New York City Borough-Based Jails

Manhattan Site Alternative: 124 White Street

BLOCK 198, LOT 1 AND STREETBED OF WHITE STREET BETWEEN BAXTER AND CENTRE STREET; NEW YORK, NEW YORK

Supplemental Phase 1A Archaeological Documentary Study

Prepared for:

New York City Department of Correction
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Management Summary

CEQR Number:	18DOC001Y
Lead Agency:	New York City Department of Correction
Phase of Survey:	Supplemental Phase 1A Archaeological Documentary Study
Location Information	
Location:	Manhattan
Minor Civil Division:	06101
County:	New York County
Survey Area	
Block/Lot:	Block 198, Lot 1 and streetbed of White Street between Centre and Baxter Streets
Length:	237.81 to 251.29 feet
Width:	220.25 feet
Area:	Approximately 1.48 acres (64,500 square feet)
USGS 7.5 Minute Quadrangle Map:	Brooklyn Quadrangle
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Date of Report:	December 2018

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Chapter 1: Introduction and Research Methodology

A. INTRODUCTION

The City of New York, through the New York City Department of Correction (DOC), is proposing to implement a borough-based jail system as part of the City's continued commitment to create a modern, humane, and safe justice system. The proposed project would develop four new detention facilities to house individuals who are in the City's correctional custody with one located in each of four sites under consideration in the Bronx at 320 Concord Avenue; Brooklyn at 275 Atlantic Avenue; Manhattan at 124 and 125 White Street; and Queens at 126-02 82nd Avenue. This Supplemental Phase 1A Archaeological Documentary Study addresses a portion of the Manhattan site at 124 White Street (Block 198, Lot 1) and the streetbed of White Street between Centre and Baxter Streets, as described in greater detail below (see **Figure 1)**.

Under the proposed project, all individuals in DOC's custody would be housed in the new borough-based detention facilities. The City would no longer detain people at Rikers Island. Each proposed facility location is City-owned property and a number of discretionary actions would be required to implement the proposed project that are subject to the New York City Environmental Quality Review (CEQR) and Uniform Land Use Review Procedures (ULURP). These actions include, but are not limited to, site selection for public facilities, zoning approvals, and for certain sites, changes to the City map. Pursuant to CEQR, consultation regarding the proposed Borough-Based Jail project was initiated with the New York City Landmarks Preservation Commission (LPC). In a comment letter dated August 8, 2018, LPC determined that the Bronx, Brooklyn, and Queens sites do not possess archaeological significance and that no further archaeological analysis of those sites would be required. However, LPC determined that although portions of the Manhattan Site were disturbed as a result of 20th century development, portions of the site are potentially archaeologically sensitive and that an archaeological documentary study is necessary to further clarify the site's archaeological sensitivity.

B. PREVIOUS PHASE 1A STUDY AND SUBSEQUENT PROJECT DESIGN CHANGES

A Phase 1A Archaeological Documentary Study of the portion of the Manhattan Site that was expected to be affected by subsurface disturbance was prepared by AKRF, Inc. in October 2018 to satisfy LPC's request. The study area for the Phase 1A Study included the sites of 80 Centre Street (Block 166, Lot 1), 125 White Street (the northern portion of Block 167, Lot 1), and the streetbed of Hogan Place (also known as Leonard Street) between Centre and Baxter Streets. At the time of the preparation of that report, no subsurface disturbance was proposed for the site at 124 White Street or the streetbed of White Street. The site at 124 White Street is currently developed with the Manhattan Detention Complex North Tower, which was to be renovated under the plan as originally proposed. Subsequently, the redevelopment of the site on Block 198, Lot 1 and the White Street streetbed, along with 125 White Street was identified as a possible site for the Borough-Based Jail System. As LPC had previously identified this property as potentially archaeologically sensitive, this Supplemental Phase 1A Study was prepared to assess landscape modification and disturbance on the site of 124 White Street and the adjacent streetbed of

White Street (the "supplemental study area"). This document supplements and follows the research goals and methodology as outlined in the October 2018 Phase 1A Study of the Manhattan Site Study Area.

Chapter 2: Summary of Landscape Modification and Historic Development

A. CURRENT CONDITIONS

The alternative to the Manhattan Site located on Block 198, Lot 1 is currently developed with the Manhattan Detention Complex North Tower (see **Photograph 1**). The 1- to 14-story building, which is connected to the South Tower via an elevated walkway and a sub-surface tunnel, was constructed between 1988 and 1989. An open, stepped courtyard with decorative columns is located at the southwest corner of the Block 198 (see **Photograph 2**) and an undeveloped area at the southeast corner of Block 198 and extending into the White Street streetbed is currently used for surface parking (see **Photograph 3**). The building occupies the footprint of the remainder of the lot (see **Photograph 4**). The building features a basement and sub-cellar and occupies much, but not all, of the footprint of the site. The cellar does not extend along the extreme western side of Block 198, adjacent to an existing subway tunnel, and to the south of the existing building, in the location of the courtyard and the parking area. The adjacent streetbed of White Street is closed to vehicular traffic but is accessible to pedestrians. Much of the streetbed area has been converted into parking spaces and it is paved with decorative paves of different sizes and colors. The North Tower of the detention complex connects to the South Tower (125 White Street) via both an elevated walkway and a subterranean tunnel under a portion of White Street. The streetbed contains a number of utility lines of various sizes and at various depths, including electrical lines and sewer and water mains.

B. SUMMARY OF LANDSCAPE MODIFICATION

HISTORICAL LANDSCAPE OF THE SUPPLEMENTAL STUDY AREA

Prior to the early 19th century, the location of modern Block 198 was situated in a large tract of marshland that was located to the north of the Collect Pond, the largest body of fresh water in Manhattan before it was filled in the late 18th and early 19th century. The large freshwater pond was an important source of fish, drinking water, and other freshwater resources for Native Americans and early European settlers alike. The pond was long assumed to be "bottomless" by many city residents; it was however reported to be approximately 40 to 60 feet deep and was fed by several underground springs (*New York Times* 1902). The exact boundaries and water levels of the pond fluctuated over time as a result of human-initiated landscape modification and variation in rainfall and groundwater depth over time (Yamin and Schuldenrein 2007). The upland area to the north of the pond was historically "wet and boggy" throughout much of the historic period (Bolton 1922: 44). Two large hills previously dominated the landscape to the south and west of the pond. The grading of these hills provided much of the fill material that was used to transform the Collect Pond into dry, developable land (Mix and Mackeever 1874).

Following a long period of industrial development around the pond and after its subsequent contamination, it was filled in the early years of the 19th century and the area was subsequently developed (described in detail below). After the pond was filled, the land was developed and redeveloped for various urban uses.

ASSESSMENT OF LANDSCAPE MODIFICATION

Several historic maps include data regarding the elevation of street corner intersections, as presented below in **Table 2-1**. These maps confirm that only moderate changes in elevation have occurred in the area surrounding the supplemental study area since the late 19th century.

Table 2-1
Street Corner Elevations as Identified on Historic Maps

Historic Map	Datum Used	Elevation at the Intersection of: Centre and Walker Streets	Centre and White Streets	Baxter and Walker Streets	Baxter and White Streets
1885 Robinson	At High Tide	11.9	12	Not provided	13.6
1897 Bromley	Above High Tide	Not provided	12	20	17.6
1899 Bromley	Above High Water	11	11.6	Not provided	12
1923 Sanborn	Above High Water	Not provided	12	20	17.6
1940 Rock Data Map, Legal Street Grade	Manhattan Borough Datum (MBD)	11.6	11.6	20	17.6
1951 Sanborn	Above High Water	12	12	Not provided	18
2016 Sanborn	Above High Water	12	12	Not provided	18
2014 USGS Lidar (elevations for supplemental study area at adjacent corner)	NAVD88	14	14	20	18

Notes: The Rock Data Map includes a specific datum—the Department of Works datum at 2.750 feet above mean sea level at Sandy Hook, NJ—which appears consistent with the modern Manhattan Borough Datum. The consistency of the elevations from the Rock Data Map with those seen on other maps suggests that the same or similar datum point was used consistently since 1885. Modern Lidar information provided by the United States Geological Service.

As shown in **Table 2-1**, each map includes elevation as recorded relative to a specific datum, or the point from which surface elevations are measured (where the elevation is considered to be zero). Elevations of the same ground surface, recorded at the same time, but taken relative to different datum points, will obviously differ despite the fact that they refer to the same location. As shown in **Table 2-1**, datum points used in the 19th and 20th centuries were historically been linked to tidal action, i.e., using either mean sea level (representing the average of high and low tide) or the high water mark. Therefore, understanding the datum from which an elevation was measured is critically important to an analysis of historic elevations and landscape change. However, given historic surveying techniques and inaccuracies that may exist in measuring tides and elevations, especially during the 19th century, as well as sea level rise, there may be discrepancies when comparing current and historic elevation data. Furthermore, many historical maps reflect the legal grade, or the planned grade, and may differ from what was actually. These elevations were compared with current Lidar information published by the United States Geological Survey (USGS) in 2014. The Lidar elevations are measured relative to the North American Vertical Datum of 1988 (NAVD88).

HISTORICAL SOIL BORINGS WITHIN BLOCK 198 AND ADJACENT STREETBEDS

Within Block 198, the 13 historical soil borings that were completed at 124 White Street by the Foundation Company in an unknown year and in the sidewalks surrounding the block by the Department of Public Works in 1971 are included in the Department of Borough Works' "Rock Data Map," which was initially issued in 1937 and subsequently updated (see **Table 4-2** and **Appendix A**). The surface elevation of the borings varied between 9.5 feet and 19.5 feet relative to the Manhattan Borough Datum

or 11.152 to 21.152 feet relative to the NAVD88.[1] The areas of highest elevation were within the sidewalks along the southern side of the site and the elevation in general sloped down to the northwest. The surface elevation of two borings (numbers 121 and 124) was approximately 10 feet of borings located in the adjacent streetbed, possibly as a result of disturbance associated with a basement or cellar.

Table 4-2
Summary of Borings on Block 166 from the Rock Data Map

Boring #	Ground Surface of Boring (MBD)	Ground Surface of Boring (NAVD88)	Thickness of Fill above Bog/Peat/Mud (ft)	Thickness of Bog/Peat/Mud Layer(s) (ft)
94	13	14.652	20	5
120	14.5	16.152	n/a	n/a
121	9.5	11.152	21.5	27
122	13.5	15.152	20	5
123	13.5*	15.152	22.5	4
124	9.5	11.152	20	5
395	17.3	18.952	n/a	n/a
396	19.5	21.152	n/a	n/a
397	19.5	21.152	n/a	n/a
398	13	14.652	17	5
399	11.2	12.852	28.7	16.3
400	12.5	14.152	34	9

Notes: *The surface elevation of this borings is indicated as a negative number in the boring logs, but it appears to be in error.
Source: Department of Borough Works 1940 (updated).

Eight of the 13 borings identified peat, bog, or mud deposits that represent the former marsh deposits that were located across the site prior to the late 18th and early 19th centuries. Those borings that did not include similar deposits—three of which were in the sidewalk lining the southern side of Block 198—may be in areas that were disturbed to a greater depth as a result of 19th and 20th century development. The bog/peat deposits were found beneath fill levels ranging in thickness between 17 and 34 feet, with the deepest fill deposits in the northwestern portion of the site. The thickness of the peat/bog deposits ranged between 5 and 27 feet.

The landscape of the supplemental study area therefore appears to have been extensively modified as a result of three major development episodes. The first involved the filling of the marshes associated with the Collect Pond, which resulted in the deposition of as much as 17 to 34 feet or more of fill material. The second episode of landscape modification occurred as a result of the development of Block 198 in the 19th century, when it was divided into a number of historical lots, each of which was developed for residential and/or commercial/industrial use. Most of the buildings that previously stood on Block 198 were constructed with cellars or basements, which presumably resulted in 8 to 10 feet of disturbance beneath the 19th century ground surface. The third and final episode of landscape modification involved the demolition of these 19th century buildings and the construction of the existing Manhattan Detention Center North Tower in the late 1980s.

[1] The datum point for the NAVD88 is situated 1.652 feet below that of the MBD; therefore to convert from MBD to NAVD88, one must add 1.652 feet to the elevation relative to MBD. This document will refer to elevations relative to NAVD88 unless otherwise specified.

MODERN SOIL BORINGS IN BLOCK 198 AND WHITE STREET

Eight additional soil borings were recently completed or attempted in or adjacent to the southern portion of Block 198 and the adjacent streetbed of White Street by Yu and Associates in 2017 and by Mueser Rutledge Consulting Engineers (MRCE) in 2018 (MRCE 2018).[1] The completed borings were located in the southern portion of Block 198, outside the footprint of the existing North Tower, or in the streetbed of White Street. The three borings completed in 2017 included two within the sidewalk of White Street immediately adjacent to the paved courtyard at the southwestern corner of the building; another at the southeastern corner of the courtyard; and one in the undeveloped area currently used for parking near the southeastern corner of Block 198. The two borings to the west identified intact peat deposits between 6 to 10 feet in thickness situated beneath a 32- to 37-foot layer of fill. The boring to the west, which was located within the footprint of a historical building with a basement, did not identify intact peat deposits, but instead documented 23.5 feet of fill over levels of sand and gravel.

The two borings completed in 2018 were located near the borings completed in 2017. One was located within the sidewalk adjacent to the southwestern corner of Block 198. In this location, 19 feet of fill were identified over a layer of sand and gravel, and intact peat deposits were encountered at a depth of 40 feet. The second boring was located within the southeastern corner of Block 198, within the footprint of a historical building with a basement. That boring identified 18.5 feet of fill over sand with silt and inclusions of mica, however no peat deposits were identified. Therefore, it appears that intact peat deposits associated with the former Collect Pond and its associated marshes may be present near the southwest corner of Block 198 and extending into White Street although those deposits appear to have been removed or disturbed as a result of development at the southeastern corner of the block.

Three additional borings were attempted within the streetbed of White Street a short distance east of Centre Street. All three borings hit an obstruction at a depth of 2 feet and were ultimately abandoned. These attempted borings were located within an area surrounded by concrete pavers as shown on site surveys and that are visible from the ground surface (see **Photographs 2** and **4**) and may represent an underlying shallow concrete foundation.

[1] The 2018 investigation also included three attempted borings within the streetbed of White Street that were terminated at a depth of 2 feet below the ground surface after hitting obstructions; those attempted borings are not included within this analysis.

Chapter 3: The Development of the Study Area During the Historic Period

A. INTRODUCTION

This chapter will focus on the specific development and disturbance history of Block 198, Lot 1. Relevant contextual and background information previously described in other reports is included in this analysis as necessary. As described in detail in this chapter, construction of the building now occupying the supplemental study area resulted in extensive disturbance and as such, this chapter addresses issues related to development and disturbance and not the identities of those who may previously have resided on the supplemental study area.

B. EARLY COLONIAL HISTORY

Following the period of initial European contact beginning with the arrival of Henry Hudson's voyage in 1609, New York became a Dutch colony (Burrows and Wallace 1999). In 1621, the States-General in the Netherlands chartered the Dutch West India Company (WIC) to consolidate Dutch commercial activities in the Americas. After the English conquest of New Amsterdam in 1664, the colony was renamed "New York" (ibid). As described in **Chapter 2, "Environmental and Physical Settings,"** the majority of the supplemental study area was inundated by the waters of the Collect Pond before the late 18th century. As a large source of fresh water, the area around the Collect Pond was an attractive area for historic period settlement for both the Dutch and the English. However, in the early years of European settlement, the 17th century colony of New Amsterdam and the 17th and 18th century colony of New York were largely limited to the extreme southern end of the island of Manhattan.

The densest part of the Dutch settlement of New Amsterdam was located at the southern tip of Manhattan, but the Dutch granted large tracts of land in the areas to the north. Known as *bouweries*, these large farms were granted to individual settlers and were typically used for agricultural purposes. Johannes Vinckeboons' circa 1639 map of Manhattan, considered one of the first of the area, depicts the bouweries throughout what is now Lower Manhattan.

17TH AND 18TH CENTURY OWNERSHIP HISTORY OF THE SUPPLEMENTAL STUDY AREA

What is now Block 198 and the adjacent streetbed of White Street were historically situated at the border between two farms and the boundary line crossed through the supplemental study area from northwest to southeast. The eastern portion of the site was included within Bouwery Number 7, one of the first divisions of land made by the Dutch after the initial settlement of New Amsterdam. The bouwery remained under the control of the West India Company throughout the period of Dutch occupation, and was occupied by various citizens, including Evert Focken in the 1620s and Thomas Sanders in the 1630s (Stokes 1967). As a result of Sanders' "ungovernable temper," he was locally known as the "mad smith" and Smith's Hill, originally located to the southeast of the supplemental study area, was named after Sanders (ibid 6:72). What later became known as Smith's Hill Farm was made up of smaller parcels, the majority of which had been granted by the Dutch government to individuals of African descent in the early to mid-17th century (ibid). These settlers may have been enslaved persons owned by Captain Johan

de Vries (ibid). The parcel making up the western half of the supplemental study area was previously included in a land grant made by Dutch Director General William Kieft in 1645 to Paulo De Angola (ibid). De Angola and Clara Crioli, both of whom were of African descent, sold the land to Symon Joosten in 1651, who sold it to Augustine (Augustyn) Hermans the same year (ibid). The former Bouwery 7 was also transferred to Augustine (Augustyn) Hermans by British Governor Richard Nicolls in 1668 (ibid).

Hermans later sold his land holdings to Nicholas Bayard, and the area soon became known as the Bayard Farm (Stokes 1967). Bayard Street, which runs to the southeast of the supplemental study area, is named in honor of Bayard. After Bayard's death in 1707, his heirs sold a portion of the estate including the western half of Block 198 to Dominick Lynch, whose heirs would maintain ownership through the late-18th century (ibid). Lynch was involved in the filling of the Collect Pond and was responsible for filling in the swamps on his own property to the east of the Collect Pond (ibid). The 1915 map of Tracts and Farms maintained by the New York City Register's Office suggests that Lynch's land holdings excluded the eastern half of Block 198, which remained part of the Bayard estate in a larger 175-acre estate known as the "East Farm."

Maps published through the mid- to late 18th century do not depict any structures on Block 198. Holland's 1757 map of the area suggests that marshes were located to the west of the Collect Pond but that the vicinity of the supplemental study area was dry land. Ratzer's map depicting conditions circa 1766 (see **Figure 3**) depicts the line separating the Lynch property from Bayard's East Farm. The supplemental study area is again depicted as dry land adjacent to a channel cut to drain the marshes to the west. The supplemental study area was situated in a low-lying area west of a hill and only the upland areas east of the hill were developed with streets and buildings at that time.

C. THE IMPACT OF THE REVOLUTIONARY WAR AND SUBSEQUENT LANDSCAPE MODIFICATION

The supplemental study area and surrounding area remained largely undeveloped as the Revolutionary War brought New York's commerce and development to a halt between 1776 and 1783. During this time, the City was occupied and controlled by the British, and many citizens who sided with the American patriot cause fled during those years (Burrows and Wallace 1999). Three maps produced in 1782 depict conditions in Manhattan near the end of the war, including the 1782 British Headquarters Map,[1] the Hills map, and the Holland map, as does the 1789 McComb map. Each of these maps depicts the supplemental study area as either marsh or upland adjacent to marshland, possibly suggesting that tidal marsh with inconsistent boundaries was still present.

Following the war, as the City began to rebound and regrow, numerous industries established themselves along the shores of the Collect Pond (Koeppel 2000). The first substantial development within the supplemental study area was a large ropewalk built by Peter Schermerhorn that spanned the length of almost three blocks and crossed through the center of Block 198 and extended into the streetbed of White Street (Yamin, et al. 2000). The ropewalk is shown both on Hutchings' 1846 map depicting conditions circa 1793 (see **Figure 2**) and the 1797 Taylor-Roberts plan (see **Figure 4**). Hutchings' map suggests that the ropewalk extended to a point just north of the line of modern Walker Street and that a tar house was located to the east of the rope walk on the block to the north of the supplemental study area. The Taylor-Roberts plan suggests that the ropewalk extended as far south as the line of Leonard Street (now Hogan Place) and almost as far north as Hester Street. The filling of the Collect Pond resulted in the flooding of the ropewalk and as a result, Schermerhorn sued the City and later relocated his business (CCNY 1917

[1] Both the original map and the facsimile copy produced by B.F. Stephens in 1900 were reviewed for this assessment.

6:674). The Taylor-Roberts map also suggests that several streetbeds had been constructed in the vicinity of the supplemental study area, including Mary Street—now Baxter Street—along the eastern side of the supplemental study area as well as precursors to Bayard Street and Walker Street (then known as Nicholas Street) to the east of Baxter Street.

D. THE DEVELOPMENT OF THE STUDY AREA IN THE 19TH CENTURY

With the completion of the landfilling process in the early 19th century, the Manhattan site was, for the first time, reclaimed and developable land. The City of New York began to grow northward at a rapid pace, and it was during the 19th century that the developed portion of the urban area expanded north, far from the protected enclosure that kept early colonists safe in the 17th and 18th centuries. Bonar's 1804 map and Longworth's 1808 map of Manhattan depict the filling of a large portion of the Collect Pond south of the supplemental study area but suggest that the supplemental study area itself was still at least partially inundated and with the ropewalk demolished, was undeveloped. The 1808 map depicts the proposed but not yet developed line of White Street within the southern portion of the supplemental study area.

Between 1807 and 1811, the City laid out and began to implement its plan for a new street grid, which dramatically altered the landscape of Manhattan and prompted the further northward surge in the City's growth (Koeppel 2015). The 1811 Bridges map depicts the proposed street grid, including all of the streets surrounding the supplemental study area, though the terminus of White Street is shown at Centre Street (then known as Collect Street) at that time. A map published by Longworth in 1817 depicts the site in the same manner. A 1983 land acquisition and damage map on Block 198 on file with the Office of the Manhattan Borough President indicates that Centre Street was legally opened in 1808, followed by Walker Street in 1810, Baxter Street in 1817, and White Street in 1820.

The publication of the 1824 Hooker map of Manhattan reflects the eastward extension of White Street to connect to Baxter Street. Hooker's map depicts a stippled shading across both Block 198, indicating that it was entirely developed at that time, though specific building footprints are not depicted. The supplemental study area is depicted in a similar manner on the 1836 Colton map and the 1849-50 Perris map. The first maps to depict accurate building footprints and descriptions of the uses of the buildings on the supplemental study area were published in the early 1850s. Dripps' 1852 map depicts Block 198 as divided into more than two dozen historic lots, each of which was developed with at least one building and most of which featured a vacant rear yard or courtyard between buildings.

RESIDENTIAL AND COMMERCIAL EXPANSION IN THE 1850s

More information about these buildings and the use of the lots within Block 198 is provided by the 1853 Perris map. At that time, Block 198 was developed with dozens of buildings, rear dwellings, and outbuildings constructed of either wood (shaded in yellow) or brick (shaded in pink). The buildings represented a variety of uses, which were divided into classes by Perris and indicated by a series of solid circles representing brick or stone stores (buildings shaded in green) or brick or stone dwellings; open circles, which denote dwellings with stores underneath, or x's, denoting wood frame industrial buildings.[1]

[1] As defined by Perris, first class stores included any of the following: bakers; boat builders; brewers; brush manufactories; comb makers; copper smiths with forges; dyers; floor cloth manufactories; hat manufactories; malt houses; oil manufactories; oil cloth manufactories; private stables; tobacco manufactories; type and stereotype founders; and wheelwrights. Second class structures housed book binders; brass founders; coach makers; cotton presses and mills; iron founders; livery stables; paper mills; and book and job printers. Fourth class buildings included brimstone works; camphene or spirit gas manufactories; coffee and spice mills; chemical laboratories; drug and spice mills; fire work manufactories; match manufactories; planning, grooving, or moulding mills; rope and cordage makers; saw mills; sugar refineries; tar boiling houses; turpentine distilleries; and varnish makers.

As shown on the map, a series of fourth class brick dwellings with undeveloped rear yards lined most of the northern side of White Street, though first, second, and fourth class buildings were located on the corner lots at either end. The majority of the buildings within the northern portion of Block 198 as shown on the map were either first or second class dwellings with stores on the ground floor, or second or third class industrial buildings. This suggests that the block was actively used for both residential and a wide variety of industrial/commercial uses. The 1857 Perris map depicts the supplemental study area in nearly identical conditions (see **Figure 5**).

The 1867 Dripps and 1879 Bromley atlases include less specific building details, but continue to depict the site as developed with a number of buildings with undeveloped areas to the rear. By the publication of the 1885 Robinson atlas, several of the smaller buildings in the northern portion of the supplemental study area had been replaced with larger structures. The map continues to depict smaller residential buildings along the White Street portion of the supplemental study area. The 1891 Bromley and the 1893 Robinson atlas depict similar conditions to those seen in 1885, though by the publication of the 1894 Sanborn map, several of the former residential buildings along White Street had been redeveloped with larger structures. That map suggests that many of the buildings within the supplemental study area were used for industrial purposes by that time. Few changes to the site appear on the 1905 Sanborn map (see **Figure 6**). As seen on that map, most of the buildings within the supplemental study area were constructed with basements, including several large factory buildings.

E. DEVELOPMENT IN THE 20TH CENTURY

The early 20th century saw the transformation of the area surrounding the supplemental study area into a planned civic center made up of a network of new government office buildings, courthouses, and prison facilities. The civic center supplemented older government buildings constructed in the 19th century such as City Hall, the first and second Tombs prison buildings, and the Tweed Courthouse, and was expanded with the addition of the Municipal Building in 1914, the Surrogate's Court in 1911, the State Supreme Courthouse in 1921, the Louis J. Lefkowitz State Office Building in 1930, and the Manhattan Detention Center South Tower and Criminal Court Complex in 1938. The accessibility of the area was changed dramatically as a result of the construction of the Interborough Rapid Transit (IRT) Company's subway line—the first in the City—in 1904 (Geismar 1993). An additional subway tunnel was constructed by 1918 through the streetbed of Centre Street (ibid). These tunnels were constructed using cut-and-cover construction, meaning that the entire streetbed was excavated during the construction process (ibid). The tunnel extends partially through the northwest corner of the supplemental study area, as shown on the 1923 Sanborn map, which reflects the demolition of the buildings in that portion of the site to accommodate the tunnel's construction (see **Figure 7**). With the exception of the demolition of three rear dwellings in the central portion of the site, no changes to the site's development appear on historical maps through the publication of the 1951 Sanborn map.

The South Tower of the Manhattan Detention Center had been constructed in 1938 as a state-of-the-art complex meant to alleviate problems of overcrowding and poor quality of life in earlier city prison facilities (*New York Times* 1937; AKRF 2012). However, by the 1970s, the prison was once again overcrowded and plagued by riots and prisoner suicides, requiring the City to make plans to construct yet another prison building in the area. In 1970, the City approved funding for the construction of a new Men's House of Detention within the supplemental study area (Miele 1970). The expansion did not occur at that time, despite pleas from Mayor Abraham Beame to expedite the construction, and in 1974, in response to a lawsuit filed by the prison's inmates, a U.S. District Court judge ruled that the prison be

expanded or permanently closed (*New York Daily* News 1972; Star-*Gazette* 1974). After an extensive renovation, the prison re-opened in 1983 (*New York Daily News* 1983).

Following the renovation, the prison's planned expansion was be delayed well into the 1980s, in part due to the opposition of the local community (Lake 1982). By this time, most of the buildings on Block 198 had been demolished, and the site is depicted as entirely vacant on Sanborn maps published between 1983 and 1987. A damage and acquisition map filed with the Office of the Manhattan Borough President in 1983 identifies the supplemental study area as "excavated for construction," though the depth of the excavation is not indicated. The lot remained vacant as the construction of the prison annex was further delayed by community opposition, but plans moved forward in the mid-1980s after compromises were made to reduce the scale of the detention center so that new office space and senior housing could be constructed in the neighborhood (Fitzgerald 1985). Following years of delays and pressure from an increasing prisoner population, the jail finally opened in 1990, despite the fact that only three of its nine floors were completed (La Rosa 1990). An elevated bridge and subterranean tunnel were constructed to connect the new building with the prison to the south across White Street—the complicated design of which was one of the reasons for the construction delays—and the buildings were renamed the North and South Towers of the Manhattan Detention Complex (ibid; La Rosa1988). The existing building has both a basement and a sub-cellar.

F. HISTORICAL AND MODERN UTILITIES IN AND AROUND THE SUPPLEMENTAL STUDY AREA

ACCESS TO UTILITIES IN THE 19TH CENTURY

Despite its status as one of America's largest and most industrial cities, New York did not have a reliable network of water and sewer lines until the mid-19th century. The first water pipes were installed in the early 19th century by the Manhattan Company, the precursor to what would later become the Chase Manhattan Bank (Koeppel 2000). These wooden pipes carried water from local sources, including the Collect Pond, to other areas of Lower Manhattan. By 1829, the City had constructed a reservoir near the intersection of modern 13th Street and the Bowery (Burrows and Wallace 1999). An iron pipe ran between the reservoir and Catherine Street, bringing water to the Lower East Side (ibid). Previous research into the historic occupation and development of the East River waterfront has resulted in the documentation of early 19th century wooden water pipes representing some of the earliest infrastructure in Manhattan's streetbeds (Chrysalis Archaeological Consultants 2007).

The initial water supply system could not be sustained for very long because the Collect Pond, as one of the largest sources of fresh water in all of Manhattan, became too polluted for continued use. It was not until 1842 that the Croton Aqueduct system brought significant amounts of clean water into Manhattan. A map of the complex distribution system associated with the Croton waterworks published by Endicott in 1842 depicts water lines and stopcocks running through most of Lower Manhattan, including in the streets surrounding and included within the supplemental study area. Although water lines were present by 1842, sewers were not installed throughout the majority of the City until after the 1850s and many buildings were not immediately connected to the sewers after their initial installation (Goldman 1997). Sewer lines were located within Leonard, Baxter, and Centre Streets—but not in White Street—before 1857 as shown on a map of New York's sewer infrastructure that was published by C. Currier that year. Viele's 1865 map continues to indicate that no sewer was present within the streetbed of White Street.

Therefore, historic properties that were developed before water and sewer networks were accessible in the mid-19th century relied on backyard shaft features (e.g., privies, cisterns, and wells) for the purposes of water gathering and sanitation. Privies—the shaft features constructed beneath outhouses—are typically

expected to be located at the rear of the historic property while wells and cisterns are typically located closer to a dwelling. These features would have remained in use until municipal water and sewer networks became available in the mid- to late 19th century, and possibly for decades after and were typically filled with refuse either during or following their periods of active use.

A current survey of utility lines reviewed as part of this study does not depict all existing utilities but shows a number of manholes and fire hydrants indicating the presence of utility lines in the parking area at the southeast corner Block 198 and the multi-level courtyard at the southwest corner of the site. Many additional utilities run through the streetbed of White Street, including water and sewer mains and electrical lines.

Chapter 4: Conclusions and Recommendations

A. CONCLUSIONS

As part of the background research for this Phase 1A Archaeological Documentary Study, various primary and secondary resources were analyzed, including historic maps and atlases, historic photographs and lithographs, newspaper articles, and local histories. The information provided by these sources was analyzed to reach the following conclusions.

ASSESSMENT OF PREVIOUS DISTURBANCE

DISTURBANCE WITHIN BLOCK 198

Block 198 is located in an area of filled marsh and pond that was extensively disturbed as a result of development. Soil borings on this site before the construction of the existing Detention Complex identified a fill layer of 20 to 34 feet across a portion of the site and modern soil borings located just south of the footprint of the existing building identified a layer of fill measuring between 18.5 and 37 feet of fill material.[1] Many of the historical soil borings identified peat layers presumably representing the original bottom of the Collect Pond and its associated marshland beneath the fill deposits and similar deposits were observed at depths of 32 to 40 to feet below the ground surface in modern soil borings near the southwest corner of Block 198. The presence of peat deposits could indicate that deep disturbance associated with the construction of the existing Detention Complex has not occurred across the entire study area.

Block 198 has been disturbed by multiple rounds of development. The block was initially developed with a series of small buildings in the first half of the 19th century. Many of these smaller buildings were replaced with larger structures in the 20th century. Finally, the supplemental study area was redeveloped with the existing North Tower of the Manhattan Detention Complex in the late 1980s. The majority of the 19th and 20th century buildings were constructed with basements. The locations of all buildings or undeveloped rear yards that were located on Block 198 before the construction of the existing building are included within the footprint of the existing North Tower, which was constructed with a basement and a sub-cellar under much, but not all, of its footprint. Finally, a subway tunnel was constructed using cut-and-cover excavation methods in the northwestern portion of the supplemental study area.

As described in detail in the October 2018 Phase 1A Study to which this document is a supplement, the construction of the existing State Office Building at 80 Centre Street in 1928 and the existing Manhattan Detention Complex South Tower at 125 White Street required extensive excavation or pile driving in order to place foundation support structures beneath the layers of fill, peat, and clay to ensure that those buildings would be structurally sound. It is presumed that similar foundation elements were required during the construction of the Manhattan Detention Complex North Tower at 124 White Street. Recent soil borings confirm the absence of peat deposits at the southeast corner of the site, suggesting that area

[1] The ground surface of the historical soil borings appears to be approximately 3 feet lower than that of the modern soil borings when the ground surface of the borings is converted to NAVD88.

has been sufficiently disturbed, such that soil deposits associated with the pre-19th century landscape are not intact in that portion of the site. However, the soil borings located outside the footprint of the existing North Tower revealed potentially intact peat deposits to the southwest of the existing building in the area where no cellar level is present.

DISTURBANCE WITHIN WHITE STREET

As with Block 198, the streetbed of White Street is situated in an area that was once occupied by pond and marsh before being filled. As described above, intact peat deposits appear to be present near the southwest corner of Block 198 and in the sidewalk along the northern side of White Street. While soil borings were not available for the majority of the streetbed, the soil profile of the western portion of the streetbed is presumed to be similar to that of the northern portion of the southwestern corner of Block 198 and could contain deeply buried intact peat deposits. The entire length of the streetbed is presumed to be disturbed to a depth of approximately 2 feet as a result of the construction of the streetbed itself as well as disturbance associated with grading, paving, and road maintenance. The streetbed was further disturbed by the installation of utilities between the 19th century and the present. The installation of utilities would also have resulted in disturbance, with electrical, gas, and telecommunications lines expected to be at relatively shallow depths (2 to 3 feet below the ground surface); water lines at a depth of approximately 5 feet below ground surface; and sewer lines at greater depths of 6 to 10 feet below grade. However, portions of some of the streetbeds may not contain utility lines and may therefore be undisturbed. It is assumed that the locations of any existing utilities are disturbed from the ground surface to a depth of 2 feet below the bottom of the utility line and to a distance of up to 2 feet beyond the outer sides of each utility line, representing the trench that was likely dug as part of the line's installation. Any location where no utilities are present or where there is a space of 5 feet or more between the outer edges of or below existing utilities should be considered to be undisturbed. Those locations beneath the disturbed portions of existing utility trenches are also to be considered undisturbed. Given the depth of fill in this area—assumed to range between approximately 32 and 40 feet—utility-related disturbance may have only affected fill levels.

PRECONTACT SENSITIVITY ASSESSMENT

Evidence of Native American activity in the vicinity of the supplemental study area was presented in **Chapter 4, "Precontact Resources"** of the October 2018 Phase 1A Study to which this document is a supplement. Native American habitation sites in the region are most often located in coastal areas with access to marine resources, near fresh water sources and areas of high elevation and level slopes less than 10 to 12 percent (NYAC 1994). Further indication of the potential presence of Native American activity near a project site is indicated by the number of precontact archaeological sites that have been previously identified in the vicinity. While the majority of the supplemental study area was formerly inundated by the waters of the Collect Pond and its associated marshes, documented Native American activity occurred along the southwestern shore of the pond, and the Collect Pond itself is known to have been an important source of resources for the local indigenous population. Historical soil borings identified peat or bog deposits across a portion of the supplemental study area suggesting that whose areas contained soil deposits associated with the Collect Pond or its associated marshes. Modern soil borings suggest that deeply buried peat deposits are still present within the southwestern portion of the supplemental study area outside of the footprint of the existing Manhattan Detention Complex North Tower that could potentially extend into the streetbed of White Street. While the site was not likely used as a habitation site given its inundation, the marshes located on the supplemental study area as indicated by the peat deposits would have served as an important resource to the local indigenous population.

Given the extent to which the supplemental study area was disturbed as a result of the development of the existing building, it is unlikely that intact precontact deposits would be present within the footprint of the North Tower on Block 198. However, there is a slight chance that undisturbed deeply buried precontact resources could be present within the southwestern portion of the supplemental study area outside of the footprint of the existing building and within the streetbed of White Street. Therefore, the southwestern portion of the supplemental study area and the streetbed of White Street (as depicted on **Figure 8)** are determined to have low sensitivity for archaeological resources associated with the precontact occupation of Manhattan. The sensitive soil deposits would be expected to be located beneath the depth of disturbance associated with the excavation of basements in the 19th and 20th centuries, which is expected to have extended to a depth of 10 feet below the ground surface or to an approximate elevation of 4 to 5 feet relative to NAVD88. The upper levels of the peat deposits presumed to represent the upper surface of the floor of the Collect Pond and its associated marshes is expected to be situated at depths ranging between 20 to 40 feet below the ground surface, or an elevation of -6 to -26 feet relative to NAVD88.

HISTORIC SENSITIVITY ASSESSMENT

The historic period occupation of the study area began in the late 18th century when landfilling created developable land in the area. Before the mid-19th century, Block 198 was fully developed with dozens of residential and/or commercial/industrial buildings and White Street was an active thoroughfare. However, the extensive disturbance to Block 198 and extending into White Street resulting from the construction of the existing North Tower and its associated foundations and tunnels likely disturbed most of the historic ground surface across most of Block 198 and a portion of White Street. Those portions of the supplemental study area located outside the footprint of the existing building were located within areas disturbed by the excavation of basements in the 19th and 20th centuries. Block 198, Lot 1 is therefore not likely to contain intact historic period archaeological resources associated with the 19th and 20th century occupation of the area. The southwestern portion of Block 198, where soil borings indicate may contain intact stratigraphy associated with the filling of the Collect Pond and its associated marshes could potentially contain intact fill strata associated with the earliest phase of landscape modification through which the pond was transformed into developable land. Similar deposits may be present within undisturbed portions of the White Street streetbed. Therefore, while the majority of the supplemental study area is determined to have no sensitivity for historic period archaeological resources, the southwestern corner of the site and undisturbed portions of the White Street streetbed (see **Figure 8)** are determined to have low to moderate sensitivity for resources associated with the filling of the Collect Pond within Block 198 at depths between 10 and 40 feet below the ground surface (or -6 to -26 feet relative to NAVD88) and in undisturbed areas within the streetbed as described above.

B. RECOMMENDATIONS

The existing cellar level of the North Tower of the Manhattan Detention Complex does not extend into the area adjacent to the locations where potentially intact peat deposits are known to be present and such deposits are presumed to extend into undisturbed areas within the streetbed of White Street. However, the extent to which this area was disturbed as a result of the construction of the existing building—including the subterranean tunnel that connects the north and south towers—and the adjacent subway tunnel is unknown. Therefore, in the event that the proposed project would result in new subsurface disturbance on Block 198, Lot 1 and in undisturbed areas within the White Street streetbed, additional archaeological analysis in the form of the review of new soil borings, which would presumably be completed as part of the project planning and design phase, would be warranted to determine the extent to which the southwestern corner of the supplemental study area is disturbed. If the soil borings reveal that intact peat deposits are not present elsewhere within the southwest corner of the site or within the streetbed of White Street, then no further archaeological analysis would be recommended given the small size of the area

where such deposits are known to exist and the likelihood that those areas were disturbed during the construction of the existing buildings and tunnels. If additional potentially intact peat deposits are identified, then additional archaeological analysis would be warranted in consultation with LPC. Given the potential depth of the deposits, it is possible that an alternative to traditional archaeological testing such as a geoarchaeological study of soil boring cores would be required to further examine these deposits.

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Figures

12.4.18

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1 *Photograph View Direction and Reference Number*

Supplemental Study Area

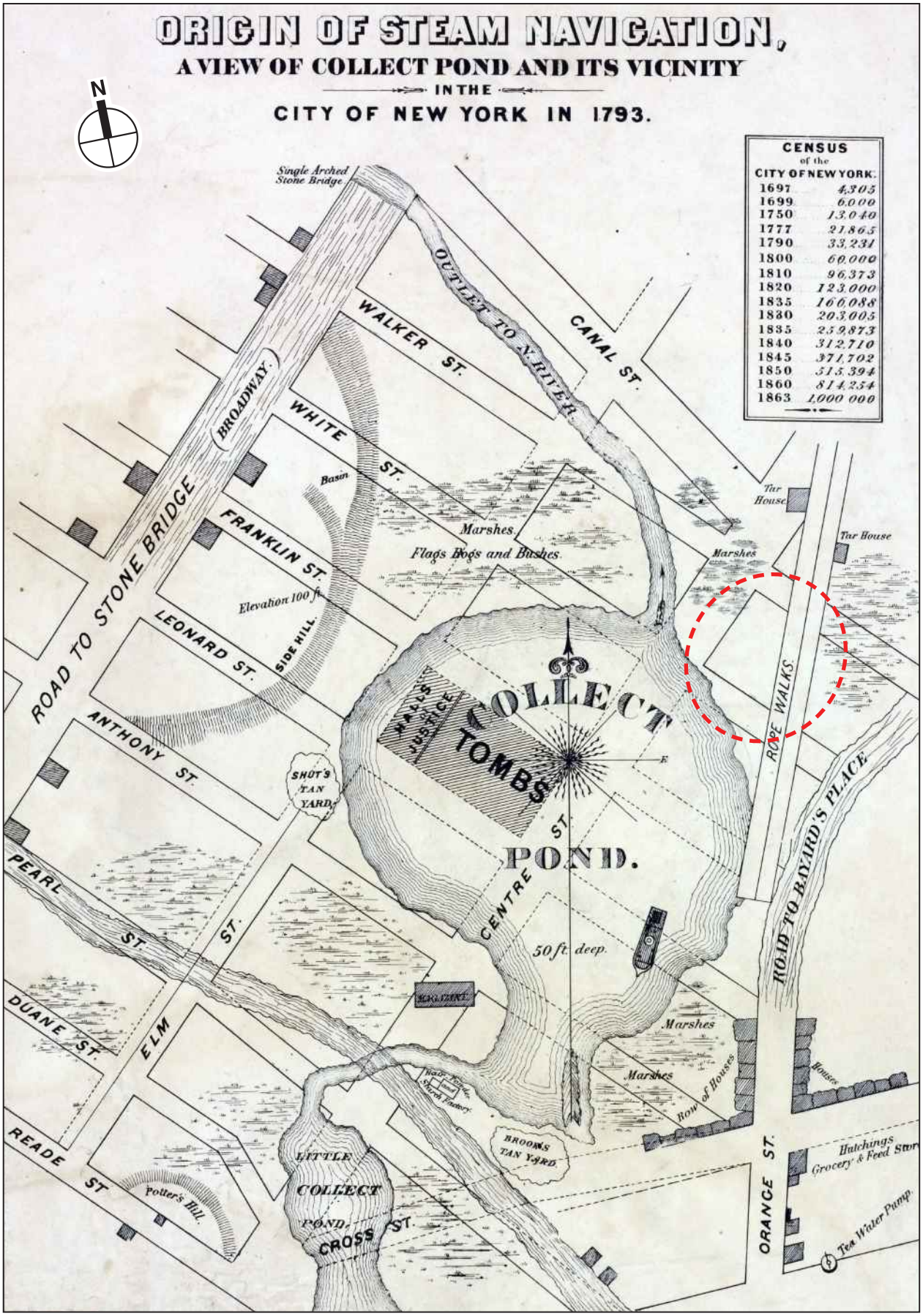
1 *Tax Lot Boundary*

180 *Tax Block Boundary*

Manhattan Site
Project Location

BOROUGH-BASED NYC JAIL SYSTEM

Figure 1



Approximate location of Supplemental Study Area

1846 Hutchings Map Depicting 1793

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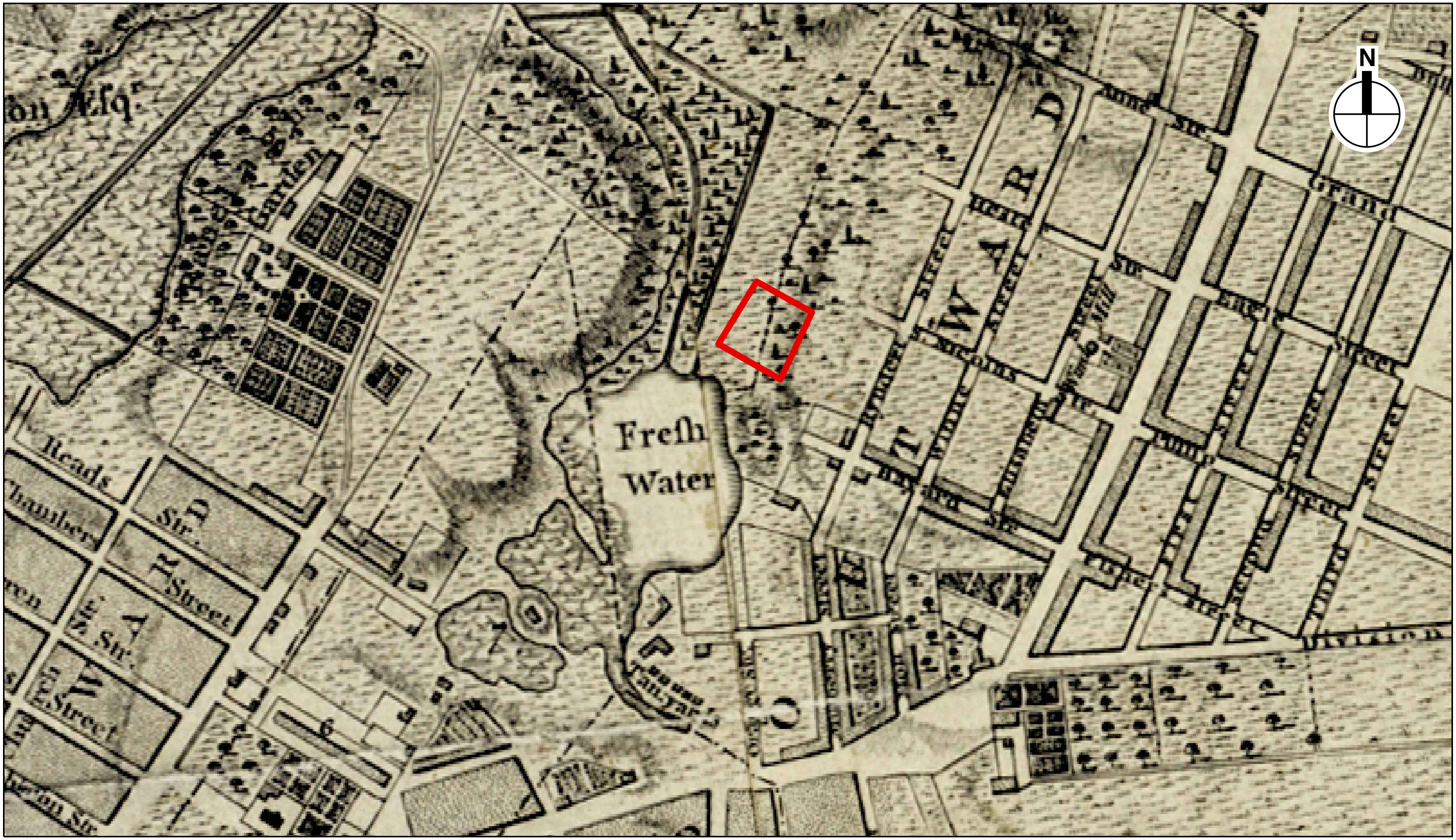

Supplemental Study Area

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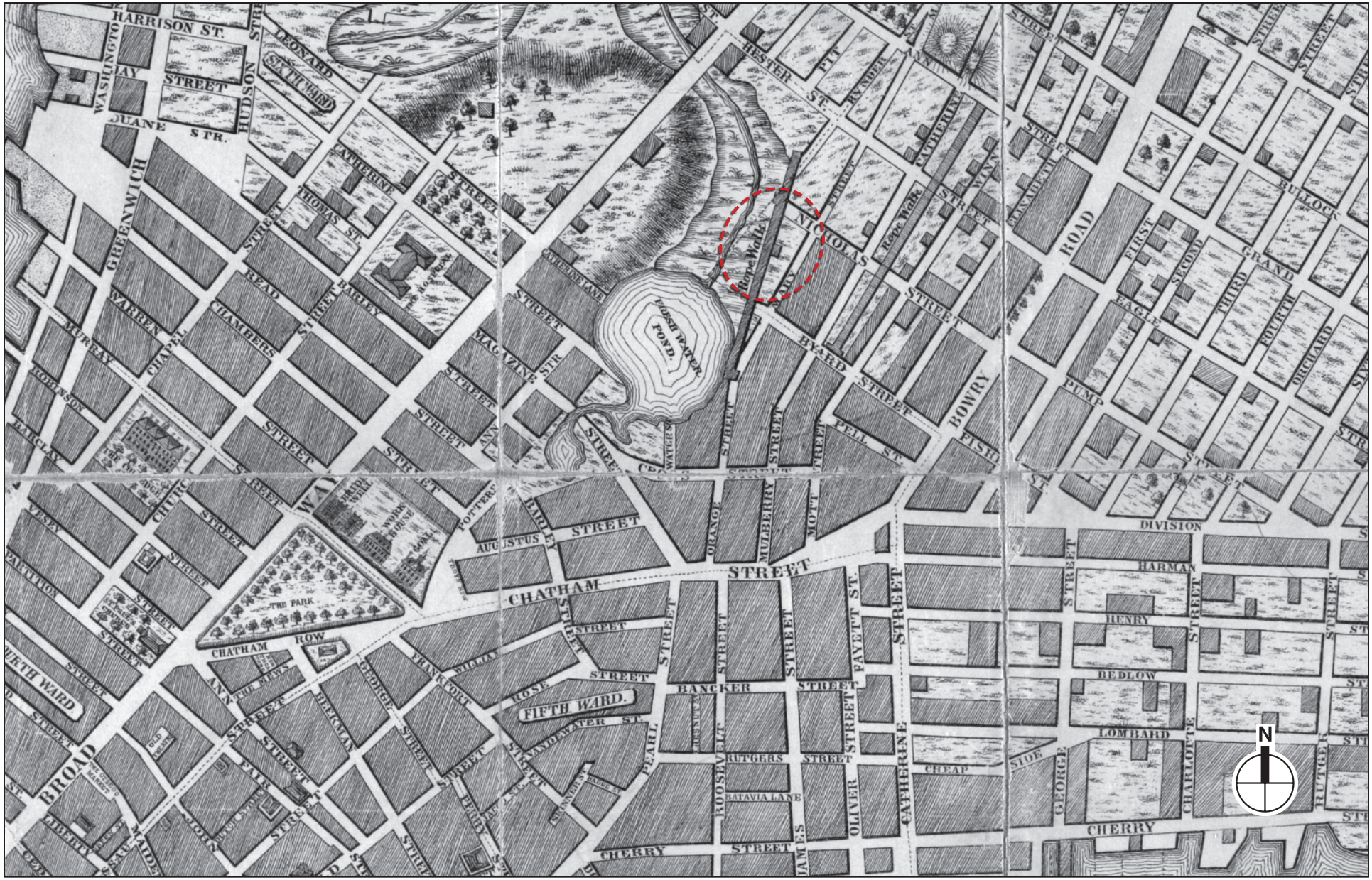
BOROUGH-BASED NYC JAIL SYSTEM

1776 Ratzer Map depicting ca. 1766

Figure 3



Approximate Location of Supplemental Study Area

1797 Taylor-Roberts Plan

BOROUGH-BASED NYC JAIL SYSTEM

Figure 4

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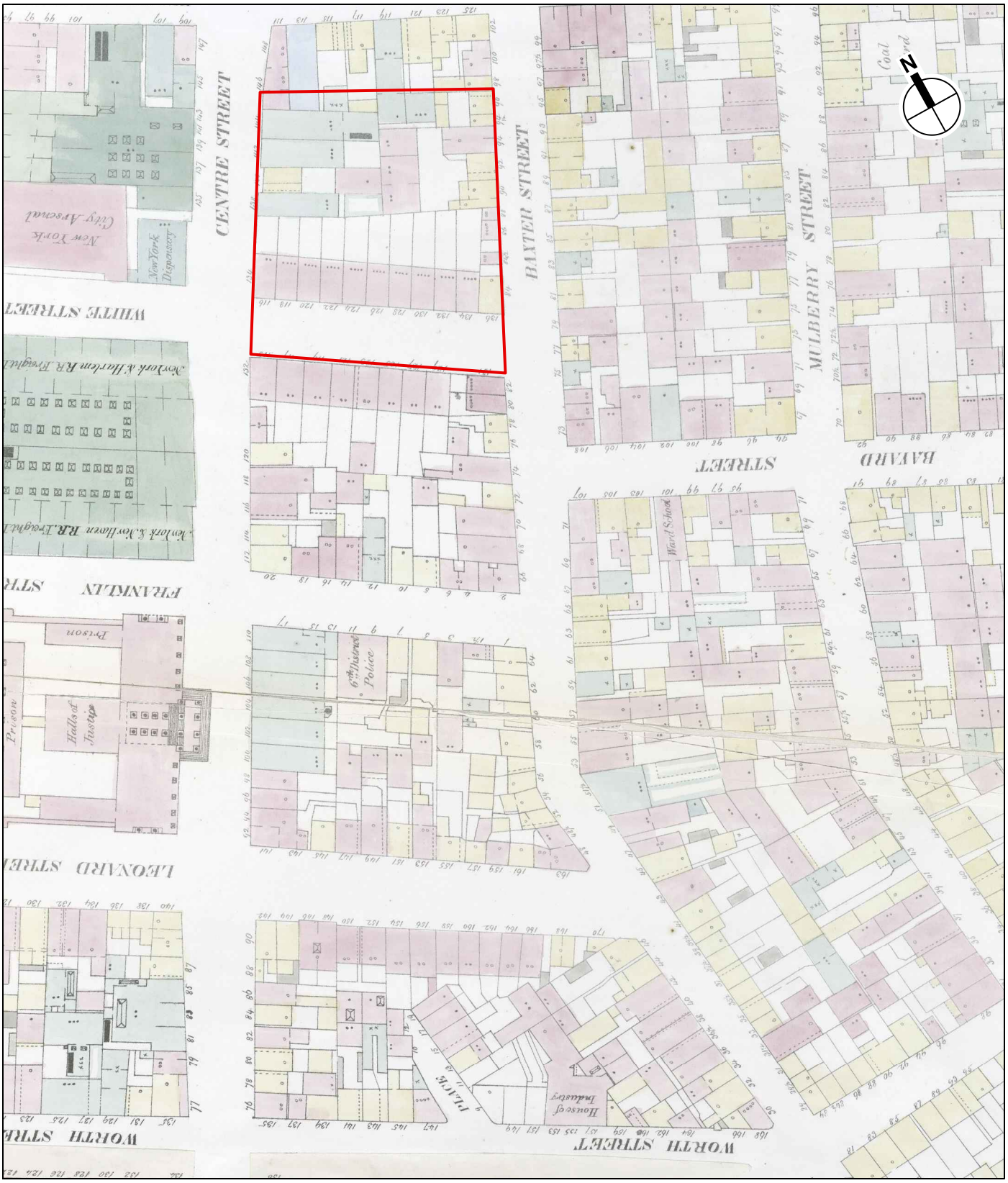

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Supplemental Study Area

1857 Perris Map

BOROUGH-BASED NYC JAIL SYSTEM

Figure 5

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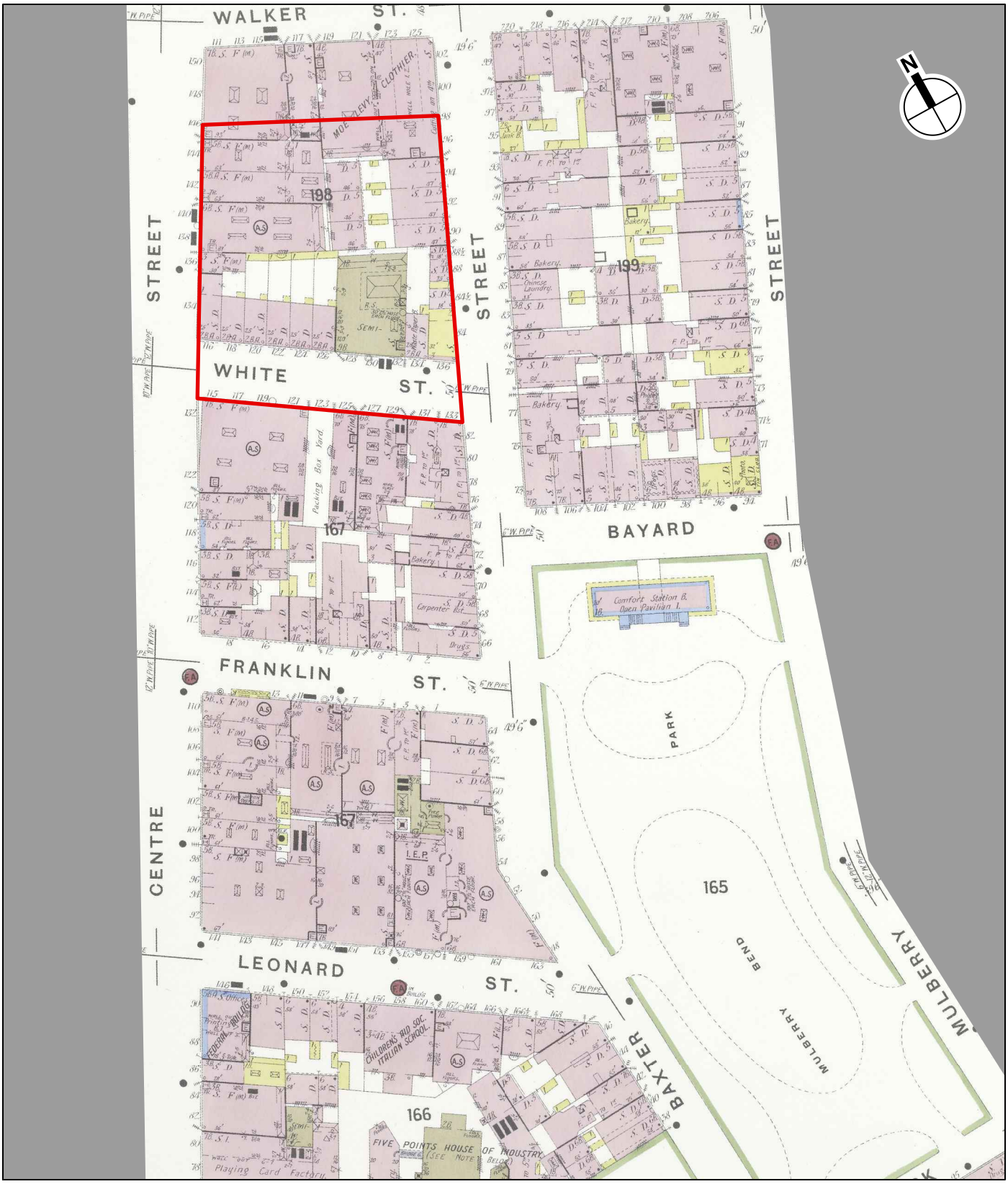

Supplemental Study Area

1905 Sanborn Map

BOROUGH-BASED NYC JAIL SYSTEM

Figure 6

Supplemental Study Area

1923 Sanborn Map

BOROUGH-BASED NYC JAIL SYSTEM

Figure 7

12.4.18

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Supplemental Study Area

Area of Potential Archaeological Sensitivity (in undisturbed portions of street bed)

1 *Tax Block Boundary*

180 *Tax Lot Boundary*

Area of Potential Archaeological Sensitivity

BOROUGH-BASED NYC JAIL SYSTEM

Figure 8

Photographs

View northeast of the North Tower of the Manhattan Detention Center from the intersection of Centre and White Streets **1**

Looking east along White Street from Centre Street; the courtyard area adjacent to the southwest corner of the existing building is at the left of the photograph **2**

Looking northeast at Block 198 from the intersection of White and Baxter Streets; the parking area to the southeast of the existing North Tower is in the foreground **3**

View south along Centre Street with the existing North Tower in the center of the image **4**

Appendix A:
Summary of Soil Borings from the Rock Data Map

Appendix A: Summary of Soil Borings on Block 198 from the Rock Data Map

Boring #	Opening Elevation	Closing Elevation	Soil Type
94	13	-7	Coarse sand
	-7	-12	Bog
	-12	-19	Fine sand
	-19	-22	Coarse sand
	-22	-27	Sand
120	14.5	13.5	Yard ground level
	13.5	8.5	Sand fill
	8.5	3.5	Fine sand
	3.5	0	Fine Sand
	0	-2.5	Coarse sand
	-2.5	-7.5	Coarse sand
	-7.5	-12.5	Coarse sand
	-12.5	-15.5	Sand fill
	-15.5	-18.5	Coarse sand and clay
121	9.5	0	(no information)
	0	-12	Coarse sand
	-12	-24.5	Bog
	-24.5	-39	Mud
	-39	-46.5	Fine sand
122	13.5	-6.5	Coarse sand
	-6.5	-11.5	Bog
	-11.5	-36.5	Sand
123	13.5	-9	Coarse sand
	-9	-13	Bog
	-13	-17	Coarse sand
	-17	-26.5	Sand
124	9.5	-10.5	Coarse sand
	-10.5	-15.5	Bog
	-15.5	-25.5	Sand
395	17.3	16.8	Concrete
	16.8	7.3	Brick Wall
	7.3	-0.7	Fill, sand, silt, gravel, concrete, brick
	-0.7	-7.7	Brown silt, fine sand, little gravel
	-7.7	-30.7	Fine brown sand, trace silt, trace gravel
	-30.7	-37.7	Brown silt, little fine sand
	-37.7	-55.7	Fine-medium brown sand, little silt, trace gravel
	-55.7	-70.7	Fine brown sand, trace silt
	-70.7	-73.7	Fine-medium brown sand, little silt, trace gravel
	-73.7	83.7	Lightly weathered gneissic mica schist
396	19.5	19	Concrete
	19	-0.5	Fill, gravel, sand, silt, brick, concrete, boulders, wood
	-0.5	-40.5	Fine to medium-coarse brown sand, trace silt, trace gravel
	-40.5	-68.5	Fine-medium brown sand, trace silt
	-68.5	-74.5	Gravel, fine brown sand, little silt
	-74.5	-84.5	Lightly weathered gneissic mica schist

Boring #	Opening Elevation	Closing Elevation	Soil Type
397	19.5	-3.5	Paving, Fill, sand, gravel, silt, concrete, cinders, wood
	-3.5	-26.5	Fine-medium brown sand, little gravel, little silt
	-26.5	-30.5	Gray brown silt, little clay, little fine-medium sand, trace gravel
	-30.5	-68.5	Brown sand, trace silt, trace gravel
	-68.5	-71.5	Gravel, fine-coarse brown sand, little silt
	-71.5	-83.5	Weathered gneissic mica schist
398	13	12.5	Paving, Fill, sand, gravel, silt, concrete, cinders, wood
	12.5	-4	Fill, sand, gravel, silt, brick, concrete
	-4	-9	Black peat, organic silt
	-9	-20	Fine-medium brown sand, trace silt
	-20	-72	Fine-medium brown sand, some gravel, trace of silt
	-72	-76	Fine-medium brown sand
	-76	-82	Fine-medium brown sand and gravel
	-82	-92	Unweathered gneissic mica schist
399	11.2	10.7	Concrete
	10.7	-17.5	Fill, sand, silt, gravel, brick, cinders, boulders
	-17.5	-33.8	Dark brown peat
	-33.8	-46.8	Gray organic silt, little clay
	-46.8	-52.8	Brown silt, little fine sand
	-52.8	-76.8	Fine-medium brown sand, little silt, trace silt and boulders
	-76.8	-92.8	Fine0medium brown sand, some gravel, little silt
	-92.8	-95.3	Brown sand, little silt
	-95.3	-105.3	Lightly weathered gneissic mica schist
400	12.5	12	Concrete
	12	-21.5	Fill, sand, silt, gravel, brick
	-21.5	-30.5	Dark brown peat and wood
	-30.5	-36.5	Dark gray organic silt, little clay
	-36.5	-50.5	Brown silt, very fine sand
	-50.5	-60.5	Fine-medium brown sand, trace gravel, trace silt
	-60.5	-85.5	Fine-coarse brown sand, little gravel, trace silt
	-85.5	-88	Fine brown sand, little silt
	-88	-98	Lightly weathered gneissic mica schist

Notes: Elevations presented are relative to the Department of Public Works datum, identified as 2.750 feet above mean sea level at Sandy Hook, NJ; consistent with the modern Manhattan Borough Datum.

Source: Department of Borough Works 1940 (updated)