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Chapter 10: Archaeological Resources

A. INTRODUCTION

This chapter assesses the potential effects of the Proposed Action on archaeological resources. It assesses the archaeological potential for each area of the Proposed Action that requires ground disturbance through construction-related activities. For each of those areas, the analysis considers the likelihood that archaeological resources could be buried there. The chapter then considers the Proposed Action’s potential effects on those potential archaeological resources, should they be present. Consideration for archaeological resources must be undertaken as part of the City Environmental Quality Review (CEQR) process, and as per the State Environmental Quality Review Act (SEQRA) process.

Under CEQR, the New York City Landmarks Preservation Commission (LPC) *Guidelines for Archaeological Work in New York City* outlines specific steps to determine whether the Proposed Action could affect areas of potential archaeological resources. The first step in this process is an initial review conducted by LPC of the City tax lots that would experience ground disturbance as a result of the Proposed Action. The LPC has reviewed the tax lots within the Project Area for the purpose of identifying lots with the potential to contain archaeological resources. Areas of Potential Effect (APEs) of the Proposed Action – defined as areas where construction impacts of the Proposed Action could affect potential archaeological resources – were established. APEs are specific locations within the Project Area that LPC has determined could have archaeological resource potential and which the Proposed Action could affect. For this archaeological analysis, the Project Area is defined as the area generally bounded by West 28th Street on the south, Eighth Avenue on the east, West 43rd Street on the north, and Hudson River Park on the west (Figure 10-1).

Designated and potential archaeological resources within the APEs were identified, and the Proposed Action’s effects on those archaeological resources were assessed. The results of this assessment, contained in Appendix K “Documentary Study,” were submitted to LPC as well as to the New York State Office of Parks, Recreation and Historic Preservation (SHPO) (see Appendix K for agency correspondence).

The identified archaeological APEs are listed by: *rezoning and related land use actions; transit action; and other elements*, including the expansion of the Convention Center, construction of a new Multi-Use Facility, and accommodations for facilities operated by New York City Transit, the Port Authority of New York and New Jersey (PANYNJ), the New York City Department of Sanitation (DSNY), and New York City Police Department (NYPD).

The LPC identified 39 lots as forming the archaeological APE. These lots were then evaluated for their potential to contain archaeological resources eligible for inclusion either in the State Register (SR) or National Register (NR) of Historic Places (Figure 10-1). Eligibility for the State and National Registers (S/NR) serves as LPC’s basis for determining the significance of potential archaeological resources. To meet this standard, archaeological resources must:

- A. Be associated with events that have made a significant contribution to the broad patterns of history;
- B. Be associated with the lives of persons significant in the past;
- C. Embody distinctive characteristics of a type, period, or method of construction; or
- D. Have yielded or have the potential to yield information important in prehistory or history.

Archaeological resources are most often evaluated for S/NR eligibility based on Criterion D.

1. Types of Archaeological Resources

Archaeological resources are physical remains, usually buried, of past activities on a site. They can include remains from Native American people who used or occupied a site—including tools, refuse from tool-making activities, habitation sites, etc. These archaeological resources are also referred to as precontact, since they were deposited by the Native Americans' before contact with European settlers. Archaeological resources can also include remains from activities that occurred during the historic period (beginning with European colonization of the New York area), including, but not limited to, domestic and commercially related foundations, and shaft features such as wells, cisterns, and privies.

a) Precontact Archaeological Resources

Prior to the European arrival in New York and continuing into the 18th century, Native Americans subsisted throughout the region. Upland well-drained land in proximity to fresh water was favored for long- and short-term habitation, with Native American sites in the New York City region typically found on high ground near freshwater ponds, streams, and tidal inlets and coves. Throughout the New York metropolitan region, the scant precontact archaeological resources that have been typically found were shallowly buried, usually within three or four feet of the pre-development surface (e.g., the land surface as it existed prior to historical development). As a result, these sites are vulnerable to disturbance by later development activities, and few such sites survive in urban settings. Because Native American archaeological sites in New York City are extremely rare, a surviving site would be considered extremely valuable and would most likely be eligible for inclusion on the S/NR. However, results of analyses reveal that the Project Area has no potential for precontact archaeological resources. The occurrence of encountering an undisturbed habitation site in this highly developed section of Manhattan is extremely minimal.

b) Historical Period Archaeological Resources

Buried remains from the historic period can have the potential to provide new, undocumented information about the daily lives of previous inhabitants or about important historical events. In the Project Area, historic-period archaeological resources could include 19th century residential artifacts and 19th century burials. Types of historic archaeological resources that could be present in the Hudson Yards APEs include artifacts associated with dwellings, workplaces, and schools, which may be preserved in former buildings, yards, and in shafts such as old privies, cisterns, or wells. Prior to installation of City sewer and water, these shaft features were necessary for daily hygiene. They were usually up to eight feet deep and were sometimes used for refuse disposal. These shafts can serve as a time capsule, filled with artifacts from the time of their use, and can remain preserved beneath later construction, often protected by fill levels or later buildings with slab foundations. Other commonly occurring, but more shallowly buried, historic remains include foundations and builders' trenches, as well as more fragile backyard features, such as fence lines, paths, and traces of landscaping. Human remains from past or present cemeteries may also be present. Historic period archaeological resources could be considered significant, especially human burials, and therefore eligible for the S/NR, if they have the potential to provide new data about the past.

2. Factors Affecting Survival of Archaeological Resources

On sites where later development occurred, earlier archaeological resources may have been disturbed or destroyed by subsequent grading, excavation, and other infrastructure improvements. However, some archaeological resources do survive in an urban environment. Deposits can be protected either by being paved over, or by having a building with a shallow foundation constructed above them. In both scenarios, archaeological deposits can be sealed beneath the surface, protected from further disturbance.

B. PRINCIPAL CONCLUSIONS

In the Future With the Proposed Action in 2025, Projected Development Sites 11 and 41 were identified for the potential to contain archaeological resources. These resources could be affected during construction activities on these sites. Table 10-1 lists the two lots that possess the potential to contain archaeological resources.

**TABLE 10-1
2025 DEVELOPMENT SITES WITH POTENTIAL ARCHAEOLOGICAL RESOURCES**

Projected/Potential Development Site #	Block and Lot Number
Projected Development Site 11	Block 709, Lot 25 West 37th to 38th Streets, Tenth to Eleventh Avenues
Projected Development Site 41	Block 761, Lot 13 West 37th to 38th Streets, Eighth to Ninth Avenues

There are no reasonable or feasible means to avoid or mitigate impacts to potential archaeological resources on Projected Development Sites 11 and 41 because development would occur on private property. If archaeological resources are present, this would be a significant adverse impact of the Proposed Action. No significant adverse impacts on archaeological resources would occur on other projected or potential development sites.

No other elements of the Proposed Action would result in significant adverse impacts to archaeological resources.

C. METHODOLOGY

LPC Guidelines require an initial review of the Proposed Action. This review is designed to determine whether any archaeological evaluations are necessary. If the initial review concludes that the Proposed Action could disturb or destroy potentially significant archaeological resources, a documentary study is warranted. The documentary study is essentially the same as the SEQRA-driven Stage 1A study for SHPO in the archaeological evaluation process. If the documentary study concludes that potentially significant archaeological resources could be present and that proposed construction could disturb or destroy the resource, archaeological field testing could be warranted. Under CEQR the fieldwork is undertaken in one step designed to establish the presence and potential significance of resources, but under SEQRA the field work is divided into two steps: Stage 1B, which involves subsurface testing to try to determine whether any archaeological resources are actually present; and Stage 2, which consists of more extensive subsurface investigations (if Stage 1B testing indicated that resources are present) and additional research to establish the age, integrity, and research potential of the archaeological resources, and whether they could be eligible for the S/NR. For either CEQR or SEQRA, if the archaeological field testing demonstrates that significant archaeological resources are not present, then no further work is necessary. If the archaeological field testing indicates that significant archaeological resources are present, then mitigation could be undertaken if an action would result in significant adverse impacts. Mitigation (Stage 3 under SEQRA) could consist of archaeological resource excavation, project redesign, or a combination of both.

No. 7 Subway

Although the Intermediate Station is not expected to be open until after 2010, the archaeological resources assessment conservatively assumes, for analytical purposes, completion of the Intermediate Station by 2010. This assumption is the conservative, worst case scenario. In addition, it is anticipated that the subsurface construction activities at the Intermediate Station would occur prior to 2010.

Rezoning Area

Under the Proposed Action, development generated as a result of the Proposed Action would occur on the Projected Development Sites. This analysis conservatively assumes the following: (1) a scenario in which an expanded Madison Square Garden (MSG) remains at its present location; and (2) a scenario in which MSG is relocated to a site on the west side of Ninth Avenue, between West 31st and West 33rd Streets. This comprises the reasonable worst-case development scenario for analysis in this archaeological resources assessment. Refer to Chapter 3, “Analytical Framework” for a description of the Reasonable Worst-Case Development Scenarios.

Convention Center Expansion

Although Phase 2 of the Convention Center Expansion is not expected to be completed until after 2010, the archaeological resources assessment conservatively assumes, for analytical purposes, completion of both phases of the Convention Center Expansion by 2010. This assumption is the conservative, worst case scenario. (Refer to Chapter 2, “Project Description” for the description of Phases 1 and 2 of the Convention Center Expansion.)

1. Preparation of Contextual Studies

Eight contextual studies were prepared to establish the framework for interpreting the potential significance of resource types that could be present within the Project Area. Based on an LPC-generated list of potential site-types in Manhattan, contextual studies were prepared for the following resource types:

- Precontact;
- Commercial;
- Residential;
- Institutional Complexes;
- Industrial;
- Cemeteries and Churches;
- Docks and Wharves and Landfill; and
- Transportation.

Within each of these categories, comparative archaeological sites were studied and research issues were addressed to determine whether potential archaeological resources of each type would be eligible for the S/NR. Further, because the LPC has generated specific guidelines for the handling of human remains due to their potential importance, the study of Cemeteries and Churches identified all potential sites of this type within the entire Project Area. The potential for each historic churchyard in the Project Area to contain human remains was addressed, whether or not the Proposed Action would adversely impact the site.

2. LPC Review Process

Following the completion of the Contextual Studies, LPC completed a first-level review of the Project Area. Based upon their review of more than 300 lots identified as being affected by the Proposed Action, it was LPC’s recommendation that 39 lots be further assessed in an archaeological documentary study.

The first-level review entailed:

1. Reviewing a list of blocks, lots, and streetbeds that the Proposed Action would potentially affect.
2. Determining which areas were disturbed by previous 20th century development, and thus could be eliminated from further study. Prior disturbances included the construction of large-scale

structures (e.g., the Jacob K. Javits Convention Center, Penn Station, and the Lincoln Tunnel), and buildings over one story covering their entire lot, which were assumed to possess deep foundations that compromised the entire lot’s archaeological integrity. This also included identifying garages with gas pumps and buried tanks. In part, this step involved reviewing detailed modern and historic maps to track development over the last 50 years which may have disturbed potential archaeological resources.

3. Examining historic maps to determine where archaeological resources may once have been deposited. In LPC’s experience, it was noted that no significant Native American site has ever been found in such a densely developed area of NYC, so its emphasis was upon historic archaeological resources. The historic maps that were consulted include: 1820 Randel Map of Farms, 1836 Colton, Viele 1865, Robinson 1885, and Sanborn Insurance maps from the late 19th through the entire 20th century.
4. Reviewing other archaeological projects that have occurred in the vicinity of the Proposed Action.
5. Reviewing soil boring records to determine levels of fill for areas that may have archaeological resource potential. Records from the Department of Design and Construction, which include the study conducted under the auspices of the Works Progress Administration (WPA) in the 1930s and recent borings in the vicinity, were consulted, as well as borings conducted in association with the Proposed Action.
6. Meeting with project archaeologists to discuss a draft list of sites developed by LPC. The project consultants were able to provide additional evidence of disturbances that helped further refine the list.

a) Sites Considered for Further Study

Based upon their review of the Proposed Action, LPC determined that numerous lots could be eliminated from further study, due to either a lack of initial deposition or documented subsurface disturbance, while 39 lots required further study. A letter to this effect was submitted by LPC to the SHPO, which concurred with the findings (see Appendix K). LPC identified the following 39 lots in Manhattan for further study. The following list of lots in Table 10-2 defined the APE for the documentary study (Figure 10-1):

**TABLE 10-2
LOTS IN PROJECT AREA IDENTIFIED BY LPC FOR FURTHER STUDY**

Site # and Type	Block and Lot Number	Location
Projected Development Site 3 (2025)	Block 705, Lot 42	W. 33rd to 34th Sts., Tenth to Eleventh Aves.
Projected Development Site 5 (2025)	Block 706, Lot 29	W. 34th to 35th Sts., Tenth to Eleventh Aves.
Projected Development Site 7 (2025)	Block 707, Lot 31	W. 35th to 36th Sts.; Tenth to Eleventh Aves.
Projected Development Site 10 (2025)	Block 709, Lot 68	W. 37th to 38th Sts., Tenth to Eleventh Aves.
Projected Development Site 11 (2025)/ Midblock Park and Boulevard	Block 709, Lot 25	W. 37th to 38th Sts., Tenth to Eleventh Aves.
Projected Development Site 12 (2025)	Block 710, Lot 1	W. 38th to 39th Sts.; Tenth to Eleventh Aves.
Projected Development Site 28 (2025)	Block 733, Lots 25, 28, 30, 31	W. 35th to 36th Sts., Ninth to Tenth Aves.
Projected Development Site 41 (2025)	Block 761, Lot 13	W. 37th to 38th Sts.; Eighth to Ninth Aves.
Potential Development Site 53	Block 735, Lot 59, 60	W. 37th to 38th Sts., Ninth to Tenth Aves.
Potential Development Site 57	Block 733, Lots 8, 9, 58	W. 35th to 36th Sts., Ninth to Tenth Aves.
Potential Development Site 58	Block 733, Lots 23, 24, 47	W. 35th to 36th Sts., Ninth to Tenth Aves.
Potential Development Site 59	Block 732, Lot 70	W. 34th to 35th Sts., Ninth to Tenth Aves.
Potential Development Site 60	Block 732, Lot 50	W. 34th to 35th Sts., Ninth to Tenth Aves.
Potential Development Site 61	Block 731, Lot 22	W. 33rd to 34th Sts., Ninth to Tenth Aves.
Potential Development Site 65	Block 728, Lot 34	W. 30th to 31st Sts.; Ninth to Tenth Aves.
Potential Development Site 66	Block 1033, Lot 25	W. 42nd to 43rd Sts., Eighth to Ninth Aves.
Potential Development Site 70	Block 763, Lots 47	W. 39th to 40th Sts.; Eighth to Ninth Aves.

**TABLE 10-2 (CONTINUED)
LOTS IN PROJECT AREA IDENTIFIED BY LPC FOR FURTHER STUDY**

Site # and Type	Block and Lot Number	Location
Potential Development Site 75	Block 761, Lot 5	W. 37th to 38th Sts.; Eighth to Ninth Aves.
Potential Development Site 80	Block 760, Lots 58, 59, 60	W. 36th to 37th Sts.; Eighth to Ninth Aves.
Potential Development Site 82	Block 760, Lot 51	W. 36th to 37th Sts.; Eighth to Ninth Aves.
Potential Development Site 93	Block 779, Lot 8	W. 29th to 30th Sts., Seventh to Eighth Aves.
Potential Development Site 94	Block 779, Lots 27, 28	W. 29th to 30th Sts., Seventh to Eighth Aves.
Potential Development Site 95	Block 778, Lot 16	W. 28th to 29th Sts., Seventh to Eighth Aves.
Potential Development Site 98	Block 778, Lots 29, 30, 31	W. 28th to 29th Sts., Seventh to Eighth Aves.
Transit Action, No. 7 Subway Extension	Block 697, Lots 1, 60	W. 25th to 25th Sts.; Tenth to Eleventh Aves.

3. Documentary Studies Research Effort

Documentary studies were undertaken for the 39 lots forming the APE. These documentary studies were grouped by the elements of the Proposed Action.

- Rezoning and Related Land Use Action:
 - Rezoning
 - Midblock Park and Boulevard System
 - Midblock Parking Garage

- Transit Action:
 - No. 7 Subway Extension
 - Corona Yard

- Other Elements:
 - Convention Center Expansion
 - Multi-Use Facility
 - Quill Bus Depot
 - DSNY and NYPD Tow Pound Facility

For the Rezoning Action, 36 archaeological APEs were identified.

For the No. 7 Subway Extension, three archaeological APEs were identified.

For the Midblock Park and Boulevard System element, one archaeological APE was identified; this lot was also identified as a Projected Development Site for the Proposed Rezoning Action.

For the remaining Proposed Actions, no archaeological APEs were identified.

For each APE identified by LPC, the scope of work was designed to:

- Establish the original site topography and evaluate subsequent alterations;
- Determine prior usage and occupancy - specifically if historic archaeological resources and/or their associated features existed within the Project Area and have the potential to meet N/SR significance criteria;
- Identify the extent of prior disturbances, such as grading and construction, which would have caused subsurface impacts to potential archaeological resources;
- Assess the Proposed Action’s significant adverse effects on the potential archaeological resources; and
- Recommend mitigation alternatives where necessary.

The documentary studies addressed the possibility that potentially significant historical archaeological resources exist within each APE and the likelihood that such archaeological resources have survived later disturbances. Data were gathered to compare, both horizontally and vertically, the historical past and the subsurface disturbance record. In the case of 19th century residential archaeological resources, research was designed to establish the date of dwelling construction, occupancy, and ownership, and the length of time a dwelling stood prior to the availability of City sewer and water, which would indicate whether it was necessary for a building to have an associated privy, well, or cistern. LPC recommended that if City sewer and water were available as many as three years prior to the construction of a dwelling, then the lot in question would lack the potential to yield significant archaeological resources. Documentary research also focused on establishing the extent of impacts from prior construction, and establishing each lot's historical occupancy and use to assess archaeological resource potential. As per the recommendations made by LPC, if continued occupancy over a 10-year period by a family or families could not be established for an individual dwelling, then the site would be considered to lack the potential to yield potentially significant historical period resources.

Reference material was reviewed at various institutions, including the New York Public Library Map Division and Local History Room, the Municipal Archives, the Manhattan Borough President's Office, the Department of Design and Construction's Subsurface Bureau, the City Register's Office, the New York City Department of Environmental Protection's Bureau of Sewer and Water Operations (NYC DEP), the New York City Buildings Department, and the New-York Historical Society. Although the connection dates of City sewer and water were sought at the NYC DEP's Manhattan Borough Office, these records no longer exist. Only the dates that City sewer and water were installed in the street adjacent to each potentially sensitive lot were available.

Census records and City directories were consulted to establish mid-19th century occupancy for residential lots. Potential archaeological deposits associated with specific residents, ethnic groups, or social classes can provide data used to address broader archaeological research issues, compared to deposits that lack such association. Establishing residency was problematic for the APEs, because there were no reverse directories for the years 1840/41, 1850/51, or 1860/61. A name could be sought in the directories for these dates, but not by address. In an attempt to verify occupancy, the established taxpayer or lot owner was sought first in the directories, and then in the census records to establish if they were listed in the correct City ward and enumeration district (as census records did not record street addresses). If feasible, multiple names for a particular block were subjected to the same process to ensure that the census entry was indeed the resident of the block and lot under investigation.

Site file searches were performed at the New York State Office of Parks, Recreation, and Historic Preservation - State Historic Preservation Office (SHPO), the New York State Museum in Albany (NYSM), and the New York City Landmarks Preservation Commission (LPC). In addition to documentary research, field visits were completed and photographs of the sites were taken.

The potential effects of the Proposed Action for each resource identified as potentially significant were addressed, and recommendations for further archaeological evaluation, if indicated, were made. If indicated and feasible, further phases of archaeological assessment (e.g., field testing – not undertaken for this study), and specific mitigation measures (e.g., avoidance or data recovery) would be developed under separate cover when development plans have been refined.

D. EXISTING CONDITIONS

1. Background

Prior to historic landfilling in the mid-19th century, the Hudson River shoreline was located in the vicinity of what is now Eleventh Avenue. From West 30th to West 42nd Streets, the shoreline turned northwest from Tenth to Twelfth Avenues. Along this portion of the Hudson River shoreline, the west side of midtown Manhattan was farmland throughout the 18th century. Through the early 19th century, a vast portion of the Project Area was under the ownership of George Rapelje, the grandson of one of the earliest Dutch settlers of New York, Joris Rapelje. The land owned by George Rapelje had been purchased from Sir Peter Warren in the 1720s. The Rapelje family also owned the Glass House farm within the Project Area, so named for the glass house built on their property sometime in the 1760s.

In the 18th century there were several estates established in the Project Area, all concentrated near the present location of Ninth Avenue. Estates were owned by (from north to south): Dr. Samuel Watkins, John P. Decatur, Richard Harrison and Cornelius Ray. In the early 19th century, the area was described as a largely rural space of market gardens, estates, and unimproved land, much of it owned by the municipal government.

In the 1820s, George Rapelje's grandson - also named George - and his wife Susanna began to sell sections of the Glass House farm land as development tracts. Tract boundaries conformed to the newly established street and avenue grid system, developed by the New York Legislature and adopted in 1811. Although the street grid had been approved at this date, it was not until 1835 that the avenues had been regulated and extended northward to West 35th Street. Grading and filling the irregular landscape was necessary to prepare for the establishment of streets and avenues.

Once the system of streets had been laid out, immigrants (particularly Germans who arrived to labor on the Croton Aqueduct project), moved to western midtown Manhattan to escape the crowded neighborhoods of lower Manhattan. In 1849, construction of the Hudson River Railroad was completed (terminating in the Project Area between West 34th and West 30th Streets and Eleventh Avenue and the Hudson River), and newly unemployed German immigrants began settling in the Project Area. Many of their original dwellings were simple wood shacks or shanties and would have been constructed before the availability of City sewer or water. When the Hudson River Railroad was linked with the New York Central Railroad, its terminus attracted many industries reliant upon the rail system, including slaughterhouses and meatpackers. As a result, the Germans living in the Project Area found gainful employment with these new butchery-related industries, and their residences were upgraded from the temporary wood shacks to more permanent brick tenement buildings. Many of these brick tenement buildings were constructed by real estate speculators, and were designed to house large numbers of people at a low cost. The tenements were typically designed as a simple box structure, three to five stories high, with a small courtyard or alley at the rear of the lot. Some had stores or other businesses located at street level. Through the second half of the 19th century, the number of brick tenements increased dramatically across Midtown. By the end of the 19th century, the Project Area contained brick tenements, rail yards associated with the Hudson River Railroad, and numerous industries related to the meat market.

2. Designated and Eligible Archaeological Resources

Site file searches at the LPC, SHPO, and the New York State Museum (NYSM) were undertaken. No previously inventoried archaeological sites either within or near the Project Area were reported.

3. Documentary Study Results

A total of 39 lots and two street beds were evaluated for their archaeological resource potential (see Figure 10-1). Research results are summarized as follows:

- Thirty-six lots define the archaeological APE in the Rezoning Area. Of these, two lots were found sensitive for potential archaeological resources. Figure 10-2 depicts the locations of the two lots deemed archaeologically sensitive. The remaining 34 lots were found to lack archaeological resource potential due to:
 - Lack of initial deposition;
 - The inability to associate any occupancy with potential deposits; and/or
 - Subsequent disturbance that compromised integrity, a criterion necessary for inclusion to the S/NR.
- Three lots and two roadbeds define the archaeological APE for the No. 7 Subway Extension. All were found to lack archaeological resource potential, due to lack of initial deposition or subsequent disturbance.
- One lot defines the archaeological APE for the Midblock Park and Boulevard System; this lot was also evaluated as part of the Rezoning Area. It was found to possess potential for historical period archaeological resources outside of the area that would be affected by the Proposed Action.

a) Rezoning and Related Land Use Actions

Rezoning

Documentary analysis concluded that 34 of the 36 lots designated as archaeological APEs for the Rezoning Action are either too disturbed or lack the potential for initial deposits and, therefore, are not sensitive for historical or precontact archaeological resources. The 34 lots – on seven projected and sixteen potential development sites – determined to lack archaeological resource potential are listed in Appendix K.

Two archaeological APEs on two projected development sites for the Rezoning Action may possess potential sensitivity for archaeological resources, and are summarized below (Table 10-3). One lot is considered sensitive for potential historical period residential archaeological resources (e.g., shaft features such as wells, cisterns, and privies), and one lot is considered potentially sensitive for a mid-nineteenth century school yard:

**TABLE 10-3
2025 DEVELOPMENT SITES WITH POTENTIAL ARCHAEOLOGICAL RESOURCES**

Projected/Potential Development Site #	Block and Lot Number Approximate Street Location	Potential Resource Type
Projected Development Site 11	Block 709, Lot 25 W. 37th to 38th Sts., Tenth to Eleventh Aves.	Historical period archaeological resources, mid-19th century school yard
Projected Development Site 41	Block 761, Lot 13 W. 37th to 38th Sts., Eighth to Ninth Aves.	Historical period archaeological resources, mid-19th century residential shaft features

(a) Projected Development Site 11, Block 709, Lot 25 (West 37th to West 38th Streets, Tenth to Eleventh Avenues)

Block 709, Lot 25, historically Lots 25, 26, and 29, is considered potentially sensitive for a mid-19th century school yard, outside of the footprint of the ca. 1853 school building and its additions where basements would have disturbed archaeological resources. The earliest school yard area was located immediately adjacent to the former school building, so this area would potentially yield the earliest school-related deposits. Undisturbed areas which are sensitive for mid-19th century school-related archaeological resources are designated on Figure 10-3.

(b) Projected Development Site 41, Block 761, Lot 13 (West 37th to West 38th Streets, Eighth to Ninth Avenues)

Lot 13 is comprised of historic Lots 13, 14, 15, 16, and 17, combined residential/commercial lots developed in the first half of the 19th century. The initial residential structures were built between 1841 and 1848, which predated both City sewers (1850) and City water (1850) by at least two years. Subsequent development resulted in additional structures at the center and rear of some lots. A comparison of changes over time using overlays of historic maps on a modern map has indicated the rear western portion of historic Lot 15 to have been potentially undisturbed by modern development (Figure 10-4). This area may contain deposits and/or features associated with the earliest occupation, particularly the period before the buildings were connected to municipal services in 1850. Moreover, long-term occupation by Samuel Robertson/Robinson and family, between ca. 1841-1870, was established. Therefore, it is possible to associate features/deposits with a specific household. Therefore, only historic Lot 15 on modern Lot 13 is considered sensitive for potential 19th century residential shaft features at the back of the lot.

Midblock Park and Boulevard System

The established archaeological APE for the proposed Midblock Park and Boulevard System was found to lack archaeological resource potential due to either lack of deposition or subsequent disturbance.

Midblock Parking Garage

The proposed below-grade 950-space public parking garage has no established archaeological APE beyond that defined for the Midblock Park and Boulevard System action.

b) Transit Action

No. 7 Subway Extension

The archaeological APE for the proposed No. 7 Subway Extension includes three individual lots and two roadbeds, listed in Table 10-4.

**TABLE 10-4
ARCHAEOLOGICAL APE FOR PROPOSED NO. 7 SUBWAY EXTENSION**

Block and Lot #	Location
Block 697, Lots 1 and 60	W. 25th 26th Sts., Tenth and Eleventh Aves.
Block 763, Lot 47	W. 39th to 40th, Eighth to Ninth Aves.
Eleventh Ave. and W. 42nd St. Roadbeds	W. 42nd St., Eighth to Eleventh Aves., Eleventh Ave., W. 42nd to 26th Sts.

Each of these areas was found to have no archaeological sensitivity due to lack of deposition or subsequent disturbance.

Corona Yard

No archaeological APE was established for the Corona Yard action.

c) Other Elements

Convention Center Expansion

No archaeological APE was identified for the Convention Center Expansion.

Multi-Use Facility

No archaeological APE was identified for the Multi-Use Facility.

Quill Bus Depot

No archaeological APE was identified for the Quill Bus Depot relocation.

DSNY and NYPD Tow Pound Facility

The DSNY and NYPD Tow Pound facility has no identified archaeological APE.

E. FUTURE WITHOUT THE PROPOSED ACTION: 2010

By 2010, the first future analysis year for this FGEIS, a number of privately and publicly sponsored development projects that are now proposed or in construction would be completed as described in Chapter 3. No identified archaeological APEs would be affected in the Future Without the Proposed Action scenario. Therefore, the archaeological APEs would remain undisturbed.

F. FUTURE WITH THE PROPOSED ACTION: 2010

The Proposed Action would have no potential significant adverse impacts on archaeological resources in the Project Area.

1. Rezoning and Related Land Use Actions

a) Rezoning Area

The proposed development by 2010 on projected development sites within the Rezoning Area would have no significant adverse impacts on identified archaeological resources regardless of whether MSG is relocated. None of the 2010 projected development sites were found to be potentially sensitive for archaeological resources. No potential development sites were identified for the 2010 analysis year.

b) Midblock Park and Boulevard System

By 2010, it is anticipated that parcels would have been acquired and developed for the Midblock Park and Boulevard System only between West 33rd and West 34th Streets, with the remaining parcels to be acquired after 2010 (see Chapter 2). None of the parcels between West 33rd and West 34th Streets were found to be potentially sensitive for archaeological resources, and therefore acquisition and development of these parcels would have no significant adverse impact on potential archaeological resources.

c) Midblock Parking Garage

The completion of the below-grade 950-space public parking garage by 2010 would have no significant adverse impact on identified archaeological resources because no archaeological APEs were identified for this portion of the Project Area.

2. Transit Action

a) No. 7 Subway Extension

By 2010, the No. 7 Subway Extension would be open and operational. Construction of the proposed subway extension would not result in significant adverse impacts to any identified archaeological resources. The portion of the alignment constructed by tunnel boring machine excavation (the running tunnels) would have no significant adverse impacts on archaeological resources, as construction activity would occur within bedrock, below the depth of any possible archaeological deposits.

b) Corona Yard

The expansion of tracks in Corona Yard would have no significant adverse impacts on identified archaeological resources because no archaeological APEs were identified for this portion of the Project Area.

3. Other Elements

a) Convention Center Expansion

The expansion of the Convention Center would have no significant adverse impacts on identified archaeological resources because no archaeological APEs were identified for this portion of the Project Area.

b) Multi-Use Facility

The construction of a Multi-Use Facility would have no significant adverse impacts on identified archaeological resources because no archaeological APEs were identified for this portion of the Project Area.

c) Quill Bus Depot Relocation

The relocation of the Quill Bus Depot would have no significant adverse impacts on identified archaeological resources.

d) DSNY and NYPD Tow Pound Facility

The DSNY and NYPD Tow Pound facility would have no significant adverse impacts on identified archaeological resources because no archaeological APEs were identified for this portion of the Project Area.

G. FUTURE WITHOUT THE PROPOSED ACTION: 2025

By 2025, some development is expected to occur in the Project Area, as described in Chapter 3, “Analytical Framework.” No identified archaeological APEs would be affected in the Future without the Proposed Action condition. Therefore, the archaeological APEs would remain undisturbed.

H. FUTURE WITH THE PROPOSED ACTION: 2025

The Proposed Action could result in potential significant adverse impacts on archaeological resources in the Project Area (Figure 10-2).

1. Rezoning and Related Land Use Actions

a) Rezoning Area

Under the reasonable worst-case development scenario, two projected development sites have the potential to contain mid-19th century residential or school-related archaeological resources:

Projected Development Sites 11 and 41 (Figure 10-2; Table 10-3). The actual presence of archaeological resources could only be determined with field verification. Therefore, future construction on these sites could result in significant adverse impacts on potential archaeological resources due to excavations for foundations and footings of new buildings. Since the depths of anticipated resources are unknown, any excavations undertaken where archaeological potential was identified could disturb potential resources.

No other projected or potential development sites, with or without the relocation of MSG, would have the potential to result in significant adverse impacts on archaeological resources.

b) Midblock Park and Boulevard System

By 2025, the City would have acquired the remainder of the parcels listed in Table 2-1 for development of the Midblock Park and Boulevard System, and project construction would likely be complete. This action would entail the acquisition – through either negotiation or condemnation – and potential subsurface disturbance of a small portion of Block 709, Lot 25, also designated as Project Development Site 11 (north side of West 37th Street between Tenth and Eleventh Avenues). However, the small portion of the lot to be acquired is not in an area determined to be potentially archaeologically sensitive. Therefore, no significant adverse impacts to identified archaeological resources from the proposed Midblock Park and Boulevard System action are anticipated.

I. MITIGATION

Mitigation could entail on-site field testing to determine if resources are present. If resources are not present then there would be a finding of no significant, adverse impact, and no further work would be required.

If resources are present, mitigation could take the form of avoidance or data recovery, the scope of which could be developed in consultation with LPC and SHPO. Steps to be taken to avoid adverse impacts on archaeological resources could follow the 2000 New York Archaeological Council (NYAC) standards. These could include the following measures:

- Subsurface archaeological testing in the form of trenching/shovel test pits to investigate sensitive areas that could be affected by proposed construction. The testing could be done to locate and identify any potential precontact or historic cultural features or deposits, so that the presence or absence of archaeological resources, and their extent if they are in fact present, could be determined. Testing is typically designed to give a representative sampling of the presence or absence of archaeological resources, and sites are usually not tested in their entirety.
- For archaeological resources that are identified as present, mitigation could also include further research, to determine whether the archaeological resources identified are eligible for the S/NR. If the archaeological resources are determined to meet S/NR eligibility criteria, further mitigation is appropriate. A mitigation program would be developed in consultation with LPC and SHPO. Some of the significant archaeological resources identified that could be affected by the project could be evaluated through data recovery, in the form of a full-scale excavation or avoidance of the archaeological resources.
- Other potential forms of additional mitigation include archaeological monitoring at the time of project construction.

However, if potential archaeological resources exist on Projected Development Sites 11 and 41, they would not be excavated as the result of private development, which would not require further discretionary approvals. Consequently, there are no measures available in connection with the proposed rezoning to require that subsequent development undertake mitigation. Therefore, development on Projected Development Sites 11 and 41 would result in an unmitigated impact. ❖