The entire parcel is shown as flat and does not include the knoll or rise noted on the 1820 Randel map.

1859 Perris - (Figure 6-14b) The original shoreline still appears. There is a small wooden structure, mid-block between West 53rd and West 54th Streets, east of the project area. This is probably an outbuilding associated with the Striker house.

1868 Dripps - (Figure 6-15) The project area is vacant.

1879 Bromley - (Figure 6-16a) The project area is vacant. The block has been filled to its western margin.

1880 Farm Map - The project area is vacant.

1883 Robinson - West 53rd Street is unpaved and does not have sewer or water lines. The elevation at the corner of West 53rd Street and Eleventh Avenue is 23 feet, and at West 53rd Street and Twelfth Avenue is 6 feet.

1889 Robinson - (Figure 6-17b) On Lot 6, set back from West 53rd Street, is a two-story wood building. The Striker house is still in the middle of West 53rd Street, east of the project area. Although the 1879 and 1883 atlases show the block filled to the western boundary, the 1889 atlas indicates that the shoreline is still east of the western end of the block.

1891 Bromley - The project area is vacant. The Striker house still exists in West 53rd Street, east of the project area.

1902 Docks and Ferries - There is a small round building labeled "Summer House" near Lot 60, slightly south of West 54th Street.

1902 Bromley - (Figure 6-18b) The block is vacant and is designated as the DeWitt Clinton Park. There are no utilities in West 53rd St.

1905 Park Topographic Map - The 10 foot contour interval is at the western end of the block, approximately where the original route of Twelfth Avenue is located. A pavilion is labeled "Pergola," and is adjacent to a farm garden.

1913 Hyde - (Figure 6-19b) The block is part of the DeWitt Clinton Park.

1920 Bromley - The elevation at the corner of West 53rd Street and Eleventh Avenue is 23 feet, and at the corner of West 53rd Street and Twelfth Avenue is 33 feet.

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1921 Bromley - The block is part of the DeWitt Clinton Park.

1922 Sanborn - There is a 12 inch water pipe in center of old Twelfth Avenue and the block is part of the DeWitt Clinton Park.

1930 Hyde - The block is part of the DeWitt Clinton Park

1932 Bromley - The block is part of the DeWitt Clinton Park, and the highway does not yet appear.

1950 Hyde - Pier construction caused Marginal Street to be removed.

1988 Sanborn - Marginal Street has been replaced.

SHORELINE FILL

None. West Street is on original land except for a small portion in the northern half which was submerged until at least 1859. The first episode of filling occurred between 1859 and 1879. Marginal Street was constructed between 1950 and 1988.

HISTORIC SENSITIVITY

None. Even if the Striker house was possibly within the project area, the topography at the western end of the park was lowered 12 to 15 feet for highway construction.

Chapter VI:

Block 1102 - Formerly block 235, between West 54th and West 55th Streets, including West 54th Street.

The lots that are within the project area include the eastern halves of Lots 1 through 4 and 61 through 64, all of Lots 56 through 60 and 5 through 9, and the western halves of Lots 55 and 10. The original route of Twelfth Avenue and Marginal Street are also within the bounds.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1098 through 1102 were part of the John Hopper Farm (Vol. 6, 1906: 106). The following is a list of landowners as portrayed by Stokes:

1668	Jacob Leendersen Van de Grift sold to Isaac Bedlow
1698	Catherine Howarden (daughter of Van de Grift) and Thomas Hall to Jacobs Van Cortlandt
?	Jacobs Van Cortlandt to Aernout Webber
1713	Aernout Webbers to John Balme
1714	John Balme to Mathius Hopper
1749	John Hopper inherited farm from Mathius Hopper

As per the Index Division's Block summary:

"Part of the John Hopper and Cornelius Cozine property. The north part to the high water mark was willed to Cozine's children. In 1809 Jacob Harsen willed the parcel to his grandchildren, who partitioned it and sold parcels. In 1868 the land under water adjoining the northerly section was conveyed to Western Union Telegraph. In 1891 an agreement between the City of New York and Alexander and Hopper Striker Mott conveyed the land under water from West 54th Street to within 16' south of West 55th Street."

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Howard, et al.	J. Van Cordandt		1701	23	302
Arnout Webbers	Balme & Hoppe		1727	31	227
C. Cousine	C. Cousine Jr.		1761	36	46
M. Hopper	Andrew Hopper		1784	42	176
Jarsen	Gurman		1790	46	246
Gurman	Harsen		1790	46	246
Jordan Mott	Jacob Mott		1819	140	117

Route 9A Reconstruction Project

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Mott	Striker	1-33,37-64	1823	168	21
Y.Hopper	J. Hopper	1-32,30-64	1831	275	13
M. Dyckman	J. Harsen	1-32,51-64	1837	380	161
Mott	Hud. River RR		1848	501	611
Harson	Hud. River RR		1848	504	619
Mott	Soule		1858	762	583
U.S. Telegraph	Western Union Tel.	51,56,61	1866	976	599
Soule	James	1-32,5-62	1877	1427	365
Western Union	Flintolithic Marble	51,56	1883	1749	64
Flintolithic Marble	Hopper, Striker Mott	51,56	1884	1784	264
Mott	Mayor et al.	4-8,55-64	1891	8	192
Striker	Van Aiken bulkhead		1892	14	381
Van Aiken	Mayor et al. bulkhead		1893	24	409
Mott	Wallace	1-32,37-64	1894	31	231
Wallace	Sicilian Asphalt	1-12	1895	46	228
Wallace	Soc.of NY Hospital	13-22,61-64	1911	141	422
Sicilian Asphalt	Society of NY	1	1911	145	20
Paving Co	Hospital				
Peter Doelger	P.D. Brewing Co.	61, 61 1/2	1913	157	210
New York Hospital	NY Evening Journal	1-56,62	1925	3520	74

CARTOGRAPHIC REVIEW

1811 Commissioners - The project area is partially on original land, while the northern portion is submerged and vacant.

1820 Randel - (Figure 6-10b) There is a structure at the western end of West 54th Street, on top of a knoll close to the shoreline. There is also a pier at the end of West 54th Street.

1836 Colton - (Figure 6-11) There is a building in the middle of West 54th Street and part of the parcel is still submerged.

1845 Ensign - The project area is vacant and is still partially submerged.

1851 Dripps - (Figure 6-12b) W. Mott house is at the western end of West 54th Street. East of the project area, northeast of the Mott house is a lumber yard. Part of the parcel is still submerged.

1859 Viele - (Figure 6-13) The knolls, shown earlier, do not appear.

1859 Perris - (Figure 6-14b) The Mott house is a two-story wood building, and north of this is a one-story wood out building. The block is filled to the western boundary.

1868 Dripps - (Figure 6-15) Although the area is labeled "Mott Farm," there is no longer a house in West 54th Street. The rest of the area is vacant.

1880 Farm Map - The project area appears vacant.

1879 Bromley - (Figure 6-16a) The Mott house does not appear. Set back from West 54th Street, on Lots 1 through 3, is a brick building. Set back east from the river on Lots 57 through 64 is a brick building. Fronting West 55th Street, on Lot 57 running eastward to Lot 51, and adjoining the northeast corner of the previous structure, is a brick building labeled "Western Union Telegraph Works."

1883 Robinson - West 54th Street is unpaved and does not contain sewers. The elevation at the corner of West 54th Street and Eleventh Avenue is 23 feet. The Mott house appears on the edge of the original shoreline, in the middle of West 54th Street. The Telegraph Works building on Lots 51 through 57 is the same as in 1879. On the northern halves of Lots 58 through 60 is a wood shed, which extends eastward onto Lots 62 and 63. On Lot 61, fronting the river, is another wood building. Together, these are labeled "Coal Yard." Lots 1 through 4 and 64 also have wood sheds, labeled "Brick Yard." On Lots 6 through 8, fronting West 54th Street, is a small wood shed. On the northern ends of Lots 9 through 11 is another wood shed. Another small wood building exists in the middle of Lot 55, behind the Western Union Telegraph building.

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1889 Robinson - (Figure 6-17b) The two-story wood house still appears in West 54th Street. Fronting the river on Lots 1 through 4 is one large wood structure, connected to a wood building spanning Lots 61 through 64, and eastward onto Lot 56. Lot 10 has a small wood building on the northern end. The small wood building still standing on Lot 55 is a two-story structure. There are no utility lines in West 54th Street.

1891 Bromley - Lots 1 through 14 are vacant and labeled "Stone Yard." At the corner of West 55th Street and Twelfth Avenue on the western end of Lot 61 is a wood building. Lots 57 through 64 are vacant and labeled "Coal Yard." On Lot 56 is a small brick building fronting West 55th Street. There are no utilities in West 54th Street.

1902 Docks and Ferries - In West 54th Street is a two-story frame building. At the corner of Twelfth Avenue and West 54th Street is a Lime and Cement shed. North of this is a coal yard fronting Twelfth Avenue. Fronting West 55th Street is the Western Union Telegraph Company building running east-west. Mott's frame barn is located several feet east of the project area.

1902 Bromley - (Figure 6-18b) The eastern half of Lot 4 has a brick building adjoining the wood Sicilian Asphalt Paving Company building on Lots 5 through 12. The wood building on the south end of Lot 55 is still standing, and this may be Mott's barns shown on the 1902 Docks and Ferries map. On the northern end of Lot 56, fronting West 55th Street, is a small brick building, and Lot 61 has a one-story brick building at the corner of West 55th Street and Twelfth Avenue. West 54th Street has a 6 inch water main running west as far as the old water line, and there is no sewer.

1913 Hyde - (Figure 6-19c) Fronting Twelfth Avenue, on Lot 4, is a wood shed covering the entire lot. On the east end of Lot 3 is a one-story brick building. Lots 62 through 64 have a six-story brick building fronting Twelfth Avenue labeled "Milton Piano Co." On Lot 61 is a two-story brick building fronting West 55th Street and Twelfth Avenue. Fronting West 54th Street, on Lots 5 through 12, is a two-story metal building still labeled "Sicilian Asphalt Paving Company." Lots 56 through 60 are vacant and labeled "Coal Yard." There is a 6 inch water main and sewer in West 54th Street. There is also a one-story building in Marginal Street.

1920 Bromley - The elevation at the corner of West 54th Street and Eleventh Avenue is 23 feet.

1921 Bromley - The buildings on Lots 60 through 64 appear the same as in 1913. There is a Red Cross Warehouse in Marginal Street, and west of this along the bulkhead are coal pockets. The remainder of the parcel is vacant.

1922 Sanborn - The project area is vacant.

1931 Hyde - The project area is vacant.

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1932 Bromley - The project area is vacant.

SHORELINE FILL

The project area was partially on original land, while the northern portion was submerged until at least 1852. The first episode of filling occurred between 1852 and 1859.

HISTORIC SENSITIVITY

The Mott house at the west end of West 54th Street stood between 1796 and 1897. The pier which appears in 1820 does not appear at later dates, and may now be part of the landfill. There were no sewers in West 54th Street through the end of the nineteenth century, thus there is the potential for privies associated with the Mott house.

Route 9A Reconstruction Project

Block 1103 - Formerly block 236, between West 55th and West 56th Streets, including West 55th Street.

The lots included within the project area are all of Lots 1 through 7, and 59 through 64, and the southern halves of Lots 58 and 8. The original route of Twelfth Avenue and Marginal Street are also within the bounds.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1102 through 1106 are part of the historic Cornelius Cosine (Cozine, Cozzins) Farm (Stokes Vol. 6, 1906:86).

As per the Index Division's Block summary:

"This tract is wholly within the Cornelius Cozine farm. The farm was divided in 1809 by agreement among Cozine's children and parts of the shares of John Cozine and Jacob Harsen are included in the block. Harsen's share included southerly part of the block, east of the old high water mark, was devised by him to his grandchildren. On a partition of this property, John J. Serrell and others as Commissioner of Partition conveyed it in lots and parcels in 1849 and 1850. The northerly section east of the old high water mark was in John Cozine's allotment and passed to John Jacob Astor through deeds and foreclosures. In 1850 William B. Astor conveyed it to trustees for his daughter Laura Astor. The southerly section of this block west of the old high water mark was conveyed by the City of New York to Zachariah Jacques in 1897 and in 1905 was conveyed to Thomas G. Patterson. The northernmost section is owned by the City of New York." Note: The project area was under water prior to 1845.

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Commissioners	Ward Bailey	10-22	1850	530	498
Ward & Bailey	Wade	10-22	1867	530	498
Wade	Jacques		1867	1030	549
Mayor et al.	Jacques	1,9	1884	1837	116
Jacques	Mayor et al.	61	1897	55	283
Jacques	Andrews	1-25	1898	63	312
Andrews	T. Patterson	1,2,5	1905	103	281
T. Patterson	T. Loughlin	1	1908	128	415

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<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
Loughlin	Lion Brewery	1	1908	128	421
T. Patterrson	Kowan	1	1911	148	59
?	City of New York		1931		

CARTOGRAPHIC REVIEW

1811 Commissioner through 1868 Dripps - (Figures 6-10b through 6-15) The project area is in the Hudson River.

1879 Bromley - (Figure 6-16b) The majority of the block is filled and is vacant.

1880 Farm Map - The original shoreline is shown east of the project area.

1883 Robinson - West 55th Street is lined with Belgian Block. There is no sewer line, and the water line runs west as far as Lot 15. The elevation at the corner of West 55th Street and Eleventh Avenue is 23 feet, and at West 55th Street and the pier is 4 feet. The northwest corner of the block does not exist, nor does Twelfth Avenue. The project area is vacant.

1889 Robinson - (Figure 6-17b) The project area is vacant, and the entire block and Twelfth Avenue have been filled in.

1891 Bromley - The entire parcel is vacant. A 6 inch water main extends west as far as the original shoreline, and the sewer line extends west to the river.

1902 Docks and Ferries - West 55th Street is paved and has a three foot circular sewer. The project area is vacant.

1902 Bromley - (Figure 6-18b) The project area is vacant, and the 6 inch water main extends to the west end of the block.

1913 Hyde - (Figure 6-19c) At the corner of West 55th Street and Twelfth Avenue, spanning Lots 1 and 2, is a six-story brick factory. Lots 3 through 5 are labeled "Lumber Yard" and are vacant. Fronting Twelfth Avenue is a long east-west running wood shed, spanning the ends of Lots 55 through 60, and all of Lot 64. There is a 6 inch water main and three foot sewer in West 55th Street. An area in Marginal Street is labeled "Department of Water Supply."

1920 Bromley - The elevation at the corner of West 55th Street and Eleventh Avenue is 23 feet.

Route 9A Reconstruction Project

1921 Bromley - Lots 1 and 2 are covered by the same six-story building labeled "Lofts." Lots 3 and 4 have a one-story garage. Lots 5 through 10 have a one-story service station, and the Department of Street Cleaning, Incumbrance Yard No. 1 spans the entire northern half of the block. There is a one-story Red Cross Warehouse in Marginal Street, where the previous Dept. of Water Supply was located.

1922 Sanborn - In Marginal Street is a Red Cross Warehouse. There is a 12 inch pipe through the center of Twelfth Avenue.

1930 Hyde - The buildings are the same as in 1921, however the entire north half of the block is covered by a two-story building labeled "Housing Station and Destructor Plant, Dept. of Street Cleaning." A two-story building is still in Marginal Street.

1932 Bromley - The project area is the same as it was in 1930.

SHORELINE FILL

The project area was submerged until at least 1859. The first filling within project area occurred between 1859 and 1879, and it was entirely filled by 1889.

HISTORIC SENSITIVITY

None. Nothing was built on the project area until after 1902.

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Block 1104 - Formerly block 237, between West 56th and West 57th Streets, including West 56th Street.

The lots included within the project area are all of Lots 1 through 4, and 61 through 64, and the southern end of Lot 5. The original route of Twelfth Avenue and Marginal Street are also within the bounds.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1102 through 1106 are part of the historic Cornelius Cosine (Cozine, Cozzins) Farm (Stokes Vol. 6, 1926:86).

As per the Index Division's Block summary:

"Wholly within the Cozine Farm. In 1809 the parcel was divided by agreement among Cozine's children and parts of the John Cozine and Lettice Hegeman shares are included in this block. Property in the southerly part of this block east of the old high water mark was in John Cozine's allotment and passed to John Jacob Astor through deeds and foreclosures. John J. Serrell and others as Commissioner of Partition conveyed it in lots and parcels in 1849 and 1850. The northeasterly section east of the high water mark was conveyed to Lettice Hegeman. Her will devised her property to her children and grandchildren. Partitioned by the Hegeman heirs, the section was conveyed in lots and parcels to Thomas A. Emmet, referee. Charles E. Appleby in 1889 obtained a water grant from the City of New York for the land adjoining his lots fronting the river. The land under water adjoining the Astor property apparently belongs to the City of New York." Note: The project area was under water prior to 1859.

<u>GRANTOR</u>	<u>GRANTEE</u>	<u>LOTS</u>	<u>DATE</u>	<u>LIBER</u>	<u>PAGE</u>
T. Emmet	C. Appleby	3,4,37-64	1859	780	625
Mayor et al.	C. Appleby	3,4,37-64	1889	2179	
Mayor et al.	C. Appleby	61	1889	2179	365
Appleby	Collins & Keating	61	1908	129	158
Colling & Keating	Carvel	61	1908	130	190
Carvel	Dwyer & Dooley	61	1908	130	197
Chanler	Scoble	1	1912	147	462

Route 9A Reconstruction Project

GRANTOR	GRANTEE	LOTS	DATE	LIBER	PAGE
Appleby	Mason-Seaman Transporation	61	1914	159	470
?	City of New York		1933		
?	City of New York	1	1933		

CARTOGRAPHIC REVIEW

1811 Commissioners through 1883 Robinson - (Figures 6-10b through 6-16a) The project area is in the Hudson River and the shoreline is east of the project area.

1889 Robinson - (Figure 6-17b) The entire block has been filled to the western end, and the project area is vacant. There is a sewer line in West 56th Street, but no water line.

1891 Bromley - The project area is vacant. Twelfth Avenue and Marginal Street have been filled.

1902 Docks and Ferries - There is a three foot circular sewer in West 56th Street. In Marginal Street there is a label indicating the presence of two derricks and fronting the river is a carpenter shop. Abutting the western boundary of Twelfth Avenue on Marginal Street is the Granite Paving Office building.

1902 Bromley - (Figure 6-18b) All lots are vacant. In Marginal Street are one metal shed and two wooden sheds. There is a 6 inch water main and sewer line in West 56th Street.

1913 Hyde - (Figure 6-19c) There is a Fire Department Repair shop at the corner of West 56th Street and Twelfth Avenue, on Lots 1 and 2. At the corner of West 57th Street and Twelfth Avenue is a one-story brick building on Lots 61 and 62. The rest of the lots are vacant. There is a two-story brick building in Marginal Street running north-south the entire length of the block, with another brick building on the southwest end of it, running east-west. North of this, fronting the river, are several one-story, metal-faced wood buildings.

1920 Bromley - The elevation at the corner of West 56th Street and Eleventh Avenue is 23 feet.

1921 Bromley - The Fire Department Repair shop still spans Lots 1 and 2, and the remaining lots are covered by a one-story brick building labeled "Republic Motor Sales Company Service Station." There is only one two-story brick building in Marginal Street running in a north-south direction.

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1922 Sanborn - The two-story brick building is still in Marginal Street, and there is a 12 inch pipe in Twelfth Avenue.

1930 Hyde - Everything is the same as on the 1921 atlas.

1932 Bromley - Everything is the same as on the 1930 atlas.

SHORELINE FILL

The project area was submerged until at least 1883. The first filling within the project area occurred between 1883-1889, and Twelfth Avenue was entirely filled by 1902.

HISTORIC SENSITIVITY

Possibly the Fire Department Repair shop on Lots 1 and 2 which stood between 1913 and the late 1920s is an important site.

Route 9A Reconstruction Project

Block 1105 - Formerly block 238, between West 57th and West 58th Streets, including West 57th Street.

There are no lots included within this parcel, because it only includes the original path of Twelfth Avenue and Marginal Street.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1102 through 1106 are part of the historic Cornelius Cosine (Cozine, Cozzins) Farm (Stokes Vol. 6, 1926:86).

As per the Index Division's Block summary:

"This tract is wholly within the C. Cozine farm. In 1843 Sarah Stokes' share was willed to Peter A. and Frances B. Hegeman. In 1866 it was partitioned and sold, and parts of the Sarah Stokes and Lettice Hegeman shares are included in this block. Property in the northern section, east of the high water mark was allotted to Sarah Stokes. Her will devised her property to Peter A. and Frances B. Hegeman. After Peter Hegeman's death, a partition suit brought by the Hegeman heirs resulted in the sale of the section in lots and parcels to Beverly Robinson, referee. The southerly section, east of the high water mark passed to Lettice Hegeman. Her will devised her property to her children and grandchildren. Partitioned by Hegeman heirs, the section was conveyed in lots and parcels to Thomas A. Emmet, Referee. Charles A. Appleby in 1889 obtained a water grant from the City of New York for the land adjoining his lots fronting the river. The land under water adjoining the Astor property belongs to the City of New York."

Note: Since none of the lots within this block are in the project parcel, a list of historic land owners was not compiled. The current route of West Street between West 57th and West 58th Streets is the same as the original West Street, and therefore was never subject to lotting. Twentieth century pier construction did not affect the original route of West Street at this locale.

CARTOGRAPHIC REVIEW

1811 Commissioners through 1883 Robinson - (Figures 6-10b through 6-16b) The project parcel is in the Hudson River.

1889 Robinson - (Figure 6-17b) Twelfth Avenue and Marginal Street have been filled.

1891 Bromley - The project area is vacant and on fill.

1902 Bromley - (Figure 6-18b) The project area is vacant and on fill.

1913 Hyde - (Figure 6-19c) There is a one-story building in Marginal Street running north-south. To the north of this, still south of West 58th Street, is another

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one-story building. There is also another narrow one-story building closer to the bulkhead, running in a north-south direction.

1920 Bromley - The elevation at the corner of West 57th Street and Eleventh Avenue is 23 feet.

1921 Bromley - There is a one-story brick building in Marginal Street, labeled "U.S. Army Garage." There is also a small one-story brick building to the north of this, and coal pockets border the bulkhead. The rest of the area is vacant.

1922 Sanborn - There is a 12 inch pipe through the center of Twelfth Avenue.

1932 Bromley - There are two one-story buildings in Marginal Street as in 1921. The coal pocket is labeled "Wm. Farrell and Son." The rest of the area is vacant.

SHORELINE FILL

The project area was submerged until at least 1883. Filling occurred between 1883 and 1889.

HISTORIC SENSITIVITY

None. The buildings in Marginal Street were short term, and they were largely storage facilities.

Route 9A Reconstruction Project

Block 1106 - Formerly block 239, between West 58th and West 59th Streets, including both.

There are no lots within the bounds of the project area, which only includes the original path of Twelfth Avenue.

HISTORIC LANDOWNERS

According to the early twentieth century historian, Isaac Newton Phelps Stokes, Blocks 1102 through 1106 are part of the historic Cornelius Cosine (Cozine, Cozzins) Farm (Stokes Vol. 6, 1926:86).

As per the Index Division's Block summary:

"Partly within the C. Cozine and John Somarindyck farms. John Somarindyck died, and the estate was divided among his children. In 1809 the block's northerly portion was conveyed to George Somarindyck, and in 1816 it was conveyed to Tunis Van Kleeck. In 1818 the parcel was conveyed by Samuel Gardiner to David Dunham. When Dunham died in 1825 the parcel was partitioned and sold by Anthony Dey to Asher P. Hamlin. In 1826 it passed to Charles Wayland and part went to Andrew Carrigan who obtained conveyance for Van Kleeck's interest. In 1866 after P. Hegeman died, the southerly section was partitioned and conveyed to Andrew Carrigan. In 1852 A. Carrigan obtained the land and water grants for the north section and in 1869 obtained them also for the southern section." Note: Since none of the lots within this block are in the project parcel, a list of historic land owners was not compiled. The current route of West Street between West 58th and West 59th Streets is the same as the original West Street, and therefore was never subject to lotting. Twentieth century pier construction did not affect the original route of West Street at this locale.

CARTOGRAPHIC REVIEW

1811 Commissioner through 1868 Dripps - (Figures 6-10b through 6-15) The project area is in the Hudson River and the shoreline is east of the project area.

1879 Bromley - (Figure 6-16b) Twelfth Avenue has been filled and is vacant.

1883 Robinson - The project area is vacant and is on fill.

1889 Robinson - (Figure 6-17b) The project area is vacant.

1891 Bromley - The project area is vacant.

1902 Bromley - (Figure 6-18b) There is a brick building in Twelfth Avenue.

1902 Docks and Ferries - There are several structures in Twelfth Avenue including a coal conveyor belt which ran from the dock to a building on the block.

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1913 Hyde - (Figure 6-19c) The project area is vacant.

1921 Bromley - The project area is vacant.

1922 Sanborn - Under West 58th Street is a Coal Conveyor Tunnel, and there is a 12 inch pipe through the center of Twelfth Avenue.

1932 Bromley - The project area is vacant.

SHORELINE FILL

The project area was submerged until at least 1859. The filling in the project area occurred between 1859 and 1879.

HISTORIC SENSITIVITY

None. All of the structures in Marginal Street were temporary in nature.

HISTORIC SENSITIVITY

Specific areas sensitive for potentially significant historical remains exist between West 44th and West 59th Streets. Numerous industrial complexes existed during the nineteenth and twentieth centuries, however few of these are considered to be archeologically sensitive and potentially eligible for National Register of Historic Places nomination. Areas identified are referenced in the Block Histories section, which is based largely on cartographic data. The following presentation also includes information gathered at the New York City Buildings Department, Block and Lot Division, and from secondary sources.

Categories of sensitivity were devised, and include dwellings and associated outbuildings; industrial buildings/complexes; piers and wharves; landfill; and other. The block numbers include the potential sensitivity for Twelfth Avenue bordering to the west, and the crossroad forming the southern border. The only exception to this is Block 1106 which included the northern cross street so as not to exclude West 59th Street. Going from south to north, the following sites have been identified as potentially sensitive.

Historic Dwellings and Associated Outbuildings

During the late eighteenth and early nineteenth centuries, several historic dwellings existed prior to industrial development, and remained standing as industries and transportation facilities were built around them. The only dwellings that stood actually within or in close proximity to the project area were the Striker and Mott houses. Occasionally, the upper stories of office buildings were converted to dwellings, but there is no evidence of this occurring within the project area prior to 1902. These early twentieth century apartments would not be considered sensitive, since they were converted after water and sewer lines were available.

On West 53rd Street within what is now the DeWitt Clinton Park, the Striker mansion, named Rosevale, stood between 1764 and 1902 (Stokes Vol. 3, 1918:952). The house was constructed by John Hopper the Elder for his son, John the Younger, born in 1734 (Mott 1908:9). The Striker family inherited Rosevale in 1819. Eventually Garrit Hopper Striker inherited the dwelling, which was later occupied by his son, Captain John Stryker (Mott 1908:389). The mansion was beautifully situated near the Hudson River (Figure 6-22), and was of "Old Dutch" architectural style (Valentine 1851:450).

A description of Rosevale states that it was approached by Hoppers Lane and that entrance to the grounds was obtained through two stone posts, which led to the family barns and stables (Mott 1908:392). The estate contained forest gardens on the east, and on the west massive trees were at the waters edge along the Hudson River. Nearby was a goldfish pond, beyond which was a billiard house. A bath house stood on a cove on the Hudson River, and the grounds and gardens were beautifully sculpted (Ibid.). The house itself stood on a knoll overlooking the

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grounds and river. Although the house itself was just east of the project area, there is the possibility that outbuildings within the grounds were once in the project area.

The Mott mansion at Motts Point, where John Hopper the younger built a house on the rivers edge in 1796 for his granddaughter, stood at the foot of what is now West 54th Street (Figure 6-23). The river was the site of family fishing, bathing and boating houses (Mott 1908:9). The house itself was approached by Motts Lane, portions of which were named Hoppers Lane. Hoppers Lane was laid out in 1704, connecting this property with Bloomingdale Road (now Broadway), and was 28 feet wide (Mott 1908:104).

The Mott mansion at the foot of West 54th Street and the Hudson River was demolished so that West 54th Street could be extended from Eleventh Avenue to the river. The last resident of the house, Hopper Striker Mott, stated that the house was razed in 1897 (Mott 1908:2). According to an undated news article reporting the demolition of the Mott dwelling,

...the house stood almost entirely in the street and had to give way to improvements, piers and bulkheads, having been constructed by the city in front of it. The site of the old house is a part of the famous Hopper farm which has been so much in litigation that lawyers have been averse to searching its title. John Hopper, the elder was a Hollander...and was the third great-grandfather of the Motts, who owned the mansion. The farm was acquired by grant from the Dutch in 1642. The English patent is dated 1667.

As late as 1883 a small part of the old Hopper burial-grounds remained at the northwest corner of Fiftieth Street and Ninth Avenue...The comfortable old home of Winifred Mott and others of her family, who were famous in early New York life, was built in the last century on a rocky promontory jutting out into the river, the upland being covered with old forest trees...

The west wall of the cellar was hewn from solid rock and formed the foundation for that part of the house above. Tenement-houses and factories had grown up about it. As late as during the war a large-sized lake was on the block where now is situated the Tenth Avenue car stables, between Fifty-third and Fifty-fourth Streets. From it flowed a living stream, which in its winding course crossed the farm, running south some three hundred feet from the mansion. It was arbores throughout its length, embowered with grapevines of many varieties and emptied into a pond stocked with goldfish. Within a stone's throw of the mansion stood the Striker house, built in 1752, but which was also

razed some months since, as it stood in the line of what will be Fifty-third Street. The last occupant was Ambrose Kingsland Striker, a gentleman and a scholar, who died there a few years ago (Clippings File, Museum of the City of New York, c.1900).

The Mott family owned a watch business on Nassau Street during the nineteenth century. The family petitioned for a dock to be built at the foot of West 55th Street to permit ordinary coasting vessels to unload (Rutsch et al. 1983:118). However, the dock built during the nineteenth century was undoubtedly removed during the construction of twentieth century piers.

Industrial Buildings/Complexes

On Block 1092 between West 44th and West 45th Streets, Menzies Saw Mill stood between at least 1859 and 1868. The brick and wood structure was in the middle of the block between the two cross streets (Figure 6-14). William Menzies acquired Lots 8 through 11 and 54 through 57 in 1852 from J. Westervelt, and owned the parcel until 1878 (Liber 602:40). Also on the block, Lots 5 through 8 had a brick building fronting West 44th Street which stood between 1879 and 1920, as did Lots 57 through 60 fronting West 45th Street (Figure 6-16). Both of these brick buildings were associated with the Consolidated Gas Company, formerly the Municipal Gas and Light Company. The Gas Company acquired the property from William Menzies in 1878 (Liber 1452:102).

On Block 1093 between West 45th and West 46th Streets, Lots 9 and 10 possessed a metal storage tank between 1879 and 1913. Lots 54 and 55 had a brick building spanning them also between 1879 and 1913. Lots 56 through 60 had a brick building fronting West 46th Street between 1879 and 1891 and Lot 61 had a wooden building fronting West 46th Street which stood between 1889 and 1913 (Figure 6-16). All of these were associated with the Consolidated Gas Company, formerly the Municipal Gas and Light Company. The Gas Company acquired this property from William Menzies in 1877 (Liber 417:487).

Block 1094 between West 46th and West 47th Streets had a brick slaughterhouse which stood between 1879 and 1913 on Lots 7 through 9. The building spanned Lots 6 through 13 in 1883, and was later reduced in size. The longest continually standing section was on Lots 7 through 9 (Figure 6-16). In addition, the Bloomingdale Flint Glass Works was probably within the block (Figure 6-11).

By the mid-1820s a glass manufacturing company occupied a site, in the vicinity of West 47th Street, along the edge of the Hudson River. The Bloomingdale Flint Glass Works, at the foot of West 47th Street, was operated by two brothers, John and Richard Fisher (Figure 6-20). Apparently the Fishers were two of several skilled glass cutters that left (c.1820) the newly formed East Cambridge, Massachusetts New England Glass Company to found their own business in Manhattan. Another founder, John Gilliland, split from the Bloomingdale Flint Glass Works in 1822 to

form the Brooklyn Flint Glass Works, considered to be the ancestor of today's well-known Corning Glass Works (Brown and Ment 1980:10-11). The "Glass House" is shown between West 46th and West 47th Streets on the 1836 Colton Topographical Map of the City and County of New York (Figure 6-11). The Fisher brothers owned land on Block 1094 between West 46th and West 47th Streets between 1824 and 1825 as per deed records (Liber 179:218). However, the Fisher brothers may have leased the site much longer than they appeared to have owned the property in this location. An 1851 Map of the City of New York showed no buildings at the presumed location of the glassworks (Figure 6-12). Its precise location has yet to be determined.

Apparently, John and Richard Fisher, together with John L. Gilliland, purchased a tract of land between the Hudson River, and land owned by John Jacob Astor, between West 46th and West 50th Streets. They reportedly built the glass house between West 47th and West 48th Streets (McKearin 1941:595). The factory stood between 1820 and 1840, and was also known as the New York Glass Works (Ibid.; Figure 6-20). The plain and cut flint glass table and decorative wares produced were sold in a sales room in downtown New York, and in 1835 they received an award at the Annual Fair of the American Institute of the City of New York for the second best specimen of cut glass (Ibid.). In 1840 the factory closed down. In 1820 another glass works was established near Chatham Square in New York, but this venture was short lived, rendering the Fishers the main manufacturers of flint glass in New York City at that time (Ibid.).

Flint glass was a general term for colorless glass used for tumblers, goblets and tablewares (Matsumura 1983:13). The glass manufacturing procedure involved using lead as a flux which enhanced lustre. The coal firing and pressed glass process began to flourish in the United States during the 1820s (Douglas and Frank 1972:35). Cone shaped furnaces were heated by a central furnace below ground, and air was supplied to the fire by a below ground tunnel (Ibid.:106). Glass pressing became popular. The center of production in the early nineteenth century was in Pennsylvania where necessary fine sand deposits were readily available. Few factories were built in the Northeast during the early nineteenth century, and approximately 33 factories were established nationwide between 1820 and 1830 (McKearin 1941:595).

On Block 1095 between West 47th and West 48th Streets, Lot 9 had a small two-story brick building fronting West 47th Street, between 1889 and the 1920s (Figure 6-17). Lot 10 had a small wood building which stood between 1859 and 1891 (Figure 6-14). Both buildings were associated with a lumber yard. On the north half of Lot 55, fronting West 48th Street, was a brick saw mill which stood between 1879 and 1913 (Figure 6-16).

On Block 1096 between West 48th and West 49th Streets was a planing mill complex which stood between 1859 and 1868 (Figure 6-14). The property was purchased by Brandish Johnson in 1857 (Liber 751:74). The Commercial Beef Oil Manufacturing Company had a brick building on Lots 9 and 10 between 1879 and 1902, and a wood

building on Lots 1 through 3 and 5 through 7 between 1879 and 1889. There was an unlabeled brick building which stood on Lot 57 between 1883 and 1889 (Figure 6-17), and an unlabeled wood building which stood on Lot 58 between 1879 and the 1920s (Figure 6-16). Both of these were fronting West 49th Street.

On Block 1097 between West 49th and West 50th Streets, a brick building with a basement labeled Malt House and later Hygia Ice Company, stood on Lots 1 through 3, 5 and 6 (Figure 6-14). The building stood between 1859 and the 1920s, and was owned by E. Johnson between 1858 and 1896 (Liber 765:157; Liber 45:497). In 1896 Eugene Ludin acquired the building, and sold it to the Hygia Ice Company in 1900 (Liber 71:188; Plan 424, 1896; Block and Lot File).

In 1889 portions of the malt house had a 7 foot 6 inch deep foundation, with 24 inch thick walls of brick and stone. The building housed kilns for the malt house and was used for malt storage (Plan 1453; Block and Lot File).

In 1889 the building was 100 feet by 75 feet 2 inches and was used as a warehouse. Some of the foundation walls were 10 feet deep and 16 inches thick, laid on rock. It had an elevator shaft to the basement which opened to the street and a one-story boiler house (Plan 463; Block and Lot File). In 1896 an extension was put on the east side for a stable and boiler room (Plan 424; Block and Lot File). In 1900 the ice plant was altered to 100 feet by 105 feet, when an additional extension was put on the north end of the building for a boiler house. The foundation of the extension was four feet deep and 24 inches thick, laid on rock (Plan 2623; Block and Lot File). In 1920 the building had no plumbing, so floor drains were installed to connect to sewer lines. At that time the building was owned by the Knickerbocker Ice Company (Plumbing and Drainage 400; Block and Lot File). A 1908 permit was granted by the Erie Railroad Company to maintain a suction pipe through the bulkhead at West 49th Street, connected to Dealers Hygia Ice Company (New York City Department of Docks and Ferries 1908:76).

Also on Block 1097, a brick stone works building stood on Lots 61 and 62 between 1879 and 1902, and an unlabeled brick building stood on Lot 57 between 1883 and 1902 (Figure 6-18). In addition, a brick piano factory spanned Lots 7 through 10, and stood between 1900 and 1920 (Figure 6-19). The piano factory was built by Matthew Baird in 1900, and was 50 feet by 117 feet (New Building 191; Block and Lot File). In 1902 C. Baird owned the building (Liber 89:222). The structure had a basement, with a 12 inch thick concrete foundation 10 feet deep below the curb (Ibid.). In 1906 the building had no plumbing (Plan 1457; Block and Lot File).

On Block 1098 between West 50th and West 51st Streets, Lots 6 and 7 had a brick saw mill, which later housed a scaffold manufacturing company (Figures 6-17, 6-21). The five-story brick building stood between 1889 and the 1920s, and the parcel was owned by Charles Peabody in 1892 (Liber 10:453). The New York Scaffolding Company owned the parcel until 1915 when they sold it to American Safety Device Company (Liber 163:350). On Lots 1 through 4, an unlabeled brick building stood between 1889 and the 1920s, also owned by Charles Peabody in 1892 (Figure 6-17).

Chapter VI:

In 1920 the building had a one-family apartment, store and office (New Building 246; Block and Lot File). The apartment was occupied after water and sewer lines were hooked to the building, and therefore the lot would not be sensitive for privies or wells associated with the apartment dwellers. In 1921 Charles Brown sold the building to Shamrock Towing (Liber 3153:128).

Block 1099 between West 51st and West 52nd Streets had an unlabeled brick building which stood on Lot 10 between 1859 and 1916 (Figure 6-13). The building had a cellar used for storage and a boiler room (Block and Lot File). A brick piano factory building, later Browns Soap Works, stood between 1896 and 1930, when it was demolished (Figures 6-19, 6-21). The five-story building with a basement spanned Lots 1 through 9, and 56 through 64. The concrete foundation was 7 feet 2 inches deep and 16 inches thick, laid on earth (Plan 1192, 1896; Block and Lot File). The factory was 225 feet by 200 feet, and was connected to sewers in West 51st and West 52nd Streets (Ibid.).

Piers and Wharves

Several piers also existed historically within the project area extending into the Hudson. On Block 1093 between West 45th and West 46th Streets, a pier appeared in 1852, and became part of the landfill by 1859 (Figure 6-12). On Block 1094 between West 46th and West 47th Streets, and on Block 1095, between West 47th and West 48th Streets, piers existed as early as 1817 and became part of the landfill by the 1870s (Figure 6-9). The pier at the foot of West 54th Street on Block 1102 was depicted only on an 1817 map and was probably removed prior to the 1850s when filling along the shoreline occurred. Middle and late nineteenth century piers were removed in the twentieth century for the construction of newer facilities (See the Historical Background Section).

Landfill

The landfill within the project area all postdates 1850. Prior to that time, there was no demand for land in the area, and no impetus to fill in water lots. The majority of filling activities were completed by 1879. In two of the blocks surveyed (Blocks 1104 and 1105) filling activities did not predate 1883. The only blocks sensitive for historical fill are 1092, 1093, 1094, 1095, 1101, 1002, 1003, 1004, 1005, and 1106. The remainder of the project area is on original land.

The landfill in and of itself may not be sensitive since filling episodes have been documented, and artifacts found in this secondary context render little information. Numerous projects within Manhattan have documented land reclamation along both the shore of the East and Hudson Rivers. Records of the Common Council also documented landfilling as it occurred. In order for landfill itself to be considered worthy of subsurface archeological investigation, the deposition must be tied into a specific episode by a group or individual, such as a manufacturer discarding waste materials from the production process. Thus, if the resources are in situ, specific information can be gathered regarding manufacturing process or an individual's

Route 9A Reconstruction Project

lifeways. If deposition is simply the collection of trash from an undesignated area, together with materials excavated elsewhere and debris from disasters, the information that can be acquired from such a context is minimal. Evaluation of the significance of the landfill in this section of Route 9A will be made when research on the entire Route 9A corridor is completed.

Other

The only building identified in the non-industrial category is a Fire Department Repair Shop building which stood on Block 1104 between West 56th and West 57th Streets. The building stood between at least 1902 and the 1920s (Figure 6-19). The three-story brick building spanned all of Lots 1 and 2, and the southern half of Lots 5 through 20. The only part of the building that is within the project area is the portion on Lots 1 and 2.

In addition to the historic features identified thus far, a number of historical features are in close proximity to the project area, according to a map of historical landmarks (Stokes Vol. 3, 1918: Plate 176). Verdant Lane ran from Broadway to Block 1097 between West 49th and West 50th Streets. Paralleling this to the north, Hoppers Lane also ran from Broadway, and ended on West 53rd Street where the Striker house stood. Although neither of these roads are directly within the path of the current Twelfth Avenue or the project area, they did at one time play an important role in the development of the middle-west side.

Although the building that currently stands on Block 1106 between West 58th and West 59th Streets is just east of the project area, it is worthy of mention. The structure, formerly the IRT pump house, now houses Consolidated Edison. The brick and terra-cotta building built in 1904, once generated all of the power necessary for the original IRT subway (Willensky and White 1988:224). Ashes and coal were transported between the building and the dock on the Hudson River via electric conveyor belts (Ibid.).

PLATE XXXVI.
THE MUNICIPAL ENGINEERS
OF THE CITY OF NEW YORK.
HOAG ON THE NEW YORK
DOCK DEPARTMENT.

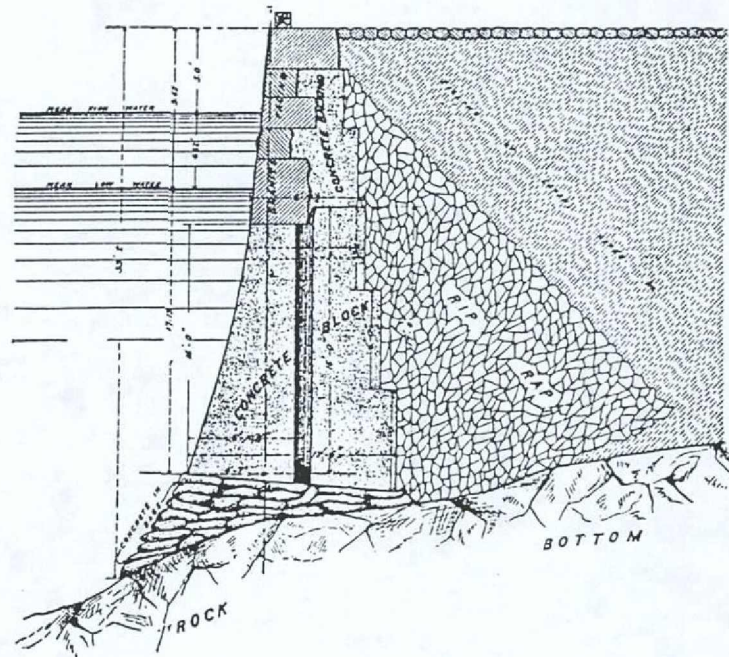
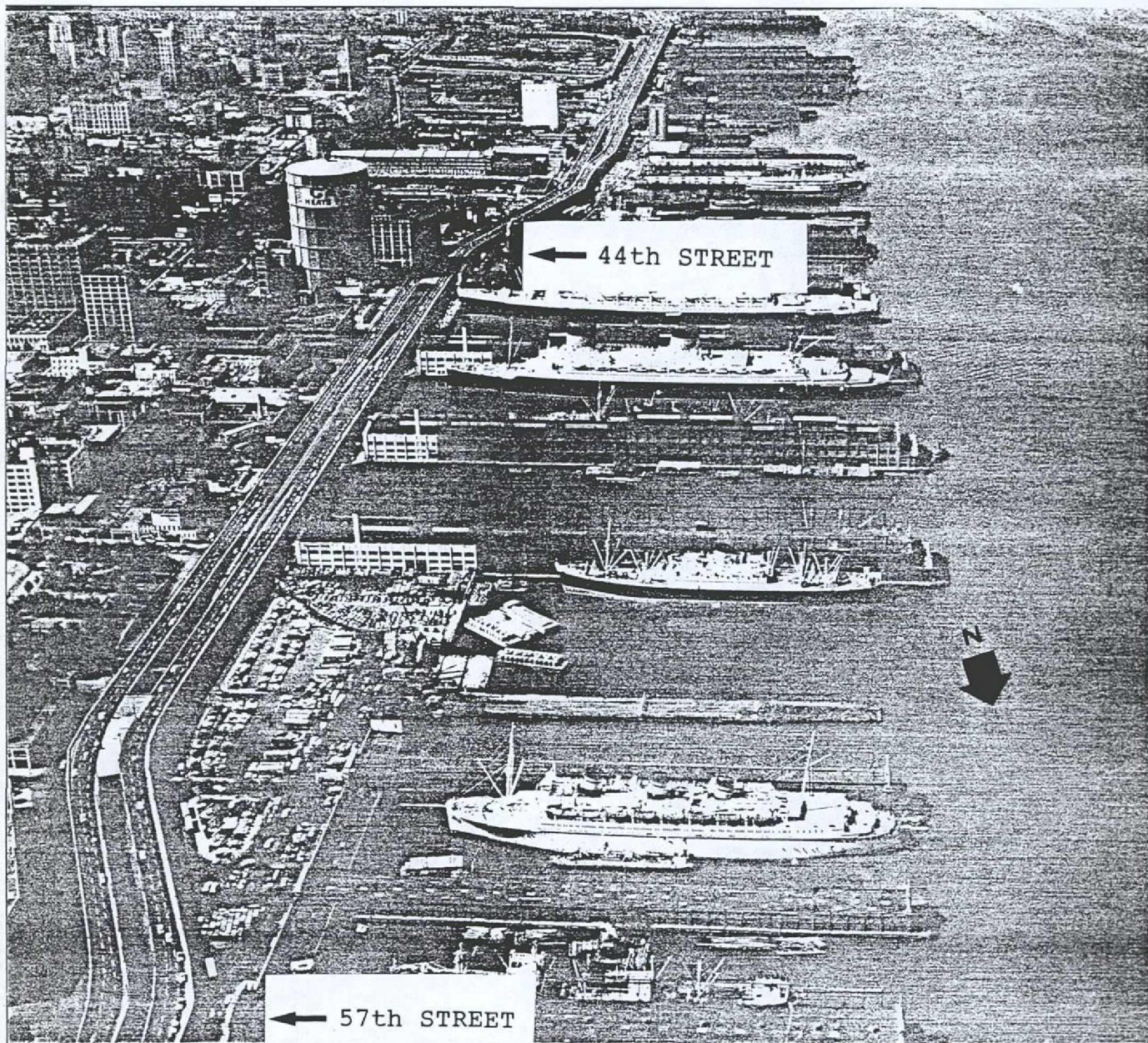


FIG. 1.—WEST 52D STREET SECTION, SOUTH END.

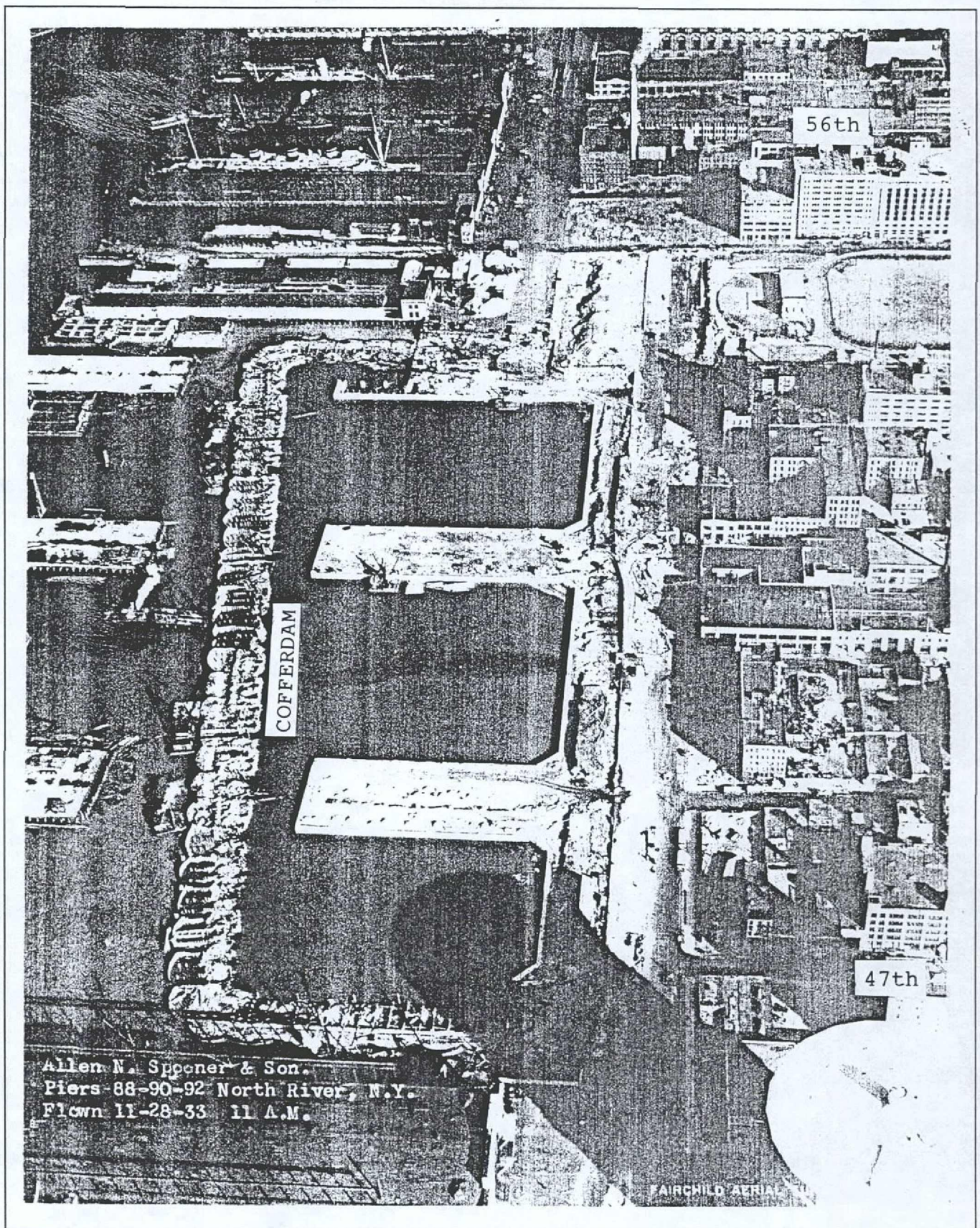
ROUTE 9A RECONSTRUCTION PROJECT

Bulkhead Construction in the Vicinity of West 52nd Street
Source: Hoag 1905



ROUTE 9A RECONSTRUCTION PROJECT

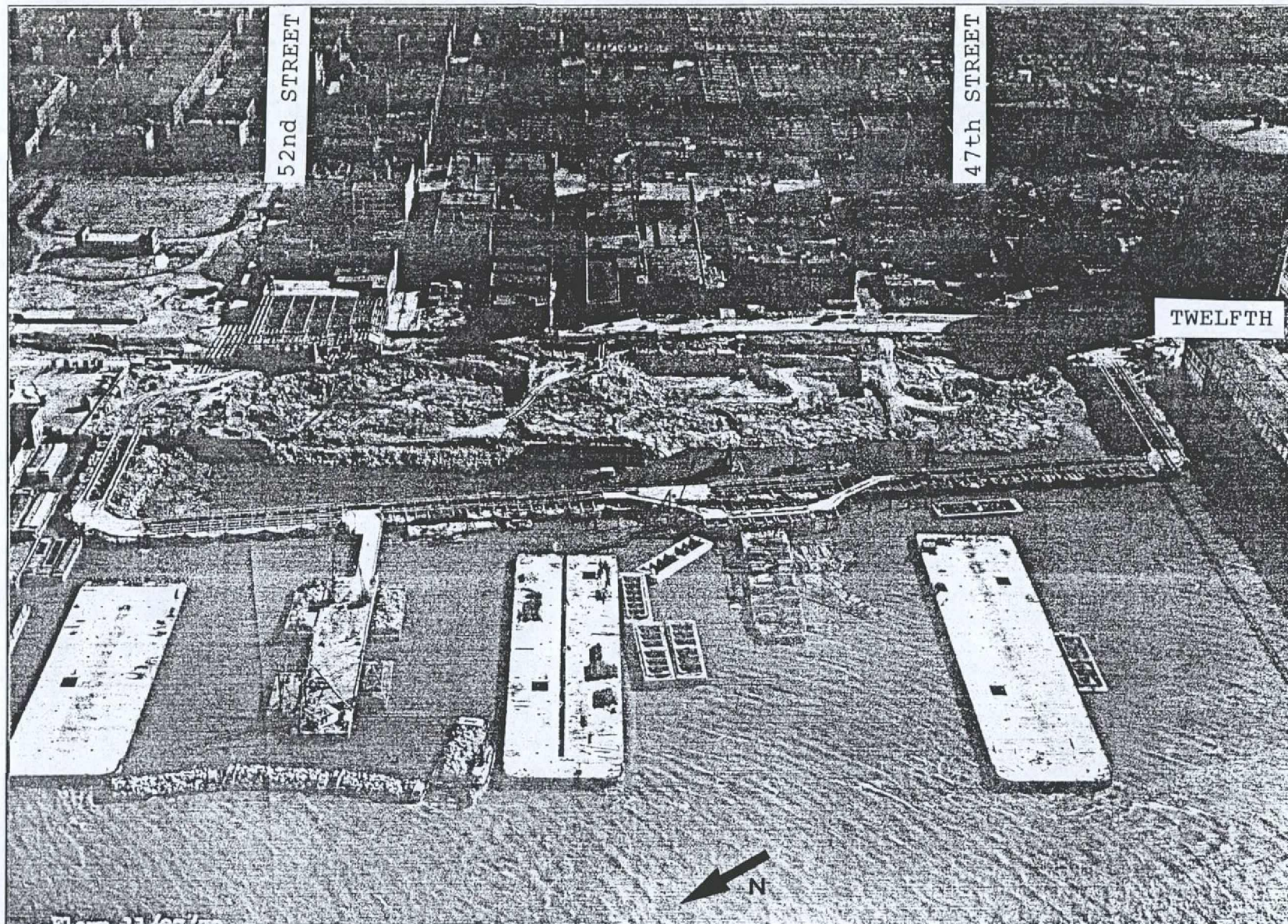
Aerial View of West Side Highway ca. 1970
West 44th Street to West 57th Street
Courtesy of the South Street Seaport Herman Melville Library



ROUTE 9A RECONSTRUCTION PROJECT

Aerial View of Study Area in 1933
West 46th Street to West 56th Street

Courtesy of the South Street Seaport Herman Melville Library



ROUTE 9A RECONSTRUCTION PROJECT

Aerial View of Study Area in 1932
 From West 46th Street to West 52nd Street
 Courtesy of the South Street Seaport Herman Melville Library

Figure 6-4

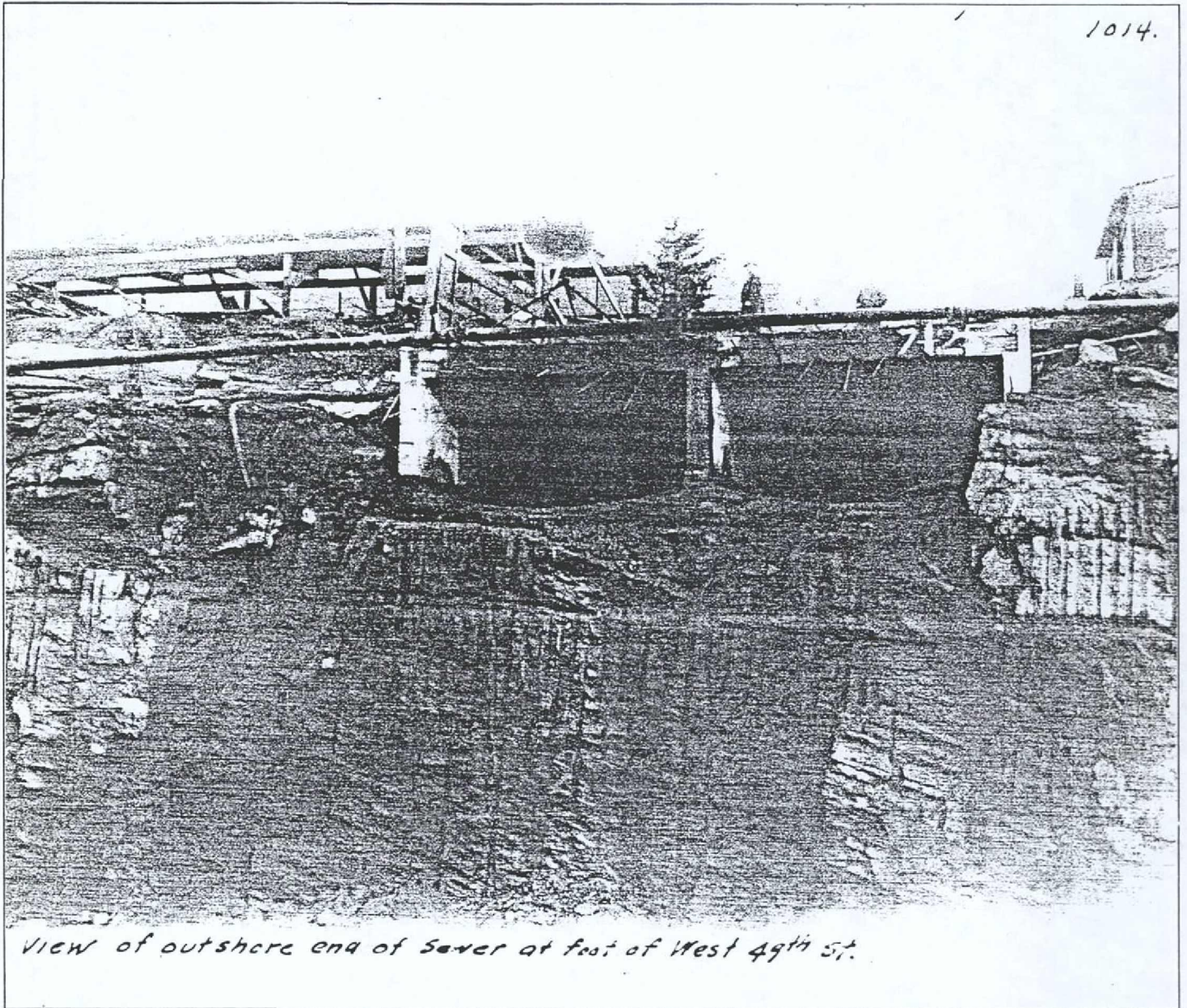


ROUTE 9A RECONSTRUCTION PROJECT

Land and Fill Removal Along the Shoreline
for 1000' Pier Construction ca. 1933
Courtesy of the New York City Municipal Archives

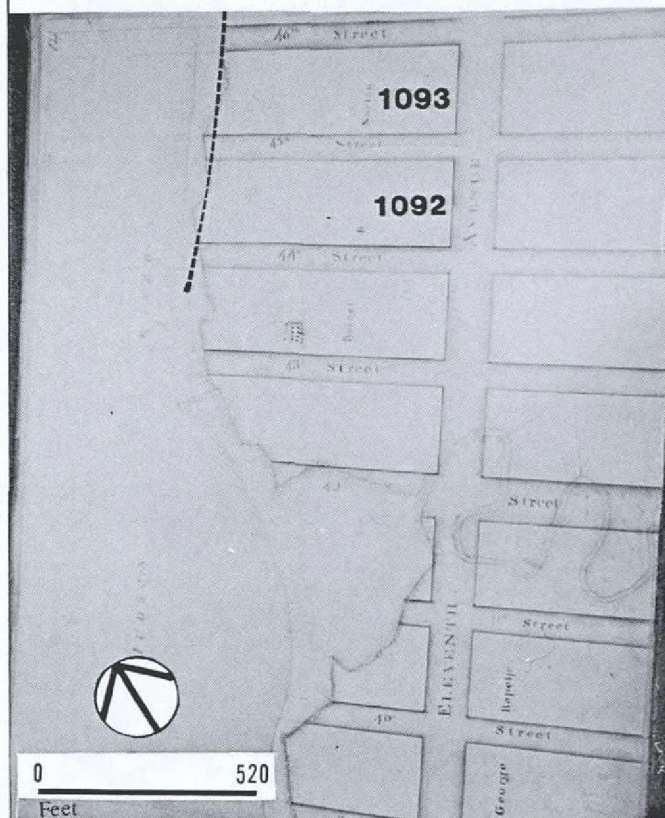
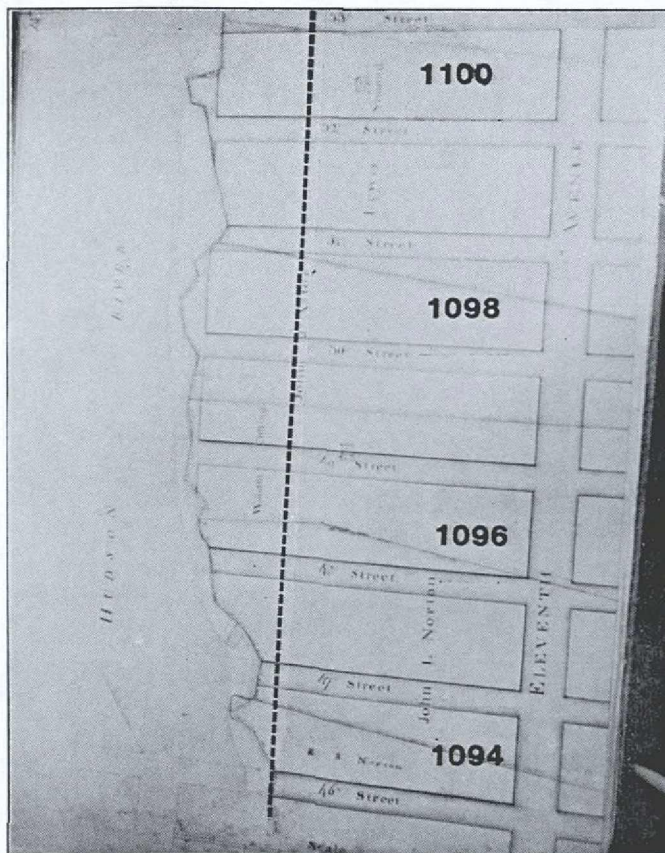
Figure 6-5

1014.



ROUTE 9A RECONSTRUCTION PROJECT

Hudson River Sewer Outlet at Foot of West 49th Street ca. 1933
Courtesy of the New York City Municipal Archives



Legend

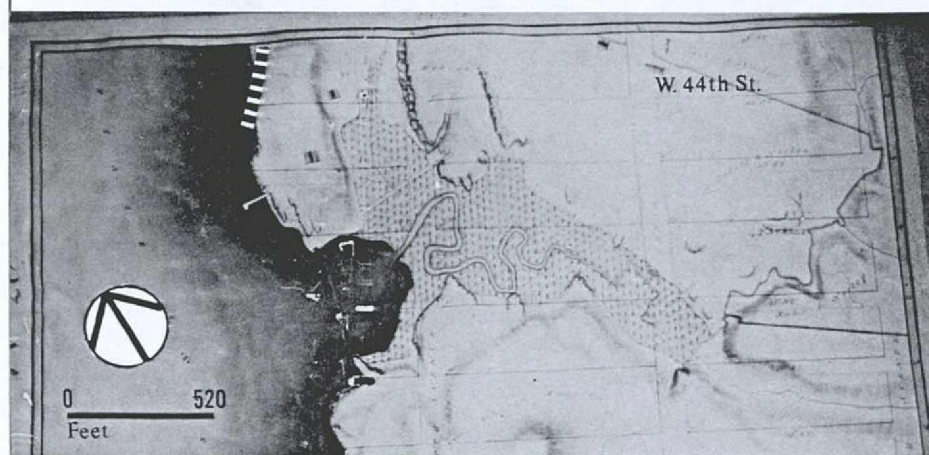
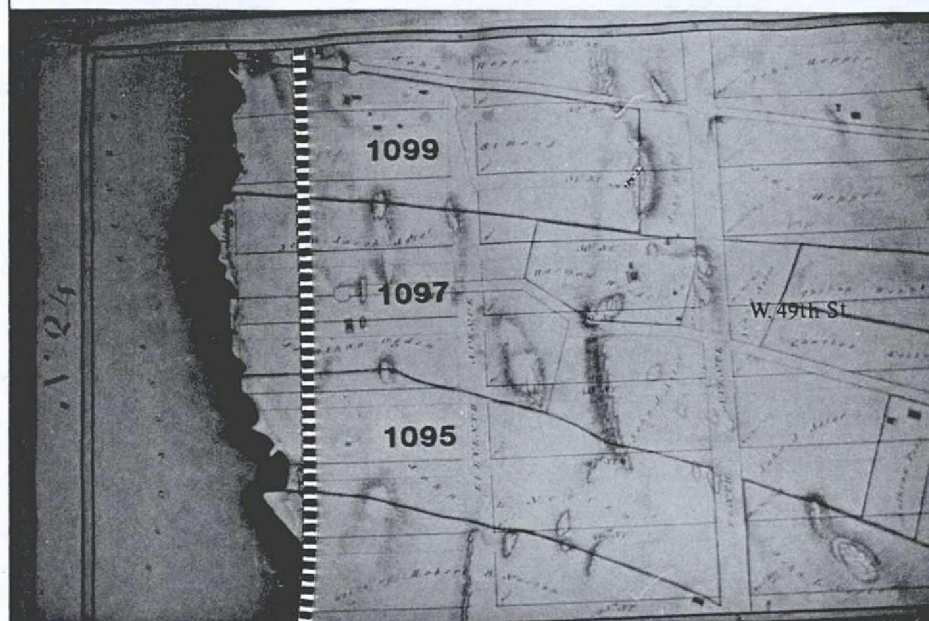
----- Approximate Eastern
Boundary of Study Area



0 520
Feet

ROUTE 9A RECONSTRUCTION PROJECT

1817 Poppleton North River Shore Map
Courtesy of Manhattan Borough President's Office

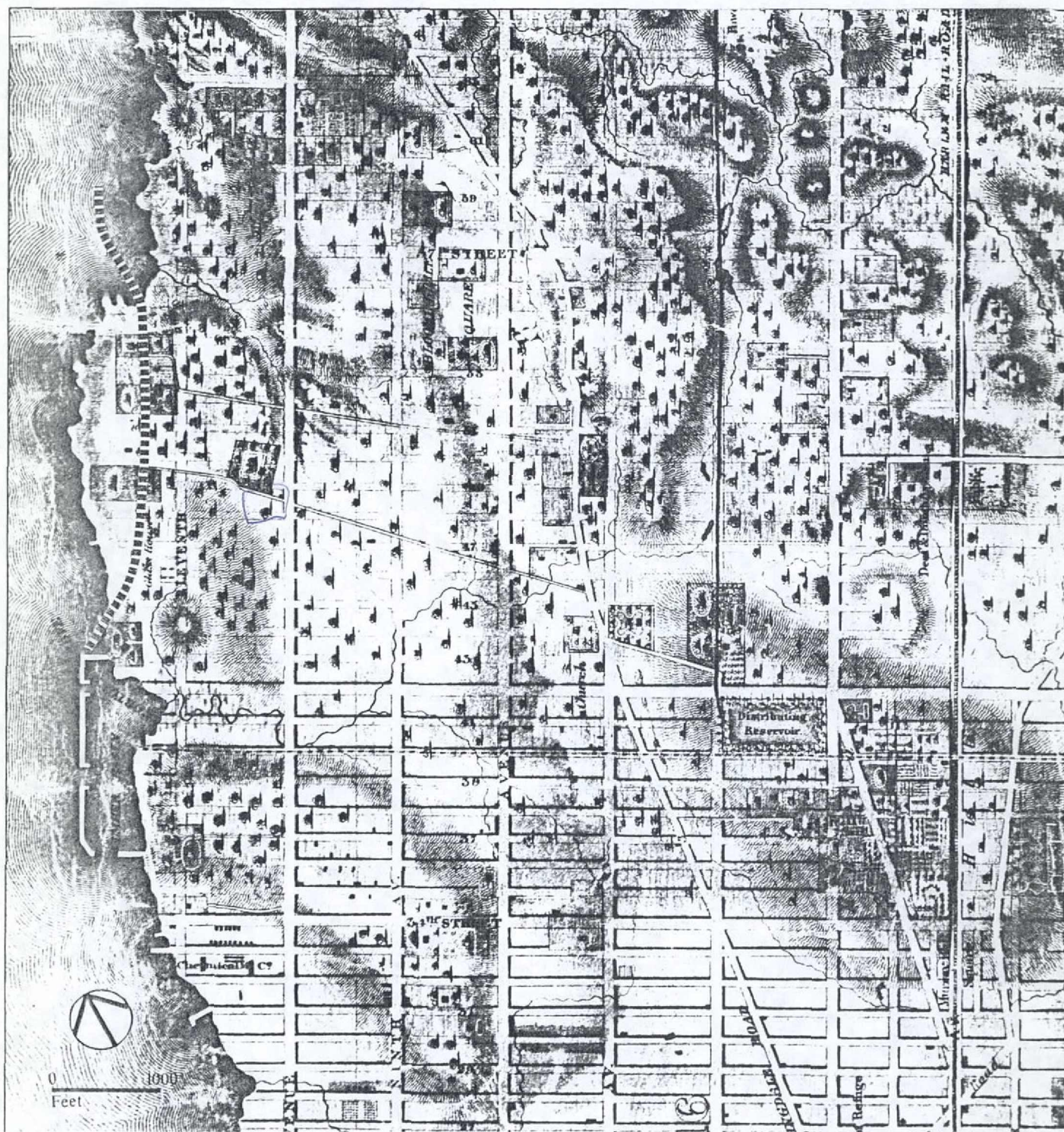


Legend

----- Approx. Eastern
Boundary of
Study Area

ROUTE 9A RECONSTRUCTION PROJECT

1819-1820 Randel Survey Map of the City of New York
Courtesy of the Manhattan Borough President's Office

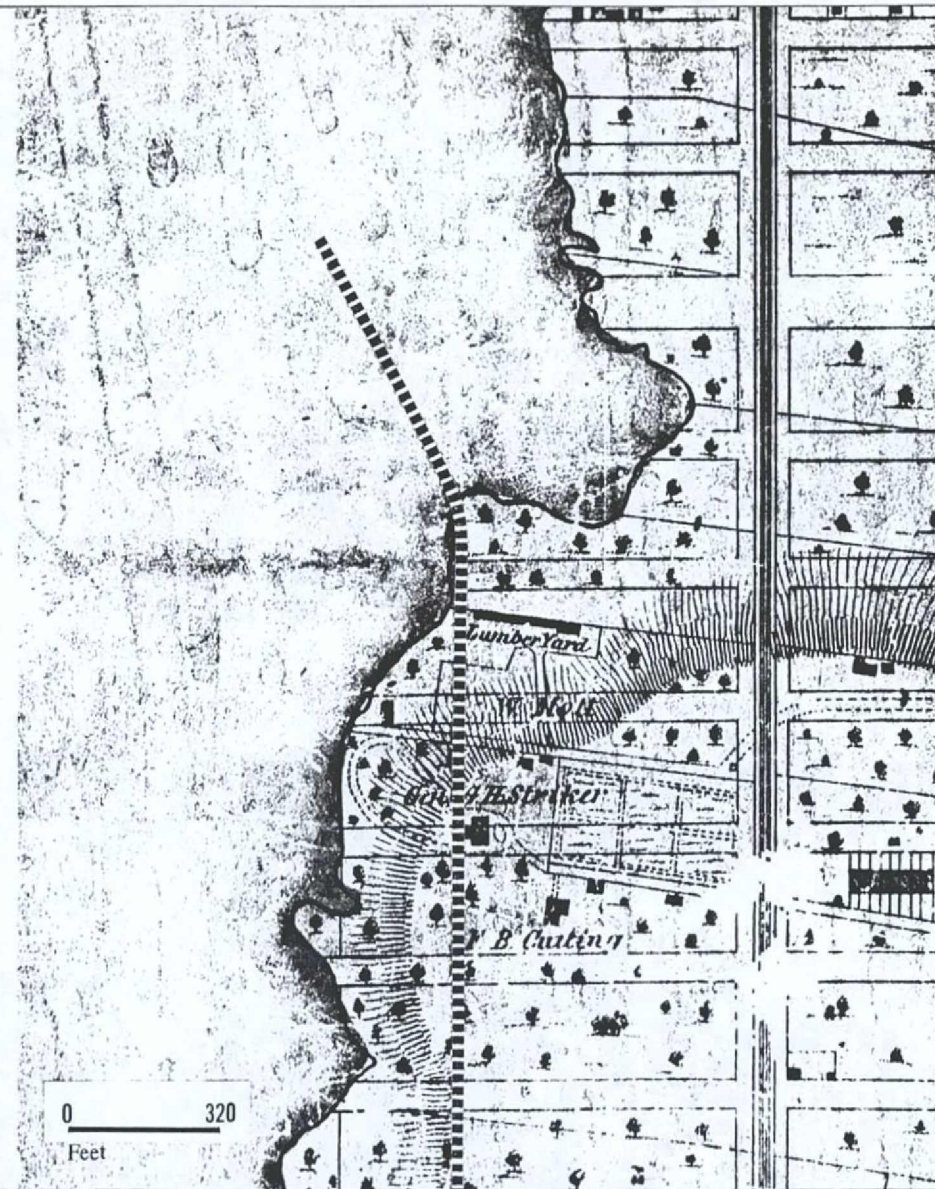
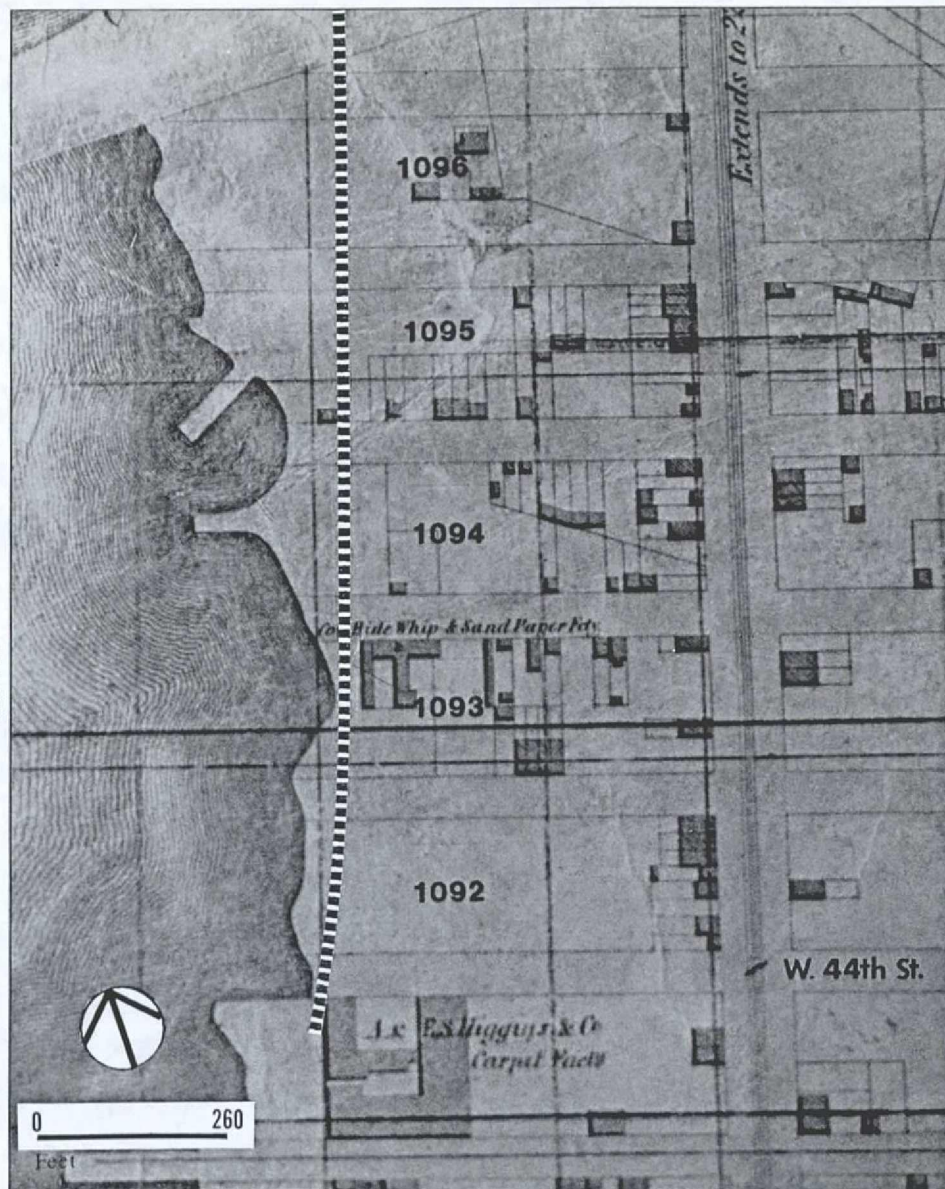


ROUTE 9A RECONSTRUCTION PROJECT

Legend

----- Approximate Eastern Boundary of Study Area

1836 Colton Topographical Map of the City and County of New York



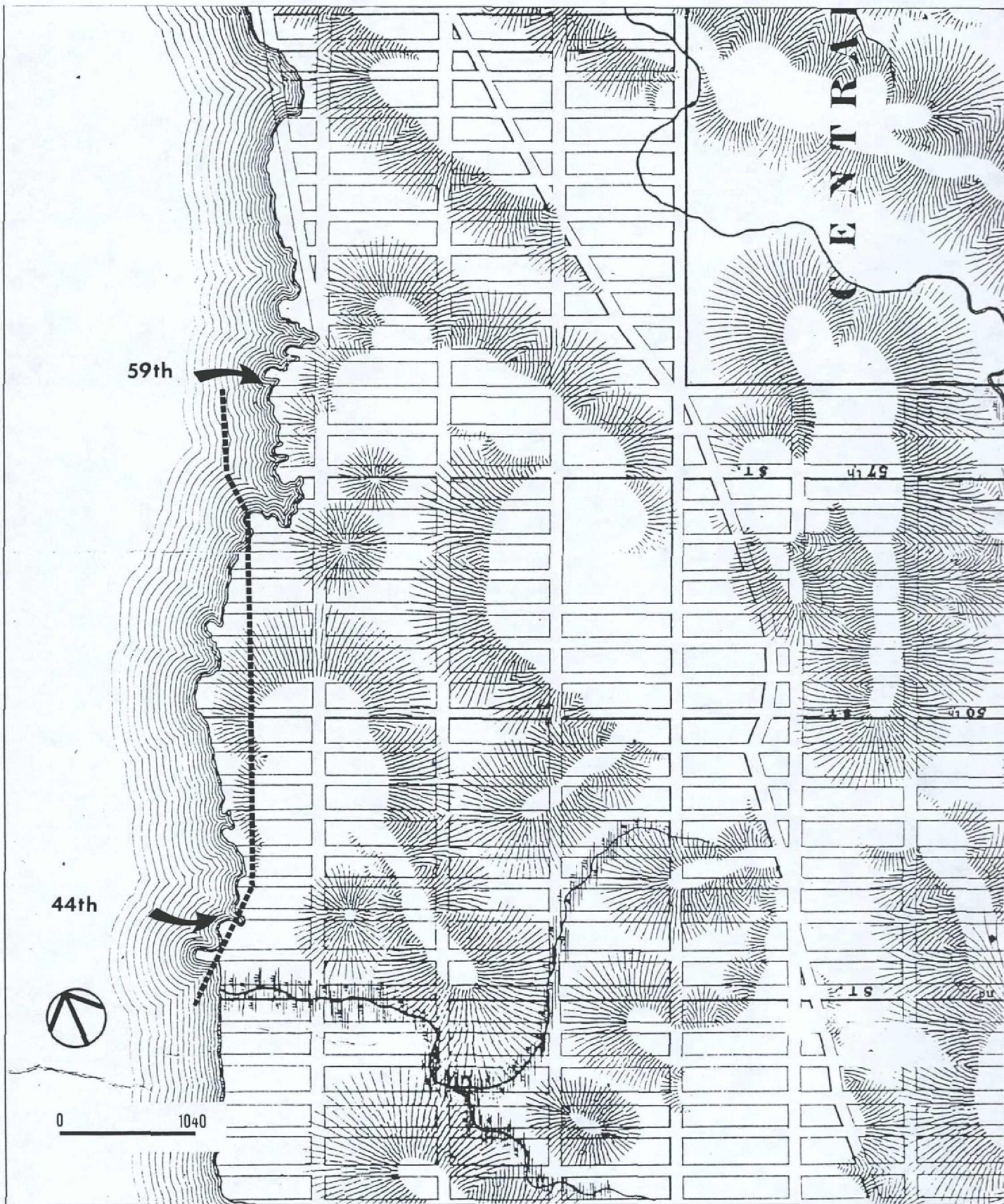
ROUTE 9A RECONSTRUCTION PROJECT

Legend

----- Approximate Eastern Boundary of Study Area

1851 and 1852 Dripps Maps of the City of New York
Extending Northward to 50th Street and North of 50th Street

Figure 6-12



ROUTE 9A RECONSTRUCTION PROJECT

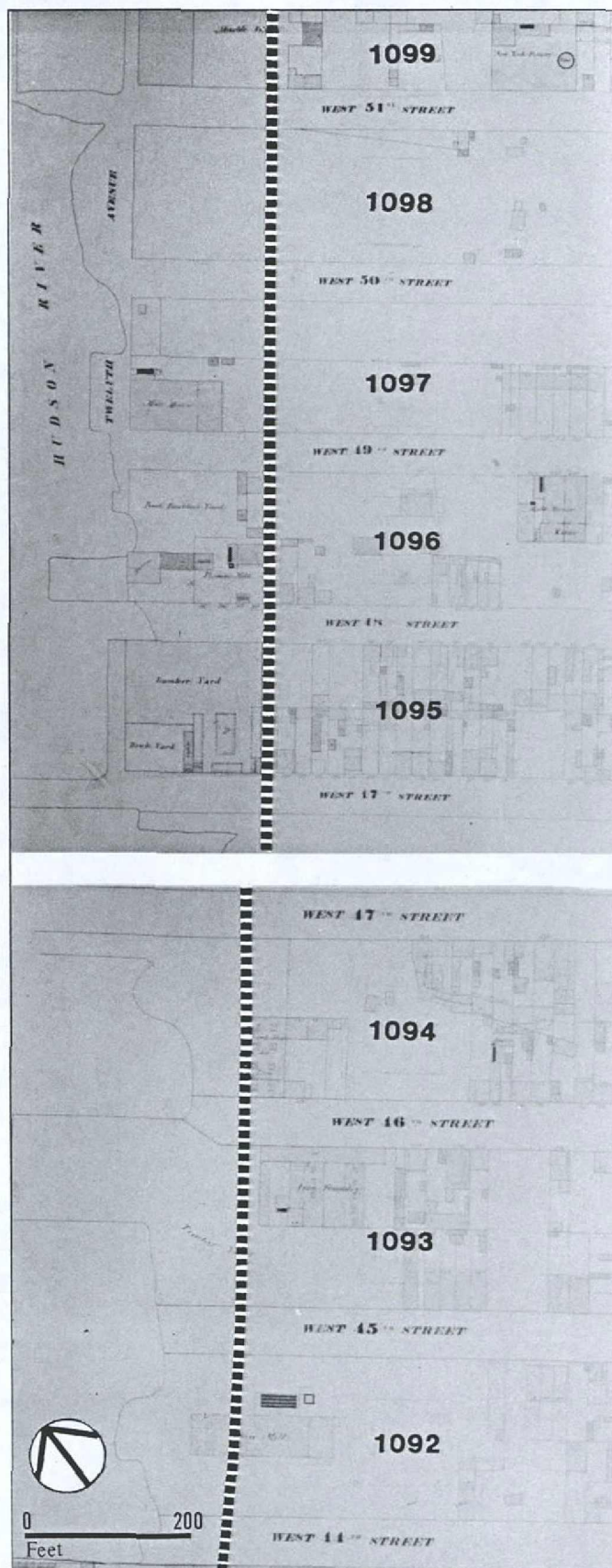
Legend

----- Approximate Eastern Boundary of Study Area

1859 Viele Topographic Map of the City of New York

Legend

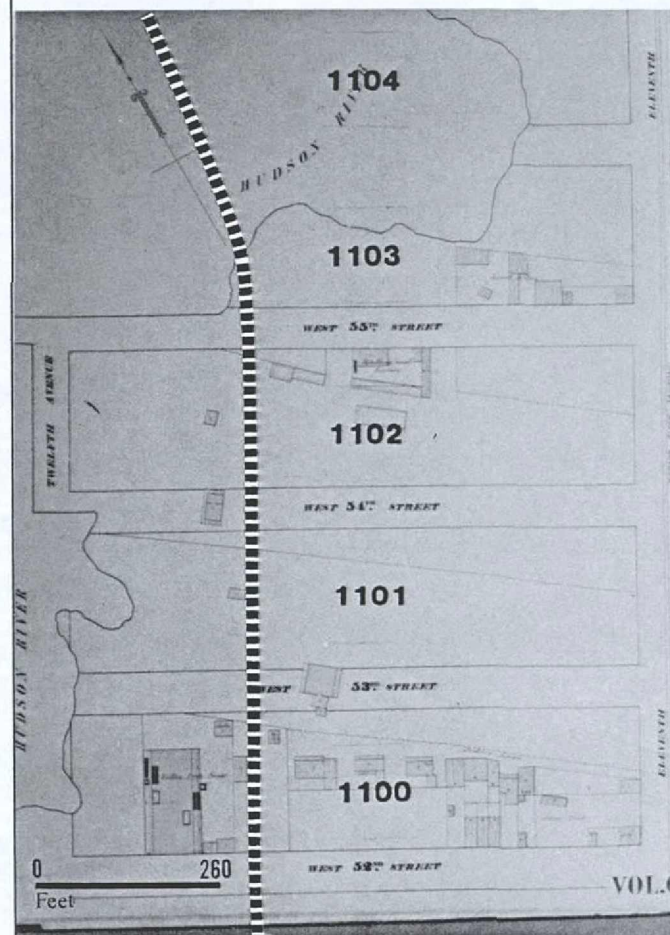
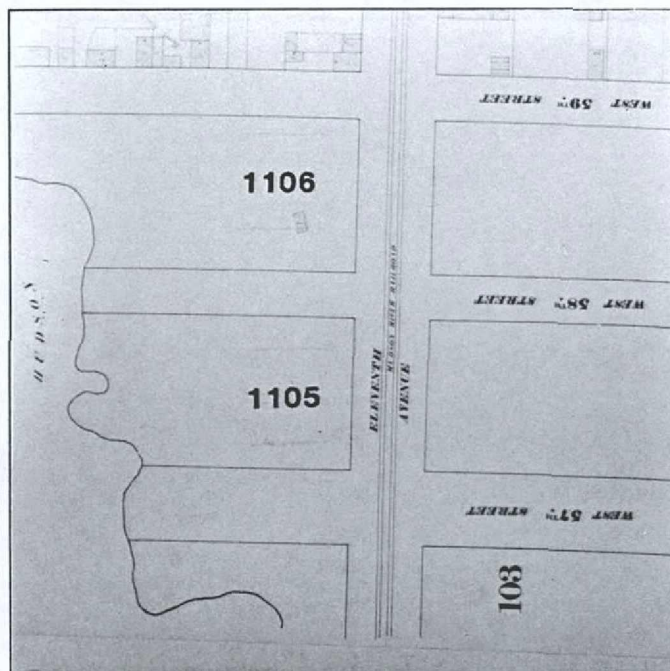
Approximate Eastern
Boundary of Study Area



ROUTE 9A RECONSTRUCTION PROJECT
1859 Perris Map of the City of New York

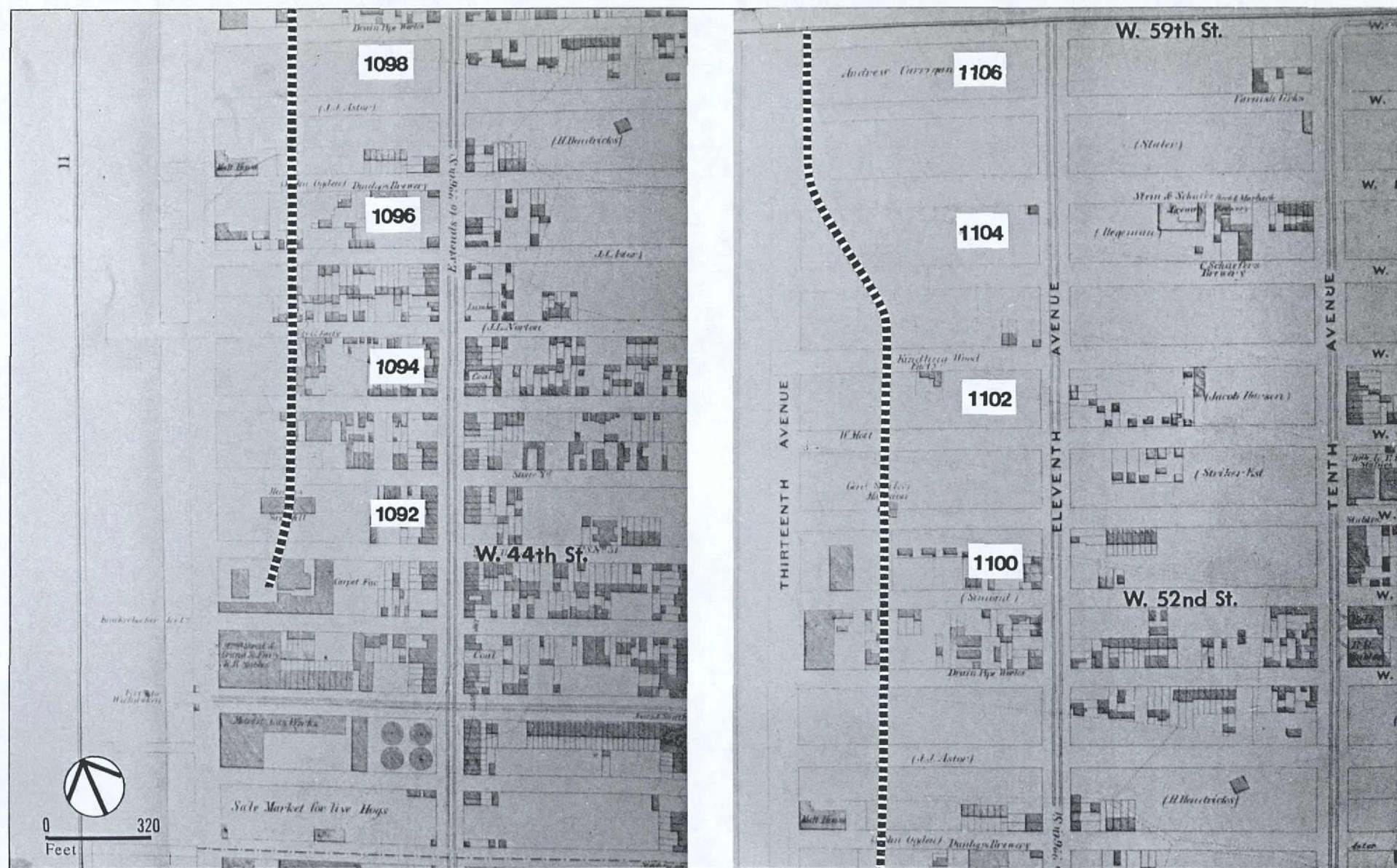
Legend

■■■■■ Approximate Eastern
 Boundary of Study Area
 (West of visible shoreline
 W. 57th to W. 59th Sts.)



ROUTE 9A RECONSTRUCTION PROJECT
 1859 Perris Map of the City of New York

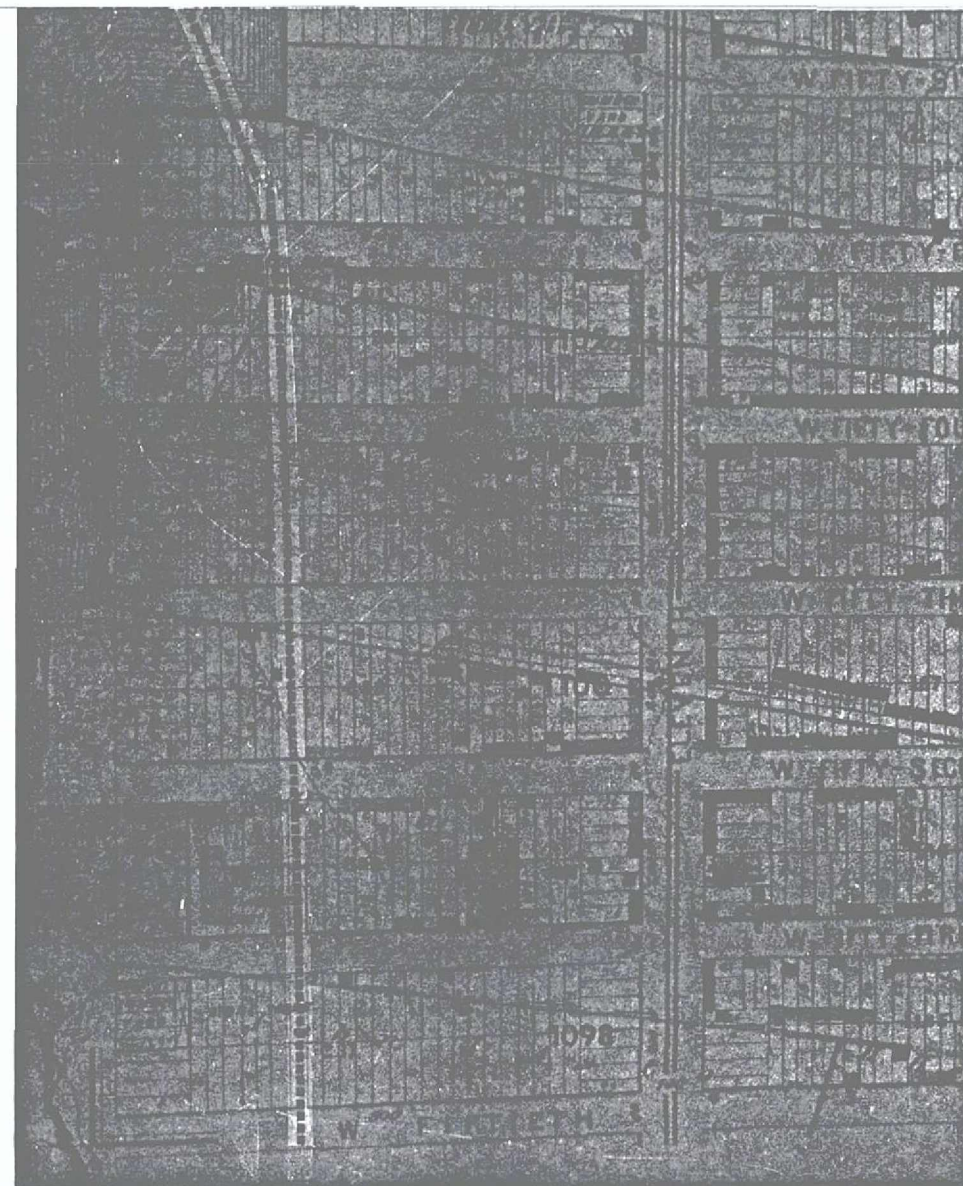
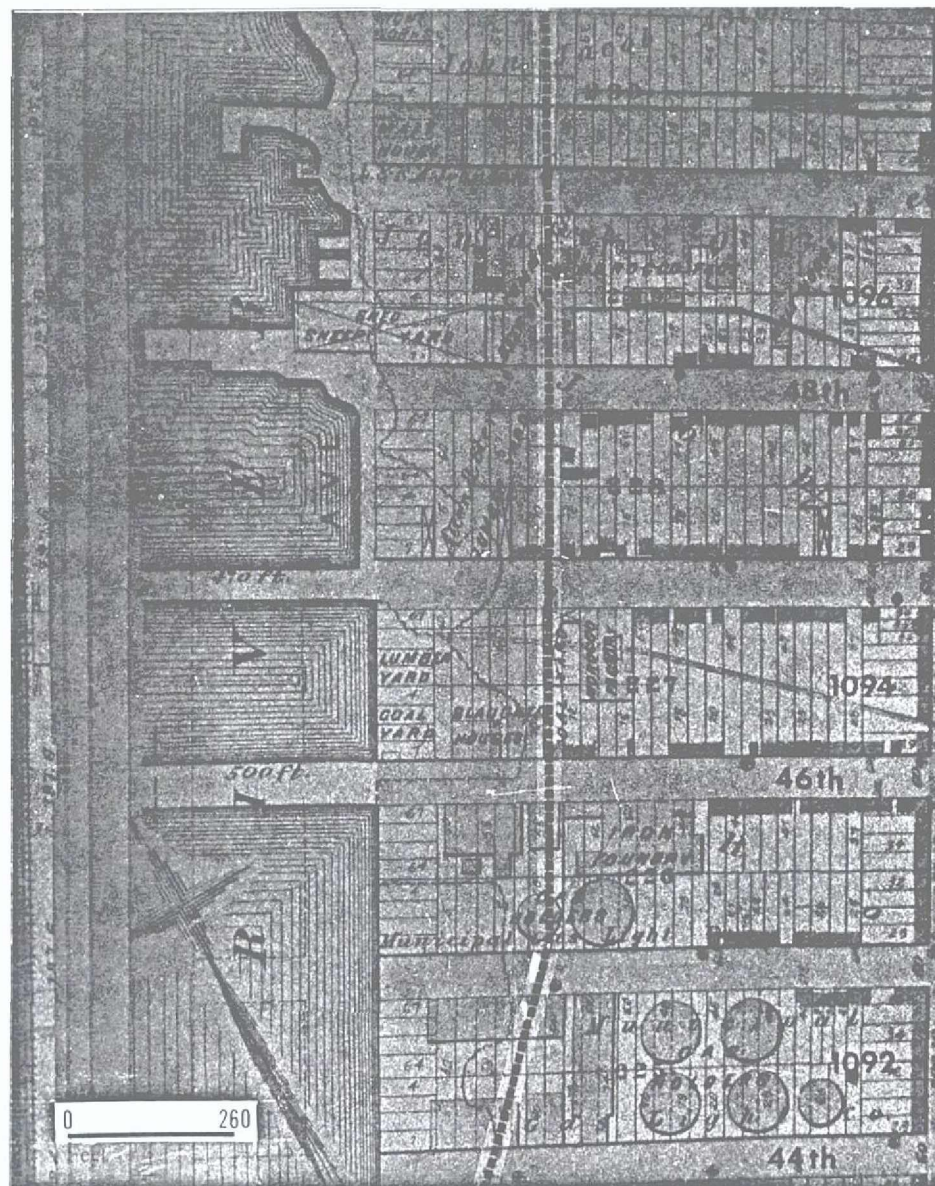
VI-92



Legend
..... Approximate Eastern Boundary of Study Area

ROUTE 9A RECONSTRUCTION PROJECT
1868 Dripps Plan of New York City

Figure 6-15



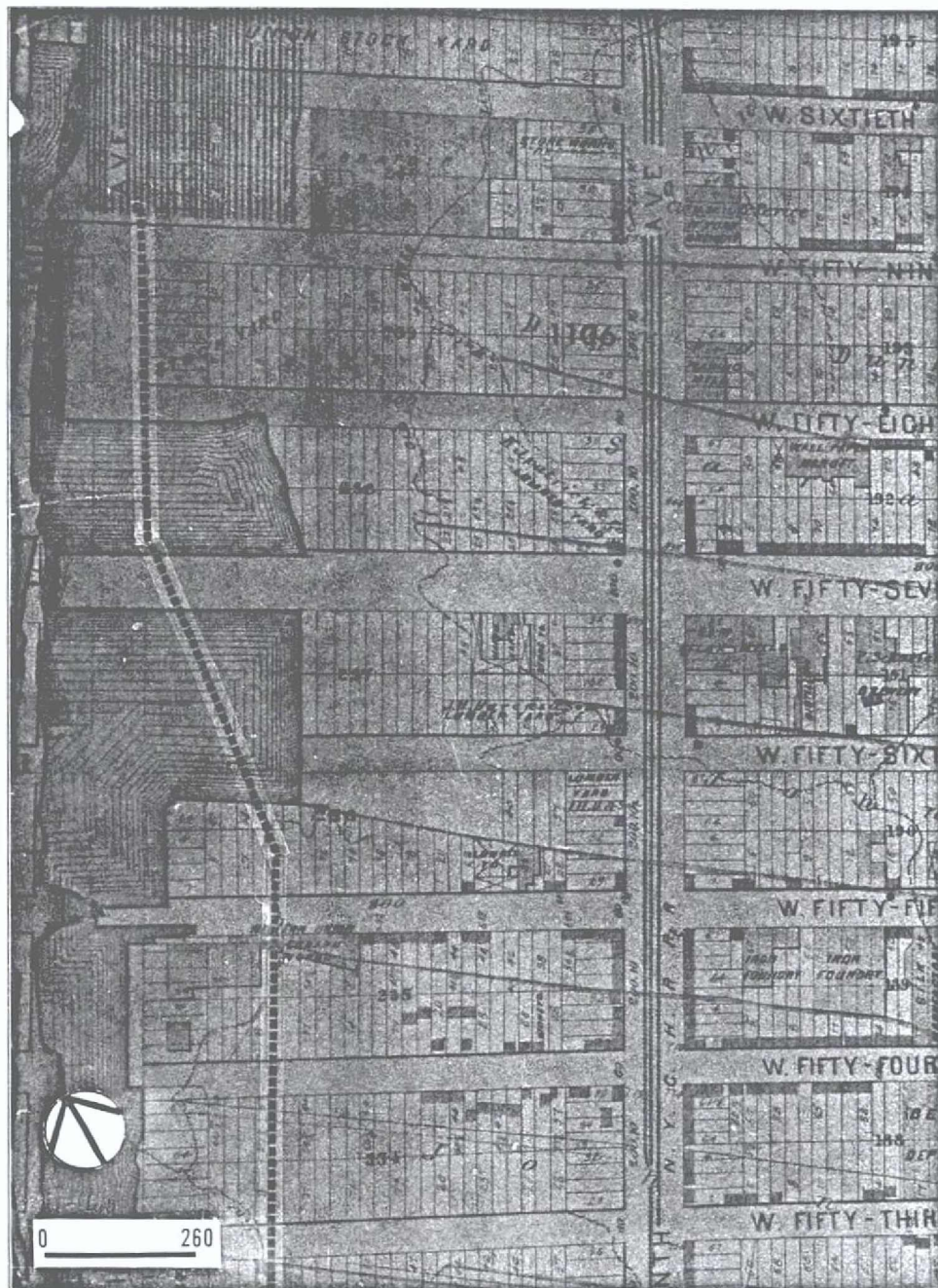
Legend

----- Approximate Eastern Boundary of Study Area

ROUTE 9A RECONSTRUCTION PROJECT

1879 Bromley Atlas of the City of New York

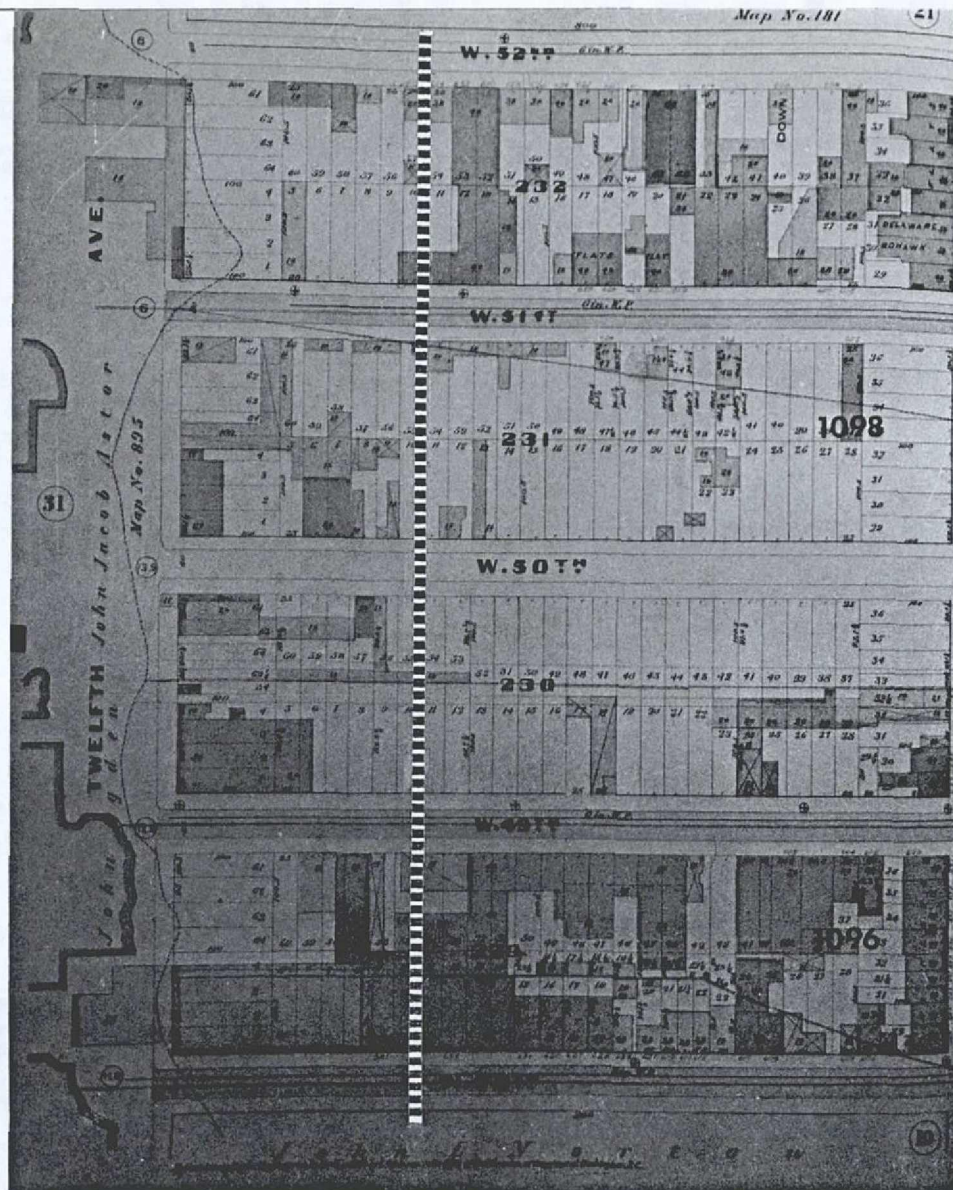
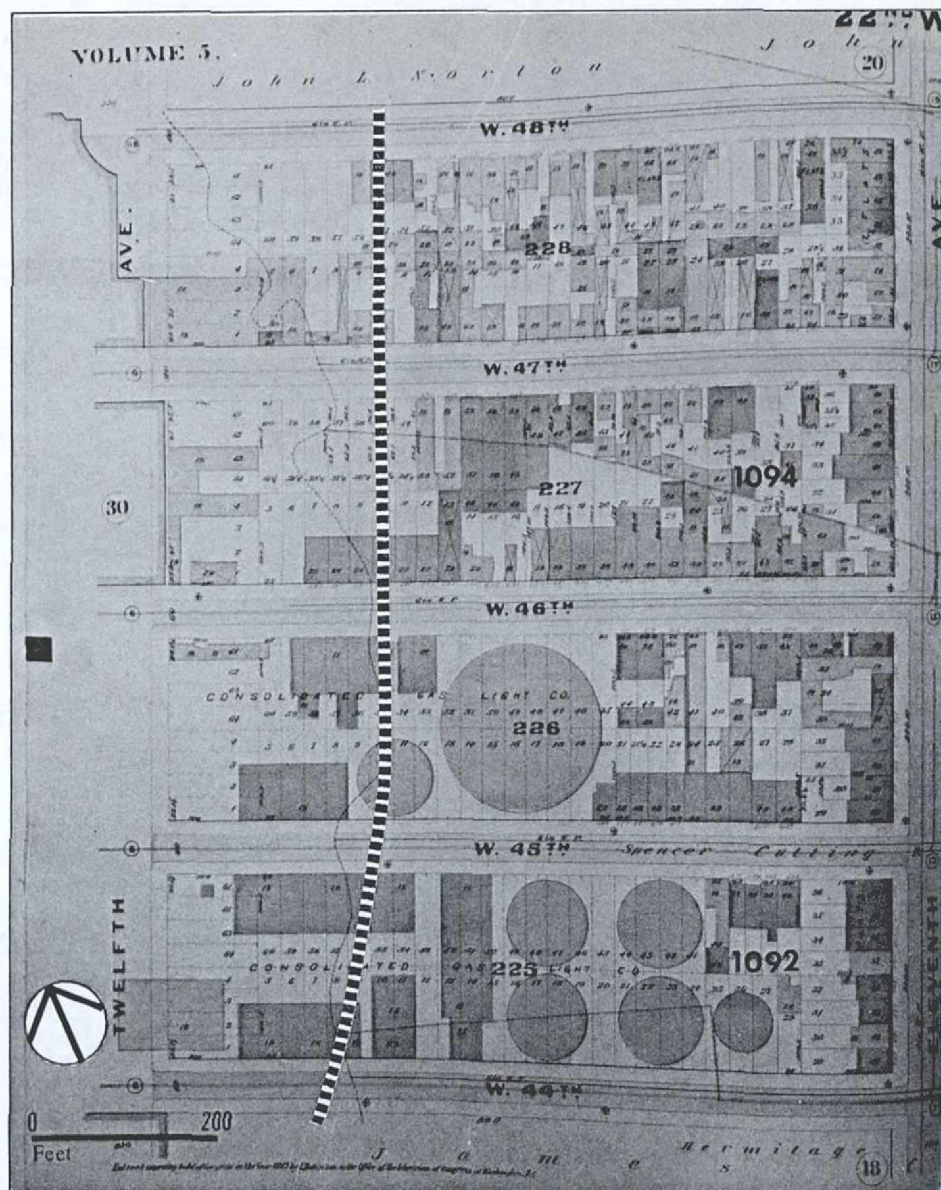
Figure 6-16A



ROUTE 9A RECONSTRUCTION PROJECT

Legend 1879 Bromley Atlas of the City of New York

----- Approximate Eastern
Boundary of Study Area



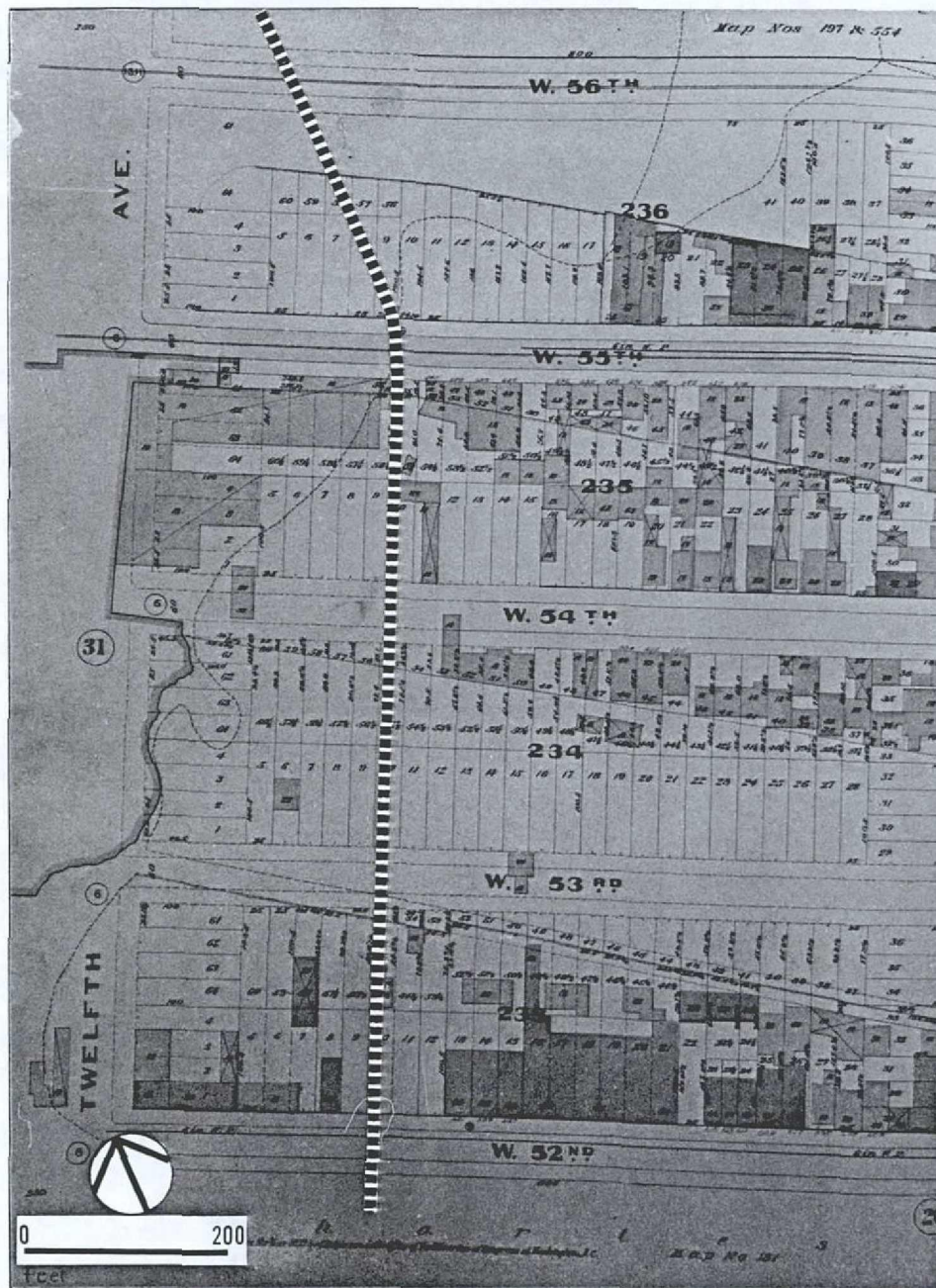
Legend

■■■■■■ Approximate Eastern Boundary of Study Area

ROUTE 9A RECONSTRUCTION PROJECT

1889 Robinson Atlas of the City of New York

Figure 6-17A



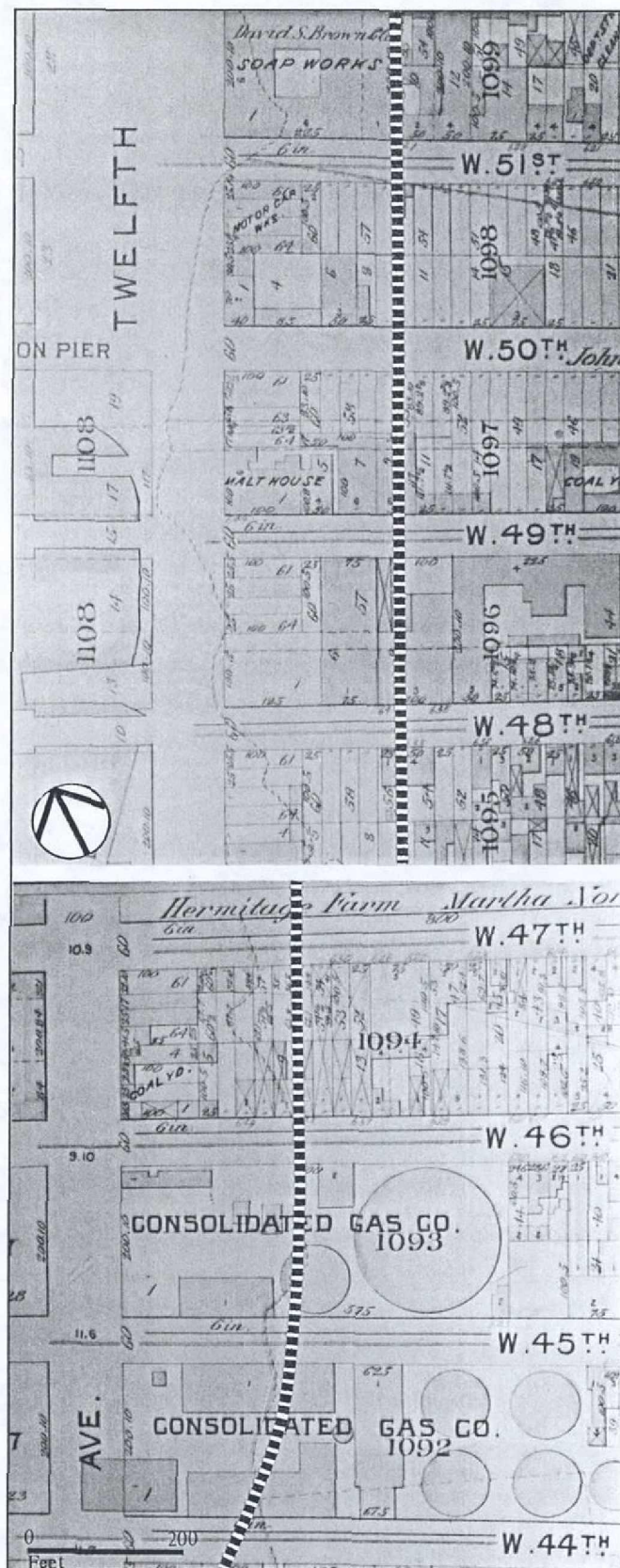
ROUTE 9A RECONSTRUCTION PROJECT

Legend 1889 Robinson Atlas of the City of New York

----- Approximate Eastern
Boundary of Study Area

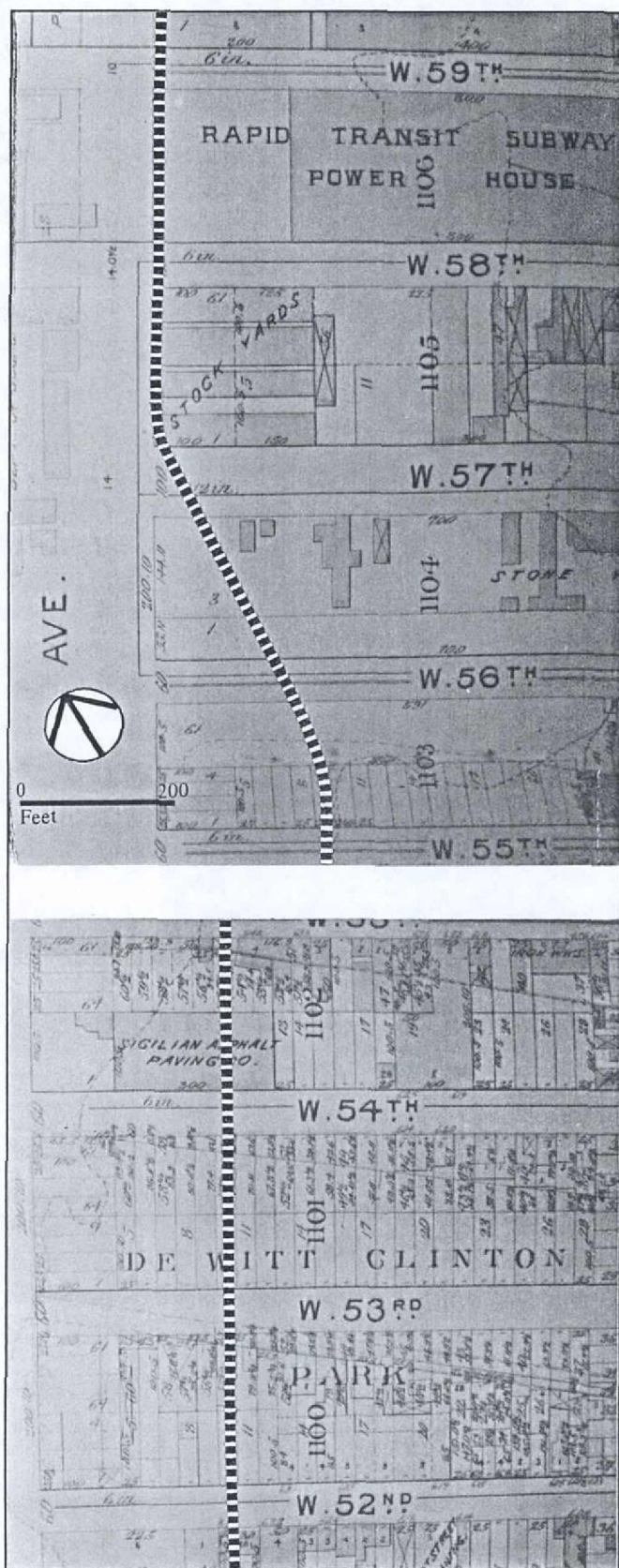
Legend

----- Approximate Eastern
Boundary of Study Area



ROUTE 9A RECONSTRUCTION PROJECT

1902 Bromely Atlas
of the City of New York

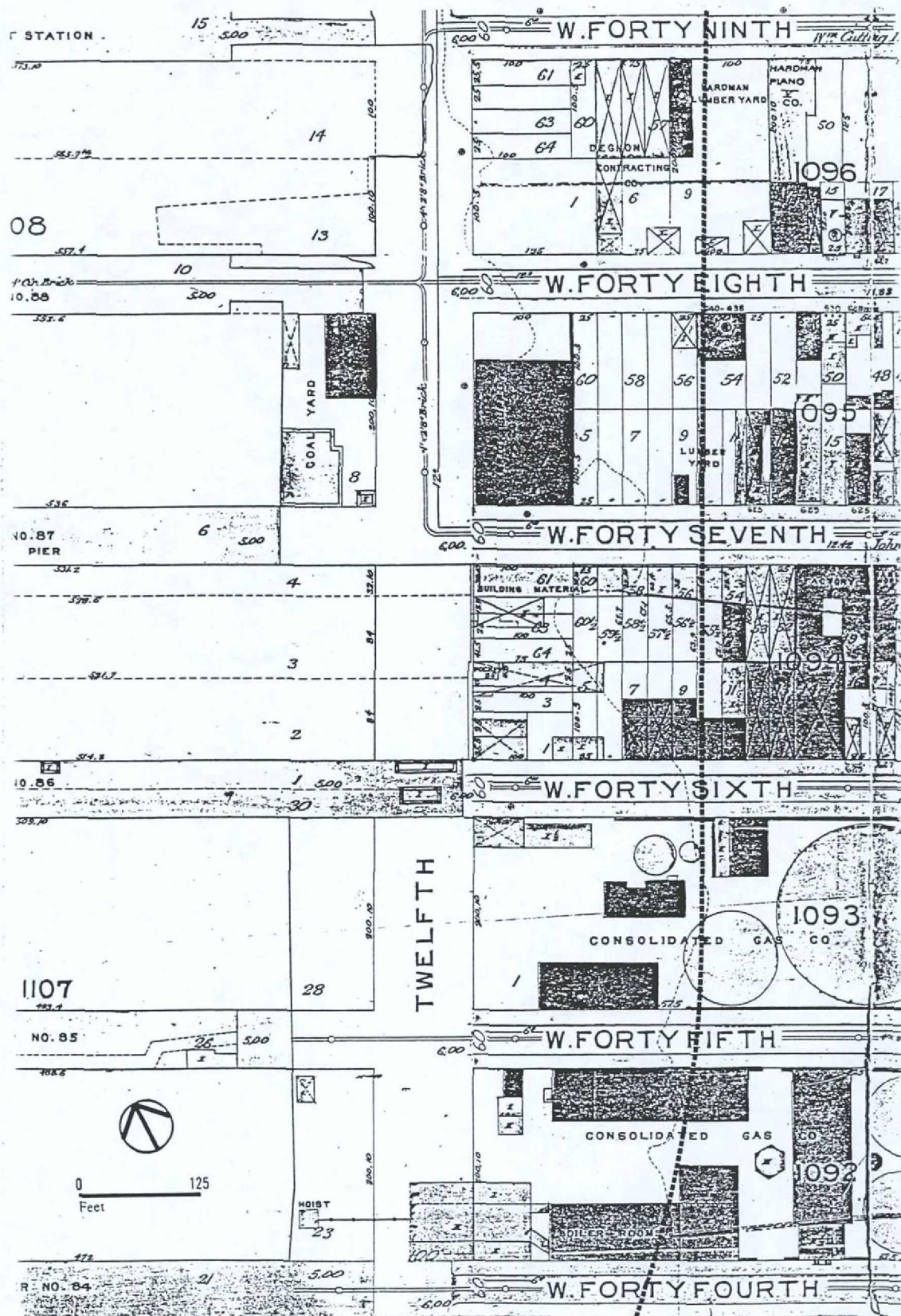


Legend

----- Approximate Eastern
Boundary of Study Area

ROUTE 9A RECONSTRUCTION PROJECT

1902 Bromely Atlas
of the City of New York

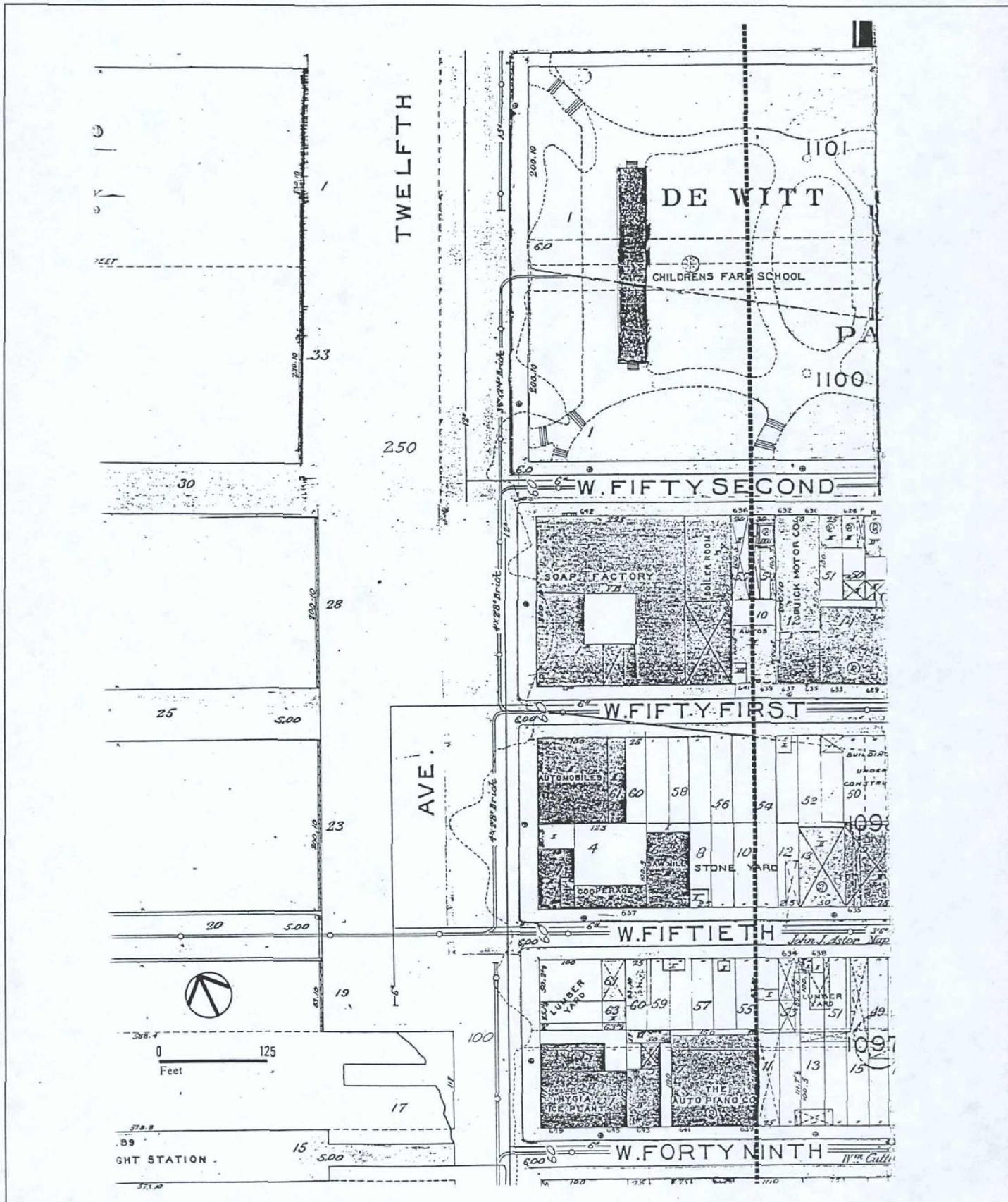


ROUTE 9A RECONSTRUCTION PROJECT

Legend

----- Approximate Eastern Boundary of Study Area

1913 Hyde Atlas of the City of New York

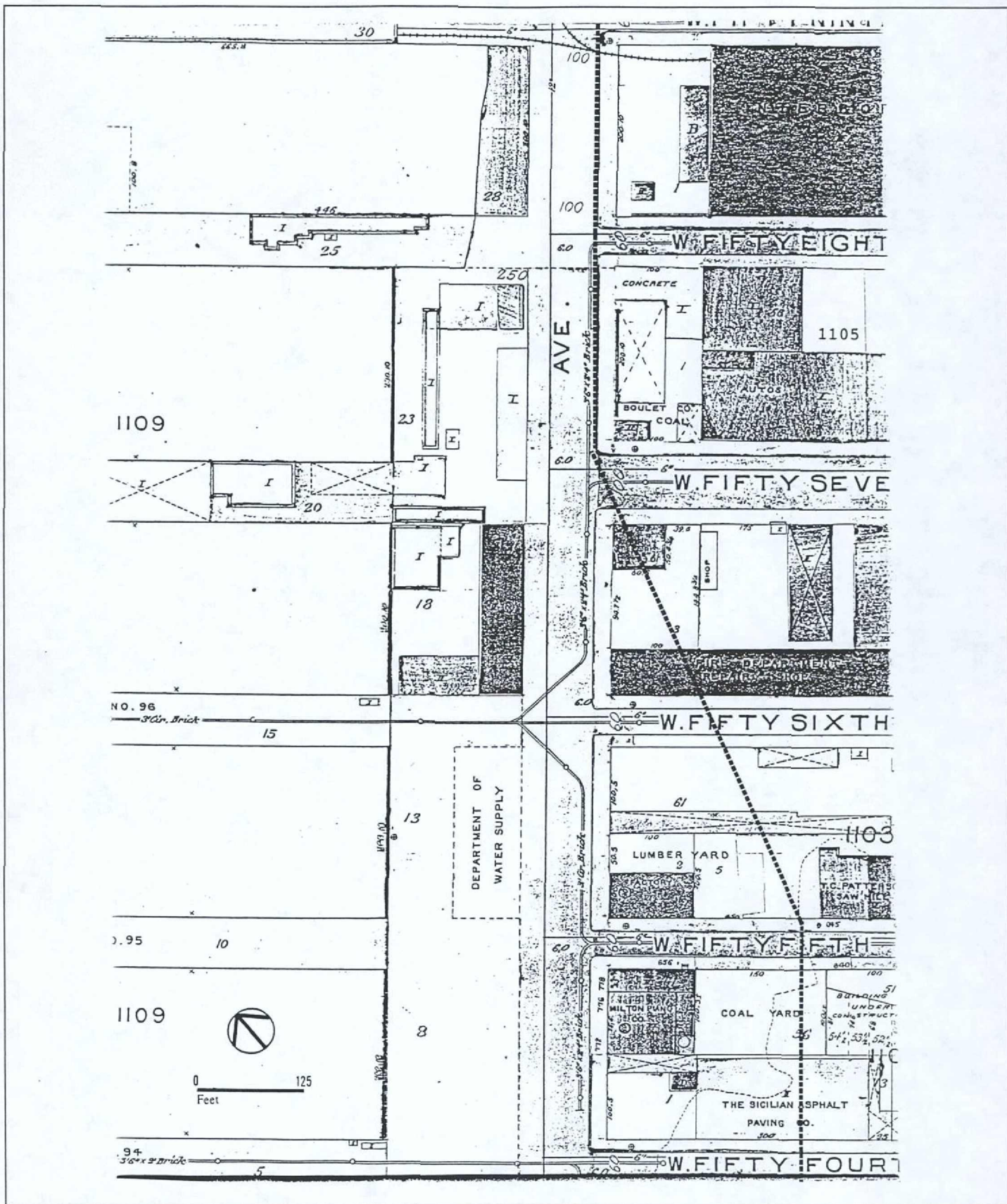


ROUTE 9A RECONSTRUCTION PROJECT

Legend

----- Approximate Eastern Boundary of Study Area

1913 Hyde Atlas of the City of New York



ROUTE 9A RECONSTRUCTION PROJECT

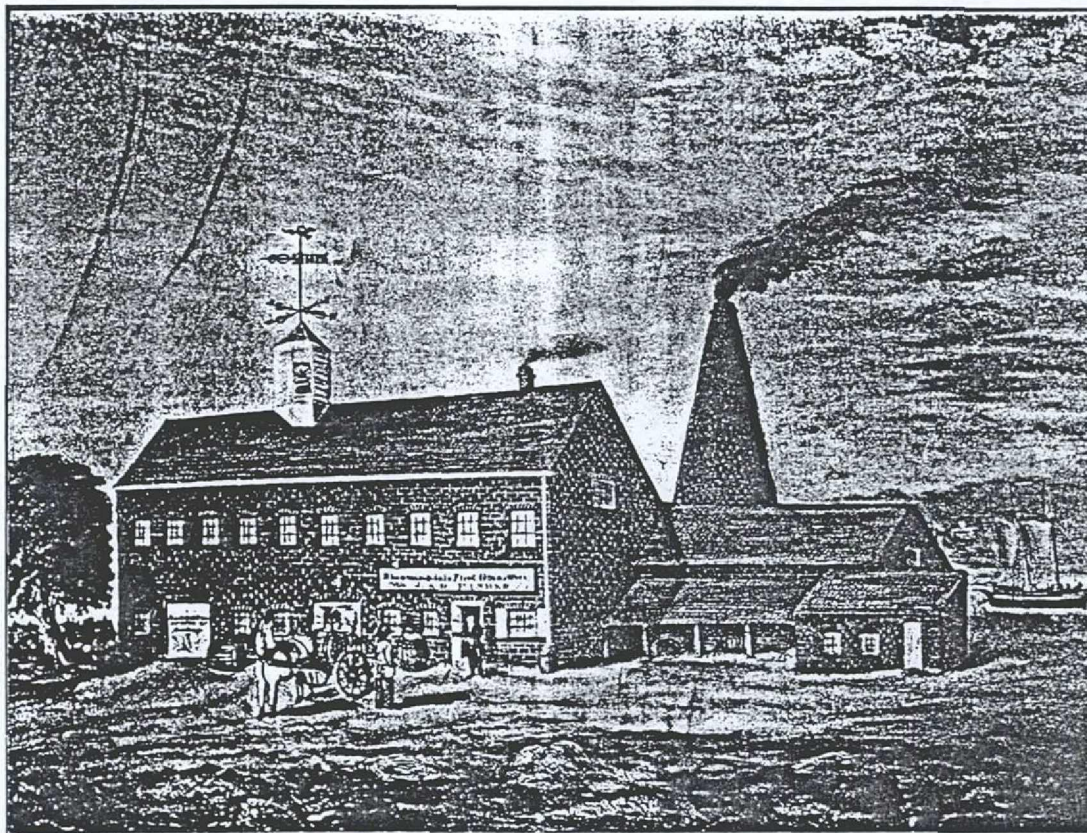
Legend

----- Approximate Eastern Boundary of Study Area

1913 Hyde Atlas of the City of New York

VI-101

Figure 6-19C



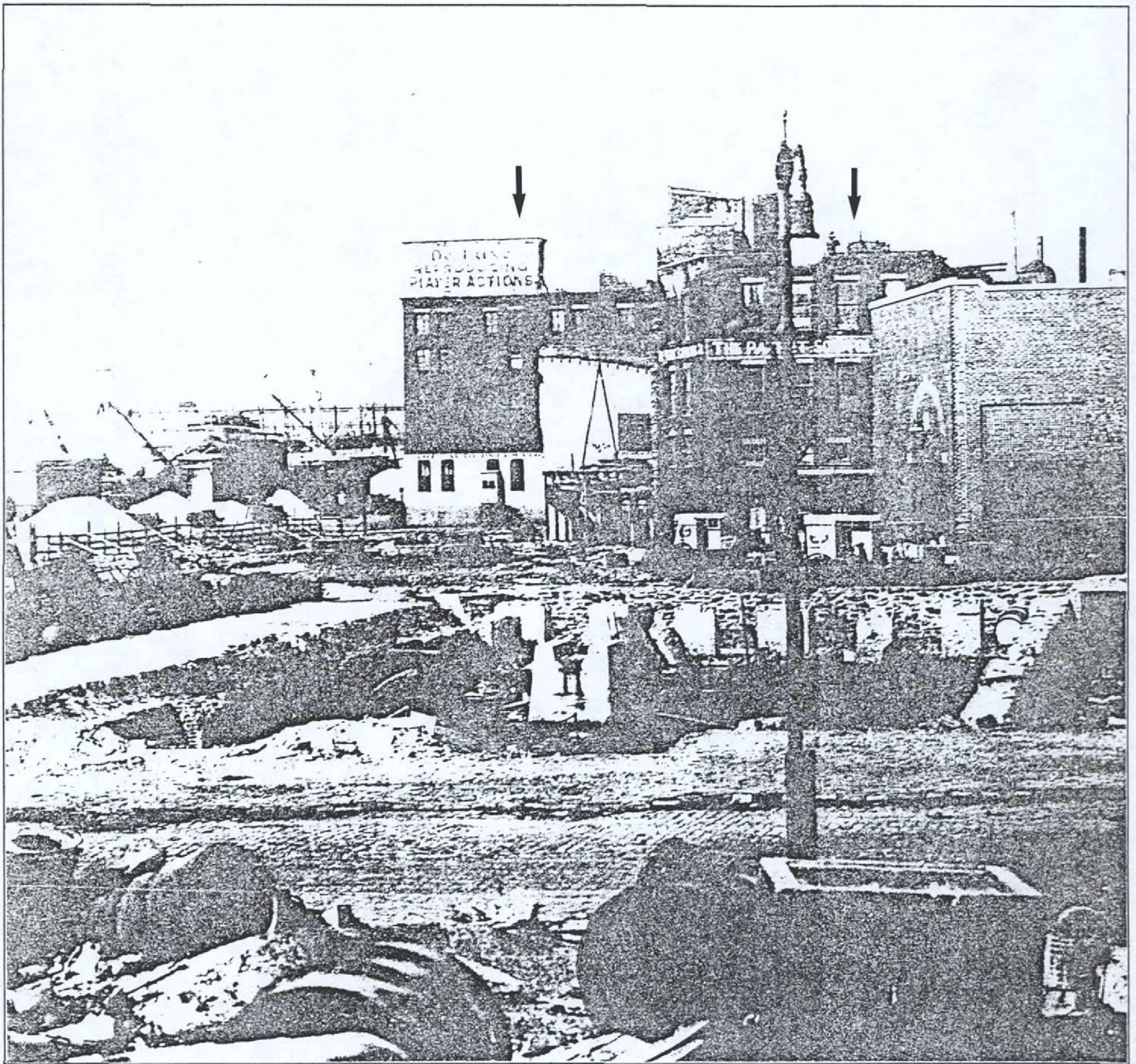
BLOOMINGDALE FLINT GLASS WORKS, FOOT OF WEST 47TH STREET

J. & R. FISHER, PROPRIETORS

(From an original painting by B. Whittle)

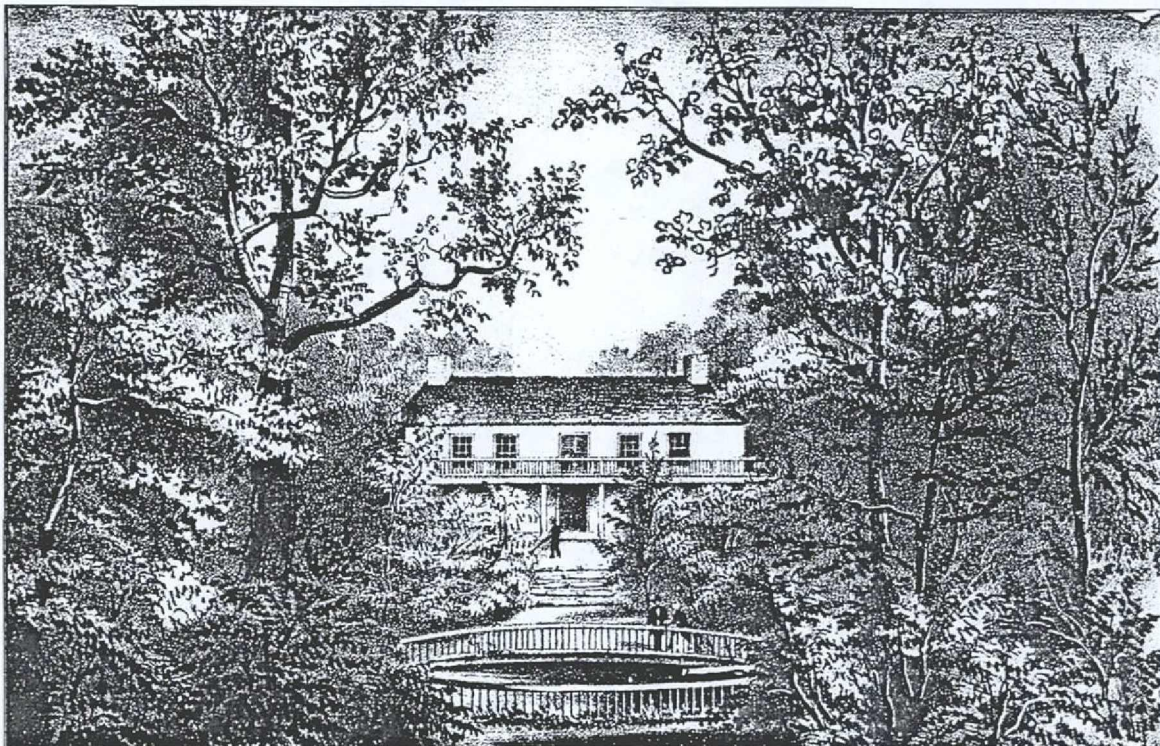
ROUTE 9A RECONSTRUCTION PROJECT

Lithograph of Painting of the Bloomingdale Flint Glass Factory
Courtesy of the Museum of the City of New York



ROUTE 9A RECONSTRUCTION PROJECT

Facing North from West 48th Street in 1929
Piano Factory/Soap Works left, Saw Mill/Scaffolding Co. right
Courtesy of the Municipal Archives of New York



Drawn from Nature by G. Hayward 120 Water St. N.Y.

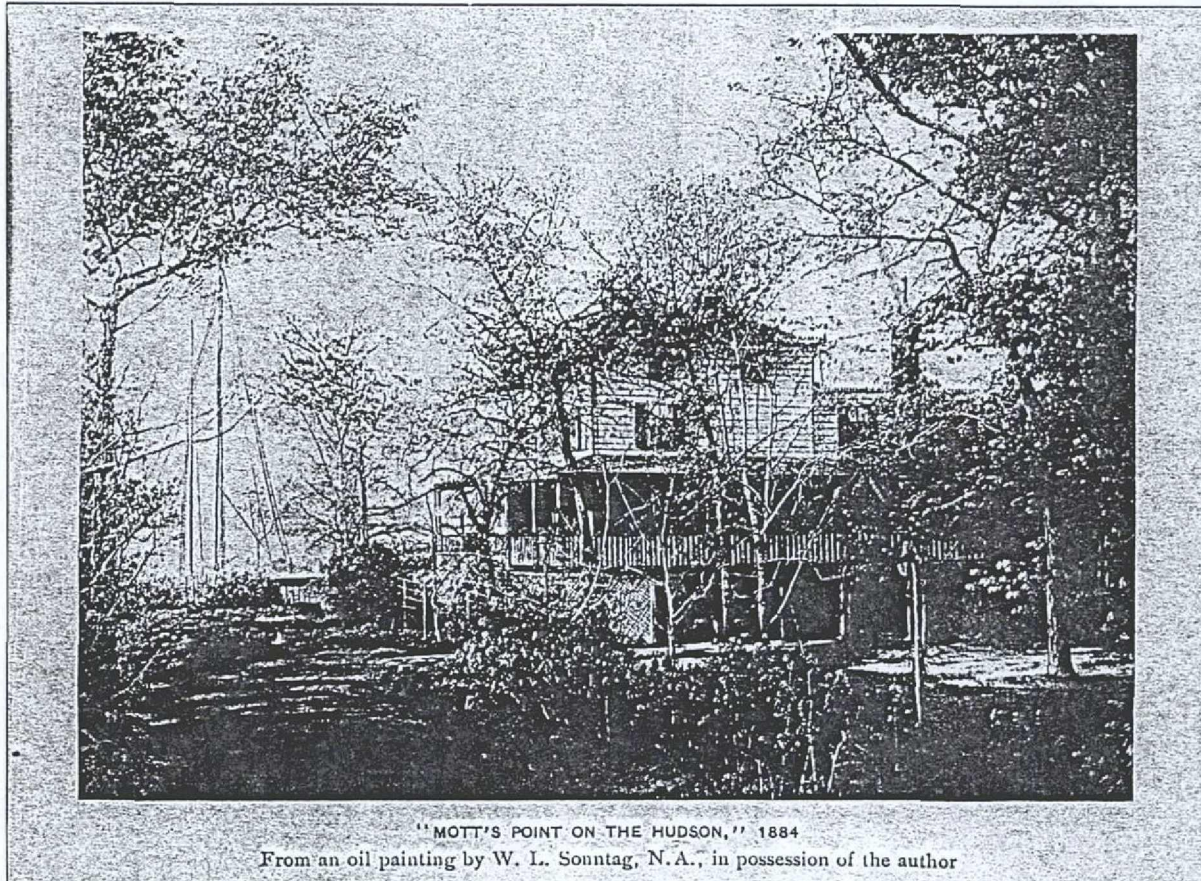
THE MANSION OF GEN^L STRIKER.

For D. T. Valentines Manual.

Erected by his Great Grandfather in the Year 1751. — This House is beautifully situated on the Hudson River, at the foot of 52nd St. is in good repair, and is a fine specimen of Old Dutch Architecture.

ROUTE 9A RECONSTRUCTION PROJECT

Lithograph of Drawing of Rosevale, the Striker Mansion
at the Foot of West 52nd Street on the Hudson River
Courtesy of the Museum of the City of New York



ROUTE 9A RECONSTRUCTION PROJECT

Lithograph of Painting of the Mott House
at the Foot of West 54th Street on the Hudson River
Source: Mott 1908

A. SUBSURFACE DISTURBANCE

The research has identified several areas potentially sensitive for archeological remains. In order to determine the degree of potential to recover such resources, it is necessary to reconstruct prior disturbance in these areas. Prior disturbance may have resulted from road construction and reconstruction, utility line installation, tunnel construction and demolition activities. The known disturbances are reported here to assess potential survivability of cultural resources.

Each potentially sensitive area was evaluated as to the amount of disturbance the area had received. Five categories were used:

- o Very disturbed - 100% of the area appears to have been disturbed.
- o Disturbed - 75-100% of the area appears to have been disturbed.
- o Somewhat disturbed - 50-75% of the area appears to have been disturbed.
- o Fairly undisturbed - 25-50% of the area appears to be disturbed.
- o Undisturbed - 0-25% of the area appears to be disturbed.

Although the archeological potential of an area may not be totally destroyed by prior disturbances, sites that appear to be over 50% disturbed have not been recommended for additional investigation.

In the 1940s a report by the Works Progress Administration stated that the WPA was recurbings sidewalks and doing road adjustments along Marginal Street at that time (Works Progress Administration 1940:4). At that time, there were 14.14 miles of sewers in New York, and 98 sewers discharged into the Hudson (Ibid.:58).

Numerous utility lines exist in Twelfth Avenue and Marginal Way. These include water, gas, electric, and telephone lines, as well as private facilities for other purposes (Figure 7-1). A report on utilities in the Final Environmental Impact Statement for the West Side Highway Project stated the following:

North of Harrison Street...the highway mainline swings out into landfill and does not effect West Street. Water main systems...are located near the surface of the City's streets. The sizes of the mains vary from six to 30 inches in diameter. Gas mains, including manholes, regulators, drip traps and pumping standpipes are located near the east property line in West Street. The size of gas mains in the Corridor are four to six inches in diameter....Electric power lines are located throughout the Study Corridor. Telephone lines, including splice

Route 9A Reconstruction Project

chambers and terminal boxes are located throughout the Study Corridor (Federal Highway Administration 1975:135).

Plans compiled by the Environmental Protection Administration, Department of Water Resources (EPA) dating to 1968, show some of the subsurface conditions in the route of the project area. Old and new utility lines are shown in relation to the present configuration of Twelfth Avenue and Marginal Way. The detailed maps also include the locations of the 1857 bulkhead, piers built prior to filling Marginal Way, old cribs, West Side Highway footings, electric, telephone, gas, water, and sewer lines. The majority of utility lines run through the center of the 70 foot width of Twelfth Avenue, and at crossroads branch off to run through the center of those as well. Sewer and utility lines are generally less than five feet below the surface, with the exception of the interceptor sewer line which is between 10 to 20 feet below the paved surface. The majority of old piers shown appear in the route of Marginal Way beneath the West Side Highway, and have been bisected by few utility lines.

Several features considered to be of historic interest were shown on the 1968 EPA map. The placement of utilities and footings for the West Side Highway has deemed some of these more disturbed than others. In some cases, several footings for the Highway traversed the route of earlier piers together with numerous utility lines. Thus disturbance renders these areas not sensitive for archeological remains. The following features previously identified were compared to the utility maps in order to determine the degree of disturbance.

PREHISTORIC RESOURCES

Block 1094 - protected cove between West 46th and West 47th Streets deemed fairly undisturbed.

HISTORIC RESOURCES

Dwellings

Block 1102 - House at West 54th Street deemed fairly undisturbed.

Industrial Buildings/Complexes

Block 1092 - Between West 44th and West 45th Streets.
Menzies Saw Mill deemed fairly undisturbed.

Lots 5-8 brick buildings deemed somewhat disturbed.

Lots 57-60 brick building Lots 57 and 58 deemed very disturbed, and Lot 60 deemed fairly undisturbed.

Chapter VII:

- Block 1093 - Between West 45th and West 46th Street.
Lots 56-60 brick building Lot 56 deemed fairly undisturbed, and Lots 57-60 deemed very disturbed.
- Lot 54 and 55 brick building deemed fairly undisturbed.
- Lots 9 and 10 storage tanks deemed very disturbed.
- Lot 61 wood building deemed very disturbed.
- Block 1094 - Between West 46th and West 47th Streets.
Lots 7-9 Slaughterhouse deemed very disturbed.
- Bloomingtondale Flint Glass Works-exact location undetermined.
- Block 1095 - Between West 47th and West 48th Streets
Lot 9 brick lumber yard building deemed very disturbed.
- Lots 10 wood building deemed very disturbed.
- Lot 55 brick saw mill deemed very disturbed.
- Block 1096 - Between West 48th and West 49th Streets.
Planning Mill complex deemed very disturbed.
- Lots 9 and 10 Beef Oil Co. buildings deemed very disturbed.
- Lot 57 brick building deemed very disturbed.
- Lot 58 wood building deemed very disturbed.
- Block 1097 - Between West 49th and West 50th Streets.
Lots 1-3, 5 and 6 Malt House/Hygia Ice Plant, Lots 1-3 deemed very disturbed, Lots 5 and 6 deemed fairly undisturbed.
- Lot 61 and 62 Stone Works building deemed very disturbed.
- Lot 57 brick building deemed fairly undisturbed.
- Lots 7-10 Piano factory building deemed very disturbed.
- Block 1098 - Between West 50th and West 51st Streets.
Lots 6 and 7 saw mill scaffolding company deemed fairly undisturbed.
- Lots 1-4 brick building deemed very disturbed.
- Block 1099 - Between West 51st and West 52nd Streets.
Lots 1-9 and 56-64 Piano factory scrap works Lots 1-4 and 61-64 deemed

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very disturbed Lots 5-9 and 56-60 deemed fairly undisturbed.
Lot 10 brick building deemed fairly undisturbed (old foundation outline is shown on utility map).

PIERS

Block 1093 - Pier southeastern corner deemed fairly undisturbed, the remainder deemed very disturbed.

Block 1094 - Pier deemed fairly disturbed.

Block 1095 - Pier deemed fairly undisturbed.

Block 1102 - Pier deemed disturbed.

LANDFILL

NONE

OTHER

Block 1104 - Lots 1 and 2 Fire Department Repair shop deemed fairly undisturbed.



■ Archeological Study Area Boundaries

VII-5

Figure 7-1

A. SUMMATION OF POTENTIALLY SENSITIVE AREAS

The following categories were utilized for classifying potentially sensitive archeological remains:

- 1) **PREHISTORIC REMAINS**
- 2) **HISTORIC REMAINS**
 - a) **Dwellings and associated outbuildings**
 - b) **Industrial buildings/complexes**
 - c) **Piers and Wharves**
 - d) **Landfill**
 - e) **Other**

A list of sensitive resources within each category is provided with corresponding block numbers identified as having sensitivity for such resources. The following list of block numbers includes potential sensitivity for Twelfth Avenue bordering the block to the west, and the crossroad forming the southern border. For example, Block 1098 bounded by West 50th and West 51st Streets and Eleventh and Twelfth Avenues, would include the potential sensitivity of Twelfth Avenue to the west, and West 50th Street to the south. The only exception to this is Block 1106, the northern most block, which includes information on both West 58th and West 59th Streets.

Much of the subsurface disturbance record has been documented, therefore areas identified in the prehistoric and historic sensitivity sections have been excluded due to prior disturbance. Features considered either somewhat disturbed or disturbed were not considered to have the potential to yield intact resources, and were therefore excluded from this list. Figure 8-1 shows the prehistoric and historical potentially sensitive areas within this portion of the project area, discussed in this section.

PREHISTORIC SENSITIVITY

- o Block 1094 - Protected cove, minimal subsurface disturbance.

All other blocks experienced substantial subsurface disturbance, and had minimal prehistoric sensitivity.

HISTORIC SENSITIVITY

Dwellings

Block 1102

- o Mott House at West 54th Street with basement 1796-1897, middle of West 54th Street.

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Industrial Buildings/Complexes

Block 1092 - Between West 44th and West 45th Streets.

- o Menzies Saw Mill stood between at least 1859 and 1868.
- o Lot 60 brick building Consolidated Gas Company, 1879-1920.

Block 1093 - Between West 45th and West 46th Streets.

- o Lot 56 brick building between 1879 and 1891.
- o Lots 54 and 55 brick building between 1879 and 1913.
- o All part of the Consolidated Gas Company.

Block 1094 - Between West 46th and West 47th Streets.

- o Bloomingdale Flint Glass Works stood 1820-1840s on or adjacent to this block.

Block 1097 - Between West 49th and West 50th Streets.

- o Lots 5 and 6 brick building Malt House/Hygia Ice Company, 1859-1920s.
- o Lot 57 brick building, 1883-1902.

Block 1098 - Between West 50th and West 51st Streets.

- o Lots 6 and 7 Saw Mill/Scaffolding Company, 1889-1920.

Block 1099 - Between West 51st and West 52nd Streets.

- o Lots 5-9 and 56-60 Piano Factory/Soap Works, 1896-1930.
- o Lot 10 brick building, 1859-1916.

Piers

Block 1093

- o Between West 45th and West 46th Street, southeast corner, 1852-1859, part of landfill by 1859.

Block 1095

- o Foot of West 47th Street, 1817-1859, part of landfill between 1852-1859.

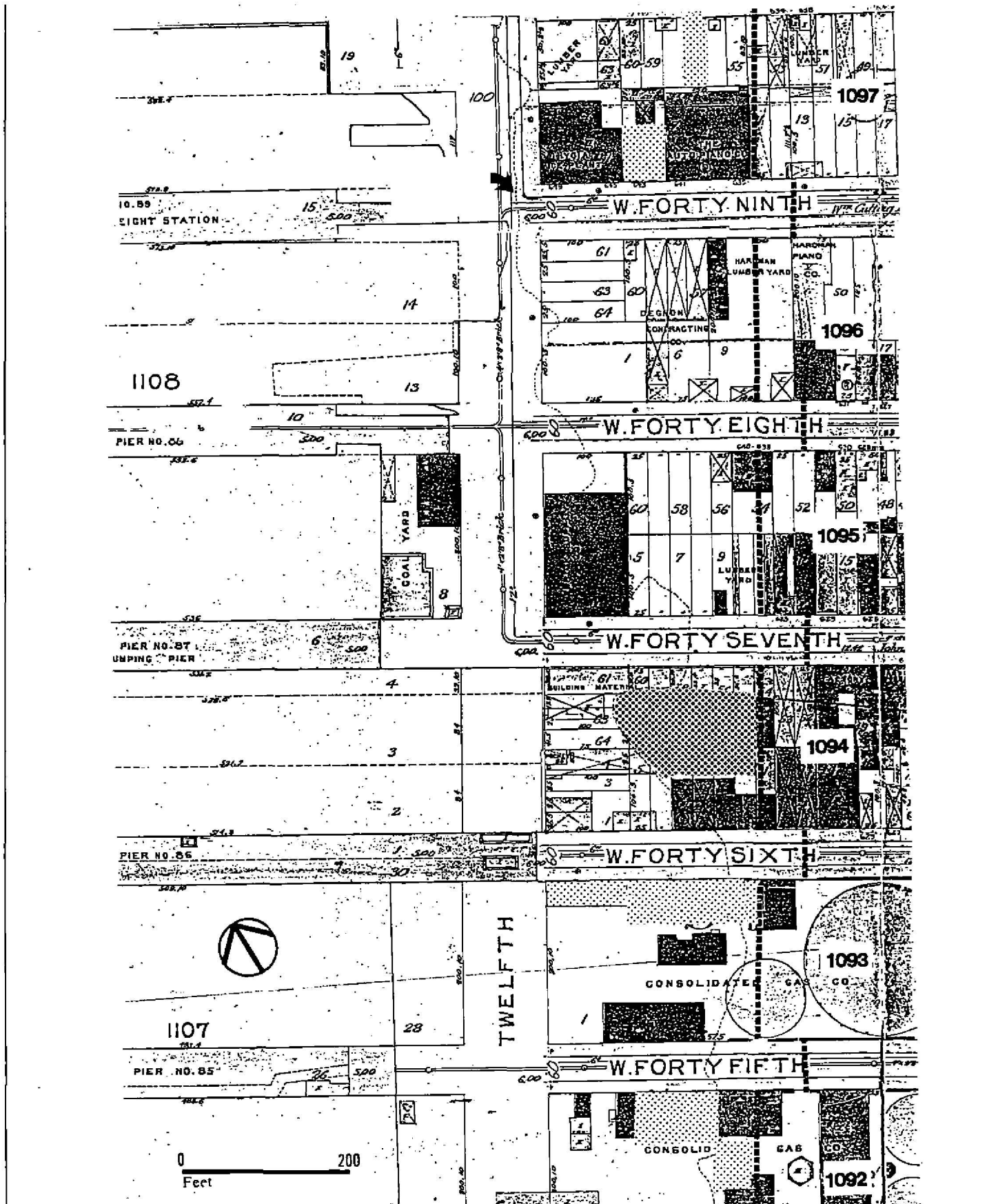
Shoreline Fill

NONE.

Other

Block 1104 - Between West 56th and West 57th Streets.

- o Lots 1 and 2 Fire Department Repair Shop, 1902-1920s.



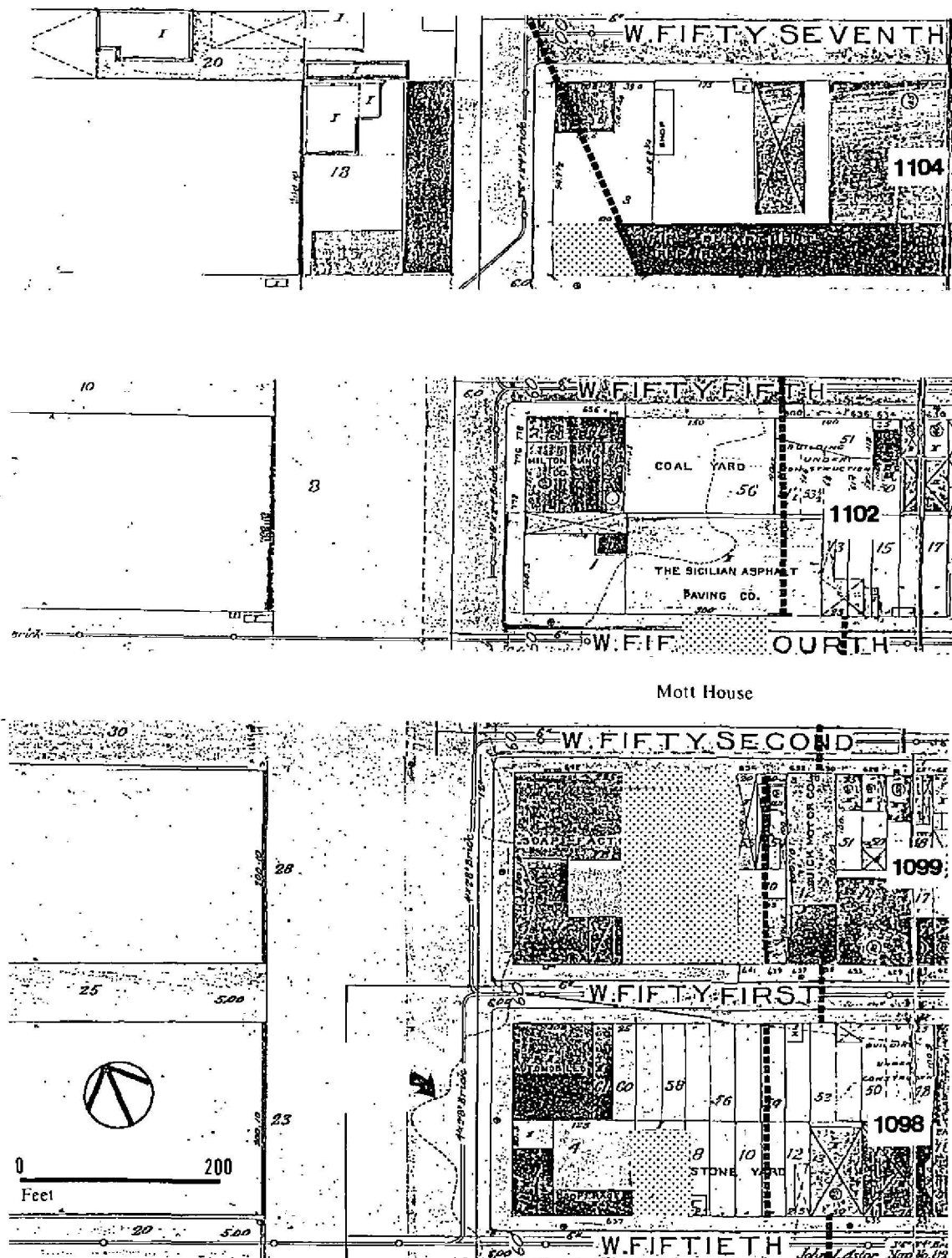
ROUTE 9A RECONSTRUCTION PROJECT

Legend

- Areas of Potential Sensitivity - West 44th to West 59th Street
Superimposed on the 1913 Hyde Atlas of the Borough of Manhattan
- Prehistoric Sensitivity
- Historic Sensitivity
- Approximate Eastern Boundary of Study Area
- Base map contained depiction of original shore line

VIII-3

Figure 8-1A



ROUTE 9A RECONSTRUCTION PROJECT

Legend

Areas of Potential Sensitivity - West 44th to West 59th Street
Superimposed on the 1913 Hyde Atlas of the Borough of Manhattan

Historic Sensitivity

Approximate Eastern Boundary of Study Area

Base map contained depiction of original shore line

Figure 8-1B

A. SUMMARY AND RECOMMENDATIONS

The extensive documentary and cartographic research to date of the project area between West 44th and West 59th Streets has revealed the location of several areas potentially sensitive for historic cultural remains. Potential remains were initially identified in the prehistoric and historic sensitivity sections. Prior impacts were assessed and a final list of areas deemed to be potentially sensitive was presented in the section on Summation of Potentially Sensitive Areas. Each of the categories is discussed below and a preliminary evaluation of significance is made here. It should be noted, however, that this is a preliminary evaluation and the conclusions presented in this chapter may be altered when research on the entire project area is completed.

Only one pier, at the foot of West 47th Street, may have become part of the Twelfth Avenue landfill and remained sufficiently undisturbed to render it potentially significant. This pier, built prior to 1817, may have become part of the landfill between 1852 and 1859. Since the West 47th Street area is also potentially sensitive for prehistoric remains, this particular area may necessitate additional research. Soil borings requested for this vicinity, to be conducted by Vollmer Associates, may provide the data necessary to more accurately assess sensitivity.

Numerous buildings dating to the eighteenth through twentieth centuries were also identified within this section of the project area. The Mott house on West 54th Street, dating to 1796, deserves further investigations since potentially intact remains could reveal information pertaining to a house and lot continuously occupied by the same family for approximately 100 years.

As for the industrially oriented buildings, the Bloomingdale Works Flint Glass requires further deed research to confirm its presence within the project area. Testing strategies for the remaining buildings will be determined after a complete list of industrial sites has been compiled for all sections of the Route 9A corridor.

It is quite possible that during excavations for the Route 9A Reconstruction Project, that undocumented piers, wharves, quays and fill retaining devices may be confronted. Cartographic references to cribbing have not yet been encountered, although it is highly probable that these features were constructed during the land reclamation process. Since a diverse number of methods of shoreline expansion were used in Manhattan, varying with age of construction and individualistic techniques, these resources are considered an important asset toward documenting the development of the city. Monitoring of the site by an archeologist may be the best strategy for documenting the presence of this kind of resource.

As stated above, this is a preliminary evaluation and the conclusions presented in this chapter may be altered when research on the entire project area is completed.

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