PHASE IA ARCHAEOLOGICAL SENSITIVITY ASSESSMENT 26 FEDERAL PLAZA WATERPROOFING PROJECT

Borough of Manhattan, New York County, New York



Prepared for:



U.S. General Services Administration Northeast and Caribbean Region One World Trade Center, Room 55W09 New York, New York 10007

> Draft Report November 8, 2018

Prepared by:



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Management Summary

Involved State and Federal Agencies	New York State Office of Parks, Recreation and Historic Preservation New York City Landmarks Commission General Services Administration		
Phase of Survey	Phase IA Archaeological Sensitivity Assessment		
Location Information	The property containing two buildings, the Jacob K. Javits Federal Building at 26 Federal Plaza and the James Watson Court of International Trade at One Federal Plaza, New York City. The federal property is bounded by Broadway on the west, Lafayette Street on the east, Worth Street on the north, and Duane Street on the south.		
City	Borough of Manhattan		
County	New York		
Survey Area	The APE: The area of proposed ground disturbance associated with the proposed tructural and waterproofing work above the sub-basement and underground arking structures, to a maximum depth of 2.5 meters (8 feet), along Broadway, Worth Street, and Duane Street, with varying widths, for a total of 0.7 hectare (1.7 cres).		
USGS 7.5-Minute Quadrangle Map	Jersey City, NJ-NY (2016)		
Archaeological Survey Ove	rview		
Methods Used	Research to reconstruct landscape setting, historical cartographic research, reconnaissance survey, archaeological sensitivity analysis		
Artifacts Recovered/ Features Identified	None		
Results of Archaeological S	Survey		
No./Name(s) of Prehistoric Sites Identified	None		
No./Name(s) of Historic Sites Identified	None		
Recommendations	Based on extensive background and archival document research, the project should not affect any archaeological sites, including the African Burial Ground National Historic Landmark. Construction for the proposed project will not be deep and will disturb no intact archaeological deposits or human burials. No isolated human remains are likely to be encountered in the project area. No additional archaeological investigation is recommended.		
Report Authors	Dell Gould, Lauren Hayden		
Date of Report	November 8, 2018		

Abstract

On behalf of the General Services Administration (GSA), Northeast and Caribbean district, Louis Berger U.S., Inc. (Louis Berger) conducted a Phase IA archaeological sensitivity assessment for the reconstruction of the Broadway Plaza and replacement of the roof at 26 Federal Plaza, Borough of Manhattan, New York County, New York. The project includes structural work and waterproofing of the Plaza area and other areas above the sub-basement and the underground parking structures. Because of age and deteriorating conditions, the sub-basement areas and underground parking structures at 26 Federal Plaza require new and additional waterproofing. The tops of the underground parking structures are located approximately 8 feet below ground surface. Leaks have caused structural damage, and the waterproofing project work will require removing the sidewalk and soils located above the underground parking areas and other structures to allow access for waterproofing and structural work. At present the replacement of almost all existing site waterproofing is planned.

The area of potential effect (APE) is within the federal property consisting of the Jacob K. Javits Federal Building at 26 Federal Plaza, situated on the northwestern portion of the Plaza, and the James Watson Court of International Trade at One Federal Plaza, situated on the southeastern portion of the Plaza. The federal property that encompasses the APE is bounded by Broadway on the west, Lafayette Street on the east, Worth Street on the north, and Duane Street on the south. The APE consists of the area of proposed ground disturbance associated with the proposed structural and waterproofing work above the sub-basement and underground parking structures, to a maximum depth of 2.5 meters (8 feet), along Broadway, Worth Street, and Duane Street, with varying widths, for a total of 0.7 hectare (1.7 acres). Duane Street, which runs east to west between Broadway and Lafayette, has been closed to public vehicle traffic since the events of September 11, 2001. The excavation work for the project is planned to occur on approximately three sides of the federal property. The northeastern and eastern side (Lafayette Street side) of the federal property, which includes new waterproofing that was installed in 2010 at the Lafayette Plaza, will not be disturbed.

The project site is located at the northern edge of the African Burial Ground (ABG), a National Historic Landmark. The excavation work closest to the ABG will occur on the sidewalk on the southern side of 26 Federal Plaza on the Duane Street northern sidewalk; Duane Street itself is the northern edge of the ABG boundary.

The objectives of the Phase IA sensitivity assessment were to determine the project APE's sensitivity for precontact and historical archaeological resources based on the potential for intact subsurface soils, relationship to nearby known archaeological sites, and other criteria. Special attention was paid to the potential presence of remains associated with the ABG, portions of which had been previously excavated adjacent to the current APE. The Phase IA sensitivity assessment consisted of background research, including review of the local history of the area and previous archaeological work conducted in the vicinity of the project APE, and field reconnaissance.

The APE is documented as thoroughly disturbed, and archaeological excavations that have been conducted to the south and east for the construction of other federal facilities indicate that fills of approximately 20 to 30 feet in depth are expected. Because of the extent of construction of 26 Federal Plaza, no soils dating prior to the building's construction are likely to be present in the APE, and therefore no intact deposits and no isolated human remains are likely to be found in the APE. It is Louis Berger's opinion that no further archaeological investigation is warranted and the project can proceed as planned. If design plans are altered and excavations deeper than 10 to 15 feet below ground surface are to occur, additional archaeological investigation may be necessary.

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I. Introduction

On behalf of the General Services Administration (GSA), Northeast and Caribbean district, Louis Berger conducted a Phase IA archaeological sensitivity assessment for the reconstruction of the Broadway Plaza and replacement of the roof at 26 Federal Plaza. The project includes structural work and waterproofing of the Plaza area and other areas above the sub-basement and the underground parking structures (garage). Because of age and deteriorating conditions, the sub-basement areas and underground parking structures at 26 Federal Plaza require new and additional waterproofing. The tops of the underground parking structures are located approximately 8 feet below ground surface (bgs). Leaks have caused structural damage and the waterproofing project work will require removing the sidewalk and soils located above the underground parking areas and other structures to allow access for waterproofing and structural work. At present the replacement of almost all existing site waterproofing is planned.

The area of potential effect (APE) is within the federal property consisting of the Jacob K. Javits Federal Building at 26 Federal Plaza, situated on the northwestern portion of the Plaza, and the James Watson Court of International Trade at One Federal Plaza, situated on the southeastern portion of the Plaza. The federal property that encompasses the APE is bounded by Broadway on the west, Lafayette Street on the east, Worth Street on the north, and Duane Street on the south. The APE consists of the area of proposed ground disturbance associated with the proposed structural and waterproofing work above the sub-basement and underground parking structures, to a maximum depth of 2.5 meters (8 feet), along Broadway, Worth Street and Duane Street, with varying widths, for a total of 0.7 hectare (1.7 acres) (Figures 1 and 2). Duane Street, which runs east to west between Broadway and Lafayette has been closed to public vehicle traffic since the events of September 11, 2001. The excavation work for the project is planned to occur on approximately three sides of the federal property. The northeastern and eastern side (Lafayette Street side) of the federal property, which includes new waterproofing that was installed in 2010 at the Lafayette Plaza, will not be disturbed.

The objectives of the Phase IA sensitivity assessment were to determine the project APE's sensitivity for precontact and historical archaeological resources based on the potential for intact subsurface soils, relationship to nearby known archaeological sites, and other criteria, including soil types, topography, and preservation factors within this highly urbanized landscape. The Phase IA sensitivity assessment consisted of background research, including review of the local history of the area and previous archaeological work conducted in the vicinity of the project APE, and field reconnaissance. Background research was conducted in May 2018, and the field reconnaissance took place on May 22, 2018.

The field investigations and technical report meet the specifications of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), the *Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York State Standards for Cultural Resource Investigations* published by the New York Archaeological Council (2000), and the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (*Federal Register* 48:190:44716–44742) (United States [U.S.] Department of the Interior 1983). The Principal Investigator who performed the investigation exceeds the qualifications described in the Secretary of the Interior's Professional Qualifications Standards (*Federal Register* 48:190:44738–44739) (U.S. Department of the Interior 1983).

The report is organized into five chapters. After the introduction (Chapter I), Chapter II presents the results of the background research. Chapter III provides the results of the field reconnaissance and sensitivity assessment. Chapter IV provides a summary and recommendations. Chapter V contains a list of the references cited. Louis Berger Senior Environmental Planner Doug Pierson served as Project Manager. Principal Field Director Dell Gould conducted the background research. Archaeologist Lauren Hayden (RPA No. 16286) conducted the field reconnaissance. Mr. Gould and Ms. Hayden completed the sensitivity assessment and wrote the report. Principal Editor Anne Moiseev supervised the editing and production of the report, and Principal Draftsperson/GIS Analyst Jacqueline L. Horsford prepared the graphics. Louis Berger would like to thank Thomas Burke, NEPA and Sustainability Program Manager at GSA, for his assistance in arranging this archaeological investigation.

Phase IA Archaeological Sensitivity Assessment 26 Federal Plaza Waterproofing Project



FIGURE 1: Location of APE (USGS Brooklyn2016a, Jersey City 2016b)



FIGURE 2: Aerial Map Showing APE and Photograph Angles (ESRI World Imagery 2016)

II. Background Research

A. Environmental Setting

The project area is located in the Civic Center area of lower Manhattan, which encompasses Foley Square, City Hall, One Police Plaza, the courthouses, and the surrounding area, and is bounded on the west by Tribeca, on the north by Chinatown, and on the south by the Financial District. The vicinity of the APE is low-lying and wet, although much more of the topography was variable until widespread levelling and filling took place in the early nineteenth century (Kieran 1982).

In terms of bedrock geology, Manhattan is situated at the extreme southern terminus of the Manhattan Prong, part of the New England Upland physiographic province. The Manhattan Prong is a northeast-trending, deeply eroded sequence of metamorphic rocks. Manhattan is composed of three prominent formations: Manhattan Schist, Fordham Gneiss, and Inwood Marble, all of which are highly folded, faulted, and metamorphosed rocks.

Manhattan Schist occurs throughout Manhattan and is the most prevalent bedrock formation. Manhattan Schist consists of foliated pelitic schists that may be of the Middle Ordovician age (460 to 470 million years ago). Sillimanite, garnet, muscovite, biotite, plagioclase, quartz, and kyanite compose the schist. Layers of gneiss composed of similar materials are also present in this formation. The APE is located over bedrock composed of Manhattan schist.

Fordham Gneiss is a coarsely banded hornblende-biotite-quartz plagioclase formation primarily of Upper Precambrian age (1.2 billion to 544 million years ago). It exists primarily in the northeastern portions of Manhattan, north of Central Park.

Inwood Marble is commonly associated with valleys and lower-lying areas and is primarily a white to gray, medium- tocoarse-grained rock that ranges in composition from calcite to nearly pure dolomite. Inwood Marble can be of either Lower Ordovician or Upper Cambrian ages (470 to 510 million years ago). Inwood Marble is found primarily along the shores of the East River in lower Manhattan and in some areas near the Harlem River.

Manhattan has been affected by a series of glaciations over thousands of years until approximately 20,000 years ago, during the last glacial maximum. Glaciation smoothed out the ground surface and often deepened valleys that were oriented in the direction of glacial advance. Glacial till, deposited as ground moraine directly from the bottom of glacial ice, is the dominant overburden material in Manhattan, with minor amounts of outwash and lacustrine deposits (Schuberth 1968; United States Department of Agriculture-Natural Resources conservation Service [USDA-NRCS] 2018).

Soils in the project area are mapped as Urban land, outwash substratum, consisting of asphalt over human-transported material (USDA-NRCS 2018).

B. Precontact Context

Traces of prehistoric occupation have been largely eradicated from highly developed urban areas as a result of intensive development since early European occupation of the New York City area; however, early in the twentieth century, avocational archaeologists, such as Reginald Bolton (1934) and Alanson Skinner (1909, 1915, 1919, 1920), recorded and excavated archaeological sites throughout the metropolitan region and documented the location of previously encountered prehistoric sites. Through the work of these and other avocational archaeologists, a rough outline of the prehistoric occupation of New York City has been constructed. Recent cultural resource management projects have augmented the earlier work both to verify and expand understanding of prehistoric lifeways in the metropolitan area (Cantwell and diZerega Wall 2001).

Three major periods are commonly used to describe the prehistoric cultures of New York: Paleoindian, Archaic, and Woodland. The Paleoindian period dates to approximately 11,000 to 10,000 years before present (BP) (Curran 1996; Fiedel 1999). The earliest known occupation of New York City is located on the southwestern shore of Staten Island, where stone tools dating to about 10,000 BP were found in disturbed soils associated with the Port Mobil oil tanks.

Along Charleston Beach, just south of Port Mobil, local avocational archaeologists collected stone tools that were similar to those found at Port Mobil (Boesch 1994). The common stone tool recovered from these two sites is a lanceolate-shaped spear point with a long, thin channel removed longitudinally from both faces of the point. This technique is known as "fluting" and is a hallmark of the Paleoindian period (Callahan 1979). In addition to these fluted points, other stone tools included unfluted points, scrapers, knives, borers, and gravers (Eisenberg 1978; Kraft 1977). This small collection of stone tools has been interpreted as prehistoric refuse from a small resource procurement encampment (Funk 1977). Although the Port Mobil Site presently overlooks the Arthur Kill, sea levels were lower during the Paleoindian period and the waterway did not exist when the site was occupied (Edwards and Merrill 1977). The occupation represented at the Port Mobil Site probably represents a reconnaissance or hunting camp rather than a marine-oriented gathering station. Currently, the southwestern shore of Staten Island remains the only location in New York City where Paleoindian artifacts have been uncovered.

The Archaic period (10,000 to 3000 BP, or 8000 to 1000 BC) is divided into Early, Middle, and Late subperiods, distinguished by differences in tool assemblages, projectile point types, and preferred lithic materials. Of the several Early Archaic sites (8000 to 6000 BC) identified in New York City, most are located on Staten Island, including the Old Place Site, the Ward's Point Site, the H.F. Hollowell Site, and the Richmond Hill Site. All of these sites produced Kirk components, which produced radiocarbon dates from 5310 BC to 6300 BC. A radiocarbon date of 7410 BC from the Richmond Hill Site has also been identified, in relation to a Palmer (an Early Archaic variant) occupation (Ritchie and Funk 1971, 1973:38-39). Middle Archaic (6000 to 4000 BC) materials are extremely rare in New York City, although extensive Middle Archaic shell midden sites are known from farther up the Hudson River (Brennan 1974; Claassen 1995). Middle Archaic artifacts, such as Kanawha or LeCroy projectile points, have been uncovered on southern Staten Island in the Ward's Point area (Jacobsen 1980) and from Rossville (Historical Perspectives, Inc. 1996). So little is known about the Middle Archaic occupation of the metropolitan region that it is often linked with either the Early or Late Archaic in discussions of prehistory (Kraft and Mounier 1982).

Late Archaic sites (4000 to 1000 BC), on the other hand, are better documented in New York. Two sites in northern Manhattan provide traces of information on Late Archaic settlement in the metropolitan region. These two sites, Tubby Hook and Inwood (Skinner 1920), are multicomponent sites, indicating that these locations were preferred habitation sites for several millennia. Late Archaic sites in the metropolitan area are characteristically situated on tidal inlets, coves, and bays. Changes that occur in the Late Archaic aboriginal/indigenous toolkits reflect an expansion in the variety of exploited resources. Some of these changes include the manufacturing of fishing gear, such as netsinkers (weights), fishhooks, and an increase in the use of groundstone (Ritchie 1994:143). An increased use of marine and estuarine resources in this period may also be associated with the eventual stabilization of coastal environments (Edwards and Merrill 1977), although sea levels continued to rise throughout the Archaic period (Salwen 1962).

The Transitional or Terminal Archaic period (circa 1000 to 700 BC) is represented by the introduction of soapstone vessels and distinctive fishtail types of diagnostic points. A complex mortuary tradition associated with Terminal Archaic sites has been found on Long Island (Ritchie 1965); however, such traditions have not been identified to date in New York City. Terminal Archaic sites in New York City have been identified in the Bronx (Skinner 1919), on Staten Island (Silver 1984), and in Manhattan (Skinner 1919). Shell middens, which are characteristic evidence of subsistence practices in the coastal areas of New York, have been dated through the Woodland period.

The Woodland period (circa 700 BC to AD 1500) in New York City is characterized by the introduction of ceramic technology, plant cultivation, and a move toward sedentary lifestyles (Ceci 1979; Ritchie 1994; Silver 1984; Smith 1950). Several Woodland sites have been identified in New York City, but only a few sites in Manhattan have yielded Woodland-period material. The largest sample of Woodland sites comes from Staten Island, although sites in the Bronx have yielded spectacular information regarding exchange networks in the metropolitan region (Kaeser 1963). Collections from Burial Ridge, on Staten Island, include a large variety of projectile point types dating to the Early Archaic through the Late Woodland and an assortment of ceramic wares diagnostic of all phases of Woodland occupation. At least 127 pits, burials, hearths, and some 4,000 artifacts have been associated with the Burial Ridge/Wards Point complex. Such findings suggest intensive Native American occupation from the Archaic through the Woodland periods (Jacobsen 1980). Frequencies of types indicate that the most intensive prehistoric occupations of this area of Staten Island occurred during the Late Archaic and Middle through Late Woodland periods.

The end of the Woodland period is marked by the encounter between the indigenous Native American population and European explorers (Burrows and Wallace 1999). During this contact period the indigenous population began trading

and interacting with the Dutch and English travelers exploring New York Harbor and eventually settling in Manhattan. Evidence of this interaction between the Native population and the European explorers has been documented archaeologically in Staten Island (Skinner 1909), the Bronx (Skinner 1919), and Manhattan (Skinner 1920). The people inhabiting Manhattan at the time of the European explorers were probably the Marechkawieck group of the Canarsee, who controlled all of the nearby islands in the East River and Brooklyn (Bolton 1975:14-15; Grumet 1981:26-28; Jaffe 1979). The Canarsee were related to Delaware or Munsee-speaking groups who occupied the west side of the Hudson and the area around New York Bay (Goddard 1978:214-215). They spoke a Munsee dialect of the Eastern Algonquin language. The name of Manhattan is derived from the Delaware *mannahata*, meaning "hilly island" (Ruttenber 1906:14), or *manahachtanienk*, meaning "the island where we all became intoxicated" (Heckewelder 1876:262).

The Marechkawieck were dispersed throughout Lower Manhattan and Lower Brooklyn, including Governor's Island, which the Canarsee called Pagganck ("nut" or "walnut") (Grumet 1981:41). The Marechkawieck are most likely the individuals responsible for selling Manhattan Island to the Dutch in 1626, as they are listed on a 1637 document for the sale of Hell Gate to the Dutch (Grumet 1981:27). The Marechkawieck had a settlement in Lower Manhattan just north of New Amsterdam, close to the Collect and Little Collect, spring-fed freshwater ponds located in what is now Foley Square (Geismar 1993; Harris et al. 1993). A Native American footpath was located in Lower Manhattan, running north from the Battery to the northern end of Manhattan Island. This path, called the Wickquasgeck Road, was the main pathway for north-south movements along the length of Manhattan and then turned north onto what is now the Bowery, passing just east of the current APE (Grumet 1981:59). Bolton (1922:54) mentions a hill located near Pearl Street and Park Row known as Catiemut hill. Similarly, Grumet uses the term *Catiemuts* to describe a "fort or hill located near Pearl Street and Park Row" during the seventeenth century (Grumet 1981:8).

By the time of permanent Dutch settlement in Lower Manhattan in 1623, the Canarsee way of life had been forever changed through the introduction of European items, including guns, metal, alcohol, and glass. The most significant European contribution to the demise of the indigenous population was the spread of diseases, such as smallpox. Snow (1980) calculated mortality rates from imported diseases on New England's indigenous population at 55 to 98 percent. The young and old were disproportionately affected; the loss of young people had a devastating effect on the size of subsequent generations, and maintaining traditional cultural integrity was likely substantially affected by the loss of elders. The remaining Canarsee eventually either sold their land to the Dutch and moved to Massachusetts or were killed by the Dutch or Mohawk during the mid-seventeenth century (Jaffe 1979:55). By the 1800s the population that had once occupied Lower Manhattan and Brooklyn had been completely removed from the metropolitan landscape.

D. Historic Context

The first contacts between Native Americans and Europeans occurred when early explorers began to trade with the Native population. Dutch trading expeditions had been visiting the Hudson River for many years prior to the founding of New Amsterdam at the southern tip of Manhattan in 1626. These groups made contact with the Native population; Robert Juet, who traveled with Henry Hudson on his 1609 voyage, provides in his journal a description of the native population and their trading practices. Dutch colonization in Manhattan began in earnest in 1625, when an expedition of farmers from the Dutch West India Company arrived at the southern tip of Manhattan with the purpose of building a fort and laying out nine Company farms.

Europeans probably first set foot in Manhattan during Henry Hudson's 1609 voyage up the river that now bears his name (Burrows and Wallace 1999:15). As the Dutch lay claim to the area explored by Hudson, in May 1623 the *New Netherland* sailed into New York Harbor with 30 Dutch families, mostly French-speaking Walloons, representing around 120 people (Gilder 1936:4). These settlers were sent by the Dutch West India Company to create a permanent settlement to be called New Amsterdam. Although the Dutch settlement was focused in Lower Manhattan along the shores of the East River and the Battery, the APE was part of this initial Dutch settlement, as the Lower East Side was used primarily as farmlands by the Dutch settlers.

At that time the APE was in a low-lying area near a freshwater body called the Collect Pond. As the city expanded northward across the island, the vicinity of the APE was put to non-residential uses. By 1757 the only documented structures were a powder house, located on a spit of land within a marsh, and a "Pot bakers," using the locally available clay for manufacturing ceramics. By the 1770s maps show structures identified as barracks, a poor house, the gaol

(jail), the work house, and unidentified, possibly residential structures, and the APE was located near the northern terminus of Broadway Street (Holland 1757, 1776). By the beginning of the nineteenth century, encroaching occupation had befouled the freshwater pond and surrounding marshes, and these were filled in during the first decade of the 1800s. The fill was obtained in part from the grading of hills up to 100 feet high in the vicinity, the beginning of the active grading and filling process that created the more-or-less level landscape that persists today. In the vicinity of Foley Square, adjacent to the APE, this was complete by circa 1810 (Geismar 1993).

Once filled, the area was quickly incorporated into the growing city. Economic and population growth in the city accelerated after the completion of the Erie Canal in 1825, which linked the port of New York with the agricultural markets of the country's interior. The Commissioner's Plan of 1811 expanded the street grid across the entire island, and fill was used to expand along the shores of the East and Hudson rivers (Bridges 1811). The neighborhoods that grew to fill the APE and surrounding blocks always contained a mix of residential, commercial and governmental uses, and this continued through the nineteenth and twentieth centuries, as governmental buildings came to dominate what is now the civic hub of the city.

E. Site File Research

Research was conducted using the NYS OPRHP Cultural Resource Information System (CRIS) to help assess the archaeological sensitivity of the APE by providing precontact and historical archaeological context. Previously recorded archaeological sites are listed in Table 1; because of the large number of detailed studies and identified archaeological sites in the vicinity, only the most relevant sites and studies are included. Research also included a review of local histories, a study of eighteenth-, nineteenth-, and twentieth-century maps and plans, and a review of published archaeological and historical studies as well as unpublished cultural resource management reports archived on CRIS and the NYC Landmarks Commission website. Among the factors Louis Berger considered to evaluate the APE's archaeological sensitivity were archaeological studies in the vicinity, previously known sites, and the APE's land-use history.

1. Cultural Resources Mapped in the Vicinity of the APE

a. Previously Recorded Sites, Structures, and Districts

Precontact occupation in Manhattan is not well documented because urban development was early, extensive, and rapid. Historical archaeological sites in the vicinity of the APE consist of a range of sites with occupation dating back to the seventeenth century and include two listed sites: the African Burial Ground (ABG) (6101.00698), a National Historic Landmark, located adjacent to the APE; and the Tweed Courthouse Area Site (6101.013335) located two blocks south (see Table 1). Burials were found at both sites. The APE is located within the African Burial Ground Archaeological District, which is listed in the National Register of Historic Places (NRHP). Within the APE the Jacob Javits Building at 26 Federal Plaza (6101.018957) has been determined NRHP-eligible and is also part of the NRHP Register-eligible Jacob K. Javits Federal Building and James L. Watson Court of International Trade Historic District (06101.018956). Within an 800-meter (0.5-mile) radius there are 876 listed buildings and districts, and 554 eligible buildings and districts.

b. Previously Conducted Cultural Resource Management Studies

Louis Berger also reviewed unpublished cultural resource management reports for projects conducted within approximately 0.4 kilometer (0.25 mile) of the APE (Table 2). This search radius was limited because of two factors: the highly variable nature of the preservation of archaeological deposits throughout lower Manhattan, and the voluminous documentation of sites adjacent to the APE. A total of 22 cultural resource management studies have been conducted within the 0.4-kilometer (0.25-mile) radius. Because such a wealth of archaeological information was available, the research focused on select studies to provide a site-specific analysis of the project APE. These five studies, in chronological order, are listed in Table 2. Beyond brief summaries of these excavations, the following discussion focuses on the provenience of the findings, especially in terms of their relationship to the current APE.

TABLE 1

KNOWN ARCHAEOLOGICAL SITES MAPPED WITHIN 0.8 KILOMETER (0.5 MILE) OF APE

		TIME PERIOD/		
SITE NO.	SITE NAME	SITE TYPE	SITE TYPE	NRHP STATUS
6101.001304	City Hall Park Site	Historic		Undetermined
6101.00698	African Burial Ground	Historic	Cemetery	Listed
6101.006981	Five Points Area	Historic		Eligible
6101.012569	Worth Street Site	Historic		Undetermined
6101.013335	Tweed Courthouse Area	Historic	Burials/structures/ deposits	Listed
6101.015825	Block 100, Lot 1 site	Historic		Not Eligible
6101.016117	Columbus Park Pavilion	Historic		Undetermined
	cistern			
6101.017931	N/A	Historic	Historic well beneath Corbin Building	Eligible

TABLE 2

CULTURAL RESOURCE MANAGEMENT PROJECTS WITHIN 0.4 KILOMETER (0.25 MILE) OF APE

AUTHOR	REPORT	RESULTS	REPORT/ SURVEY NO.
Geismar 1993	Reconstruction of Foley Square: Archaeological and Historic Resources Report	Study for planning purposes; recommended pre-construction soil borings and testing	95PR01264
JMA 2000	Tales of Five Points: Working Class Life in Nineteenth Century New York	Eighteenth- and nineteenth-century residential and commercial deposits; foundations, shaft features	00SR52486
HAA 2003	Tweed Courthouse Archaeological Survey and Data Retrieval Investigations	Nineteenth-century residential and commercial deposits; features, burials	03SR54002
Howard University 2006	New York African Burial Ground Archaeology Final Report (4 volumes).	Eighteenth- and nineteenth-century cemetery	06SR59792
JMA 2009	The Archaeology of 290 Broadway: The Secular Use of Lower Manhattan's African Burial Ground	Eighteenth- and nineteenth-century deposits; foundations, shaft features on buried surface adjacent to cemetery	

The most relevant of these studies is the Howard University (2006) report on the ABG. The portion of the cemetery that has been investigated archaeologically is located on Block 154, which is bounded on the north by Duane Street, on the south by Reade Street, on the west by Broadway, and on the east by Elk Street. The site was within the proposed construction site for the 290 Broadway Federal Office Building, part of the GSA's Foley Square Project. Four hundred and thirty-five burials were identified and ranged in elevation from 2.78 meters (9.13 feet) above mean sea level to 0.36 meter (1.11 feet) below mean sea level. The northernmost burials identified were located approximately 100 feet south of Duane Street and were among the deepest identified, all found at elevations just below sea level.

Although the report was issued in 2006, the initial excavations at the ABG had begun several years earlier, and as a result of those discoveries, prior to construction in Foley Square, Geismar (1993) conducted an archaeological and historical sensitivity assessment to determine the potential for buried surfaces that could contain archaeological deposits or human burials. Using historical research and available geotechnical test boring data, Geismar concluded that as a result of the widespread filling of low-lying marshes and ponds in the vicinity of Foley Square, eighteenth-century archaeological deposits might still be present, especially in locations that were formerly dry land, and recommended that test borings and, if warranted, archaeological testing be conducted prior to construction activities. In her review Geismar reported that fills in the vicinity of Foley Square ranged from 1.9 to 8.4 meters (6 to 27 feet) in depth. Just outside the current APE, fill is listed as 7.3 meters (24 feet) in depth along Elm Street (Geismar 1993: table 1).

Within the Five Points project area, testing exposed and excavated all or portions of 14 city lots, revealing foundation stubs, cisterns, wells, and privies dating from the late eighteenth through nineteenth centuries (JMA 2000). The excavators identified 22 archaeological features (privies, cisterns, and trash pits) within the 14 lots. In addition, 32 features were identified and recorded but not excavated. These surficial and sub-surficial features and deposits were found between 1.3 to 4.5 meters (4 to 15 feet) above mean sea level.

At the Tweed Courthouse excavations to the south, eight features, including foundation walls, a well, a privy, an ossuary-like deposit of human remains and 28 intact or partially intact burials, were excavated (HAA 2003). The investigators associated these remains with either the poor house/almshouse, the former military barracks, or possibly the ABG. The intact burials were left in place. Burials were found at the base between 1 and 2 meters (3.3 to 6.5 feet), although fragmentary human remains were also found scattered in fill across the site, particularly in disturbed utility trenches in the green space around the courthouse.

JMA (2009) reported archaeological findings not related to burials in the block immediately south of their project area. Excavations took place in three parts of the block, all north of the former Republican Alley halfway between Duane and Reade streets and included Lot 12 (80 Duane Street), the Mid-Block Area (70-76 Duane Street), the Northeast Area, and the Southeast Area (both within 60-64 Duane Street). The 290 Broadway Block contained several archaeological components, including the ABG, early stoneware and redware potteries, and post-Revolutionary War residential occupation. Twentieth-century basements extended to depths of more than 10 feet below ground surface, and both archaeological deposits and burials continued to a depth of approximately sea level (8.2 meters [27 feet] below street level (JMA 2009).

2. Historical Map Review

Louis Berger reviewed the historic-period development of the APE through historical maps from the eighteenth through the twentieth centuries (Figures 3–9).

In the late eighteenth century the APE was minimally developed, located at the end of the street even then called Broadway. Marshes and ponds are still shown, with a "powder house" on an island in the pond, and tanyards located to the east, and just to the south are structures keyed as "Prison" (23), "Poor House" (24), and "Barracks" (26) (see Figure 3). A map surveyed a decade earlier for military purposes shows topography and other natural features of defensive importance as well as scattered residences to the east, and indicates that the APE was located in a topographic low near marshes (Holland 1757). This map also shows the powder house on an island in the marsh, but the only nearby buildings are labeled "Pot Bakers" (Holland 1757).

In the next few decades the landscape around the APE would undergo a dramatic transformation, as the irregular topography was graded and filled to create the more or less level urban topography that can be seen today (see Figure 4).

By the mid-nineteenth century, a more or less modern configuration of streets is visible (Figures 5 and 6). All of the APE has been filled in with buildings along the frontages, a few with rear yards. The block is a mix of residences and businesses, and this pattern continues through the nineteenth century and into the early twentieth century. By 1911 the block was essentially fully built, with few gaps or green spaces remaining (Figure 7). By that time the skyline of Manhattan was beginning to form. Up to that point, few buildings exceeded five to seven stories, but by the first decade of the twentieth century, the APE was increasingly surrounded by early skyscrapers, including the 40-story Municipal Building located two blocks to the southeast (see Figure 7).

By 1921 the vicinity of the APE was increasingly commercial and governmental, with a large vacant lot for the proposed court house on the east side of Center Street, and the New York Life and Con Edison Buildings found on nearby blocks (Figure 8). An early gas station in the neighborhood is shown across Elm Street from the APE, although the APE block had not changed significantly since the late 1800s. The mapmakers also included a reconstruction of the boundaries of Collect Pond east of the APE, a reminder of the pre-development topography of the APE (see Figure 7). By the mid-twentieth century the transformation of the neighborhood to the civic center of the city is visible, with Foley Square surrounded by city, state, and federal offices and court buildings (Figure 9). Within a decade the former buildings would be demolished and new federal buildings constructed.







FIGURE 4: APE in 1797 (Roberts and Taylor 1797)





FIGURE 5: APE in 1852 (Perris 1853)



FIGURE 6: APE in 1879 (G.W. Bromley & Co. 1879)



FIGURE 7: APE in 1911 (G.W. Bromley & Co. 1911)



FIGURE 8: APE in 1921 (G.W. Bromley & Co. 1921)



III. Field Reconnaissance and Sensitivity Assessment Results

A. Field Reconnaissance

The APE reconnaissance survey was conducted on May 22, 2018. The survey examined topography in and adjacent to the APE and sought to identify existing conditions or disturbance that may affect archaeological sensitivity. The investigator compared the general topographic setting in the APE with the outlying topography.

The pedestrian reconnaissance confirmed that the entire APE (bounded on the north by Worth Street, on the east by Lafayette Street, on the south by Duane Street, and on the west by Broadway) consists of a highly developed, built urban environment (Photographs 1-4). The two buildings, the Jacob K. Javits Federal Building at 26 Federal Plaza, situated on the northwestern portion of the Plaza, and the James Watson Court of International Trade at One Federal Plaza, situated on the southeastern portion of the Plaza, were constructed between 1963 and 1974 and are connected by a walkway. The 41-story Javits building and the eight-story Court of International Trade were both completed in 1967. The 45-story annex, which is flush with the northwestern face of the original, was completed in 1974. The majority of the property surrounding the buildings consists of small landscaped open spaces interlaced with walkways and paved surfaces, which was redesigned in 1997 and 2013. Several works of modern art are scattered throughout the complex. There is also a small playground along Duane Street outside the 26 Federal Plaza entrance.

Louis Berger examined historical photographs taken during the construction of the Federal Plaza complex. The photos demonstrated that in addition to the disturbance associated with the construction and demolition of the buildings that pre-dated the Federal Plaza buildings, the lot extending to the sidewalk on all sides was excavated to depths exceeding 8 feet during the construction episodes between 1963 and 1974 (Figures 10-14).

B. Analysis

The goal of the Phase IA study was to collect data on environmental conditions and ground disturbance that, when combined with data from background research, could be used to determine the archaeological sensitivity of the project APE and form the basis for recommendations. Unlike many project areas, the APE for this study is bracketed by extensive excavations carried out for other construction projects. As a result much subsurface information is available to determine the potential for intact archaeological deposits and/or human remains in the APE. The primary concern with the potential for intact archaeological deposits and/or human remains is depth, and whether the proposed depth of the project (approximately 2.5 meters [8 feet]) has the potential to impact any burials or other intact archaeological resources. The depth of excavation for the Javits Building is also a limiting factor, since the proposed project will abut the walls/foundation of the building.

The current surface elevations in and around the APE range from 6.9 meters (22.7 feet) at Worth and Lafayette streets to 10.6 meters (34.62 feet) at the corner of Worth and Broadway (City of New York 2018). A prior review of geotechnical test borings indicates that immediately adjacent to the APE to the east, fill extends to a depth of 7.3 meters (24 feet) because the project lies within a former topographic low associated with marshes that surrounded the former Collect Pond, which were likely at or near sea level during the eighteenth century. To the south, in the 290 Broadway/ABG project area on the southern side of Duane Street, the base of overburden above the archaeological deposits and burials ranges in elevation from 2.78 meters (9.13 feet) above mean sea level to 0.36 meter (1.11 feet) below mean sea level, decreasing in depth to the north toward Duane Street. The burials nearest the current APE were among the deepest found, approximately at sea level (Howard University 2006; JMA 2009).

The elevation of these burials indicates that to the north, toward the APE, the original land surface was sloping down, into or within the depression where the marshes around the pond were located. When this topographic reconstruction is combined with the historical photographs of the lot prior to the construction of 26 Federal Plaza, showing an open pit excavation extending to the sidewalk on all sides to an approximate depth of 20 feet or more, it appears that there is no potential for any deposits in the APE except for material in the fill placed along the edges of the building's substructure/parking garage. Based on the age of the building, the appearance of the APE in historical photographs, and the length of time the construction of 26 Federal Plaza was ongoing, the backfill was almost certainly derived from an offsite source, as the onsite fill was excavated from the site for the new construction. Based on these factors,

it seems very unlikely that anything disturbed from the site during construction would have been returned to the APE, including any human remains that may have been associated with the ABG; furthermore, it is not certain that the burial ground extends into the APE.



PHOTOGRAPH 1: View of APE Along Worth Street, View Northwest



PHOTOGRAPH 2: View of Southeastern Portion of APE, View East



PHOTOGRAPH 3: View of Southwestern Portion of APE, View Northwest



PHOTOGRAPH 4: View of APE Along Broadway, View Northeast



FIGURE 10: APE Facing the Corner of Worth and Broadway in 1974, View Northwest (H. Bernstein Assoc. Inc. 1974b)





FIGURE 12: APE Along Duane Street in 1973, View Southeast (H. Bernstein Assoc. Inc. 1973)



FIGURE 13: APE Facing Duane Street in 1964, View Southeast (Turner Construction Company 1964b)



FIGURE 14: APE Along Broadway in 1974, View Northeast (H. Bernstein Assoc. Inc. 1974a)

IV. Conclusions and Recommendations

On behalf of the GSA, Northeast and Caribbean district, Louis Berger conducted a Phase IA archaeological sensitivity assessment for the reconstruction of the Broadway Plaza and replacement of the roof at 26 Federal Plaza. The project includes structural work and waterproofing of the Plaza area and other areas above the sub-basement and the underground parking structures. The top of the underground parking structures are located approximately 8 feet below ground surface. Leaks have caused structural damage, and the waterproofing project work will require removing the sidewalk and soils located above the underground parking areas and other structures to allow access for waterproofing and structural work. At present the replacement of almost all existing site waterproofing is planned.

The federal property containing the APE is bounded by Broadway on the west, Lafayette Street on the east, Worth Street on the north, and Duane Street on the south. The excavation work for the project is planned to occur on approximately three sides of the federal property. The northeastern and eastern side of the federal property, which includes new waterproofing that was installed in 2010 at the Lafayette Plaza, will not be disturbed (see the APE boundary, Figures 1 and 2).

The objectives of the Phase IA sensitivity assessment were to determine the project APE's sensitivity for precontact and historical archaeological resources based on potential for intact subsurface soils, relationship to nearby known archaeological sites, and other criteria, including soil types, topography, and preservation factors within this highly urbanized landscape. Special attention was paid to the potential presence of remains associated with the ABG, portions of which had been previously excavated adjacent to the current APE. The Phase IA sensitivity assessment consisted of background research, including review of the local history of the area and previous archaeological work conducted in the vicinity of the project APE, and field reconnaissance. Background research was conducted in May 2018, and the field reconnaissance took place on May 22, 2018.

The APE is documented as being thoroughly disturbed, and archaeological excavations that have been conducted to the south and east for the construction of other federal facilities indicates that fills of approximately 20 to 30 feet in depth are expected. Because of the extent of construction of 26 Federal Plaza, no soils dating prior to the building's construction are likely to be present in the APE, and therefore no intact deposits and no isolated human remains are likely to be found in the APE. It is Louis Berger's opinion that no further archaeological investigation is warranted and the project can proceed as planned. If design plans are altered and excavations deeper than 10 to 15 feet below surface are to occur, additional archaeological investigation may be necessary.

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