

ABSTRACT

During June, 1995, TRACKER-Archaeology Services conducted a Phase IA archaeological documentary study for the proposed Columbia Street Urban Renewal Area in Brooklyn, New York. During the course of the study, the project area was visited as was various research institutions. Historic maps, documents, and literature and the local environment were analyzed. The research has yielded evidence of lots containing prehistoric and historic potential undisturbed by urban impact. Recommendations include conducting a Phase IB archaeological field survey for the following addresses: 35 President Street, 216 Columbia Street, 109, 111, 113, and 115 Union Street and 135 Columbia Street. In the event that construction continues below the level of recorded fill, then archaeological monitoring is also recommended for those lots.

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INTRODUCTION

During July 5th through the 26th, 1995, TRACKER-Archaeology Services conducted a Phase IA archaeological documentary study for the proposed Columbia Street Urban Renewal Area in the Borough of Brooklyn, New York City, Kings County, New York. The study area included the following Blocks and Lots: - <u>Block 341</u>, Lots 59 and 61 (39 and 35 President Street respectively) - Block 335, Lots 35, 37, 38, 39, 40, and 41 (216 Columbia

- Block 335, Lots 35, 37, 38, 39, 40, and 41 (216 Columbia Street, 117, 115, 113, 111, and 109 Union Street, respectively) - Block 319, Lot 28 (135 Columbia Street).

During the course of the investigations, the following research institutions were visited: Landmarks Preservation Commission, New York Public Library, New York City Department of General Services - Subsurface Exploration Section, New York City Department of Environmental Protection - Brooklyn Sewer and Water Departments, Topographical Bureau of Brooklyn, Brooklyn Public Library, Brooklyn Historic Society and the North Babylon Library. In addition, Cynthia Blakemore of the New York State Historic Preservation Office (hereafter N.Y.S.H.P.O.) and Beth Wellman of the New York State Museum (hereafter N.Y.S.M.) provided a prehistoric and historic site files search.

The purpose of the study was to provide information determining the prehistoric and historic potential for recovering archaeological remains, the type and significance of those remains, as well as to aid in developing a field survey methodology. Problems specific to the project were associated with the lack of accurate record keeping in the Borough of Brooklyn particularly with the recording of deeds.

The study was performed by TRACKER-Archaeology Services of North Babylon, New York. Prehistoric research was conducted by Alfred Cammisa. Historic research was conducted by Alfred Cammisa and Felicia Cammisa. Report preparation was by Alfred Cammisa.

The work was performed for the New York City Department of Housing, Preservation and Development.

ENVIRONMENT

The study area is located in the southeast portion of New York State in the northeast part of Kings County. This portion of New York lies within the Coastal Plains Physiographic Province. The coastal plain slopes gently eastward and is actually a strip of recently emerged sea bottom. The soils in this region consist largely of sand, clay and marl (a mixture of clay, finely fragmented shell and calcite). This section of Brooklyn lies just northeast of the nearby Harbor Hill Moraine which comes as close as Park Slope (Schuberth 1968: cover map, 9, 186).

The study area lies approximately 1000 feet east of the East River by Buttermilk Channel. The river channel was completed before the Wisconsin glacial advance which probably scoured out previous glacial deposits. The East River is actually an estuary, as are most of the rivers around Manhattan Island. (Schuberth 1968:200; Fuller 1914: 25).

Stiles (1867:62) and Thompson (1918:197) note that before the American Revolution, cattle were driven across the Buttermilk Channel. This was probably a possibility only at low tide. Thompson (1918:197) goes on to say that because of the extensive construction of wharves on either side of the channel, the depth and force of the river were increased. The channel had also been dredged (Pagano p.c., 1995).

When the Atlantic Basin was constructed along the shore of Red Hook, roots of trees were found at 20 feet beneath the surface of the mud. Peat was found under the tree stumps (Thompson 1918:233). Fuller (1914:212-216) writes that because of recent sea advances, areas along the coast of Long Island have become either submerged under salt water or salt water marsh. Buried meadows and tree stumps have been recorded at numerous places along Long Island's shores. Peat has been recorded to a depth of 25 feet at the Brooklyn Navy Yard. Aboriginal shell middens were likely buried by rising tides and marshes (Fuller 1914:213). Recent and past archaeological investigations bear these observations out (Cammisa et.al. 1993; Rutch 1985:10; Wyatt 1976; Salwen 1962). Rising tides would have had a particularly dramatic effect on Long Island, including its cultural resources, because of the very gradual slope along the coasts.

The study area lies on a small projection or "neck" of land that stretches from Red Hook north to the Brooklyn Navy Yard. It extends into the East River and upper New York Bay.

The "1776-77 Map Showing the Original High and Low Grounds, Salt Marsh and Shorelines in the City of Brooklyn, from original Government surveys" shows that the project area had originally been situated within water or marsh. The "WPA Rock Line Maps (#15 &23)" verify the previous map: 135 Columbia Street had originally been marsh; 109 through 117 Union and 216 Columbia had been under water; and 35 and 39 President had been marshlands (Michael Greenman p.c. 1995 and Figures 2a & 2b).

Borings taken near 35 and 39 President Street indicate about 14 to 15 feet of fill over organic silt, peat, clay and shells. This seems to verify the WPA maps that these addresses were previously marshlands. Borings taken at the corner of Union and Columbia Streets indicate about 20 feet of fill over organic silt and trace clay over peat. This area may have been partially or completely under water. A boring taken near 135 Columbia shows about 13 feet of fill over fine brown sand with trace silt. Ed Wegener (1995:p.c.) informed us that this last boring probably indicates a creek bed. The WPA maps show a creek oriented northsouth across the street from 135 Columbia (Michael Greenman 1995:p.c.).

Although the colonists used terms like salt marsh and salt meadow interchangeably, the two are actually different biological terms. A salt marsh indicates a low marsh, covered daily by water during high tide and exposed during low tide. A salt meadow, however, is a high marsh. These lie above the high water mark but are subject to flooding by spring tides and lunar tides. Different vegetation grow in the different marshes (Kavenagh 1980:22). It's difficult to say which marsh, or if both types of marsh, were present within the study area. Based upon the compilation of maps and literature, my guess is that both types of marsh were present in the general area.

Current elevation in the study area range from 10 to 20 feet above mean sea level (Figure 1). Since the original topography was at 0 feet in elevation, the project area has approximately 10 to 20 feet of fill. Of course, the level of dry fill here is influenced daily by the tide. The tidal influence fluctuates, roughly, up to 7 feet, between high and low tides for this area (Edward Wegener 1995:p.c.).

PREHISTORIC POTENTIAL

New York State prehistory can be divided up into three broad cultural groupings or time zones, briefly described as:

- the Paleo-Indian period, circa 10,000 to 8,000 B.C. These people lived in small, widely scattered bands, hunting large grazing mammals such as mammoth and baron ground caribou in a park-tundra habitat; large browsing mammals such as mastodon, caribou, woodland musk ox, moose, elk, etc. in a boreal forest habitat; and any small game or plant foods that could be gathered. They had a small inventory of shipped stone tools, with the fluted spear or javelin point as the principal item. They generally camped along large waterways.

- the Archaic period, circa 8,000 to 1,000 B.C. These people lived by hunting, fishing and gathering wild plant foods and shellfish in a habitat of mixed coniferous-deciduous to coniferous forest. These people lived in both small inland camps near small streams or marshes and in large, recurrently occupied fishing camps near large bodies of water. They lived in a more species rich environment and exploited it with a larger and more varied tool inventory, including the atalatal or spear thrower.

- the Woodland period, circa 1,000 B.C. to 1,600 A.D. These people also lived by hunting, fishing and wild food and shellfish gathering. In addition, they developed an agricultural system based on corn, beans and squash as the primary cultigens. They lived in both small camps, either temporary or recurrent and much larger villages which were sometimes palisaded for protection. They made and used pottery, copper tools, smoking pipes, the bow and arrow, and in general, had a larger and more varied tool industry than the preceding cultures.

For further information the reader is urged to consult Ritchie (1980) and Ritchie and Funk (1973).

The study area is located about 1000 feet from the East River. Historic and WPA Rock Data maps (Figures 2a and 2b)have shown the proposed U.R.A. parcel to have been originally situated within marshlands and under water. As previously mentioned in the preceding chapter (Environment), the marshes here have kept pace with a rising sea level.

It has been previously noted that similar topography of salt meadows and marshes along tidal estuaries were an attractive resource for prehistoric inhabitants. Marsh vegetation offered food (game), medicine, and materials for mats and shelters, etc. In addition, shellfish, fish and waterfowl were easily obtained in this environment. The associated campsites and villages would have been located on nearby higher and drier ground (Cammisa, et. al. 1993). Proximity to the East River would have provided an easy transportation route to surrounding islands or the mainland via canoe or dugout.

The study area's location on a small projection or "neck" of land extending into the East River and the upper New York Bay is a better than average topographical site for the recovery of prehistoric remains. Prehistoric inhabitants of Long Island show a marked proclivity for choosing "necks" to occupy/utilize (Cammisa et. al. 1993:25-28,85; Cammisa, et. al. 1995:5-8,26).

Early to Middle Archaic and Paleoindian cultures seem to have been under represented in the archaeology of Long Island (Wyatt 1977:70; Saxon 1973:251). This was most likely the result of a rising sea level inundating the earliest archaeological sites. As mentioned in the preceding chapter, this rise in sea level was probably particularly destructive to Long Island's shores due to the very gentle slope there.

A prehistoric site file search was conducted utilizing the resources of the New York S.H.P.O. - Field Services Bureau and the N.Y.S.M.- Division of Historical and Anthropological Services. The site file search included a 1 mile radius around the study area. The following sites were recorded (not much information known):

A04701.00100, a village site (NYSHPO) A04701.00101, a camp site (NYSHPO) A04701.00103, a burial ground (NYSHPO)

The N. Y. S. M. site file search did not show any recorded prehistoric sites within a mile of the project area. However, the State Museum does indicate that there is a "high probability of producing prehistoric (Native American) sites" within our general study area. The reasons listed by the State Museum are that both terrain and physiographic characteristics are conducive to prehistoric land use.

It should be kept in mind that Kings County was settled very early and its archaeological resources, therefore, were not surveyed adequately at the time. Prehistoric sites that were never recorded may have exceeded those few that were recorded.

In summary, the study area lies in an area of high prehistoric potential for the following reasons:

- 1) its location near a large waterway
- 1) its location near and within marshlands
- 3) its location on a small "neck" or peninsula

4) its location within a mile of three other prehistoric sites. This is in an area that was very early developed, so most sites were probably not recorded.

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HISTORIC POTENTIAL

At the time of European contact, the people inhabiting the study area were the Canarsie (so called by the Dutch) tribe of native Americans. The Canarsie were supposedly the most powerful tribe on Long Island during this period. They occupied, at one time or another (because of a migratory settlement pattern), most of Kings County, as far east as Jamaica and as far west as the lower tip of Manhattan. Their main village extended from Canarsie Beach Park to Avenue J where it centered on East 92nd Street (Bolton in Lopez and Wisniewski 1971:210).

The name Canarsie means "the fenced place" referring to the fact that it was in the vicinity of the boundary which divided their land from the early colonists (Beauchamp in Lopez and Wisniewski 1971:210). The tribe, during Contact period, were paying a tribute in dried clams and wampum to the Mohawks of the Iroquois confederacy. The Dutch convinced the Canarsie to refuse payment and a large war party of Mohawk came down to Brooklyn and "destroyed the Canarsie tribe" (Furman in Lopez and Wisniewski 1971:211). The Canarsie population had already been reduced by raids and wars with the early settlers (Lopez and Wisniewski 1971:212). European disease probably played a most important role in reducing Native American populations.

The native inhabitants had a custom of sharing or renting their traditionally occupied and used territory with other Native Americans and later, with European settlers. Because of the original inhabitants migratory settlement patterns, colonists were able to occupy farm land during the season or year that the tribal people were away. The distinction between buying, renting or loaning the land for traded goods probably between blurred as the Euro-american population outstripped that of the native population (Cammisa 1984:75).

The first "purchases" in Brooklyn were made in 1636-1637. Jacob Van Corlaer, Andries Hudde and Wolfert Gerritson and Wouter Van Twiller all "purchased' lands in Flatlands in 1636. Joris Jansen de Rapalie "purchased" lands around Wallabout Bay in 1637. Before 1636, isolated families may have established residences in Brooklyn, but there are no records of them(Stiles 1884:43,46).

In 1638 and 1639, Governor Kieft "purchased", from the original inhabitants, nearly all the lands in both Kings (as well as Queens counties) for the Dutch West Indies Company(Stiles 1884:44, 80).

The earliest settlers had rude dwellings that seemed to resemble a cross of Native American and European. Some houses were made of saplings covered with bark, while other dwellings were cellars excavated in the sides of hills, lined with bark and thatched with reeds (Stiles 1884:46). The earliest saw mills furnished timber for the first real houses, which were small, one story buildings with straw thatched roofs, and stone fireplaces. Ovens and chimneys were constructed stone, about 6 feet high and of wood with mortar or mud plastered inside above the stone. Houses were usually inside a palisade for protection from Indians. "The low-browed rooms were uncieled, showing overhead the broad, heavy oak beams, upon which the upper, or garret floor was laid. The lower half of the wall inside the houses was wainscoted, the upper half plastered. Barns were located nearby the dwellings (Stiles 1867:222, 228 and 1884:46-47).

The study area was originally granted to Frederick Lubbertsen in a patent of 1640. His farm included the whole neck of land from the East River to Gowanus Creek northeast of the meadowlands which used to separate Red Hook from Brooklyn. Today, this area includes Harrison and Degraw Streets, west of Court, the East River, Hamilton Avenue, Gowanus Creek and Warren Street, east of Court Street. Indian maize lands were located between Atlantic and Baltic Streets, east of Court Street(Figure 3)Lubbertsen actually moved to his land in 1653 (Stiles 1867:63-64).

Lubbertsen subsequently provided his son-in-law, Cornelius Seabring (various spellings), and his grandson, Peter Corsen with parcels of the patent. In August 1689, 2 agreements were made between John Marsh of New Jersey and Cornelius Seabring and John Corsen. Marsh was to construct a watermill and milldam for the grinding of corn. Marsh agreed to pay 700 feet of good canoe wood, 1/2 inch thick and to supply the families of Seabring and Corsen with ground corn. In return, Marsh was given permission to operate this mill as his own business. The structure appears to have been a one story building with an upper story in a gabled roof. This mill was 1 of 10 mills located in Brooklyn at this time. Seabring's Mill, as it was initially named, was a tide mill. As the tide rose and fell, so did the mill wheels which generated the power of the grinding stones. The mill was situated on a spit of land between marshes on a small marsh creek which drained into the East River. The WPA Rock Data Maps show the possible location of this spit (or small neck) of land. A marsh island to the west was called Locust Island. The mill's location today would be between Columbia and Tiffany on Block 319 opposite to Irving and Sedgewick. The mill passed entirely to Cornelius Seabring prior to 1698, when Corsen conveyed land to him (Stiles 1867:66 and 1884:84-85; Solecki 1984:12, 21) (Figures 2a, 2b & 3)

The 18th century saw the shore of the East River, from Gowanus Bay to Wallabout Bay, marked with continuous line of farmsteads under cultivation. The 1767 Ratzner map (Figure 4) shows the farms fields in this area. The project area is still under water and/or marsh. Seabring's mill is visible on a small spit of land jutting through the marsh. Although the area was fast becoming settled, the wilderness was not far away. In 1759, Cornelius Seabring saw a bear near his home. He and his miller pursued the bear to the shore. Although the bear tried to escape by swimming the Buttermilk Channel, Cornelius and the miller pushed off in a boat and subsequently shot the Ursus (Howard 1893:77; Stiles 1884:93).

About 1775, John and Whitehead Cornell moved from Queens to Brooklyn. Whitehead married a daughter of Isaac Seabring and inherited an estate of about 300 acres, including one mile of river frontage along the East River. The inheritance also included the old Seabring mill, which became known now as Cornell's or the Red Mill. Whitehead eventually became owner (through marriage and probably purchase) to nearly all of the Seabring estate(Howard 1893:77; Stiles 1867:306-307).

Whitehead consequently divided his estates between his three sons, John, Isaac and William Cornell. John Cornell inherited 60 acres and the mill. He successfully pursued the milling business, the quality of his flour enjoying a high reputation even in the English market (Stiles 1867 306-307).

The 1829 Burr map shows not much change in the study area. There are only a few roads leading through Lubbertsen's old tract (Figure 5).

On November 21, 1833 the heirs of John Cornell granted the study area to Charles Kelsey and Anson Blake. They owned the land individually and in trust for John C. Johnson, John N. Taylor, Simeon Benjamin and Conklin Brush (Brooklyn Historical Society: Deed abstracts).

The 1840 Brooklyn N.Y. map (Figure 6) shows streets laid out, or planned out, around the perimeter of the project area. However, the marshlands have not been filled in and Cornell's Mill Pond is depicted. This map also shows Columbia street planned to extend through the project area's marshlands. The subsequent filling of the area came soon after.

In 1841, construction began on the nearby Atlantic Basin and docks. The marshlands, inlets and mudbanks, at the time considered a wasteland, were filled in. The soil removed to make the Basin "was used as fill in the shallows and inlets behind the Basin...". By 1848, the Council was petitioned to open 35 new streets in the area (Ross 1902:418).

The development of South Brooklyn and Red Hook around the Atlantic Docks continued through the 1950's. Marshlands continued to be filled, streets were laid out, more warehouses were built. A brick mill building for the production of cotton was constructed. Van Brunt Street, from Hamilton Avenue to the docks was opened and graded (Howard 1893:138; Stiles 1884:153).

The 1850 Dripps map (Figure 7) shows buildings throughout the Columbia Street neighborhood. A building is situated at the corner of President and Columbia Streets and seems to extend to about 35 President Street. The area to the immediate east is vacant. This map also shows buildings along Columbia Street from Harrison, south to Irving. Two buildings and a narrow, alleysized, lot are situated in the vicinity of 135 Columbia Street. It's difficult to tell for sure the exact location of the houses, because addresses, and lot numbers are not shown on this map. No buildings are shown along Union Street at this time.

During this time, "nightsoil" was dumped along the East River banks. The residents dumped their waste during the nights because of local laws, hence the term "nightsoil". Lime was often poured over it, followed by fresh soil (no author 1967:48).

The 1855 Dripps map showing old farm lines depicts the project area as part of the John Cornell farm.

The 1855 Perris (Figure 8,9 &10) shows no structures at either 35 or 39 President Street. Houses are shown where 109 through 117 Union Street and 216 Columbia Streets are today. A narrow, empty lot is depicted where 135 Columbia is today.

The 1860 Perris map (Figures 11,12 &13) depicts a 1 story brick (commercial) building at 35 President with a brick framed 1 story outbuilding in the back yard. The lot at 39 President Street is empty. The buildings formerly depicted along Union Street are now shown to be 4 stories each and a three story building is located at the 216 Columbia Street parcel. The parcel where 135 Columbia Street would be is a narrow, empty lot between two 3 story buildings.

The 1860/61 Perris Insurance Maps of the general area show continued development. A coal yard is situated at Van Brunt and Harrison and is adjacent to a lumber yard. Warehouses are located between Harrison and Baltic along Van Brunt. The Hamilton Hotel is shown at Hamilton and Union. A coal yard, lumber yard and stables are shown at Union between Ferry and Van Brunt. Storeapartment complexes are located along both sides of Union near Ferry and Hamilton. One would assume that the folk living here would do so for the purpose of working along the docks and for associated industries.

The 1868 Dripps map of Brooklyn and vicinity shows the study area owned now and/or previously by Kelsey, Blake and others.

An attempt was made to trace ownership of the project area lots from 1833 to the dates of availability to water and sewer lines.

Our attempts were unsuccessful, due largely to lot numbers being unrecorded and the great number of owners involved in land transfers for our area. About a dozen possible owners were checked against historic Brooklyn directories. No owners were found to live at any of the residences in the project area.

The first sewer lines were constructed prior to 1868 within our study area (Brooklyn sewer department 1995: p.c.). Notes taken on original water lines show that water was turned on and available to all parcels in the project area on August 18th, 1870 (Soriano 1995: p.c.).

The 1886 Sanborn Insurance maps (Figure 14,15 &16) show 35 President to be occupied now by a 3 story dwelling, while 39 (and 37) President Street was occupied by Beechino Italian Catholic Church. Tenement houses, 4 stories each and all with stores below, are still depicted from 109 through 117 Union Street and a 1 story store is now at 216 Columbia Street. The narrow lot that occupies 135 Columbia Street now has a 3 story store with dwellings located on it. The buildings at 135 and 216 Columbia have roofs of composition wood instead of the tin or slate roofs in the other project lots. Factories of all kinds are interspersed throughout the whole neighborhood.

The 1904 Sanborn Insurance maps (Figure 17,18 &19) now show that the 3 story dwelling at 35 President Street is a rectory for the Italian Roman Catholic Church still located at 39 (and 37) President. The 4 story tenement houses (with stores) are still in place along Union (109-117) but 216 Columbia is now occupied with two (smaller sized) 1 story stores. The lot at 135 Columbia Street is occupied still with a 3 story building, however, it is a smaller (in length) sized version than the 1886 version. Also, a new, (and vacant) 4 story building is located in the rear part of the lot at 135 Columbia.

The 1915 -updated to 1939- Sanborn Insurance (Figure 20,21 &22) maps show that the rectory still stood at 35 and the Roman Catholic Church at 39(and 37) President Street. The church is now named R.C. Church of the Sacred Heart of Jesus and Mary. The project area addresses along Union Street are still 4 story apartments with store below and 216 Columbia is now a much larger 1 story store. The narrow lot at 135 Columbia is still occupied by a 3 story apartment with a store on the first floor and a 4 story building in the rear of the lot, now referred to as a dwelling.

An historic site file search by the New York S.H.P.O. has revealed the following sites to be located within 1 mile of the project area:

A04701.0074 - Empire Stores within the Fulton Ferry Historic

District A04701.0179 - Dock ramparts A04701.00102 - Corporation House site - fulton Street A04701.00508 - Bishop Mugavero site

In summery, the project area contains lots with high historic potential based on the historic buildings erected there prior to the construction of water (pre-1868) and sewer (1870) lines.

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URBAN IMPACTS

Project area lots were analyzed for adverse impacts through time due to urban development. Evidence was collected through historic maps for any possible subsurface destruction, such as basements. Generally, basements were believed to lie under any multi-storied building. They were not thought to lie under small 1 storied structures, such as sheds or larger 1 storied buildings with composition roofing. Based upon the above methodology, the portions of lots left undisturbed through time include:

135 Columbia street: - A 14ft. x 11ft. area in the mid backyard

Union Street: #109 - A 20ft. x 40ft. area in back of lot #111 - A 10ft. x 16ft. area in back of lot #113 - A 20ft. x 42ft. area in back of lot #115 - A 20ft. x 40ft. area in back of lot #117 - no areas left undisturbed 216 Columbia - A 25ft. x 37ft. area in the backyard

President Street: #35 - A 15ft. x 18ft. area in the mid backyard #39 - A 36ft. x 21ft. area in backyard

CONCLUSIONS AND RECOMMENDATIONS

Project area lots left undisturbed and that could contain possible historic features include:

Union Street: #109, #111, #113, and #115 Union and at 216 Columbia 3-4 5 bytes 14 1863

#35 President Street - Hond in 1855, 3-stry in 1886, -1 story 1860

#135 Columbia: Although this lot seems to have been undeveloped until after the installation of water and sewer lines, it may have previously been used as a side yard by the apartment houses on either side.

(For size estimates and locations of remaining undisturbed areas in each of the above mentioned addresses, see the preceding chapter, ie. Urban Impacts).

The study area and surrounding neighborhood seems to have been developed rather rapidity in response to the construction of the nearby <u>Atlantic Basin</u>. Docks, warehouses, factories, apartment houses and associated stores and services have turned what appears to have been a fairly rustic neighborhood into an industrial port within 10 years.

The individuals and families inhabiting the various tenement houses probably were, for the most part, involved with those occupations considered working_class and associated with the expansion of the port. Our project area lots along Union Street and at 216 Columbia Street all contained tenement houses built before water and sewer services were available. Our project area lot at 135 Columbia had tenement houses on either side prior to water and sewer lines and may have been used as a side yard. The building at 35 President Street was a small commercial building that served the local community.

Sanborn maps from 1886 and 1904 depict an Italian Catholic Church at our project area on 39 President Street serving the local community. Sanborn maps from 1915 (updated to 1939) show an Italian Bank on Columbia Street (not far from #216). This picture may have had its roots in an earlier immigration. No indication can be found concerning the ethnicity of the neighborhood during the 1850' to 1870's from any of the maps analyzed.

The study area contains significant potential for the recovery of archaeological remains. These would include historic features, such as privys, wells and/or cisterns. In the unlikely event that construction impacts continue below depths of recorded fill (14 to 20 feet), then prehistoric remains, such as shell middens and artifacts, could be uncovered within former marsh and/or under the water table. The following recommendations are therefore suggested:

- Conduct a Phase IB archaeological field survey on the aforementioned lots to determine if any historic features still remain. Use of a backhoe and/or shovels could be employed to scrape aside any overburden, including possible debris. As part of this phase, additional research could assist in describing the ethnicity, occupations, and lifeways of the local community.

- Any possible prehistoric remains would lie below depths attainable by a backhoe. If project construction were to break below fill depths in any of the project lots, then an archaeological monitor would be recommended at that time and during that duration.

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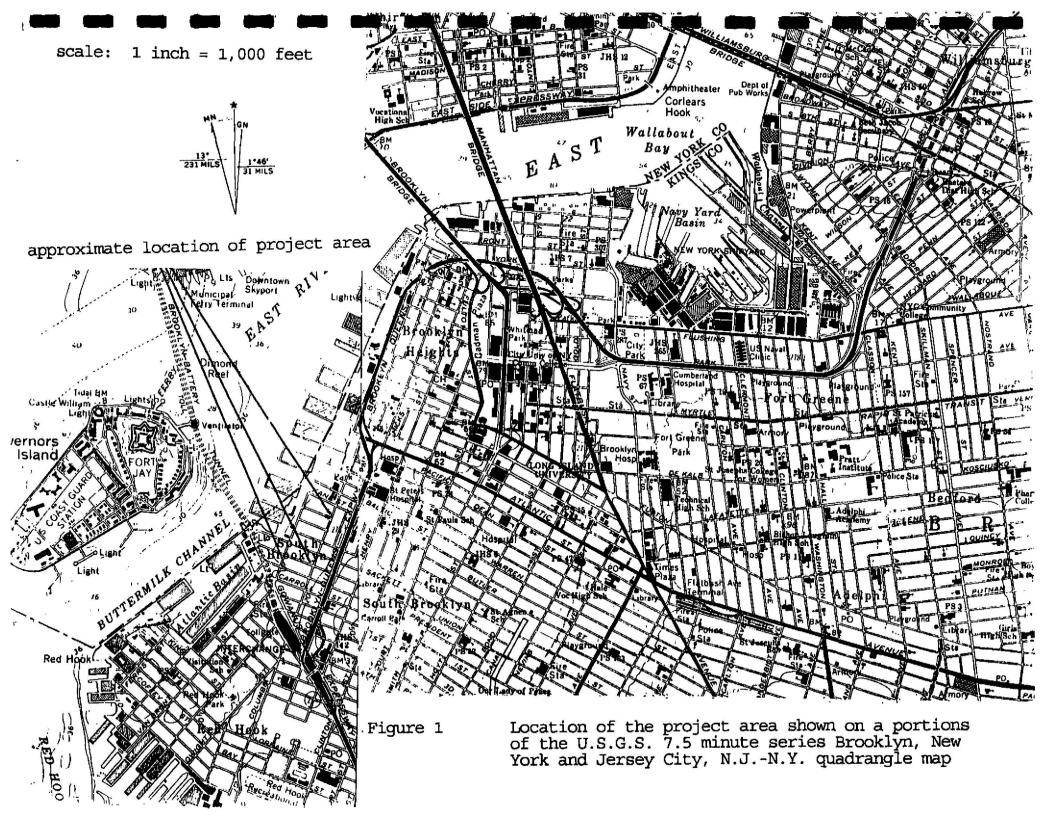
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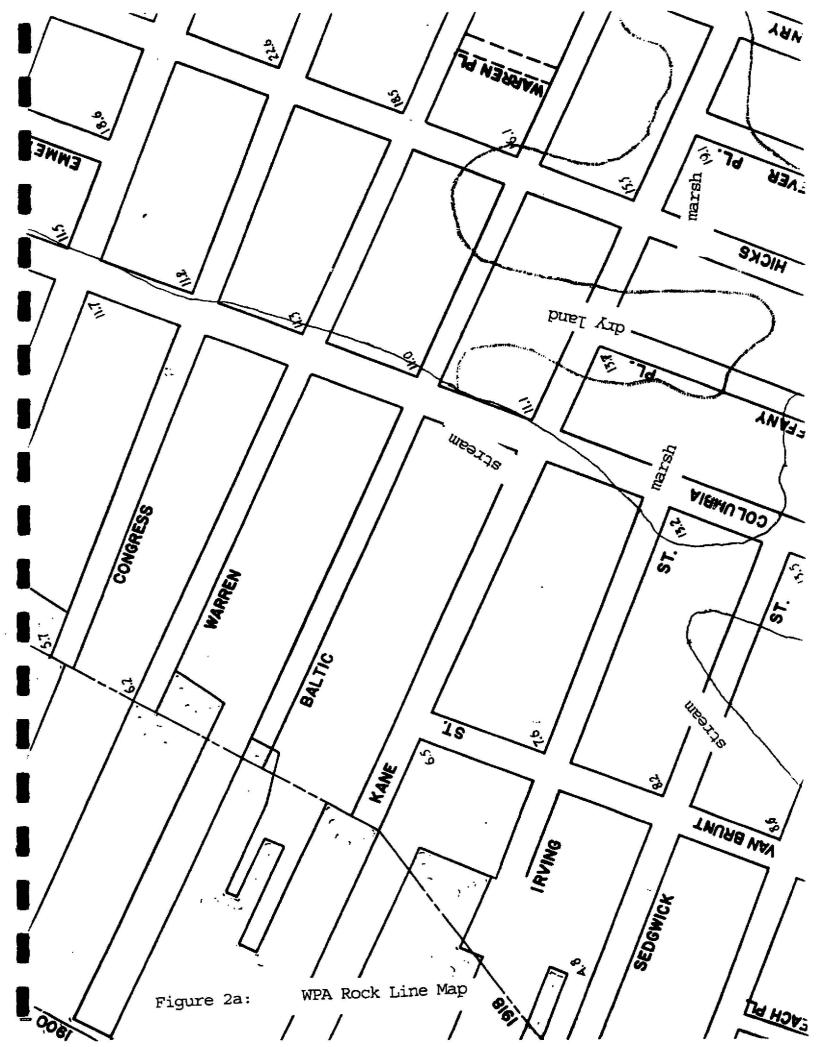
APPENDIX 1

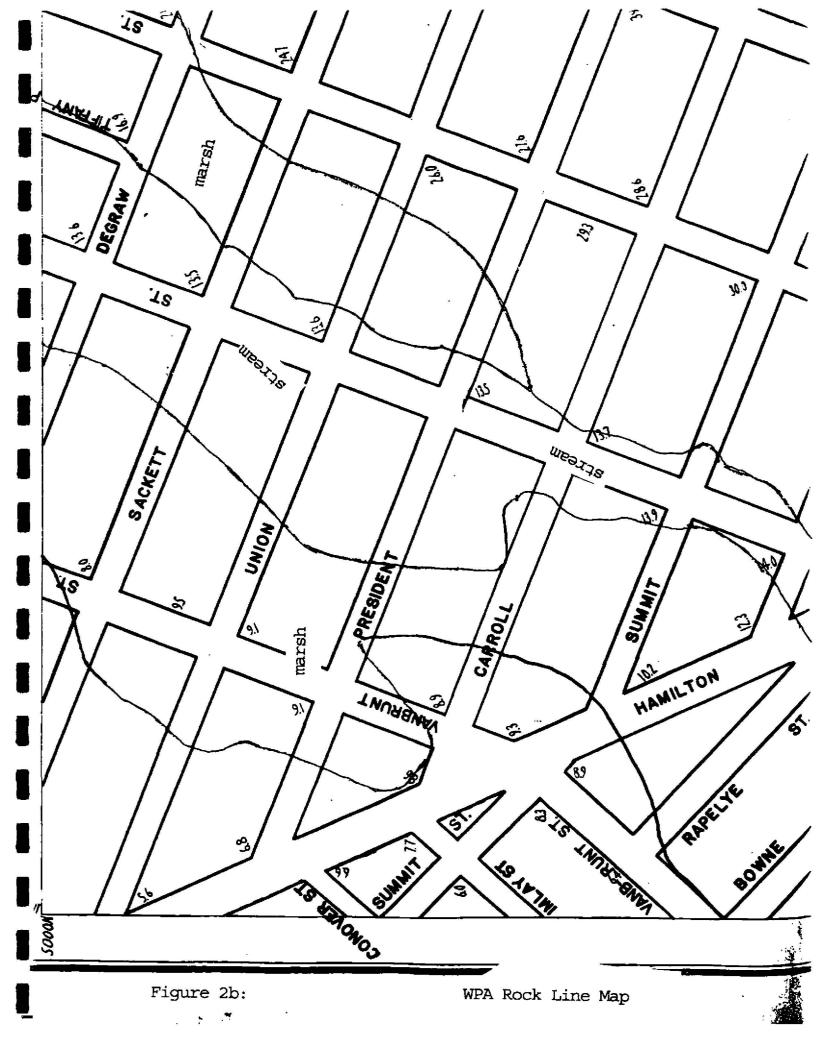
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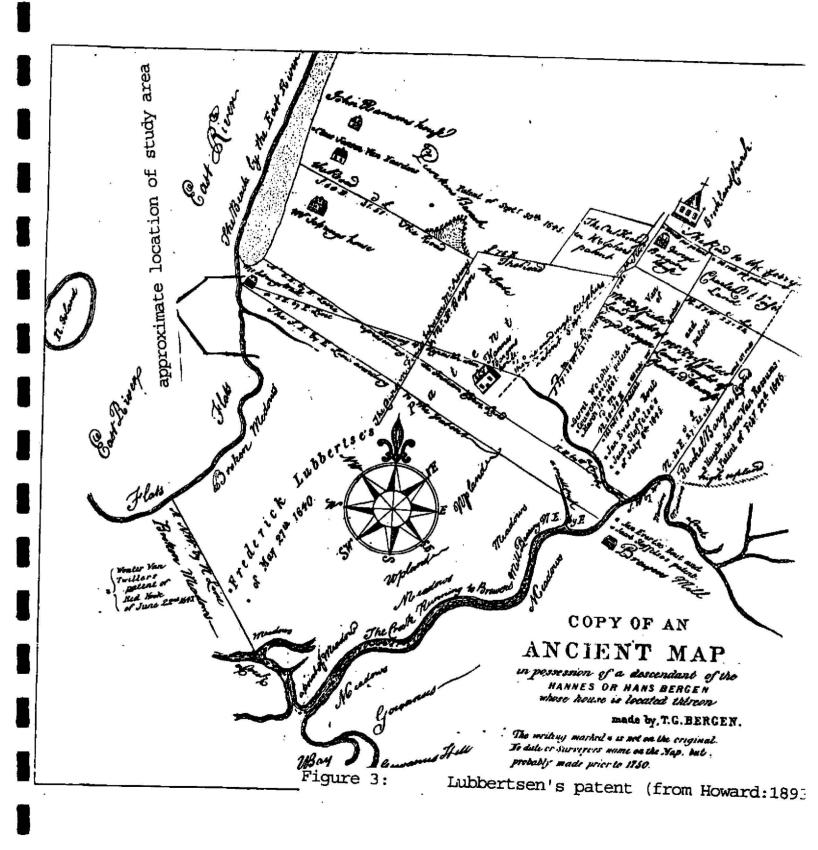
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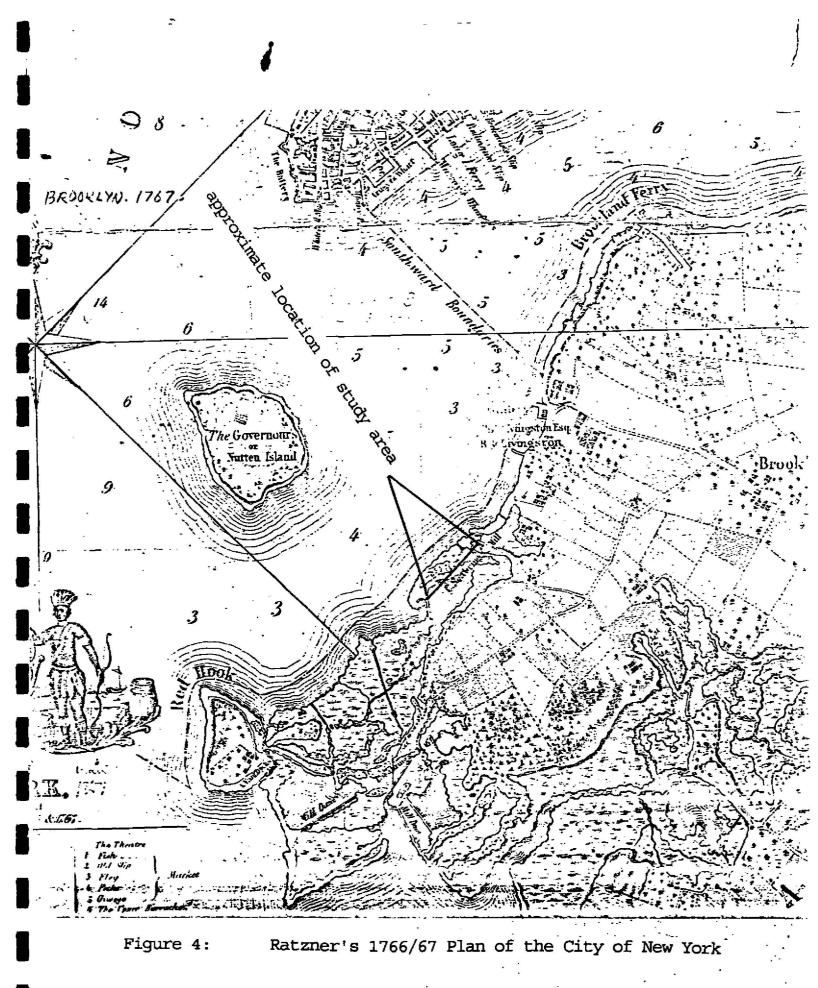
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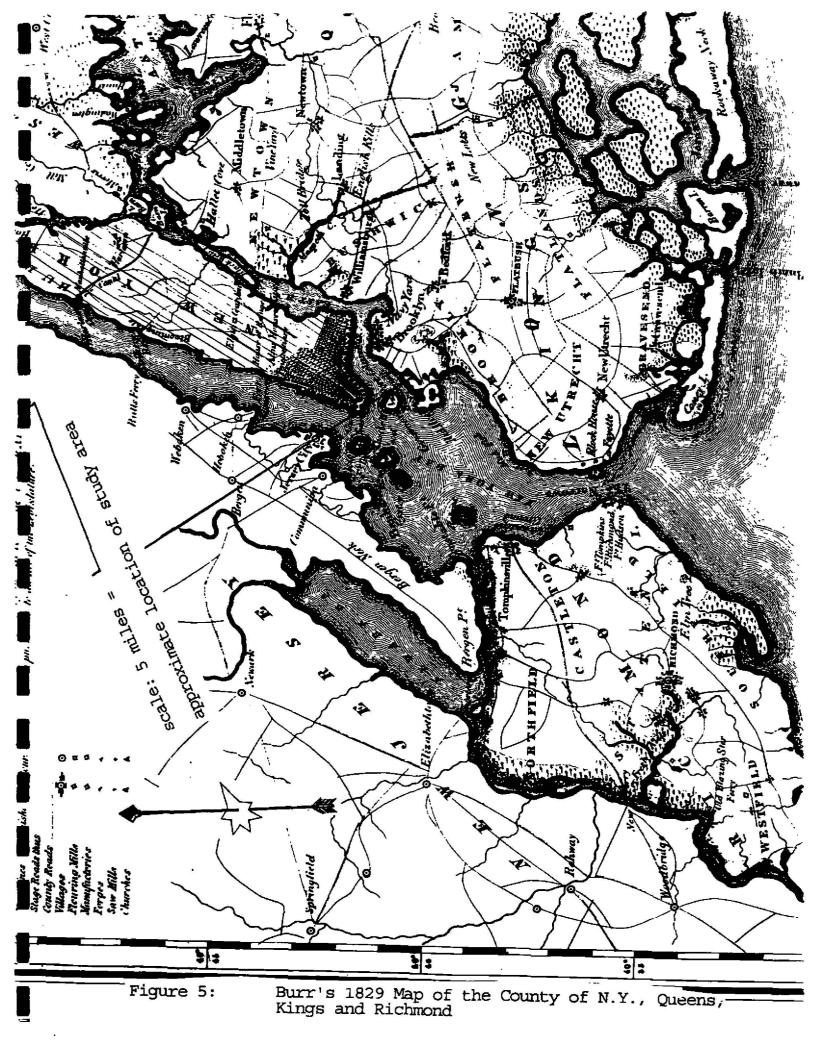


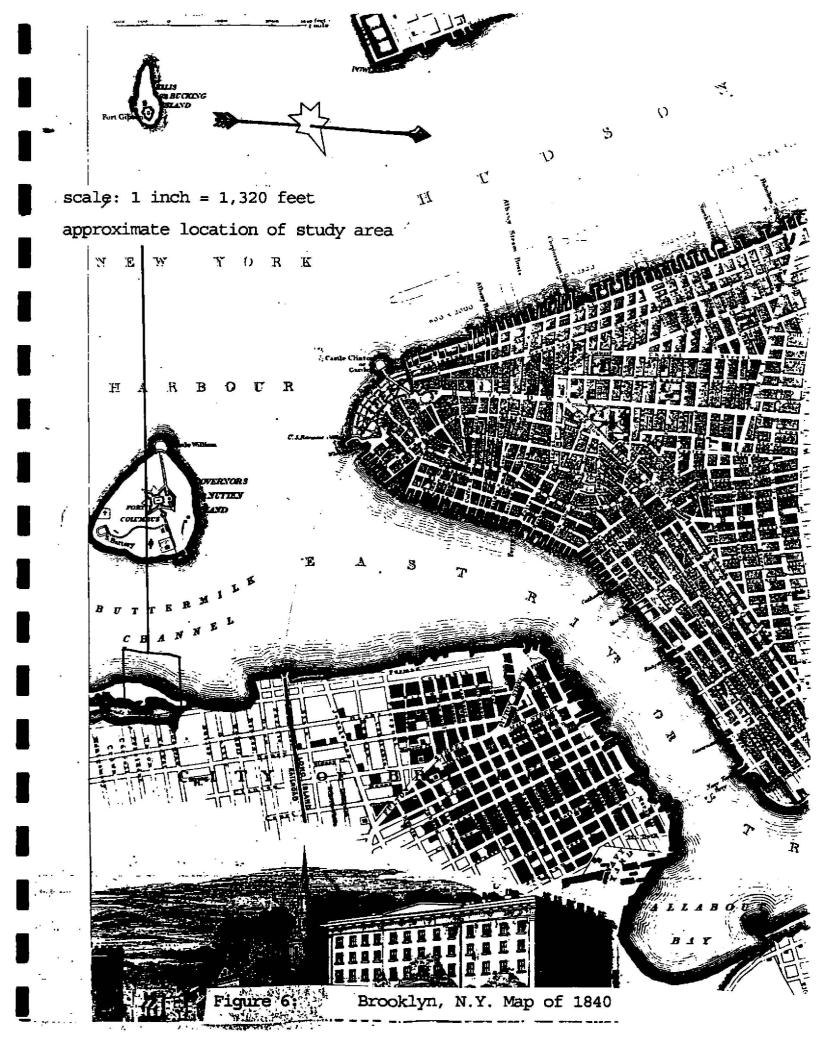


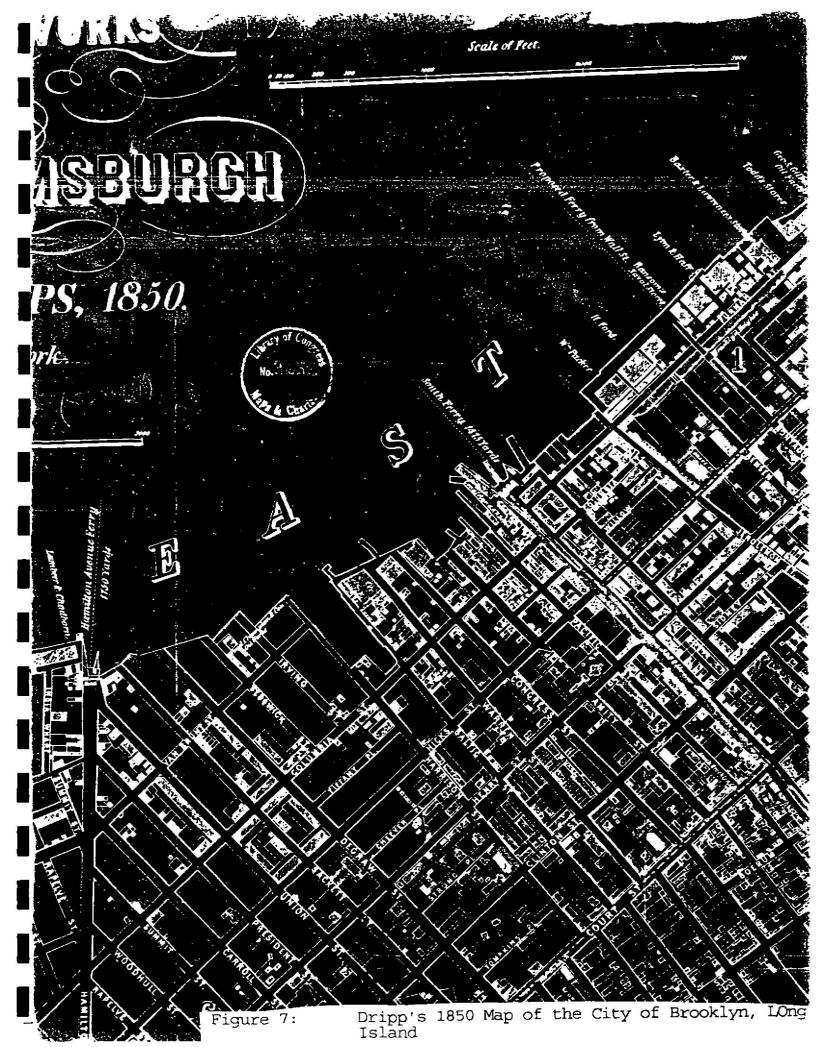


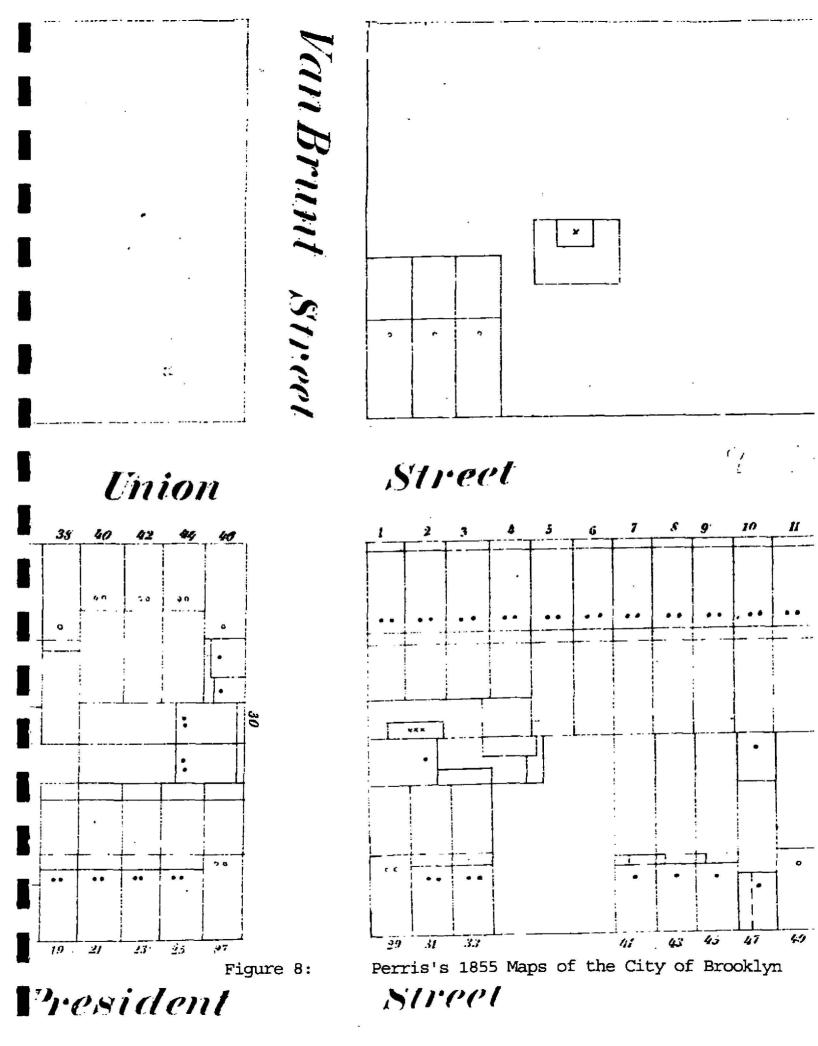


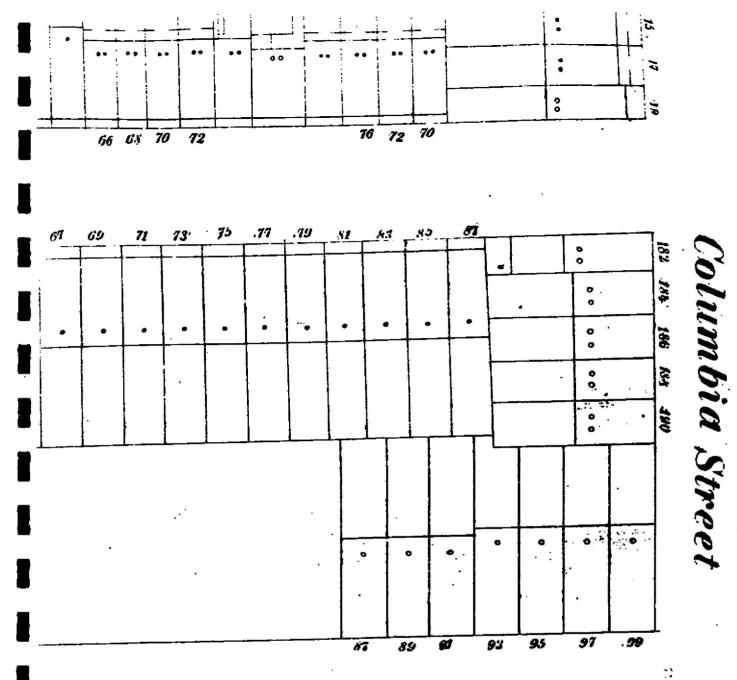
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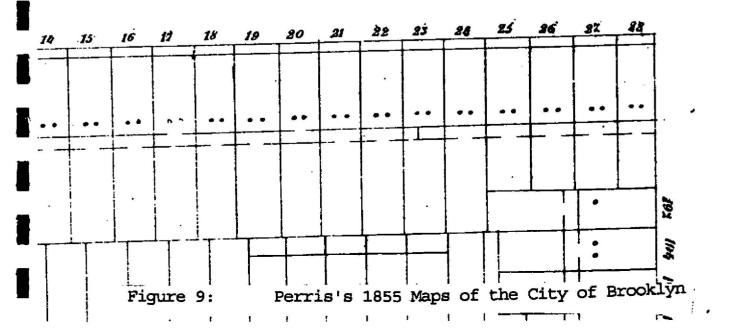


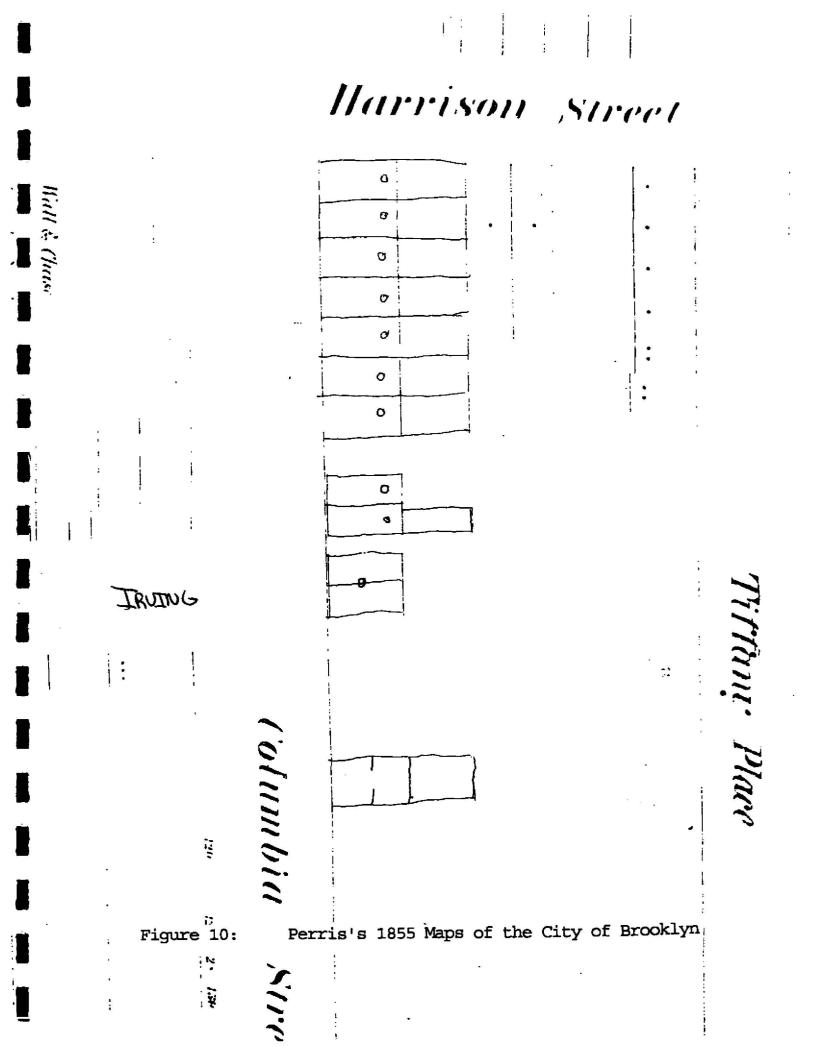


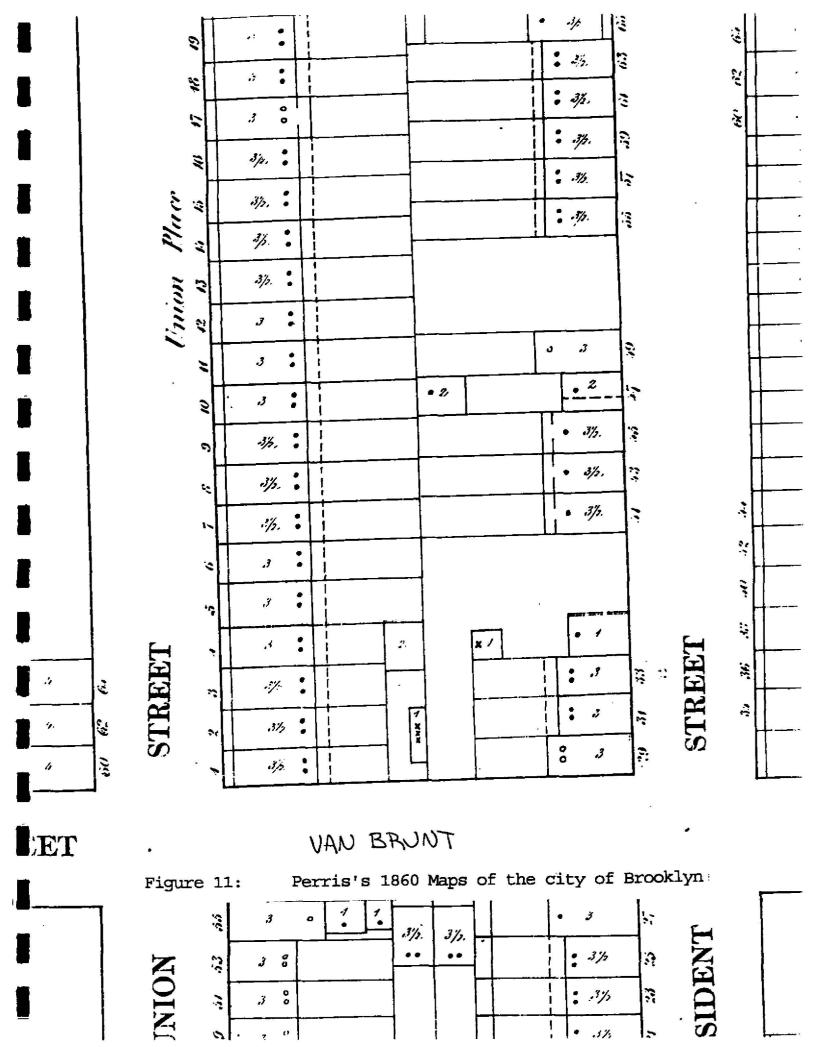


1. DES

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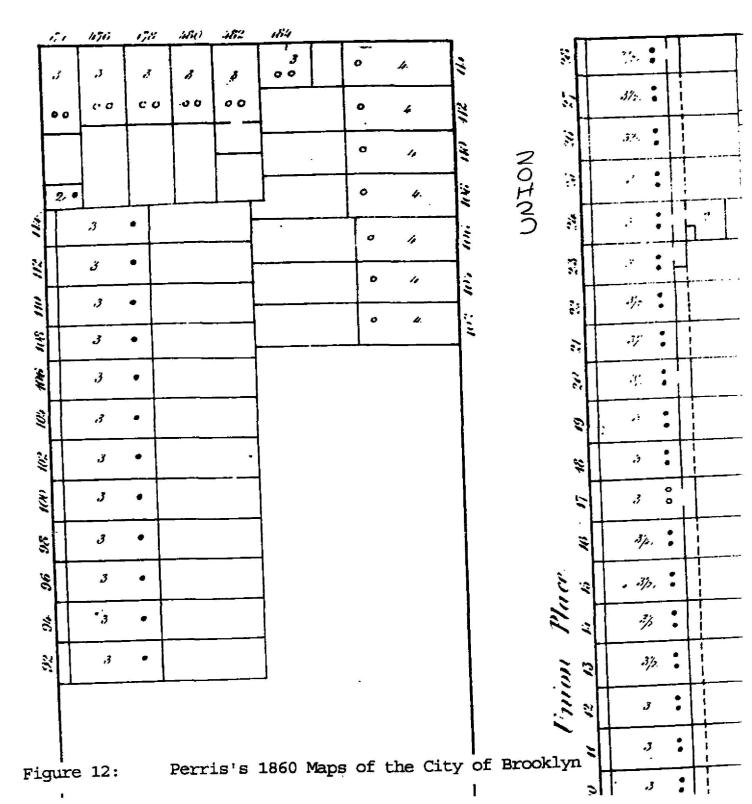


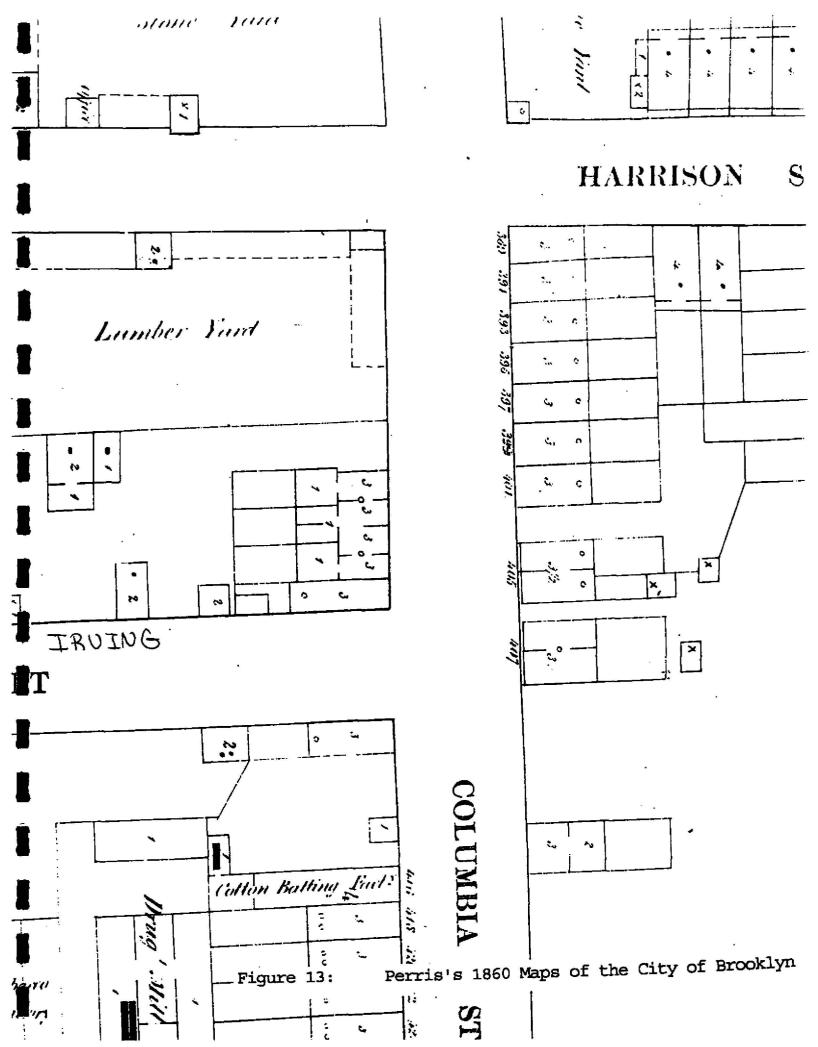


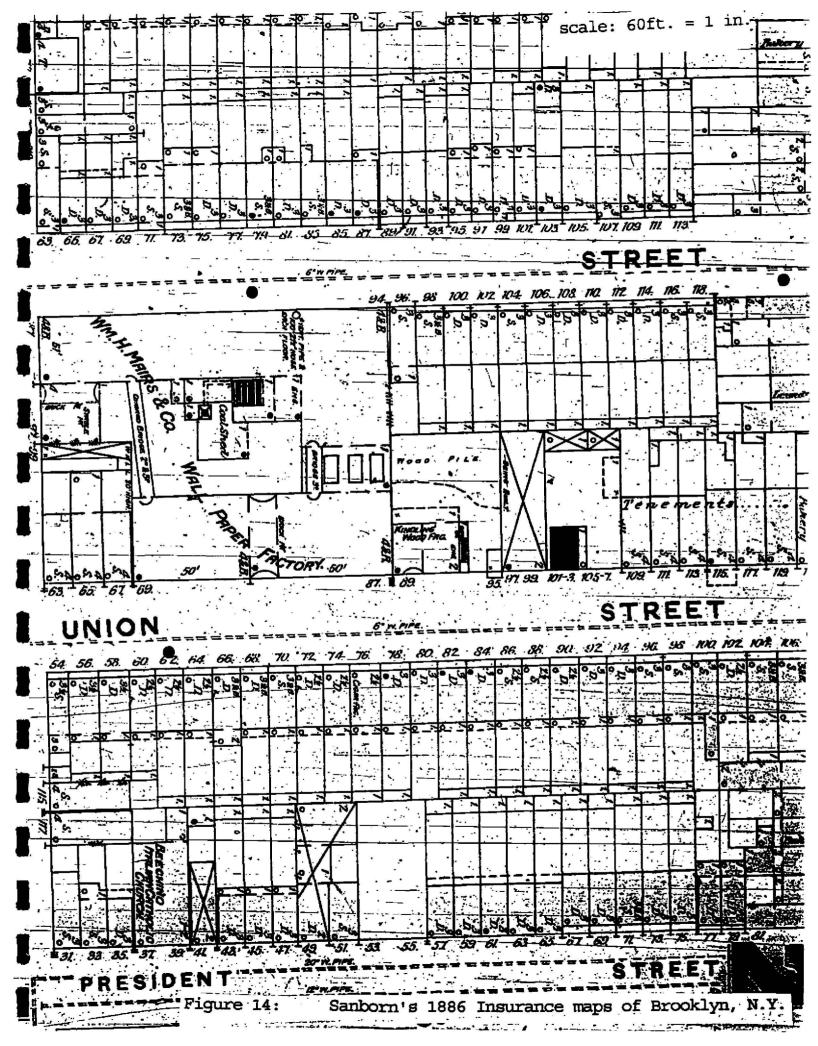
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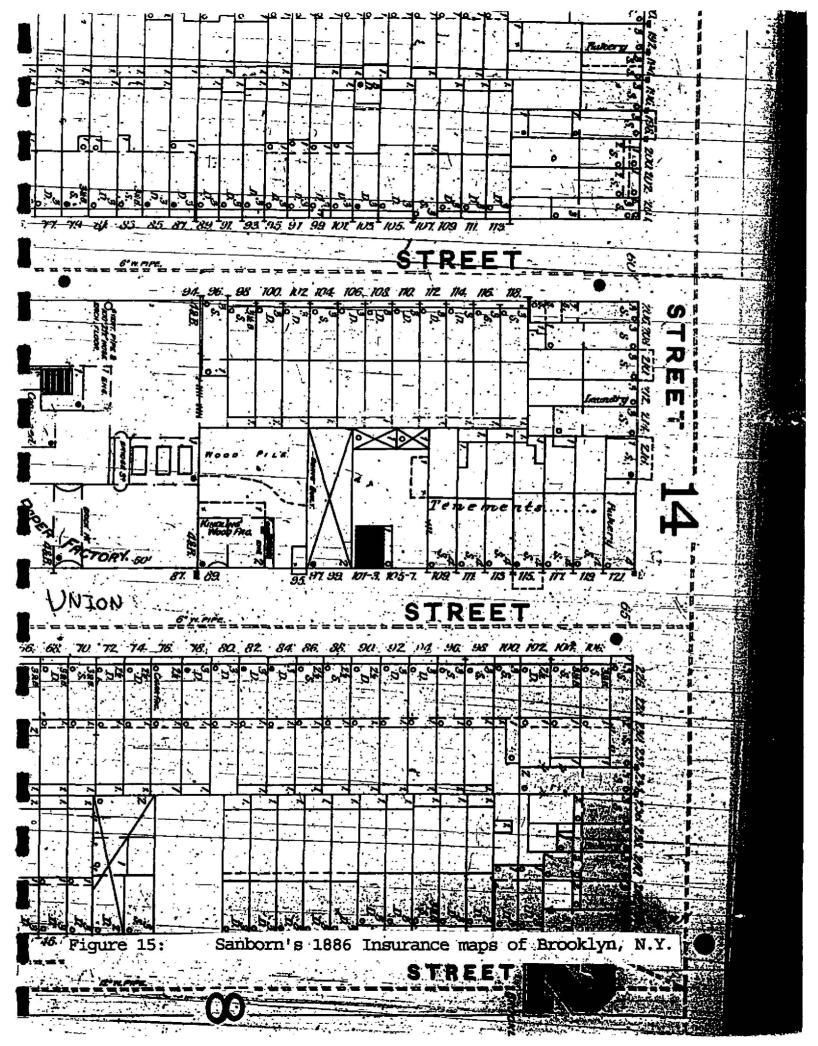
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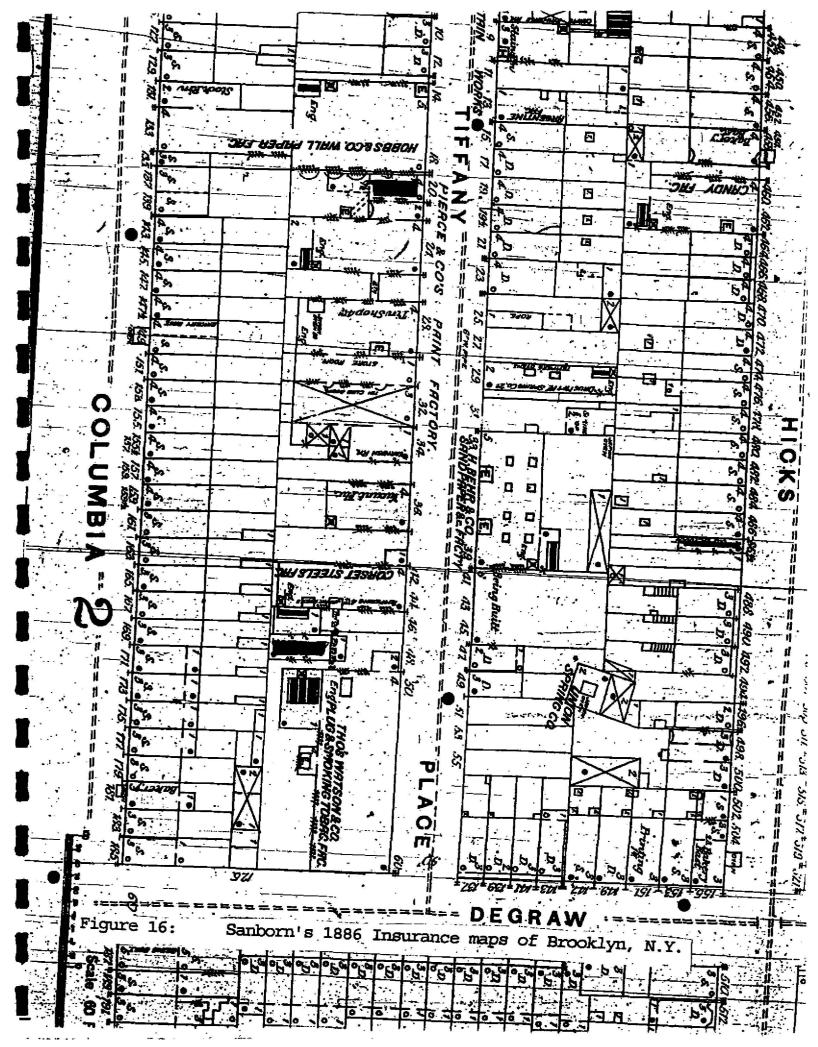
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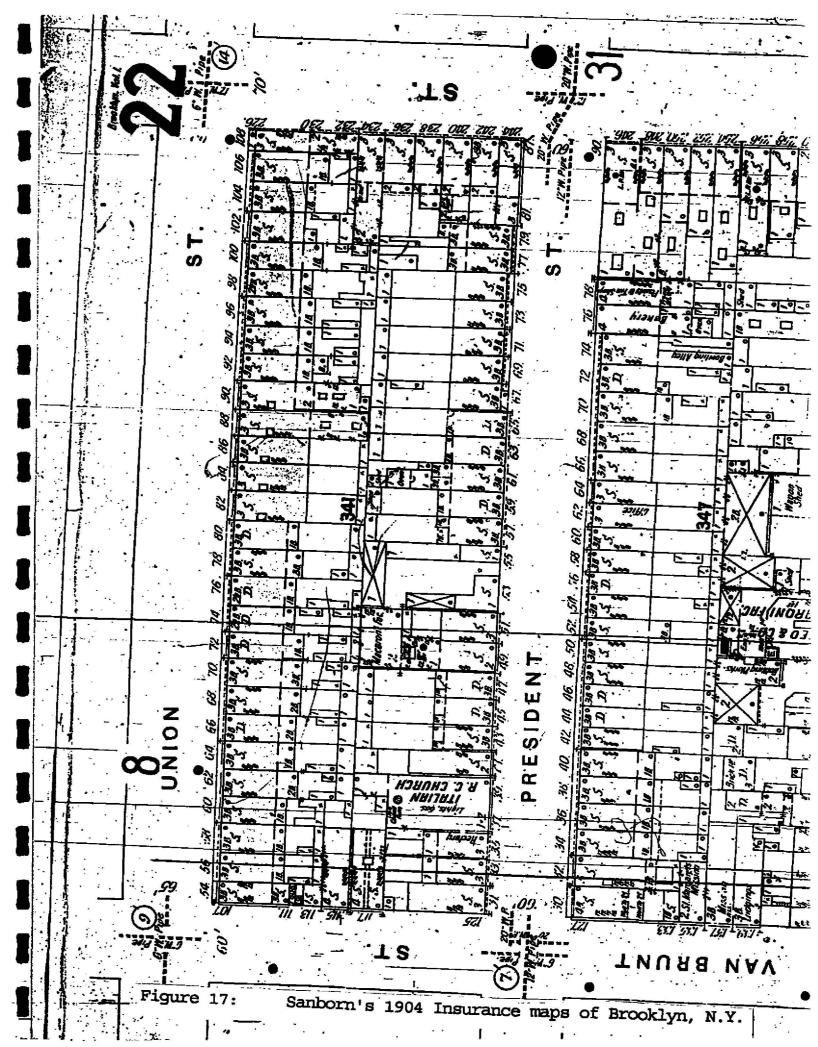


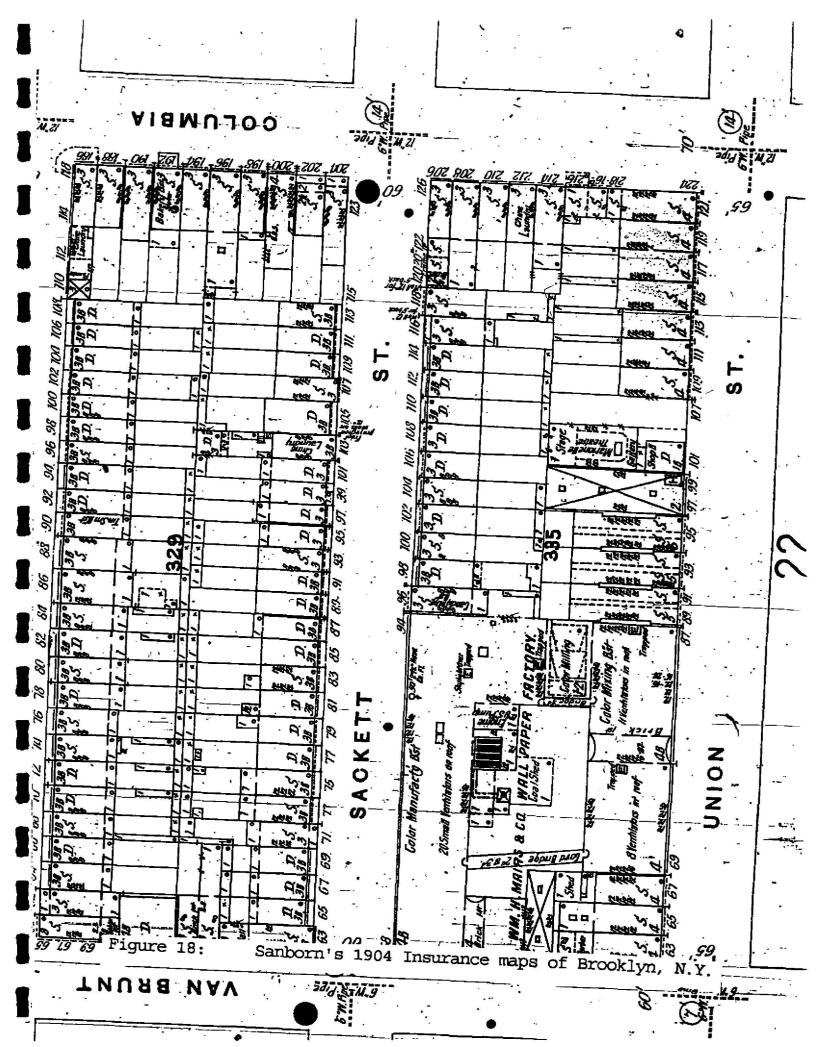


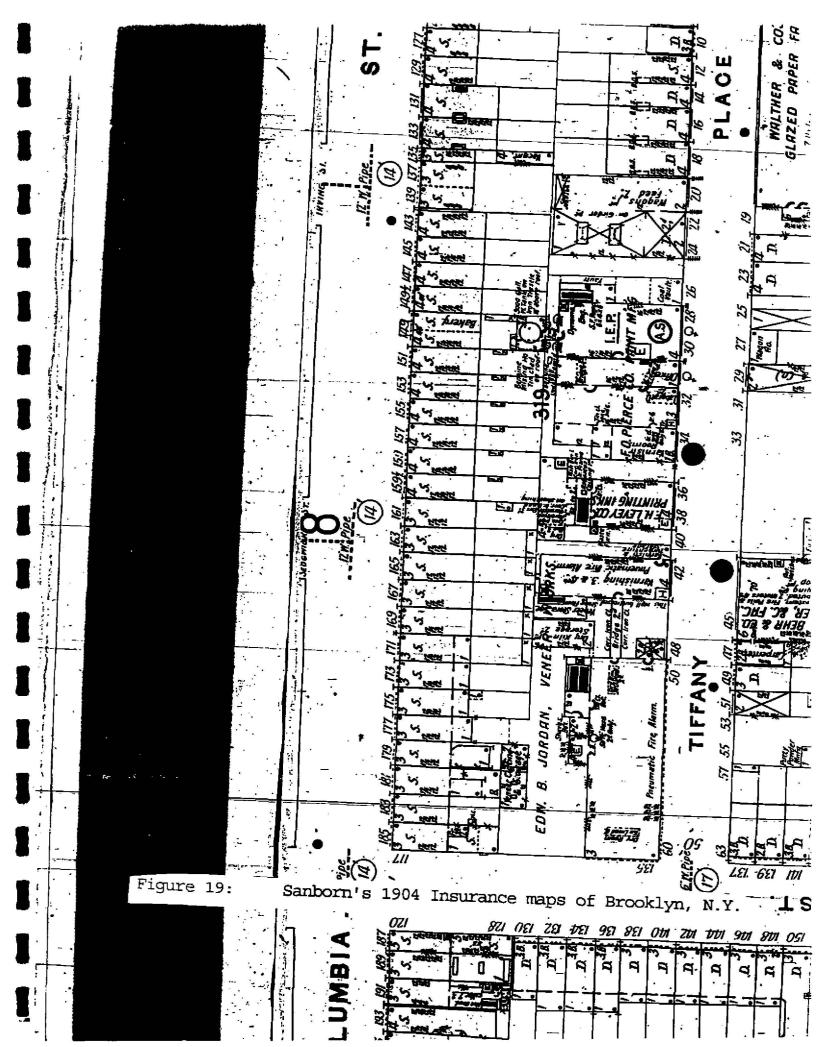


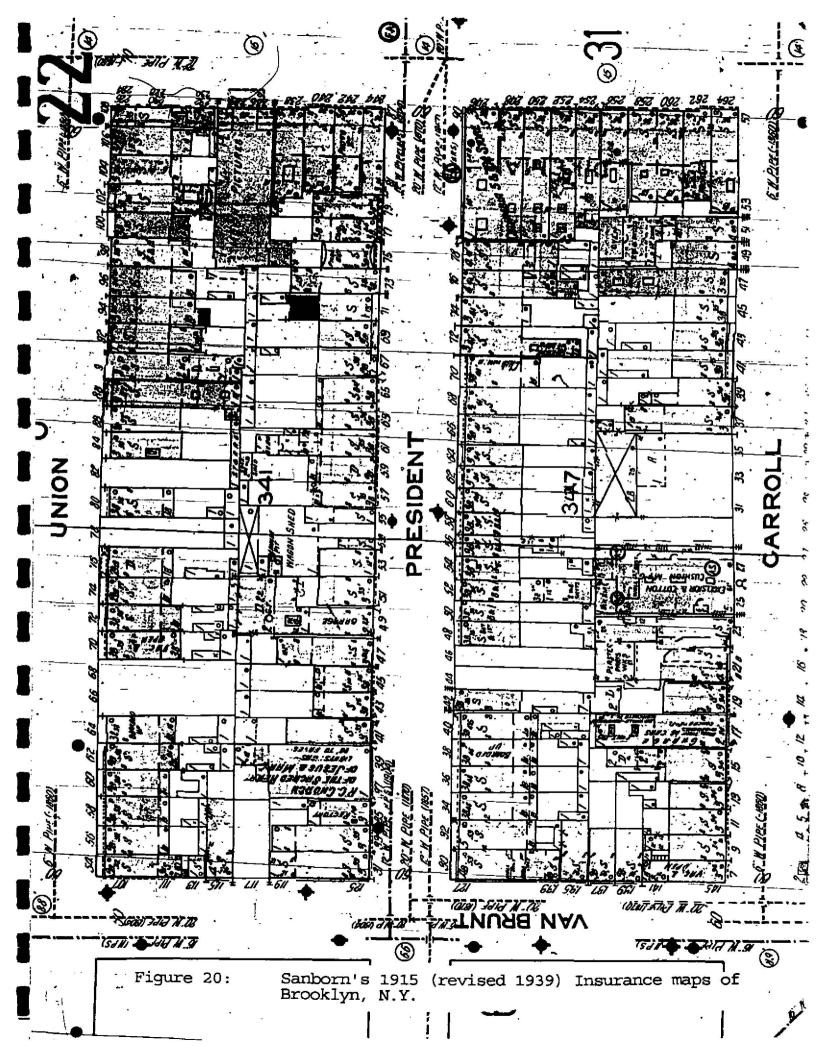


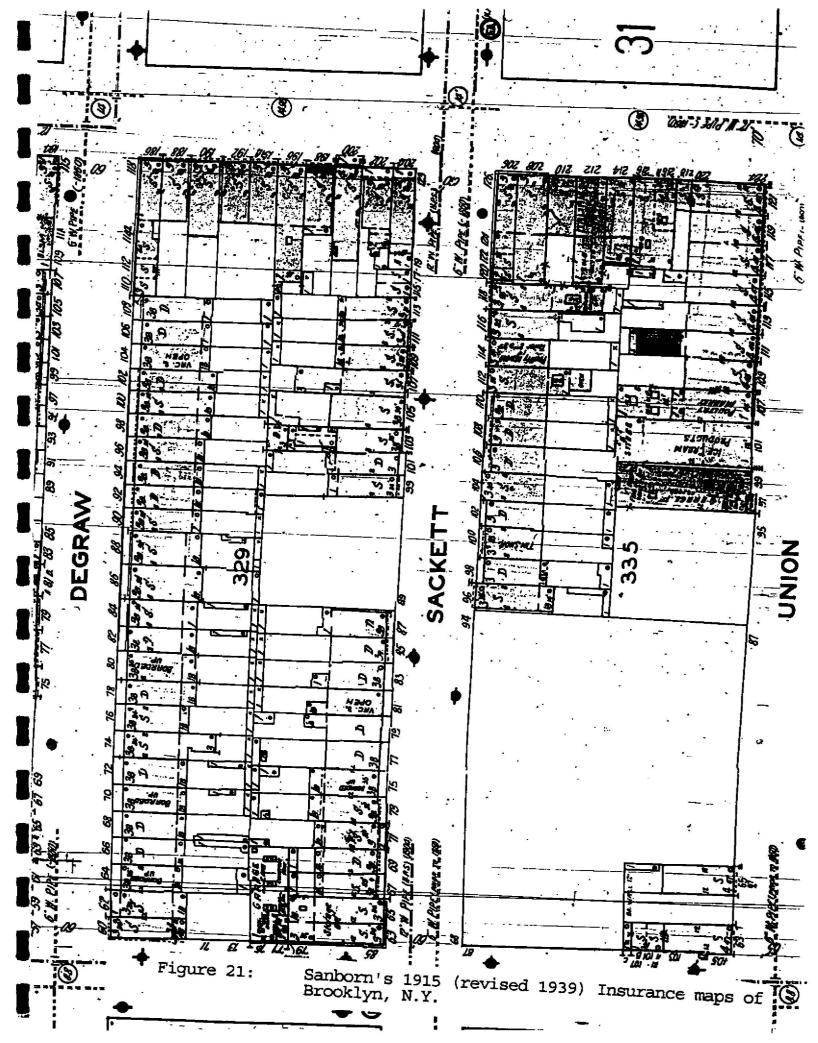


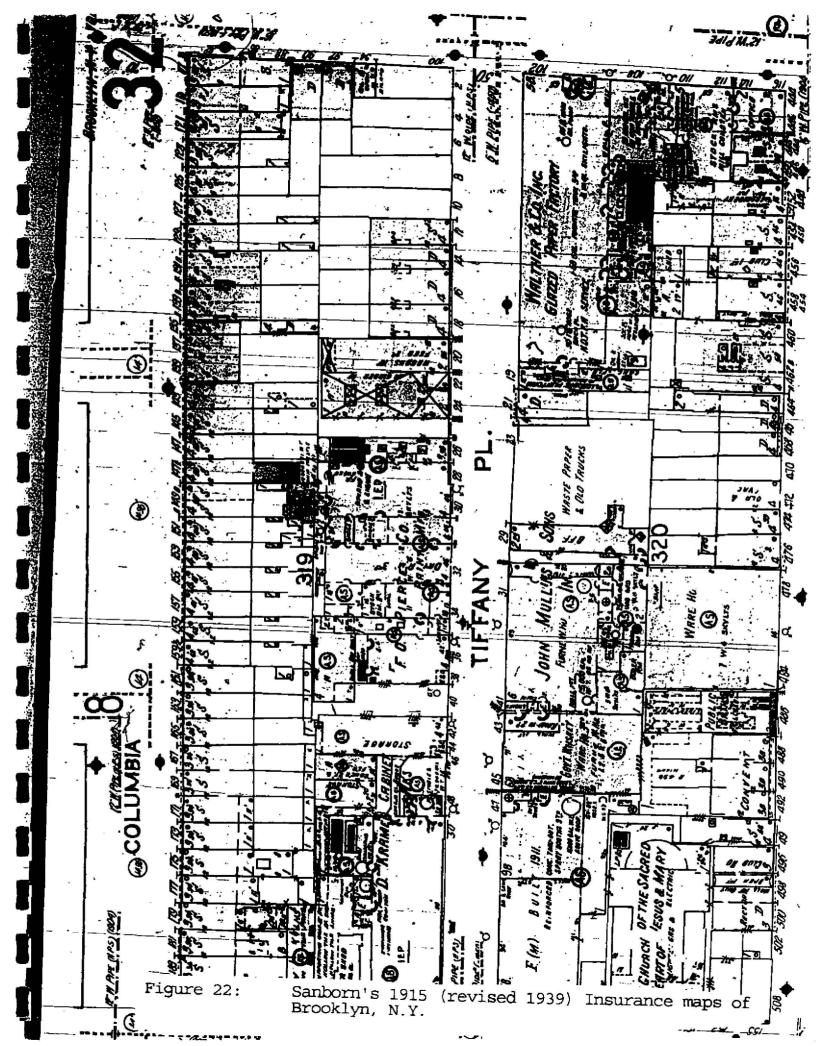














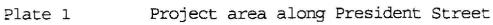




Plate 2 Project area at 135 Columbia Street





Plate 3 Project area along Union Street



Plate 4 Project area at 216 Columbia Street