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HP 2003

**EAST 36TH TO EAST 29TH
STREETS
INTENSIVE
DOCUMENTARY STUDY
SECOND AVENUE
NEW YORK, NEW YORK
SECOND AVENUE SUBWAY**

7/2003

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EAST 36TH TO EAST 29TH STREETS
INTENSIVE DOCUMENTARY STUDY
SECOND AVENUE
NEW YORK, NEW YORK
SECOND AVENUE SUBWAY

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July 2003

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East 36th to East 29th Streets – Topic Intensive Study, Second Avenue Subway

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EXECUTIVE SUMMARY

MTA New York City Transit (MTA NYCT) has prepared a Supplemental Draft Environmental Impact Statement (SDEIS) for a proposed full-length Second Avenue Subway extending from 125th Street to Lower Manhattan (SDEIS, March 2003). The Environmental Impact Statement (EIS) for the project is being prepared for the Federal Transit Administration (FTA) as lead agency, in accordance with the National Environmental Policy Act (NEPA). As per Section 106 of the National Historic Preservation Act of 1966, an archaeological resources analysis was prepared for the project. This document, *Second Avenue Subway, Phase 1A Archaeological Assessment* (Kearns et al. 2003) established Areas of Potential Effect (APEs) for the project (e.g. the areas where the proposed project may affect potential archaeological resources), identified designated and potential archaeological resources that may be affected by the proposed project, and assessed the proposed action's effects on those resources. This Phase 1A was accepted by the New York State Historic Preservation Office (SHPO). It was also accepted by the New York City Landmarks Preservation Commission (LPC).

Under Section 106, a draft Programmatic Agreement was also prepared and is included in the SDEIS, to be executed by FTA, MTA NYCT, and SHPO. The draft Programmatic Agreement sets forth protocols to be followed pertaining to Archaeological Properties in the Second Avenue Subway APE. At all sites where the potential for historic period archaeological resources is confirmed to exist by soil borings, it is stipulated that additional documentary research will be undertaken to document historic disturbance in the archaeologically sensitive areas and refine the area's archaeological sensitivity. This will allow archaeologists to, a) prioritize the sites for testing based on each site's potential to yield significant information and address meaningful research issues according to the Historic Properties criteria; and, b) if indicated by the additional research, undertake further field testing to identify the presence or absence of archaeological resources.

The first construction phase for the Second Avenue Subway project proposes subsurface impacts for utility relocation and excavation of Tunnel Boring Machine (TBM) shafts in the area of Second Avenue between 97th and 91st Streets and Second Avenue between 36th and 31st Streets. The Phase 1A did not identify any areas of historic period sensitivity in the APE between 97th and 91st Streets. Between 36th and 31st Streets, the Phase 1A identified two potentially sensitive areas as follows:

1. Second Avenue between East 36th and East 35th Streets; and
2. East 33rd Street east of Second Avenue.

In addition, the Phase 1A identified an area of historic period sensitivity on Second Avenue, from south of East 31st Street to East 29th Street. Since this area of sensitivity is adjacent to

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the APE for the first construction phase of the project, it is included in this Topic Intensive Study.

The above described three areas were the locations of structures or properties associated with structures depicted on the 1820 Randel map of farms and/or the 1811 Commissioners Map. Additionally, the East 33rd Street portion of the APE was determined to be potentially sensitive for precontact archaeological resources. One additional site, a potential shaft/staging area at St. Vartan Park on the east side of Second Avenue between 36th and 35th Streets, was assessed in the Phase 1A and determined to possess precontact and historic-period sensitivity. However, this site would only be used for staging and there would be no subsurface disturbance. Therefore, since the proposed project would not result in potential adverse effects to archaeological resources on this site, the St. Vartan Park shaft site was not included as part of this Topic Intensive Study.

As a result of this Topic Intensive Study, it was determined that all three sensitive areas described above could contain extant archaeological resources undisturbed by later installation of utilities. The locations of potential sensitivity have been revised from those of the Phase 1A, and are presented later in this report. Where possible, Historical Perspectives recommends avoidance of these three areas through project redesign. If avoidance is not feasible, then archaeological testing prior to construction and/or archaeological monitoring during construction, in accordance with the appropriate state and federal standards, would be necessary. RPA-certified professional archaeologists, with an understanding of and experience in urban archaeological excavation techniques, would be required to be part of the testing team. Due to the active status of utilities under many of the roadbeds and sidewalks, backhoe trenching is impractical at all but the sensitive area on Second Avenue between East 36th and East 35th Streets. Here, Historical Perspectives recommends backhoe trenching under the sidewalk east of Second Avenue, where there do not appear to be active utilities. In the other portions of the project areas, Historical Perspectives recommends archaeological monitoring during construction. Protocols for any archaeological investigations would be developed in consultation with SHPO.

I. INTRODUCTION

MTA New York City Transit has prepared a Supplemental Draft Environmental Impact Statement (SDEIS) for a proposed full-length Second Avenue Subway extending from 125th Street to Lower Manhattan (SDEIS, March 2003). The Environmental Impact Statement (EIS) for the project is being prepared for the Federal Transit Administration (FTA) as lead agency, in accordance with the National Environmental Policy Act (NEPA). As per Section 106 of the National Historic Preservation Act of 1966, an archaeological resource analysis, which established Areas of Potential Effect (APEs) for the project (e.g. the areas where the proposed project may affect potential archaeological resources), identified designated and potential archaeological resources that may be affected by the proposed project, and assessed the proposed action's effects on those resources, was completed. This document, *Second Avenue Subway, Phase 1A Archaeological Assessment* (Kearns et al. 2003, "Phase 1A") was accepted by the New York State Historic Preservation Office (SHPO). It was also accepted by the New York City Landmarks Preservation Commission (LPC).

Under Section 106, a draft Programmatic Agreement was also prepared and is included in the SDEIS, to be executed by FTA, MTA NYCT, and SHPO. The draft Programmatic Agreement sets forth protocols to be followed pertaining to Archaeological Properties in the Second Avenue Subway APE. At all sites where the potential for historic-period archaeological resources is confirmed to exist by soil borings, it is stipulated that additional documentary research will be undertaken to document historic disturbance in the archaeologically sensitive areas and refine the area's archaeological sensitivity. This will allow archaeologists to, a) prioritize the sites for testing based on each site's potential to yield significant information and address meaningful research issues according to the Historic Properties criteria; and, b) if indicated by the additional research, undertake further field testing to identify the presence or absence of archaeological resources.

The first construction phase for the Second Avenue Subway project will cause subsurface impacts where utility relocation and Tunnel Boring Machine (TBM) shafts are proposed. The APE for this work consists of Second Avenue between East 97th and East 91st Streets, Second Avenue between East 36th and East 31st Streets, and a portion of 33rd Street east of Second Avenue. The Phase 1A concluded that the area between East 97th and East 95th Streets is potentially sensitive for precontact resources to a depth of approximately 22' below grade (Kearns et al 2003:4.3-14), and soil borings confirmed this assessment. Since no areas of potential historic period sensitivity were identified on Second Avenue between 97th and 91st Streets, no additional documentary research was necessary.

The Phase 1A also identified three potentially sensitive areas between East 36th and East 29th Streets (Figure 1; Ibid.:4.4-10, 7.2-3). These areas are:

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1. Second Avenue between East 36th and East 35th Streets;
2. 33rd Street east of Second Avenue; and
3. Second Avenue, from south of East 31st Street to East 29th Street.

These three sensitive areas were the locations of structures or properties associated with structures depicted on the 1820 Randel map of farms and/or the 1811 Commissioners Map. Additionally, the East 33rd Street portion of the APE was determined to be potentially sensitive for precontact archaeological resources. One additional site, a potential shaft/staging area at St. Vartan Park on the east side of Second Avenue between 36th and 35th Streets, was assessed in the Phase 1A and determined to possess precontact and historic-period sensitivity. However, this site would only be used for staging and there would be no subsurface disturbance. Therefore, since the proposed project would not result in potential adverse effects to archaeological resources on this site, the St. Vartan Park shaft site was not included as part of this Topic Intensive Study.

The Phase 1A summarized the potential types and depths of resources that may be present in the three areas identified as archaeologically sensitive between East 36th and East 29th Streets. These are described below. In addition to the area between 36th and 31st Streets being the APE for utility relocation and TBM shaft sites associated with the first phase of the project's construction, the Phase 1A had identified potential project effects as follows:

- On Second Avenue between East 36th and East 35th Streets, potential early 19th century resources related to the Kips Bay Farm may lie between 10 and 18 feet below grade. Cut and cover construction for the proposed 34th Street subway station from the surface down to about 55 feet below grade would impact any potential resources.
- On 33rd Street east of Second Avenue, proposed construction plans call for the potential use of 33rd Street as a staging site or for excavation of a shaft to allow for the insertion of a TBM or for spoils removal. Since this area (referred to as the Kips Bay Shaft Site in the Phase 1A) is potentially sensitive for precontact resources that are estimated to lie between 6 and 23 feet below grade, and early 19th century residential features beneath fill layers ranging from 6 to 18 feet below the surface down to about 40 feet below grade, potential shaft excavations would impact these resources. If the site were to be used solely as a staging area with no subsurface excavation extending below a depth of six feet, there would be no adverse effect on potential precontact and historic resources.
- On Second Avenue between East 31st and East 29th Streets, potential early 19th century resources related to the Kips Bay Farm may lie between 10 and 18 feet below grade. The construction of a deep tunnel using a TBM through bedrock would have no adverse effect on potential resources.

II. RESEARCH GOALS AND METHODS

The proposed project has the potential to affect three archaeologically sensitive areas in the Kips Bay portion of the APE that had structures located on them by the early nineteenth century. Remains of these structures and associated features may be located within and adjacent to the Second Avenue roadbed, and, if present, would be impacted by construction of the Second Avenue subway.

This Topic Intensive Study compiles the documentary research that was completed for the three archaeologically sensitive areas (Figure 1). It 1) identifies areas sensitive for archaeological resources that may be affected by the proposed project; 2) documents later nineteenth- and twentieth-century development and redevelopment to assess the potential effect it may have had on the potential archaeological resources, including the installation of subsurface utilities; 3) assesses possible project effects on the potential archaeological resources; and 4) provides recommendations for additional archaeological study and/or mitigation, where necessary.

To accomplish the goals stated above, a variety of documentary and cartographic sources were consulted.

Historical maps and atlases were obtained from local repositories and studied for land use over time. Evidence of prior disturbance was also established in order to determine site integrity and the potential for archaeological resources to be present. Establishing prior impacts was essential toward determining potential site integrity. Among the maps and atlases consulted during the Phase 1A study were: Manatus 1639; Montresor 1766; Ratzen/Ratzer 1766/1767; British Headquarters' Map 1782; McComb 1789; Taylor and Roberts 1797; Randel 1807; Bridges 1807; Colton 1836; Tanner 1836; Dripps 1852, 1867; Perris 1853, 1857-1862; Viele 1865; Robinson 1885, 1893; Bromley 1897, 1911, 1916, 1926, 1932, 1955, 1967, 1974; and Sanborn 1984, 1990. See the Phase 1A report, chapters 4.4 and 7.2 and Appendices, 4.4.7.1 and 7.2.7.1, for a full discussion of the changes through time to the Kips Bay portions of the APE (Kearns et al 2003).

Additional site-specific map work was undertaken for this Topic Intensive Study; these maps included: John Randel, Junior's 1807 drawings for the 1811 Commissioners' Plan, the 1820 John Randel, Jr. farm maps at the Manhattan Borough President's Office's Topographic Bureau, a 1917 manuscript "reindexed" map (R.D. 359) at the Municipal Archives, and maps from the deeds overlaid by the published 1867 Holmes map. New York City public-services manuscript plan views of subsurface conditions provided by MTA NYCT also contributed to the understanding of the changes in land use as the project property was developed and redeveloped.

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Other primary source materials used for this study included early Farm Histories and maps at the New York City Municipal Archives, Block and Lot folders (as far north as Block 936 only) for structures that are no longer standing, as well as jury census figures and records of tax assessments (known in New York City as the Assessed Valuation of Real Estate records). Unfortunately, the Municipal Archives' microfilms of the City Directories for the early 1800s were unavailable at the time of research, so they were not available to review for this report. Block indices and land records at the New York City Register were also examined for details about real estate transactions, including any mention of structures on the properties. Photographic files at the New York Public Library Local History Division were searched for evidence of disturbance during construction of the Queens-Midtown Tunnel entrance. Genealogical records were consulted to help clarify familial relationships of former residents.

Numerous local and regional histories also were examined for relevant data including I. N. Stokes' *Iconography of Manhattan Island*, Vols. III and VI, which provided information on farm maps of the area and general history of the use of the area of land in the APE.

Other resources and/or city offices that were consulted during the course of further research for this project include: The City Register of New York for conveyance records; The New York City Municipal Archives for city records such as farm maps, the 1917 reindexed map, The Department of Buildings of New York City; and The New York Public Library's Local History and Manuscript Divisions.

Finally, a site visit was conducted and a photographic record of current conditions was made (Photographs 1-13).

III. RESEARCH RESULTS

The three potentially sensitive areas originally were identified on historical maps as supporting structures in 1820 (Kearns et al. 2003). Further documentary research was undertaken to clarify the ownership and occupancy of these sites over time, as well as the dates of construction and demolition of the structures themselves, where feasible given the archival record. The following discussion reviews the overall history of the Kips Bay neighborhood, documents current conditions in each of the three sensitive areas, provides site-specific history of each location, and summarizes archaeological sensitivity based upon the preceding data.

A. Historical Background of Kips Bay

1. Early Settlement

The project neighborhood was part of a large tract of land that stretched along the East River between East 41st Streets and East 29th Streets and is known to this day as Kips Bay. The early Dutch settlers, who had town houses in New Amsterdam at the foot of Manhattan Island, established “bouweries” or farms in the open land to the north. The first major road servicing the area was the Eastern Post Road, ordered made in 1669, and finished in 1672. It forked off the Bloomingdale Road at 23rd Street and Fifth Avenue and ran a meandering course over old Indian trails through Manhattan’s East Side to the Harlem Bridge (Stokes 1918 revised edition: III 998). In the Kips Bay area, it roughly paralleled Lexington Avenue. This meandering road and the East River, the main transportation arteries, were the focal point for the earliest structures. Thus, when Second Avenue was laid out a number of buildings fell within its path and the adjoining side streets.

The first Kip to build at Kips Bay was the Dutchman Jacobus Hendricksen Kip, who is reported to have constructed his mansion in 1655. It was probably the first structure in the area. This house was destroyed by fire in 1696 but was subsequently rebuilt. According to Riker’s *History of Harlem* (1904), the mansion stood on the East River on the south side of East 35th Street, about 100 feet east of Second Avenue, and was demolished by late 1851, when East 35th Street was opened (Stokes 1998, reprint edition: VI, 112). Although Second Avenue was plotted on both the 1811 Commissioners Map and the 1820 Randel map, the section of Second Avenue between East 30th and East 63rd Streets did not open until September 1839 (WPA 1937:Project 609).

2. Nineteenth Century

The Kip property remained in the family, undivided, for 150 years until Jacobus’s grandson, Samuel Kip, died intestate in 1804 (Post 1894). As part of the subdivision plan following his death, four streets were to be laid out running east and west (or to be exact, northeast to southwest) along the early patent lines, from the Eastern Post Road to the East River. Another four streets were to run north and south (northwest to southeast); all but the main street, Kips Bay Street, were named for members of the family: Maria, Louisa, Susan, Elbert, Samuel, Eliza, and Cornelius (Stokes 1998, reprint edition: VI, 115).

Early in the 1800s, the mayor and aldermen of New York City realized that the city was on the verge of rapid expansion. In 1807, the state legislature appointed a special commission “to lay out streets, roads, public squares of such extent and direction as to them shall seem most conducive to public good.” (Cohen and Augustyn 1997:102). A young surveyor named

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John Randel, Jr., who had worked with Simeon DeWitt, a noted cartographer and Surveyor General of New York State, was hired to complete a topographical survey of the entire island of Manhattan. This survey, completed in 1810, was said by Dewitt to have “an accuracy not exceeded by any work of the kind in America” and served as the basis for later maps by Colton and Viele, among other well known cartographers (Cohen and Augustyn 1997:102-110).

Randel was also the creator of *The Commissioner's Plan* (1811), which plotted the streets to be built in the burgeoning city. These, the current numbered streets and avenues, were laid out at a slight angle to the old ones, barely established and named for the children of Samuel Kip. It has been suggested that a difference in orientation between true and magnetic north is responsible for the discrepancy. Whether or not this is so, there is a question concerning datum points for maps of the greater New York City vicinity. Scott S. Zelenak, in an article entitled *The Xs and Ys of the Big Apple* writes “there are, by my count, at least 13 coordinate systems and seven elevation datums all predating the state plane coordinate systems and the national vertical datums” (Zelenak 2003).

For the purposes of this study, attribution of archaeological sensitivity is based on the location of structures on an 1820 map by John Randel, Jr., who carefully noted every structure in the path of a planned roadway. However, when City Surveyor J. B. Holmes made his *1869 Map of Kips Bay Farm*, he stated on the map that Randel's northwesterly corner for the farm is wrongly located, which places “Elbert, Samuel, Eliza and Cornelius streets about 23 feet too far southeasterly which has caused much trouble” (Holmes 1869). This makes it more difficult to pinpoint the exact locations of the various structures. Unfortunately, the Holmes map, drawn in 1869, after the modern street grid was in place, shows no buildings, and site measurements in the deeds are oriented to the old streets.

Samuel Kip's estate was divided into two parts; one part was north of “the bridge line” and the other was south of “the bridge line.” The bridge crossed a stream that emptied into Kips Bay at its deepest indentation, at approximately current East 34th Street, near the bay. The imaginary bridge line ran from the river along a straight line diagonally northwest to the present Lexington Avenue between East 36th and East 37th Streets (Figure 2). After Samuel Kip's death, the two parts were in turn grouped into five separate sections: the 32 Lots, the 48 Lots, the 43 Lots, the Quarry Hill Lots and the Administration Lots.

The largest share of the property went to Samuel's eight children, Catharine, Elizabeth, Cornelius, Samuel, Mary, Henry, James and Elbert, with some smaller parcels going to administrators and others. Blocks were often split, and the lots assigned to each heir were scattered across the entire farm, instead of being adjacent to one another. The result is a very complicated distribution of land, compounded by the fact that many of the heirs quickly sold

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some or all of their parcels. Trustees for Samuel Kip's estate were Samuel Jones, Jr. and Nicholas W. Stuyvesant. Eventually, a Samuel Jones ended up being a major landholder.

Little new development at Kips Bay occurred immediately, in spite of the transferal of some parcels. A New York census, taken in 1819 for the purpose of identifying jurors, lists only nine men in Kips Bay¹ possessed of freeholds of \$150, each with a personal estate valued at \$150. Samuel Kip, age 47, was the wealthiest; there were 12 in his household, including the only slaves, one male and one female. James Kip, age 22, owned property but had only himself in the household. Cornelius Kip, age 39, was also a property holder but was exempted from jury duty because he was in the "alms house." This was probably the almshouse at Bellevue, which opened in 1816, and is now the location of the Bellevue Hospital complex located just south of the Kips Bay area (WPA1939:318). Cornelius died intestate, three years later, in 1822 (Post 1894). Two other freeholders were also excluded from jury duty, each being over 60 years of age (NYC Jury Census 1819).

The nine freeholders holding over \$150 in property included two gentlemen, two merchants, a doctor, and a broker. They were served by 173 other individuals and their families; there were nine laborers, three gardeners, a butcher, a hatter, a shoemaker, a mariner [sic], plus some occupations that unfortunately are undecipherable. Twenty-seven of these people, male and female, were "coloured inhabitants, not slaves," and twenty-four were "aliens," mostly with Anglo-Saxon names (NYC Jury Census 1819). Maps and other documents of the time illustrate chiefly the main houses associated with property, but considering the number of additional individuals noted by the census, there undoubtedly were a number of satellite buildings to the main dwellings, which housed these workers.

Kips Bay was still rural, judging from the 1821 jury census; a Mr. or Mrs. Winthrop held 28 acres of improved land; Wm. Burgess had the next largest property at 12 acres. Samuel Kip owned 10 acres, as did Robert Stuart. Cornelius Kip had only 2 acres, and he was one of the few who did not own a horse or cow, probably because he was still confined in the "alms house" (NYC Jury Census 1821). The census also indicates that there were no sheep, no textile manufacturing, no mills, no trip hammers, no iron works, no distilleries, and no asheries in Kips Bay.

¹ Kips Bay is listed under the heading "Streets", but the other streets named for Kip family members do not appear in the census. Thus the whole of the Kips Bay area was almost certainly included under the Kips Bay heading.

B. Areas of Intensive Study

1. Second Avenue Between East 36th and East 35th Streets

Current Conditions

This study area includes Second Avenue, with sidewalks, from the north side of East 36th Street almost to East 35th Street (Figure 3). The entire block east of Second Avenue between East 35th and East 36th Streets and numbered Block 941 is taken up by St. Vartan Park, a leafy oasis south of the entrance ramp to the Midtown Tunnel on East 36th Street (Photographs 1, 2, and 3). As the photographs show, a traffic light stands on the sidewalk at the corner of East 36th Street and Second Avenue, but there are no overhead wires visible. A manhole is located approximately ten feet into Second Avenue. The street and sidewalk are paved, as is the handball court adjacent to the sidewalk. The park is surrounded by wire fencing.

Site-Specific History

The area between 36th and 35th Streets is considered archaeologically sensitive because the 1820 Randel map shows a structure on land identified as belonging to John Y. Van Tuyl (Figure 4). Van Tuyl [sometimes Van Tyle] was married to Catharine Kip, Samuel Kip's daughter. Catharine received two lots from the 43 Lots of the Kips Bay Farm from her father's estate, Lots 6 and 12, each measuring 3+ acres. Lot 12 was located on the western side of the Kips Bay Farm, while Lot 6 fronted the East River, which at that time partially covered modern Block 941 (Figure 5). The narrow ends of the two lots joined at the proposed location of Eliza Street, north of the "Bridge Line" near the present Second Avenue. The property had remained in the Kip Family for nearly two centuries, with no Instruments of Record from 1654, when Jacobus Kip acquired it, until 1805, the year Catharine inherited it (Block Indices, City Register).

Randel had a reputation as a highly reliable surveyor, in spite of Holmes' complaint, yet the Assessed Valuation of Real Estate Records do not mention a house belonging to or occupied by either John Van Tuyl or Catharine Kip in Kips Bay from 1816, the first year such records are available, to 1825. The heading on the record reads "Owners & Occupants" which implies there may have been a tenant in residence, or the structure may have been related to the original Jacobus Kip farm, which was located on East 35th Street east of Second Avenue. Van Tuyl owned a number of other properties; in 1816 he was credited with 6 parcels totaling 17.5 acres and valued at \$33,980. By 1825 he was down to 4 lots valued at \$400. Then the ward number changed, from 9 to 16, and after this time the listings were by street instead of under the generic category of Kips Bay. John Van Tuyl owned 3 lots on the east side of Second Avenue between East 35th and 36th Streets, the location of the structure on Randel's map, valued at \$1,000 in 1839. Unfortunately the comment following this description is illegible (Assessed Valuation of Real Estate).

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Grantor records at the City Register list John Van Tuyl and Catharine in over 75 transactions between 1809 and 1834; 25 took place in 1833 alone, and 13 were in 1834. In May 1835, the city began referencing the current street grid when conveying Van Tuyl's property. Samuel Jones and James Lorimer Graham were the principal buyers of the Van Tuyl holdings. The present Lots 61, 62 and 63 on Block 941, the site of the structure shown on the Randel map, located about 50 feet south of East 36th Street and fronting on Second Avenue, were deeded by the Van Tuyls to Catharine Kip on April 20, 1847 (Liber 489:125). No house is cited in the deed, but by 1867, the Second Avenue elevated railway was in place, and there were tenements interspersed with manufacturing locations along Second Avenue (Dripps 1867). Catharine Kip, who was the daughter of Henry Kip and a niece of the childless Catharine Van Tuyl, sold the same three lots, with "appurtenances," to August L. Nosser on June 2, 1869 (Liber 1037:633).

The City of New York acquired the entire Block 941 in 1903 and called it Saint Gabriel's Park, after a church by that name at 310 East 36th Street. Improvements were completed by 1905, when the park opened (Stokes 1918:971). An April 1935 construction plan for further improvements shows a handball court covering most of the Second Avenue end of the park just outside the APE, with a comfort station and wading pool near the First Avenue end (Blocks and Lot folders, 941:1). It was "one of the few recreational areas in the neighborhood" by 1938 (WPA 1982:209).

Photographs from the New York Public Library collection, taken in 1939 before construction of the entrance ramp to the Queens-Midtown Tunnel begun, show the handball court and the park looking much as they do today, complete with the two manholes in Second Avenue. Even the trees planted along the sidewalk are similar, although they must be replacements, since they do not appear to have grown. The Roman Catholic St. Gabriel's Church building with its steeple are shown behind the park; it was razed shortly thereafter to make way for tunnel construction, which began in October, 1936 (WPA 1982:208). Also in the photographs are the approximately 3-story high Second Avenue elevated railway, with its supporting stanchions about every 20 feet along Second Avenue, leaving room for a lane of traffic between them and the sidewalk (NYPL Photographic Collection 1939).

The park is still present, now called St. Vartan Park. St. Vartan's Cathedral of the Armenian Orthodox Church in America was constructed in 1967 on the adjacent block at 620 Second Avenue between East 34th and East 35th Streets.

Archaeological Sensitivity

John Van Tuyl, husband of Catharine Kip, was noted as owner of this parcel on Randel's 1820 Farm Map, which shows a structure on the west side of Eliza Street, but it apparently

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was not his dwelling. It could have been a rental property or an outbuilding, possibly associated with the ancestral 17th century Kip home that historical sources place on the south side of East 35th Street about 100 feet east of Second Avenue. If it was a dwelling with the house situated facing Eliza Street, toward the south, as was the common orientation of the time, the back yard would have been at the intersection of Second Avenue and East 36th Street. It is here that archaeological resources such as a privy, well and/or cistern would most likely have been sited.

Survival of subsurface archaeological resources also depends in large measure on the degree to which they have been destroyed or disturbed by subsequent grading and other excavations. In the case of roadbeds, disturbances primarily consist of laying utility lines. For this reason, study of current utility maps is of primary importance in determining archaeological sensitivity.

The Phase 1A indicated that potential historic period archaeological resources associated with the Van Tuyl property would lie between 10-18 feet below the current street grade. No subsequent information has become available that changes this conclusion. Maps showing existing utilities for this portion of Second Avenue illustrate a number of subsurface utilities within the Second Avenue roadbed, generally oriented north-south. These include several water pipelines, electrical lines, a gas line, and a sewer pipeline. A steam pipeline runs down the middle of East 35th Street, but not within Second Avenue. The deepest utility is the 5-foot diameter sewer line running down the center of Second Avenue, and situated (along with its installation trench) between about 8-16 feet below grade. The lowest extents of the other utilities are located no deeper than 9 feet below grade, suggesting that only the sewer line has likely impacted the potential archaeological resource zone. The sewer line runs only down the middle of the street, the remaining portions of the Second Avenue roadbed, therefore, as well as the adjoining eastern sidewalk, which does not appear to have utilities beneath it other than a fire hydrant and an electrical street light pole, have the potential for intact archaeological resources within the 10-18 feet below grade zone. Figure 6 illustrates the revised locations of archaeological sensitivity within this portion of the project APE.

2. 33rd Street East of Second Avenue

Current Conditions

This area, a potential staging/shaft site, includes approximately 535 feet running east from Second Avenue on East 33rd Street, including both sidewalks, to the present building lines (Figure 7, Photograph 4). The block south of East 33rd Street was numbered 938 until it was merged with the two blocks to the south to form one superblock, numbered 936. This took place when the 21-story north building of the Kips Bay Plaza apartments was constructed on the site in 1965 (White and Willensky 1988: 205).

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Photographs of the site show the Kips Bay Plaza apartments, with a service road in front along Second Avenue (Photographs 4 and 5). The basement garage, part of which is on landfill where the East River formerly ran, has an entrance ramp approximately 400 feet east of Second Avenue on East 33rd Street. The large space beneath a grate in front of the building entrance on East 33rd Street is 6-8 feet deep; there is a fire hydrant next to it, and there are manholes on East 33rd Street east of Second Avenue.

The north side of East 33rd Street (Block 939), starting at Second Avenue and proceeding east toward the river contains the following designations and conditions:

- Lot 1. A paved park/restaurant sunk approximately 4 feet below grade at the corner, adjoining a 3-story brick building with two horizontal white bands (Photograph 6);
- Lot 6. Vacant (Photograph 7);
- Lot 7. #305, a 3-story red brick building with partially above ground basement, probably late 19th century and now apparently housing a community association (Photograph 7);
- Lot 8. #307, A similar building, only white, also probably late 19th century, that is the Rectory for the Church of the Sacred Heart of Jesus and Mary next door (Photograph 7);
- Lots 9-16. Church of the Sacred Heart of Jesus and Mary and a parochial school (Photograph 8);
- Lot 17 (west part). Vacant (Photograph 9);
- Lot 17 (east part). A 3-story church building (Photograph 9);
- Lot 20. A 5-story blue apartment building with basement (Photograph 9);
- Lots 21-22. A 5-story brick apartment building on a double lot (Photograph 9).

All of these buildings have basements, and the space between the church buildings is a full story below grade.

The south side of East 33rd Street (Block 936) is occupied entirely by the Kips Bay Plaza apartments, set back from Second Avenue and 33rd Street and with an underground parking garage (the garage and basement do not appear to extend beneath the sidewalk).

Site-Specific History

When Samuel Kip died intestate, Lot 3 of the 43 Kips Bay Farm lots was allocated to his son Elbert Kip. It was the first complete lot south of the "Bridge Line" (Farm Histories 1917, Vol. 6, No.61). The two-plus acre lot was bordered by Eliza Street on the west and the East River on the east (Figure 8). The "uses and purposes" of Eliza Street and the other Kip roads were given in an agreement recorded in Liber 71:237, dated February 18, 1805. Probably no more than dirt tracks, if in fact they were ever constructed, the streets were planned to be 60

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feet wide, and their main use was to provide residents with access to the East River.

A house on Elbert Kip's parcel is clearly shown on the south side of what is now East 33rd Street on both the 1807 Commissioners' Map and the 1820 Randel map (Figure 9). The larger building, probably his dwelling, had a peaked roof and porches (or possibly a Dutch roof line), and its long side faced the river. A smaller structure, probably a barn or stable, was west of the house, also in the current roadbed. A large pier jutted out into Kips Bay opposite the house south of East 33rd Street, the only one on the bay at the time.

Both the house and possibly Eliza Street were constructed as early as 1806. The Manhattan Assessed Valuation of Real Estate for 1816, the first available such record at the Municipal Archives, shows Elbert Kip as owning one house on nine-plus acres valued at \$10,000, along with five other parcels of land in the "Kipps Bay Division." The next year, 1817, he still owned several other pieces of land, but after 1818 his name is gone from the Kipps Bay Assessed Valuation of Real Estate. He died intestate in 1827, leaving a wife and six children (Post 1894).

Elbert Kip and his wife Marie sold the house on Lot 3 of the Kips Bay Farm lots on January 3, 1817, to Ann Bartow, widow of John Bartow (Liber 120:60). The deed gives the following description of the property, which sold for \$10,250: "a Messuage or Dwelling House and piece or parcel of Land, situate and lying in Kips Bay, in the ninth ward of the City of New York, between the East River and a certain Strip of Land, appropriated for a Road or way by the name of Eliza Street." A messuage is defined as a dwelling with outbuildings and land around it.

Mrs. Bartow kept the property for 18 years, although her name could not be detected in the assessment records. Then, in 1835, two men who had been buying up many of the Kip lots, jointly acquired it in 1835; Samuel Jones held a 2/3 interest and James Lorimer Graham, a 1/3 share. Samuel Jones Jr. was one of the executors of Samuel Kip's estate. The new city street, block and lot system were plotted, at least on paper, by this time, and the city was definitely moving north. Jones and Graham, no doubt with a profit in mind, sold "that portion lying between Second Avenue and the East River from 31st to 36th Street" to the Farmers' Loan and Trust Company on December 31, 1836 (Liber 374:432, Tract Report 663; Block Indices). Each lot was valued at \$300, and there were as many as 36 to a block, for a potential total of \$10,800 for the land alone; according to the 1840 Assessed Valuation of Real Estate, they held all but one lot on the south side of East 30th Street between First and Second Avenues, for a value of \$8,550.

It appears that the Elbert Kip structures remained on what is now East 33rd Street at least until 1850; two similar structures appeared in the same location in this year, oriented to the old farm lines and surrounded by a garden wall (Perris 1850/1852). They were either

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relocated or demolished in the next year or two, though; the structures do not appear on either the 1852 Dripps map or the 1857/1862 Perris Map. All of East 33rd Street was lined with brick or stone structures with back yards by 1862, which were served by city water and sewers. The extant buildings at numbers 305 and 307 East 33rd Street are probably two of these. Second Avenue was lined with brick tenements with back yards by 1880 (Robinson 1880).

One, and possibly two generations of buildings on Block 936, all probably served by water and sewer concurrent with their construction, were demolished and replaced by Kips Bay Plaza. The block had been almost completely cleared of buildings by 1955 except for the portion that was in the northeast corner of the block outside of the APE, on what was formerly a part of Kips Bay, filled in before 1850 (Bromley 1955, Perris 1850/1852). Kips Bay Plaza, a large exposed-concrete apartment complex, was constructed on a three-block superblock stretching from East 30th to East 33rd Streets, between First and Second Avenues. In the process, East 32nd and East 31st Streets east of Second Avenue were discontinued. The southern building was finished in 1960, the northern in 1965. Designed by I.M. Pei & Associates and S.J. Kesler, the 21-story height of the buildings was balanced by setbacks and open space, a concept originated by the architect Le Corbusier (White and Willensky 1988:205).

Archaeological Sensitivity

This portion of the APE retains potential for precontact archaeological sensitivity. The Phase 1A Study (Chapter 7.2) rates the proposed Kips Bay APE as sensitive for precontact archaeological resources (Kearns et al. 2003). The criteria used to predict sensitivity are: previously reported sites, well-drained, elevated land, and proximity to streams and/or the East River, a number of which are present in this location. The Kips Bay part of the East River was once only a few feet from the end of the APE on East 33rd Street. A stream used to flow through the block to the north, and East 33rd Street was near the bottom of the slope leading to this streambed (Viele 1874). Although there are no known Native American sites in the vicinity, it may be that they just remained undetected. It is possible that precontact archaeological resources remain in the APE at the original ground level, protected by the subsequently added approximately nine feet of fill. Typically, precontact remains are found within a foot or two of the precontact ground surface, and if buried beneath fill, may remain undisturbed by the installation of utilities.

Any historical cultural resources dating from the mid-nineteenth century or later are no longer extant at this location. According to the plans for widening Second Avenue and East 33rd Street done by the Department of Public Works for the Manhattan Borough President's Office, in order to build N.Y.U. Bellevue Houses, now called the Kips Bay Plaza Apartments, the building line on Second Avenue was pushed back 38.74 feet (Department of

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Public Works 1957). East 33rd Street was widened by 20 feet, and the condemnation was taken from the south side of the street (Bromley 1974). As a result of widening the streets to provide setbacks, the former locations of the ca.1860 brick tenements that once fronted on Second Avenue are now under the sidewalk and streetbed and their back yards have been covered by the tower and underground parking facility of Kips Bay Plaza.

The early nineteenth century Elbert Kip house and barn locations and much of the associated yard, however, are now under the present sidewalk and streetbed of East 33rd Street, where they may not have been affected by the Kips Bay Plaza construction. Only a foot or two of the buildings, on their southernmost sides, would have been impacted by the earlier row house construction. A soil boring done through the sidewalk on Second Avenue about 25 feet south of East 33rd Street, after the construction of Kips Bay Plaza, shows eight inches of concrete followed by miscellaneous fill (cinders, traces of red brick and sand) to a depth of 13.5 feet below grade, with another layer of sand (possible fill) to 15 feet below grade (Raymond International 1971, Boring M77). The water table was reached at 22.2 feet below grade, below the fill, so the bottom of an existing well likely would not have been disturbed. Wells can be as deep as 40 feet and thus would be below the maximum 15 foot fill level and protected from the impact of utilities installation and from paving.

The elevation in the center of the intersection of Second Avenue and East 33rd Street was 15.6 feet from 1880 until 1902, when it increased to 18.5 feet, where it remains today (Robinson 1880, Bromley 1902). This 2.9 foot increase in elevation may be partially explained by the mapping location, which was moved from the center of the intersection to its southeast corner in 1880. More likely, though, it is due to the addition of fill connected with building demolition, increased underground utilities and installation of the Second Avenue elevated railway.

Interpretation of soil borings can be subjective, so that what is classified as fill may differ from individual to individual, making it more difficult to pinpoint exact depths of cultural resources. Thus, other borings done along East 33rd Street in 1935, 1980, and 2002 show varying amounts of fill, even though the surface elevations agree over time. For example, soil boring #4, taken in the approximate location of the Elbert Kip barn or outbuilding in 1980, shows concrete sidewalk and fill (sand, some gravel, trace to little silt, some brick, etc.) to a depth of seven feet below grade (Department of Special Services 1980). Nearby borings from 1935 show between 11 and 6.5 feet of fill, up to a potential four foot discrepancy (Rock Data Map 1935, Borings #27 and #28). Two 1980 borings, on either side of the house location, showed fill to a depth of seven feet (Boring #6, at the west end of the house) and nine feet (Boring #7, at the east end of the house). This fill also contained brick fragments, as well as glass (Department of Special Services 1980). The 1935 borings in approximately the same location showed 15 to 18 feet of fill, the latter consisting of sand and clay only, but leaving an eight to nine foot discrepancy (Rock Data Map 1935, Borings #29

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and #30). A more recent boring taken for the Second Avenue Subway project at the intersection of Second Avenue and East 33rd Street show 12 feet of fill over sand, clay and till (Jersey Boring and Drilling Co., Inc., Boring B33-1). In all probability, the more modern borings are more accurate in their recordation of the depth of fill.

Ground water was observed in Boring # 5 under the north sidewalk, between the probable barn or stable and the house, at levels ranging between 16 feet and 14.1 feet over a period of ten days. This location is only about 200 feet from the former streambed (Department of Special Services 1980). Even with 15 feet of fill, however, the bottom of a well could be 40 feet deep and thus may be protected from later disturbances.

The Phase 1A indicated that potential precontact archaeological resources would lie between six and 23 feet below and current street grade, whereas historic period archaeological resources associated with the Elbert Kip house and property would lie between six and 18 feet below the current street grade, with possible shaft features extending down as far as 40 feet below the current street grade. Soil boring data reviewed as part of the current study, and described above, confirm the Phase 1A conclusions regarding depths at which potential archaeological resources may be recovered, but also indicate that the extent of the fill could vary depending on the location along East 33rd Street.

Utilities, such as electricity, gas, postal cable, and telephone ducts, had been added by 1939, buried to a depth ranging between three feet and five feet five inches (WPA Project 1937: No. 609). A site visit confirmed that utilities are still present. NYC sewer manholes, electric lines and water for fire hydrants are under what was the edge of Second Avenue and the sidewalk before the street was widened. This is now a dividing strip separating an additional traffic lane from main section of Second Avenue. Gas hookups and manholes are between this strip and the sidewalk, and storm drains are at the end of the parking lot ramps on East 33rd Street. There are also trapdoors in the dividing strip near the corner of East 33rd Street and Second Avenue.

Current utility maps are available for East 33rd Street and Second Avenue, and illustrate a number of subsurface utilities within both the East 33rd Street and Second Avenue roadbeds, generally oriented east-west along East 33rd Street and north-south along Second Avenue. The utilities include water pipelines, electrical lines, a gas line, and a sewer pipeline. Again, the deepest utilities are the five-foot diameter sewers running down the center of the Second Avenue, and the former center of East 33rd Street, situated (along with their installation trenches) between about eight and 16 feet below grade. A duct system runs at about 11 feet below grade within East 33rd Street. The lowest extents of the remaining utilities are located no deeper than eight to nine feet below grade. Based upon these depths, portions of all utilities have likely impacted the potential archaeological resource zone, although some archaeological deposits may lie lower than the utilities, and could be unaffected. Thus, there

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is a possibility that archaeological resources relating to the early nineteenth century Elbert Kip property could remain preserved in various locations under East 33rd Street and the adjoining sidewalks. Figure 10 illustrates the revised locations of archaeological sensitivity within this portion of the project APE.

3. Second Avenue Between East 31st and East 29th Streets

Current Conditions

This potentially sensitive area begins on Second Avenue, 100 feet south of East 31st Street, and continues to the building line on the north side of East 29th Street (Figure 11). The section from the south side of East 30th Street and north includes only the streetbed (not the sidewalk) on the west side of Second Avenue, but the access road and sidewalk on the east side of Second Avenue (Block 936). The section between East 30th and East 29th Streets includes the Second Avenue streetbed and sidewalk to the building line on either side, with the exception of about 100 feet of sidewalk in the northern half of the block on the west side of Second Avenue. Four blocks abut Second Avenue in this portion of the APE: Blocks 911 and 910 on the west side and Blocks 936 and 935 on the east side. Beginning in the northwest, these are the current conditions adjacent to the area deemed to be archaeologically sensitive:

Block 911 (Between East 30th and East 31st Streets, west of Second Avenue)

- Lots 29-34 are occupied by 4-story buildings with stores on the ground floors.

Block 910 (Between East 29th and East 30th Streets, west of Second Avenue)

- Lot 27, at the southwest corner of East 29th Street and Second Avenue is now the .346 acre Vincent Albano Playground. According to a plaque there, this land was designated for a roadway linking the Queens-Midtown and the Lincoln Tunnel. When these plans were abandoned, the Department of Parks was issued a permit to open a park there in 1966. Restorations in 1989 provided handicapped access for both children and adults, game tables and benches, raised granite curbs and steel ornamental fencing; in 1998, play equipment, safety surfacing, handball courts and new paving were added.
- Lots 30-36, north of the playground to the corner of East 30th Street, are occupied by a new building, "The Sycamore."

Block 936 (Between East 30th and East 31st Streets, east of Second Avenue)

This is the southern end of the superblock on which the earlier (1960) of the Kips Bay Plaza apartments stand. The east side of Second Avenue was widened from East 33rd to East 30th Street to provide a four lane wide access road (two of the lanes are used for parking) for the shops that line the street attached to the 38-story apartment building. The original sidewalk

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along Second Avenue is now the western border of the access road (Photographs 10 and 11).

Block 935 (Between East 29th and East 30th Streets, east of Second Avenue)

Apartment buildings with stores on the ground floors make up most of the east side of Second Avenue in this block (Photograph 12). The southeast corner of the block contains a new 1-story section of the Madison Avenue Square Boys and Girls Club (Photograph 13).

Site-Specific History

The area on Second Avenue between 31st and 29th Streets is considered archaeologically sensitive because the 1820 Randel map shows two structures on a property labeled William Vail within the APE (Figure 12). It was part of the 1806 distribution from Samuel Kip's estate by trustees Samuel Jones Jr. and Nicholas W. Stuyvesant to Kip's daughter Mary (Lot 41 of the 48 Lots) and his son Cornelius (Lot 43 of the 48 Lots (Figure 13). Jones and Stuyvesant also were trustees for Mary and Cornelius. The lots in this portion of the 48 Lots measure 50 feet by 200 feet, small in comparison to those in the distributions noted above.

Cornelius Kip and his wife Susan sold their land (former city Lots 3, 4 and 5 on Block 936) for \$1,000 to William Vail, a lumber merchant, on March 7, 1807 (Liber 72:143). Mary Kip's property, new city Lots 1, 6 and 7 of Block 936, was sold to William Vail on July 26, 1808 (Liber 80:513). A "road or way" called Maria Street abutted the property. The buildings probably were constructed shortly thereafter. According to the Manhattan Assessed Valuation of Real Estate Records, William Vail owned eight lots and a house valued at \$4,000 from 1817, the first year these records were available, until 1835. The valuation dropped to \$3,000 in 1820 but rose to \$3,500 in 1825.

Vail sold the property to Samuel J. Hunt in 1835, shortly before Second Avenue opened above East 30th Street in 1839 (WPA 1937:Project No. 609). However, the city was still concentrated below East 10th Street (Colton 1836). The deed mentions "tenements, hereditaments and appurtenances," but there is no reference to any specific building (Liber 323:421). Hunt and his wife Elizabeth deeded the property to Henry U. Slipper on May 2, 1835 [Lots 1, 6 and 7] (Liber 352:515). Hunt, who had several mortgages in the area, reclaimed the property after a mortgage foreclosure and sold it to Anson G. Phelps on April 23, 1850 (Liber 541:220). In the meantime, the Kip estate to the east had been sold to Thomas Storm, whose executor, Charles F. Bunner, sold it off in city lots on April 1, 1844 (Block Indices). Clearly the city had begun its spread northward.

The 1852 Dripps map (Figure 14) shows several buildings in the approximate location of the original William Vail structures; one or two of the northernmost structures appear oriented to the pre-city grid of Kips Bay streets, suggesting that perhaps some of these circa 1808 outbuildings originally were located just east of the new right-of-way, or else were moved

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east rather than razed completely in response to the construction of Second Avenue. Of note, at least one and possibly two of these buildings are shown within the East 30th Street footprint. The William Vail house itself appears to have been demolished by 1852; the structure located just northeast of its original site clearly is oriented to the new city grid system. The Thomas Storm property east of the William Vail lots, however, is still delineated on the 1852 Dripps map, despite the action dividing it into smaller city lots in the 1844 sale.

On the 1867 Dripps map, though, the William Vail-era outbuildings situated within the projected East 30th Street roadbed are gone, implying that after the mid to late 1850s, the original Vail buildings and property were finally subsumed into the new city block and lot system. This map also shows that by 1867, the Second Avenue elevated railway was in place, and there were tenements interspersed with manufacturing locations along Second Avenue (Dripps 1867). As such, the 1860s mark the end of the history for the William Vail property and structures.

Archaeological Sensitivity

The early 19th century William Vail house was located in the roadbed of Second Avenue, on the east side approximately 100 feet north of East 29th Street, and so escaped being impacted by later nineteenth and twentieth century construction episodes within Block 935. It fronted on Maria Street to the south, so it is reasonable to theorize that any privy, well or cistern would have been behind it, possibly within Second Avenue or under the original sidewalk locations. One or two outbuildings associated with the William Vail property were once located within the East 30th Street roadbed, and/or the adjacent sidewalks.

The Phase 1A indicated that potential historic period archaeological resources associated with the William Vail property would lie between 10-18 feet below the current street grade. No subsequent information has become available that changes this conclusion. No existing utility maps were available for this portion of the APE, but it appears that utility placement would be similar to adjoining blocks to the north, for which maps are available. The utilities should include, at a minimum, water pipelines, electrical lines, a gas line, and a sewer pipeline. Within Second Avenue they should be oriented north-south, and within East 30th Street, east-west. As with the other streets, the assumption is that a 5-foot diameter sewer runs down the original centerline of both streets, and is situated (along with its installation trench) at approximately eight to 16 feet below grade. Duct systems could be located at about 11 feet below grade, and the remaining utilities are probably no deeper than eight to nine feet below grade. Thus, as with the other sections of the APE, based upon these depths, portions of all utilities could impact the potential archaeological resource zone, although some archaeological deposits may lie lower than the utilities, and could be unaffected. Discounting the sewer and any duct locations, therefore, there is a possibility that

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archaeological resources could remain preserved in various locations under the east side of the Second Avenue roadbed and its adjacent original sidewalk, the East 30th Street roadbed, and the line of the original sidewalks for East 30th Street. Figure 15 illustrates the revised locations of archaeological sensitivity within this portion of the project APE.

IV. CONCLUSIONS

The three archaeologically sensitive areas within the APE were found to retain sensitivity for potential resources. As per Exhibit H of the Draft Programmatic Agreement, *Second Avenue Subway Project Site Prioritization and Additional Documentary Research Protocol* for 19th century residential archaeological resources, these sites are considered to have a high sensitivity since they date to the early 19th century. The dwelling on the John Van Tuyl property appears to have stood from ca. 1805-1839; the Elbert Kip dwelling from ca. 1805-1850; and the William Vail dwelling from ca. 1807-1839, with its associated outbuildings surviving until ca. 1852. Therefore, potential archaeological deposits, especially shaft features, could contain resources dating from these periods.

A. Second Avenue Between East 36th and East 35th Streets

John Van Tuyl and his wife Catharine Kip owned three or more acres encompassing this part of the APE from 1805 to 1847. For at least part of that time, there was a house on the property, located on the east side of what is now the Second Avenue roadbed, and part of the adjacent sidewalk. The property fronted on Eliza Street, located to the east, placing the rear yard of the house within the current Second Avenue footprint. The house and lot appear on the 1820 Randel map, although the only year that tax records indicate a house belonging to Van Tuyl stood at this location was 1839, the year that the ward numbers changed and Second Avenue opened. This discrepancy between the 1820 map and the incomplete tax records suggests that at a minimum, the structure was not occupied by Van Tuyl or his wife in 1820, but rather a renter or other occupant, whose name could not be discerned because of the generic way the tax assessments were recorded (under the heading of “Kips Bay” rather than by street name). Conveyance records also were uninformative. It appears that the house on Van Tuyl’s property was razed or moved prior to construction of Second Avenue; maps made in the late 1830s and beyond do not show a structure at this location (Colton 1836, Dripps 1852). The fact that the structure is not listed in the tax assessment records after 1839, the year Second Avenue opened here, seems to support this claim.

The portion of the APE that is most sensitive for archaeological resources associated with the Van Tuyl property is the eastern side of the Second Avenue roadbed and the adjacent sidewalk. Review of existing utility maps for this part of the APE revealed that with the exception of the deeply buried five-foot diameter sewer pipe that runs down the center of Second Avenue, installation of the remaining utilities within Second Avenue likely has not

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impacted potential archaeological resources, which if extant should be found between 10 and 18 feet below the current street grade, according to the Phase 1A study. No subsequent information has become available that changes this conclusion. The sidewalk along the eastern side of Second Avenue does not have utilities laid beneath it, except an electrical connection from the north-south running electrical line under Second Avenue to the base of a street lamp, and a water line hookup from the buried north-south pipe under Second Avenue to a fire hydrant. Thus, although both the roadbed and the sidewalk are equally likely to contain preserved archaeological remains, accessing the area beneath the sidewalk would be considerably easier, given the lack of active utilities currently mapped there.

B. 33rd Street East of Second Avenue

Elbert Kip acquired the two-plus acre lot including this part of the APE in 1805, and at least by 1807 had built a house on it. The dwelling and an outbuilding were located within the current footprint of East 33rd Street and its adjacent sidewalk on the south, with the lot boundaries extending north and including the sidewalk on the north. Kip sold the lot and buildings to widow Ann Bartow in 1817, and she owned the property for another 18 years, until selling to speculators in 1835, who in turn sold this and other adjoining lots to a bank the following year. Although slated to be developed as city lots by the late 1830s, it appears there was little change to this property for another 10 to 15 years. The Kip/Bartow buildings were shown on maps through 1850, and do not appear to have been moved or demolished until 1851 or 1852. There is no information as to whether the buildings were occupied in the years after being sold by Bartow and prior to demolition.

The Phase 1A indicated that all of East 33rd Street and its sidewalks within the APE were sensitive for the recovery of precontact archaeological resources and the area of East 33rd Street and its sidewalks beginning approximately 180 feet east of Second Avenue were sensitive for the recovery of historic period archaeological resources associated with the Elbert Kip property. If extant, the precontact resources could exist between about six and 23 feet below the current street grade, and the historic period resources could lie between about six and 18 feet below the current street grade, with possible shaft features extending down as far as 40 feet below the current street grade. Soil boring data reviewed as part of the current study, and described above, confirm the Phase 1A conclusions regarding depths at which potential archaeological resources may be recovered, but also indicate that the extent of the fill could vary depending on the location along East 33rd Street. Existing utility maps for this part of the APE show that all known utilities could have disturbed upper reaches of potential archaeological resources under East 33rd Street. Intact deposits may still remain under the utilities, although the sewer and duct lines, which are buried to a depth of 16 and 11 feet below grade, respectively, may have disturbed more of the potential archaeological deposits than the others. The sewer line is located along the former centerline of East 33rd Street, and the duct system is laid along the line of the former sidewalk (prior to road widening) on the

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south side of East 33rd Street. The sidewalk on the north side of East 33rd Street has electrical lines buried beneath it; although this conduit may cap intact archaeological deposits below, its currently active status would make accessing the potential resources difficult.

C. Second Avenue Between East 31st and East 29th Streets

William Vail acquired property including this section of the APE in 1807 and 1808, and likely constructed a house and several outbuildings on the land soon after. The house was located on the eastern side of the Second Avenue roadbed and its adjacent sidewalk. Some of the outbuildings associated with the house were located in the roadbed and sidewalks of East 30th Street. Vail sold the house and lots in 1835; owners during the period from 1835-1850 included Samuel and Elizabeth Hunt, Henry Slipper, and Anson Phelps. The original William Vail house appears to have been demolished prior to construction of Second Avenue in 1839, but some of the outbuildings associated with the house survived within what would become East 30th Street until the early 1850s. Although there were various owners of the property after Vail sold it, occupancy after 1835 is unclear.

No existing utility maps were available for this section of the APE, which makes it difficult to predict where potential archaeological resources may be extant. The vertical disturbance from the utilities should be similar to adjacent sections of Second Avenue. Sewers (usually situated along the streets' original centerlines) and duct systems would be buried to the greatest depth, and the remaining utilities should be laid a bit shallower. The Phase 1A indicated that potential historic period archaeological resources associated with the William Vail property would lie between 10-18 feet below the current street grade. No subsequent information has become available that changes this conclusion. All of the utilities could have disturbed the upper portions of this zone, and the sewers and ducts might have impacted the potential resources at deeper levels. However, there is still the potential that archaeological resources could remain unaffected below the utilities, and in any areas that do not have utilities there is an even better chance of survival. In all likelihood, utilities are clustered in the streetbeds and potentially sensitive areas which remain undisturbed are located beneath and adjacent to sidewalks.

V. RECOMMENDATIONS

Archaeological resources may be present in the APE on Second Avenue between 36th and 31st Streets and within a portion of 33rd Street east of Second Avenue. If feasible, Historical Perspectives recommends avoidance of these areas during project construction. If avoidance is not feasible, then archaeological testing prior to construction and/or archaeological monitoring during construction, in accordance with the *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State (1994)*, the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic*

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Preservation (48 FR 44716, September 29, 1983); and the Advisory Council on Historic Preservation's handbook *Treatment of Archaeological Properties* (1980), would be necessary. RPA-certified professional archaeologists, with an understanding of and experience in urban archaeological excavation techniques, would be required to be part of the testing team. Specific recommendations for each project site are outlined below.

A. Second Avenue Between East 36th and East 35th Streets

Archaeological resources associated with the John Van Tuyl property may be present within the project APE, particularly along the east side of Second Avenue and its adjacent sidewalk. If avoidance of this area is not feasible, then at a minimum, archaeological testing prior to project construction is recommended for the portion of the APE under the east sidewalk of Second Avenue (see Figure 6). According to existing utility maps, other than a light pole electrical connection and a fire hydrant water connection, the sidewalk is free of underground utilities. Archaeological testing would likely consist of backhoe trenching under the sidewalk, with a protocol for archaeological field testing developed by the archaeological contractor in consultation with SHPO. Depending on the results of the archaeological testing, archaeological monitoring during construction may also be warranted for those areas within the east side of Second Avenue that currently contain active utilities, and that cannot feasibly be accessed until construction of the project begins.

B. 33rd Street East of Second Avenue

Within this portion of the project APE, potential precontact archaeological resources, as well as historic period resources associated with the Elbert Kip property, may be present within East 33rd Street and its adjacent sidewalks at depths that are unaffected by current utilities. If the site would be used solely as a staging area with no associated subsurface construction, then there would be no potential for adverse effects to potential archaeological resources, and no subsurface archaeological investigations are warranted. If the site would be used for the creation of a shaft site and would impact potential archaeological resources that could be extant under active utilities, then archaeological monitoring during construction would be warranted. Since the East 33rd Street roadbed and the adjacent sidewalks currently contain active utilities, backhoe trenching prior to construction would be impractical. Any archaeological monitoring protocol or plan would be developed by the archaeological contractor in consultation with SHPO.

C. Second Avenue Between East 31st and East 29th Streets

Archaeological resources associated with the William Vail property may be present within the east side of Second Avenue and its adjacent sidewalk, and East 30th Street and its adjacent sidewalks, at depths that are unaffected by current utilities. However, this area of

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sensitivity is not currently located within the boundaries of the proposed first phase of work on Second Avenue between 36th and 31st Streets. If proposed construction during the first phase of work would not extend south of 31st Street, then there would be no potential for adverse effects. In addition, the area of sensitivity is located within an area where the proposed subway tunnel would be built via a deep bored tunnel, which does not have the potential to affect the potential archaeological resources. Should project plans change and avoidance of this area is not feasible, the archaeological contractor may need to conduct a field visit to visually inspect the impact area and determine whether there are active utilities underneath. If possible, archaeological testing would be recommended. If a backhoe cannot be used for archaeological testing due to active utilities, then archaeological monitoring during construction would be warranted. Any archaeological monitoring protocol or plan would be developed by the archaeological contractor in consultation with SHPO.

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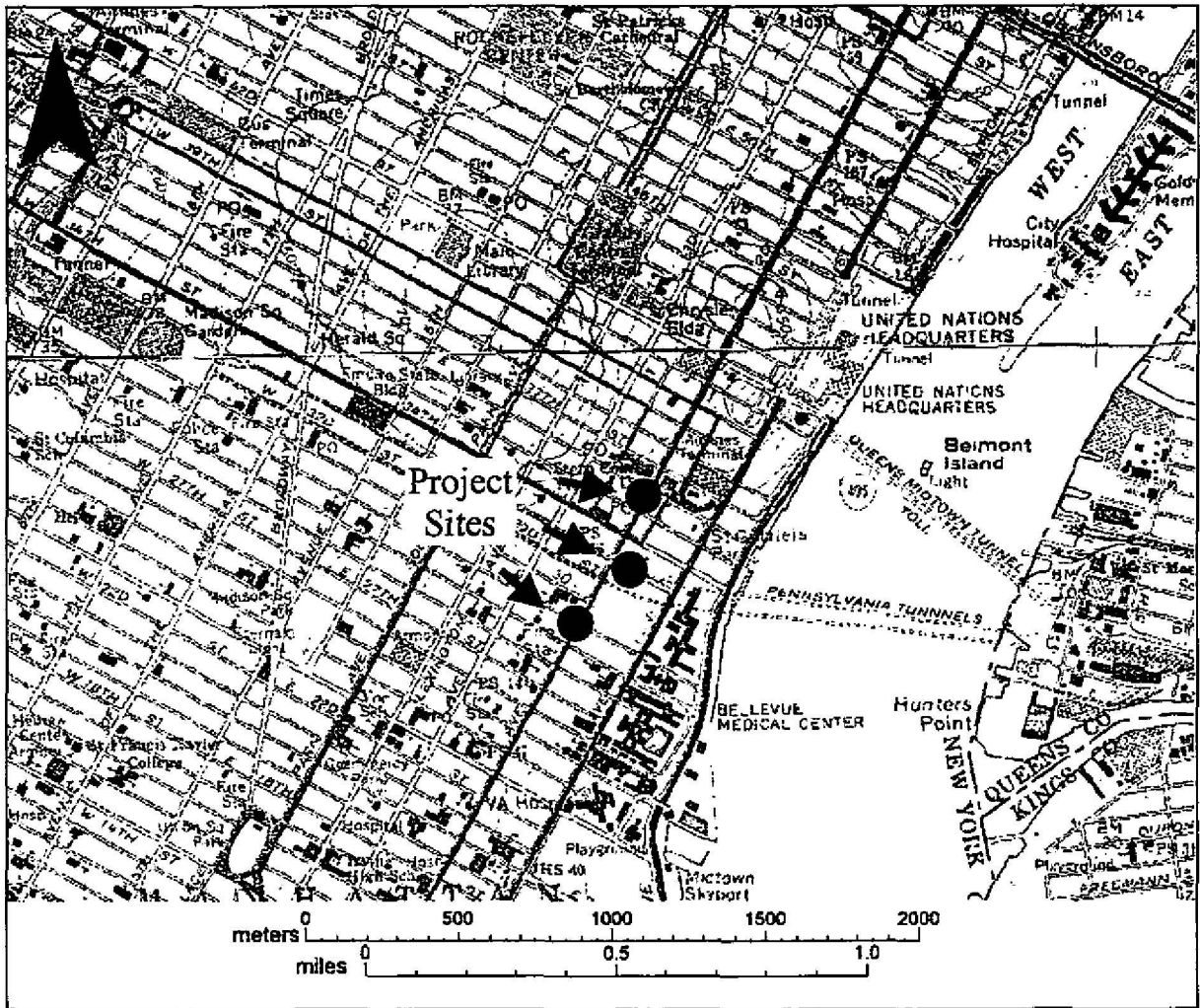


FIGURE 1

*USGS Central Park and Brooklyn, NY Quadrangles.
United States Geological Survey, 1976 and 1995.*

Kips Bay Project Sites.

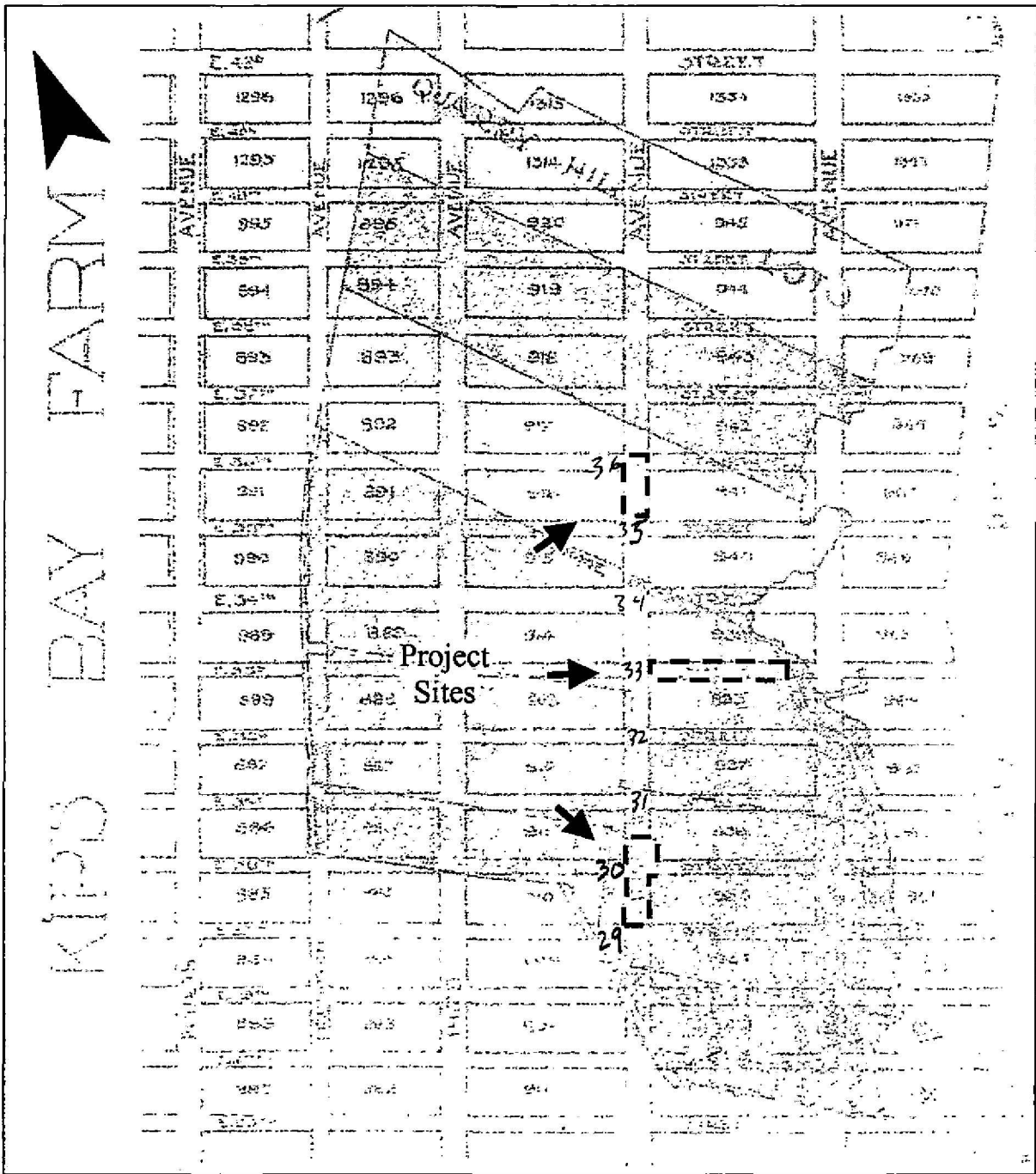


FIGURE 2

Farm Histories.
City of New York Map Division 1917.

Kips Bay Project Areas.

Approximate Scale: 1/8 inch = 100 feet

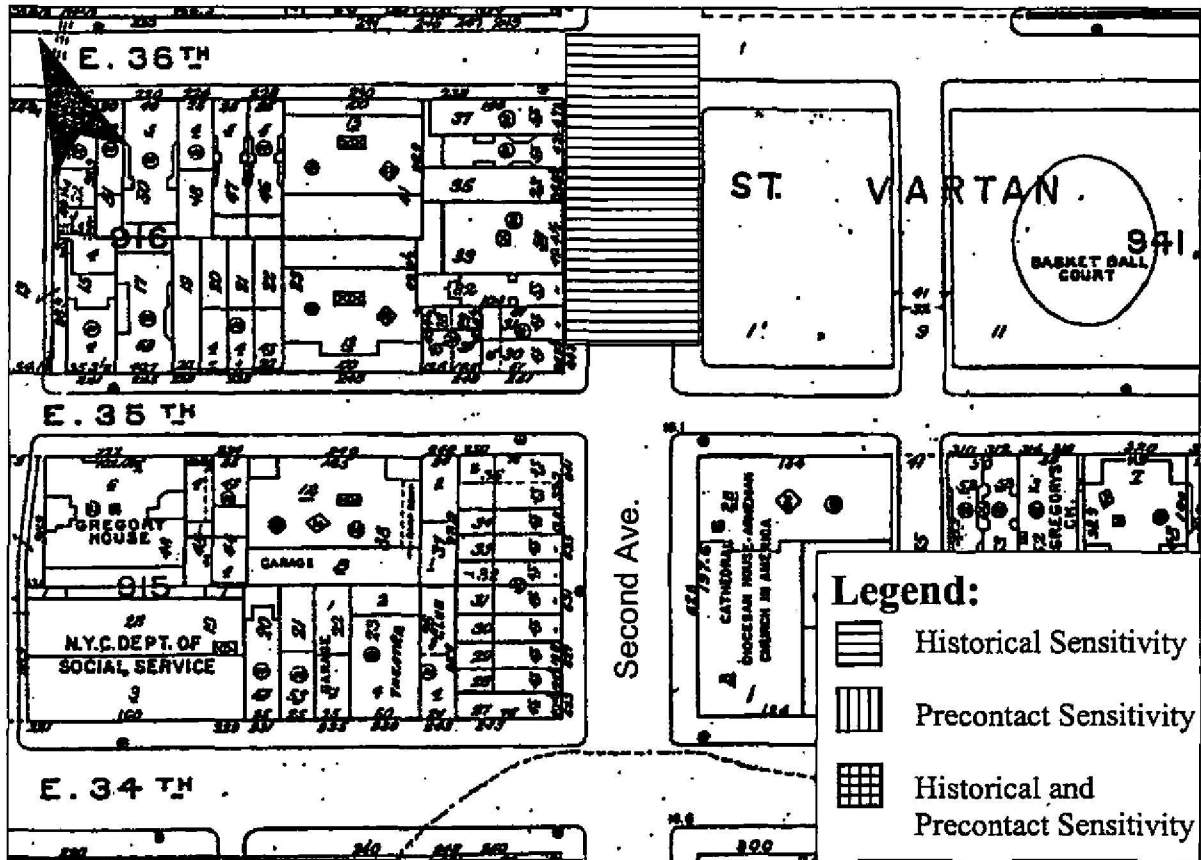


FIGURE 3

Area of Potential Archaeological Sensitivity Identified in Phase 1A Study.
Second Avenue, East 36th Street to East 35th Street.
Sanborn 2001.

Approximate Scale: 3/4 inch = 100 feet

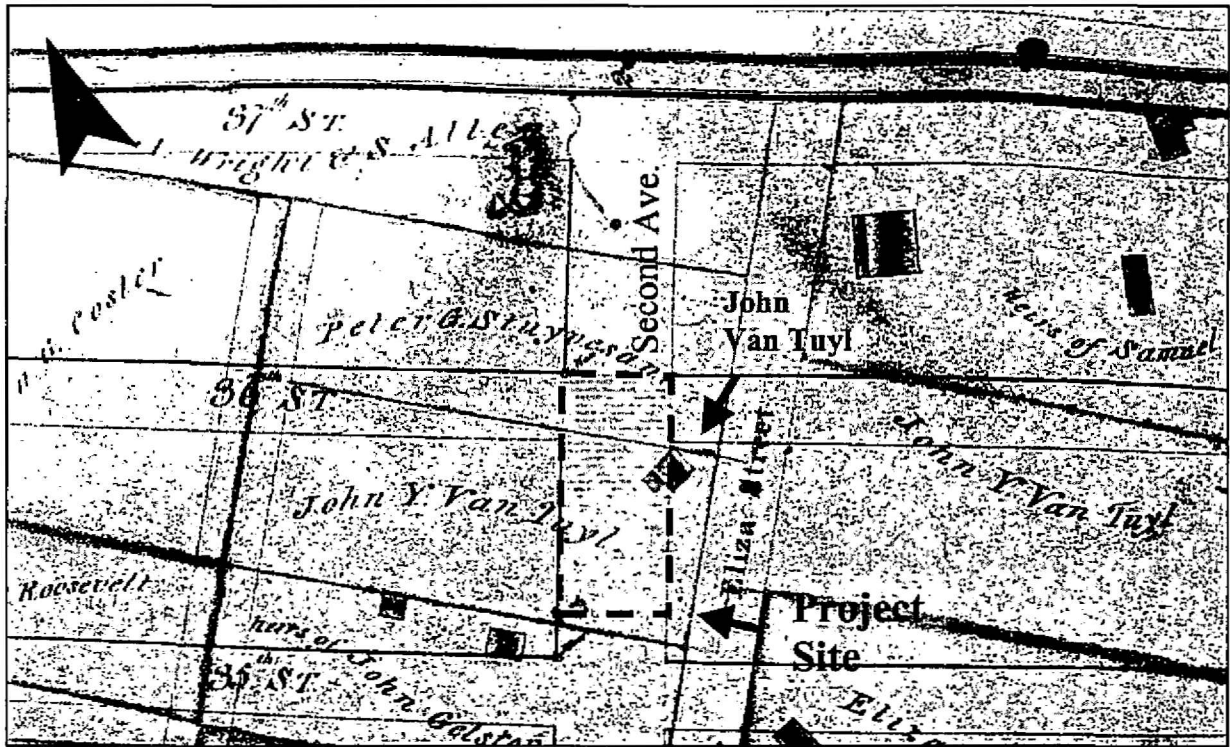


FIGURE 4

Farm Maps.
Randel 1820.

Second Avenue, East 36th to East 35th Streets.

Approximate Scale: ½ inch = 100 feet

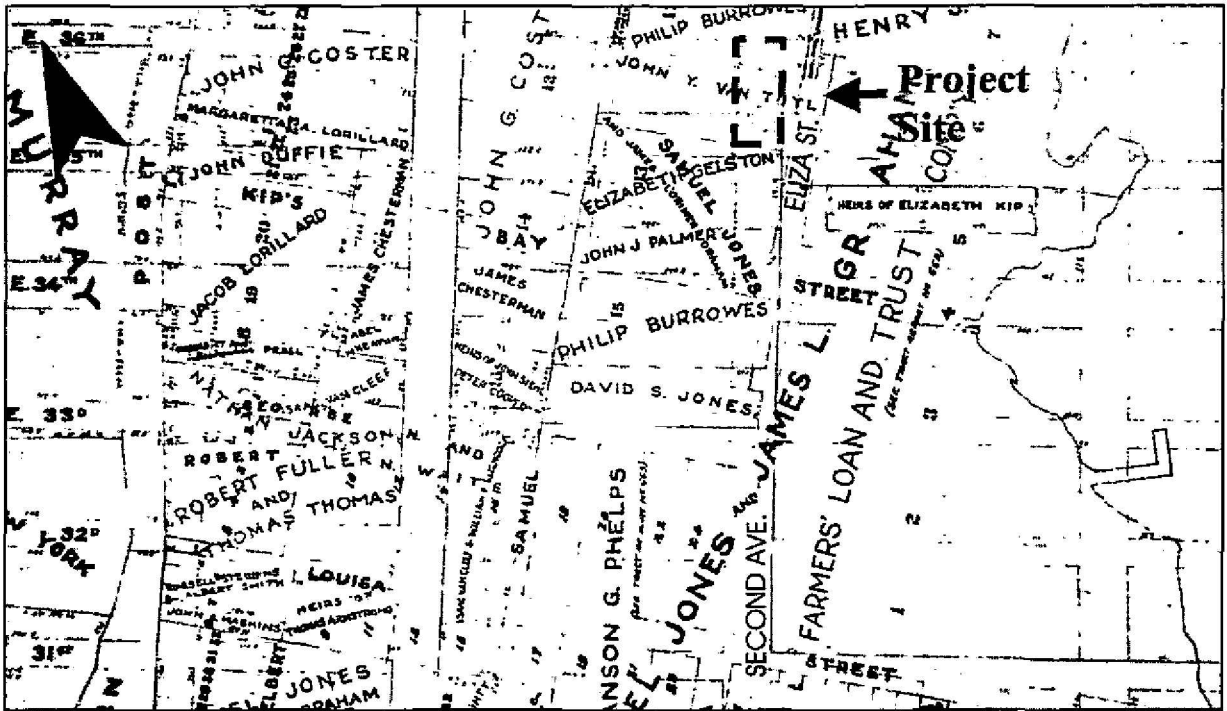


FIGURE 5

Tracts and Farm Map.
City of New York Map Division 1916.

Second Avenue, East 36th to East 35th Streets.

Approximate Scale: ¼ inch = 100 feet

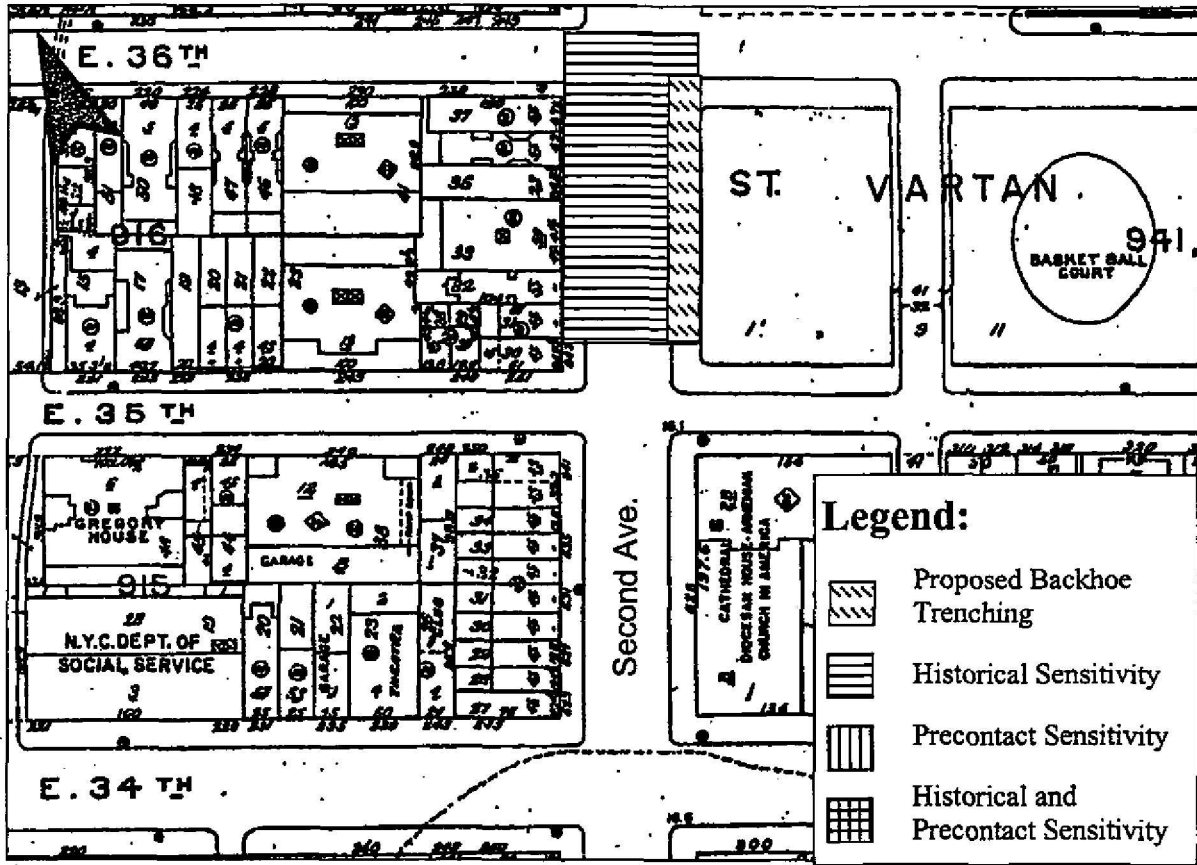


FIGURE 6

Finalized Area of Potential Archaeological Sensitivity and Location of Proposed Backhoe Trenching.

Second Avenue, East 36th Street to East 35th Street.

Sanborn 2001.

Approximate Scale: 3/4 inch = 100 feet

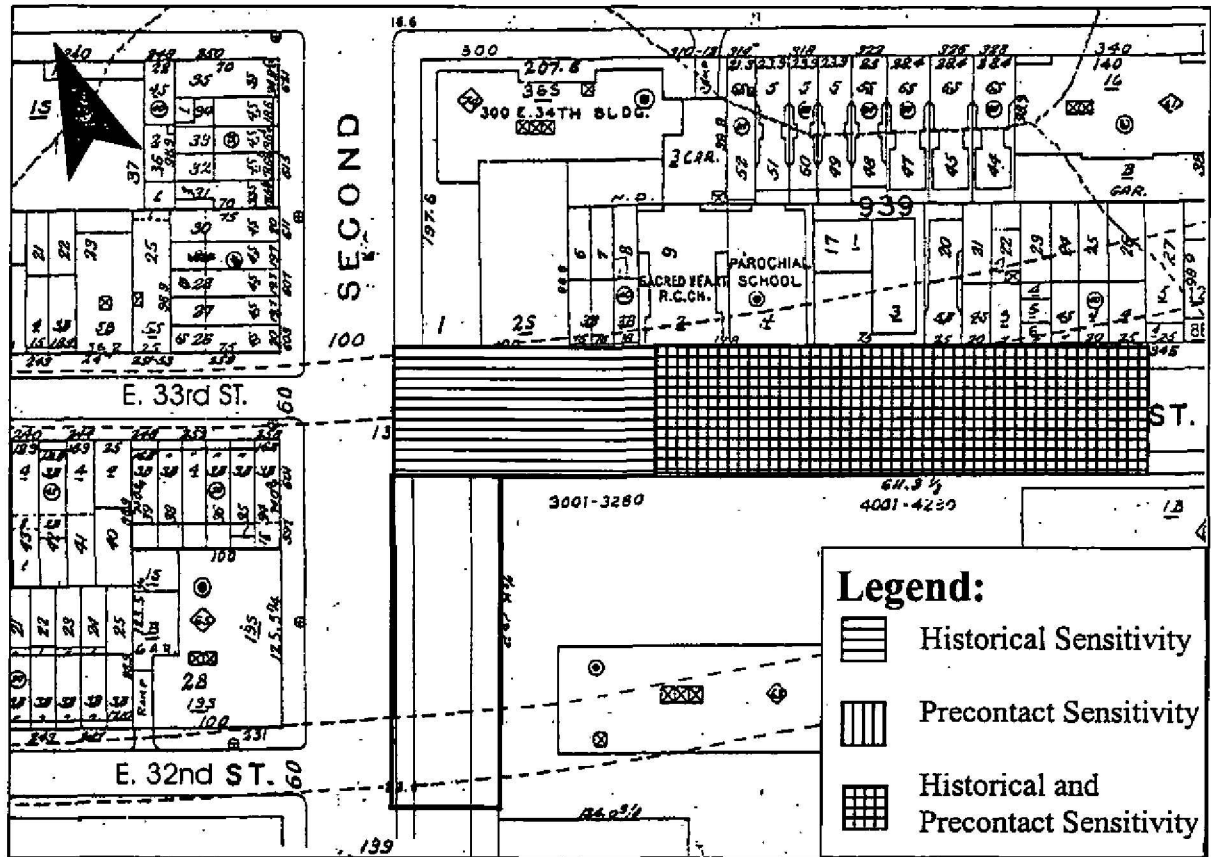


FIGURE 7

Area of Potential Archaeological Sensitivity Identified in Phase 1A Study.
East 33rd Street East of Second Avenue.
Sanborn 2001.

Approximate Scale: 3/4 inch = 100 feet

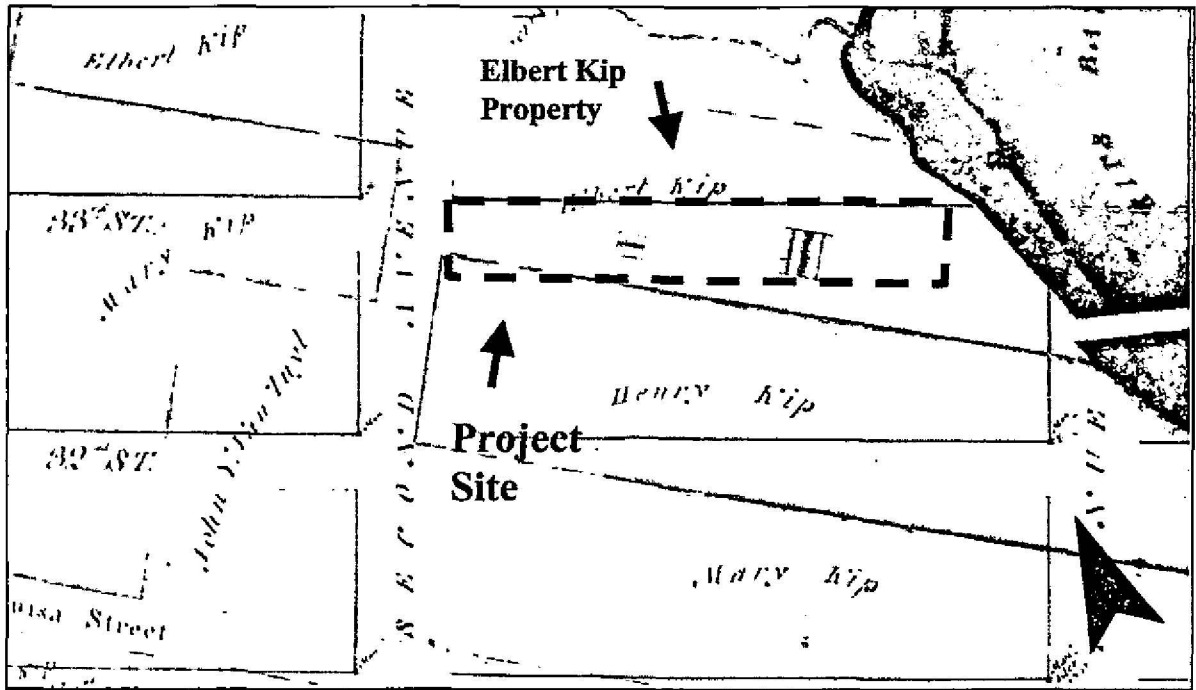


FIGURE 9

Farm Maps.
Randel 1820.

East 33rd Street, East of Second Avenue.

Approximate Scale: 1/2 inch = 100 feet

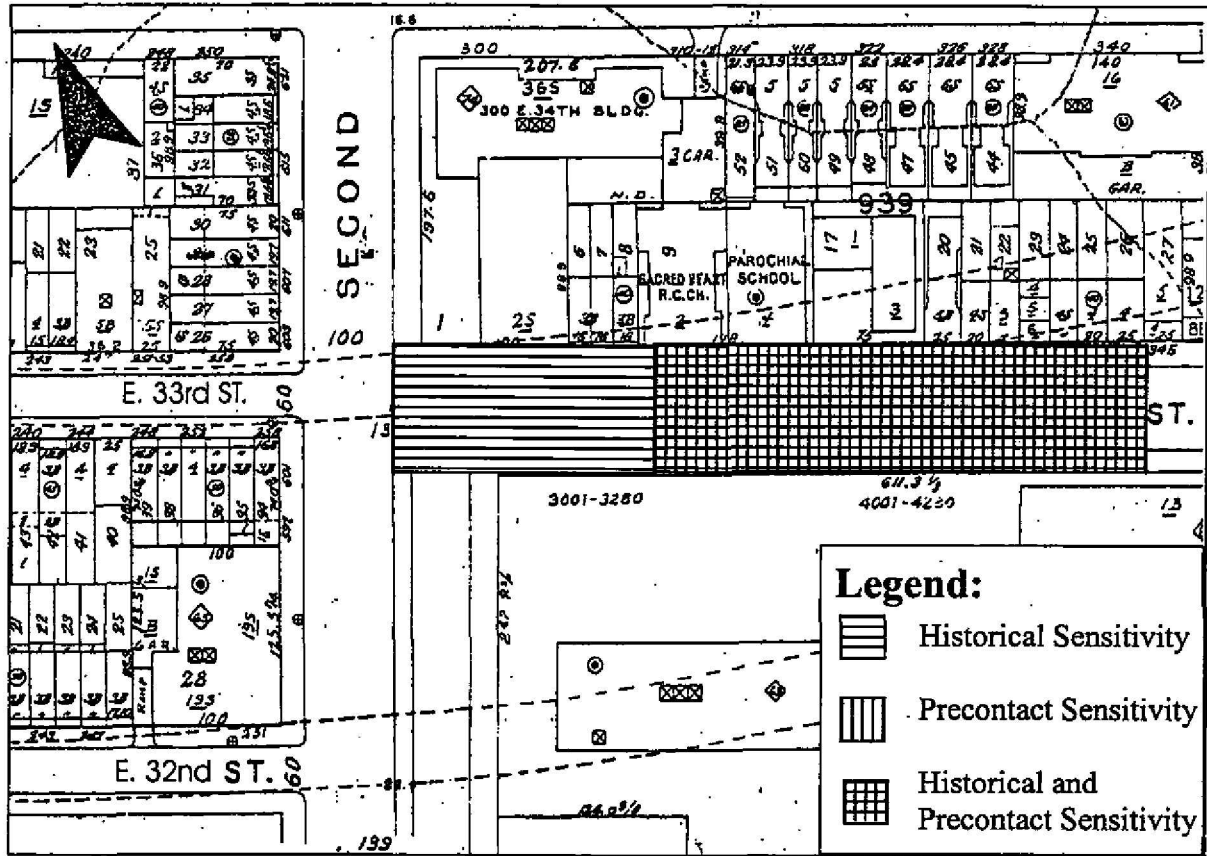


FIGURE 10
Finalized Area of Potential Archaeological Sensitivity.
East 33rd Street East of Second Avenue.
Sanborn 2001.

Approximate Scale: 3/4 inch = 100 feet

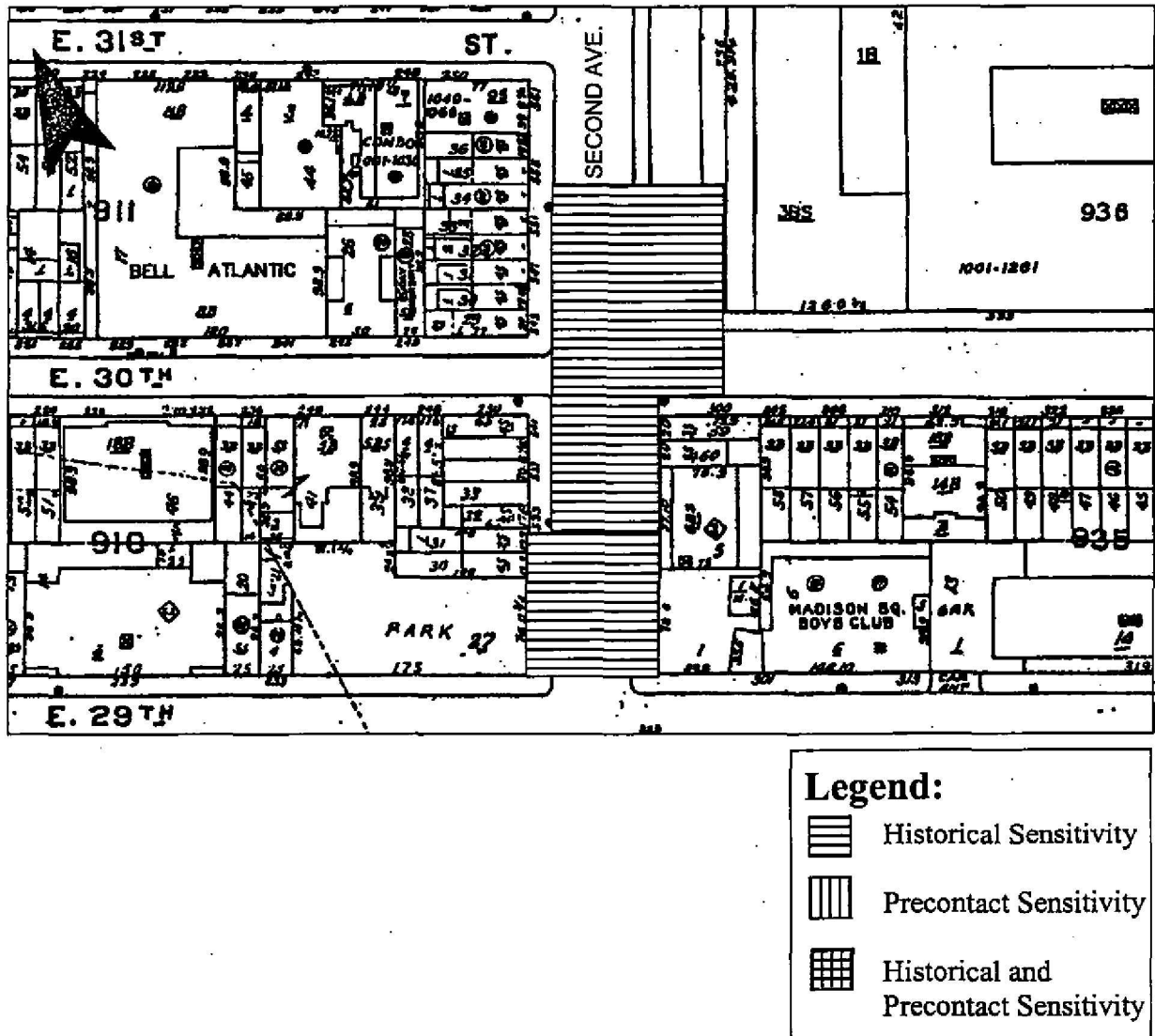


FIGURE 11

Area of Potential Archaeological Sensitivity Identified in Phase 1A Study.
Second Avenue, East 31st Street to East 29th Street.
Sanborn 2001.

Approximate Scale: 3/4 inch = 100 feet

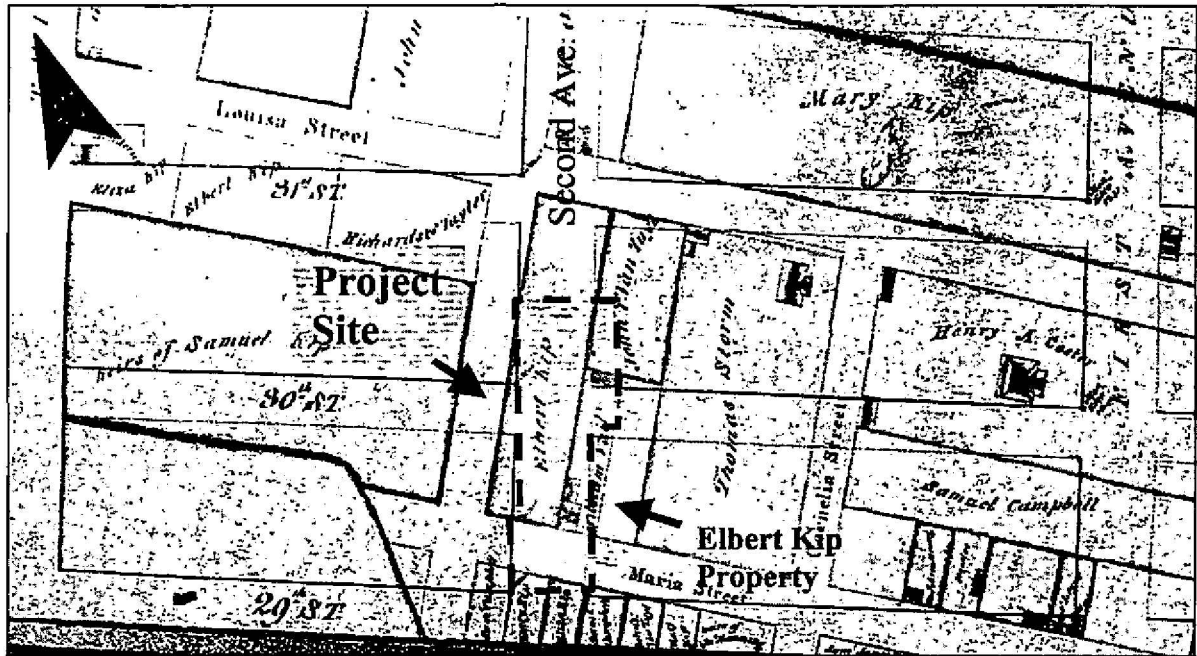


FIGURE 12

Farm Maps.
Randel 1820.

Second Avenue, East 31st Street to East 29th Street.

Approximate Scale: 3/8 inch = 100 feet

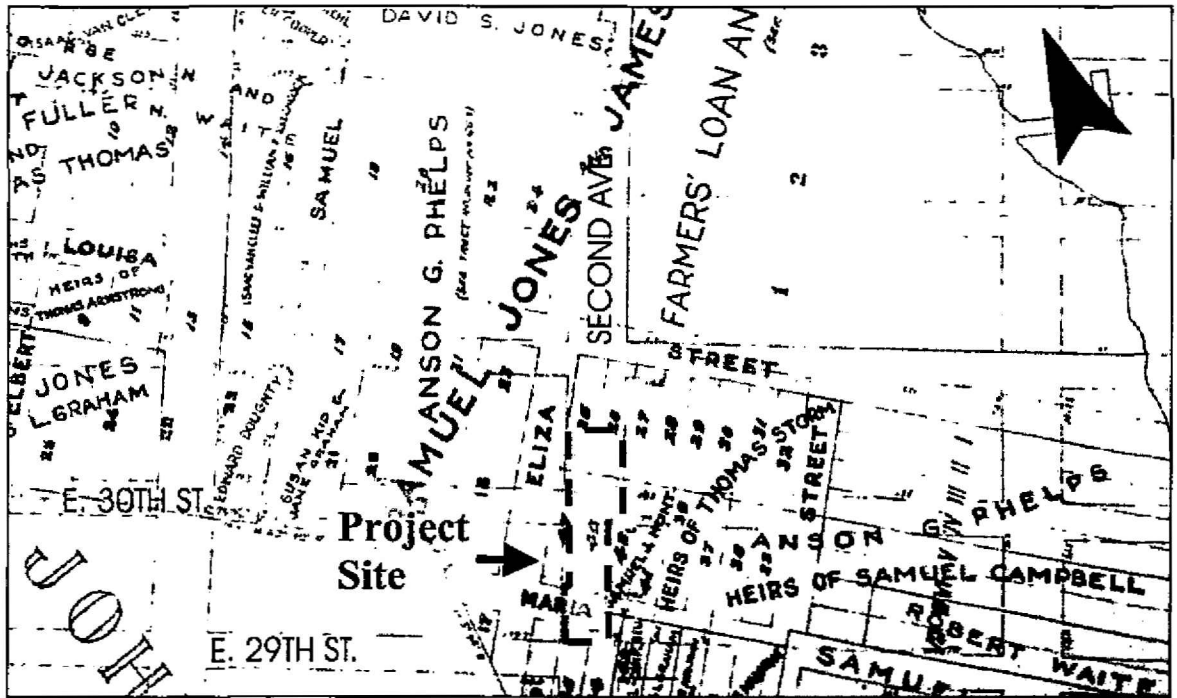


FIGURE 13

Tracts and Farm Map.
City of New York Map Division 1916.

Second Avenue, East 31st Street to East 29th Street.

Approximate Scale: 5/16 inch = 100 feet

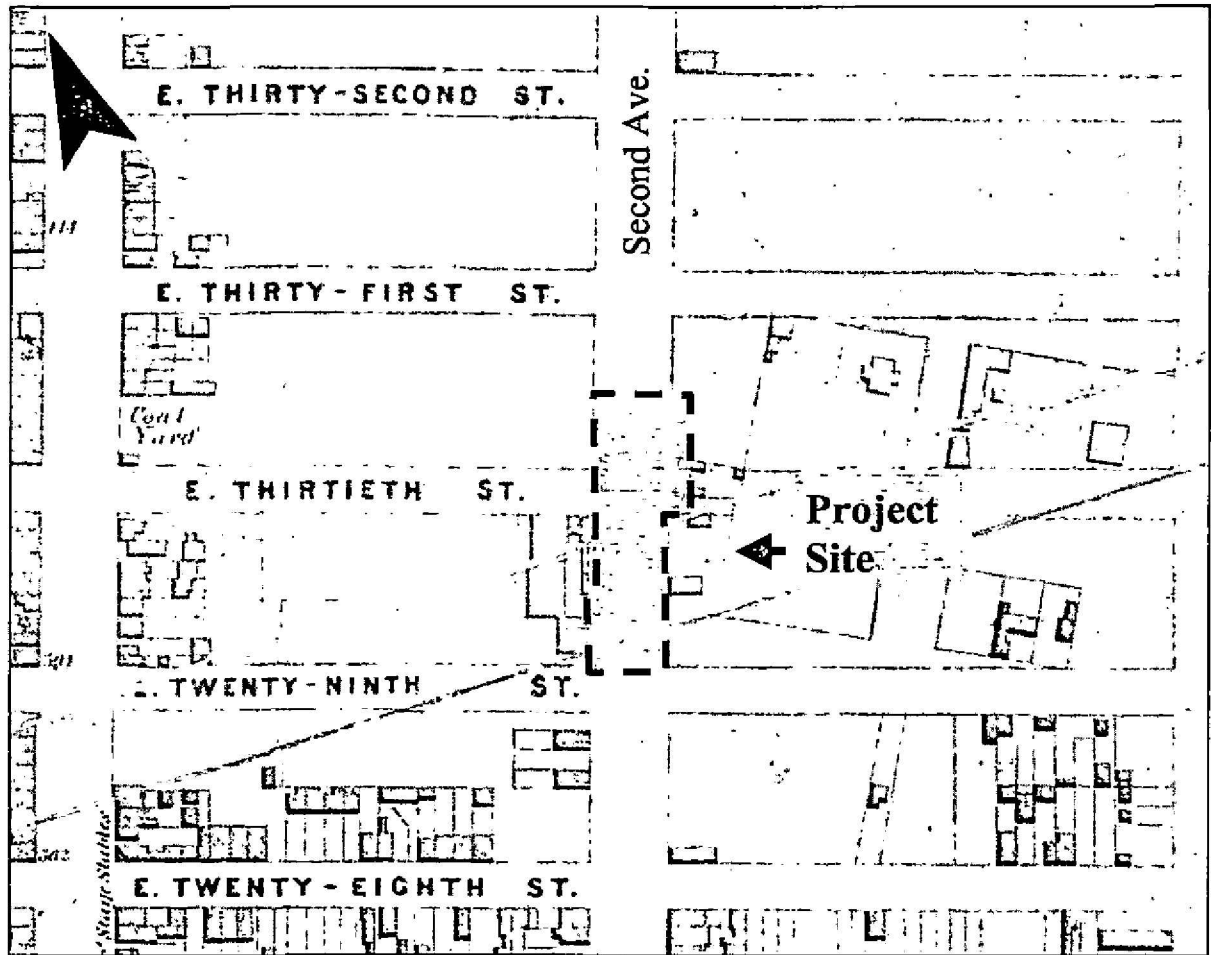


FIGURE 14

*Map of the City of New York Extending Northward to 50th Street.
Dripps 1852.*

Second Avenue, East 31st Street to East 29th Street.

Approximate Scale: 3/8 inch = 100 feet

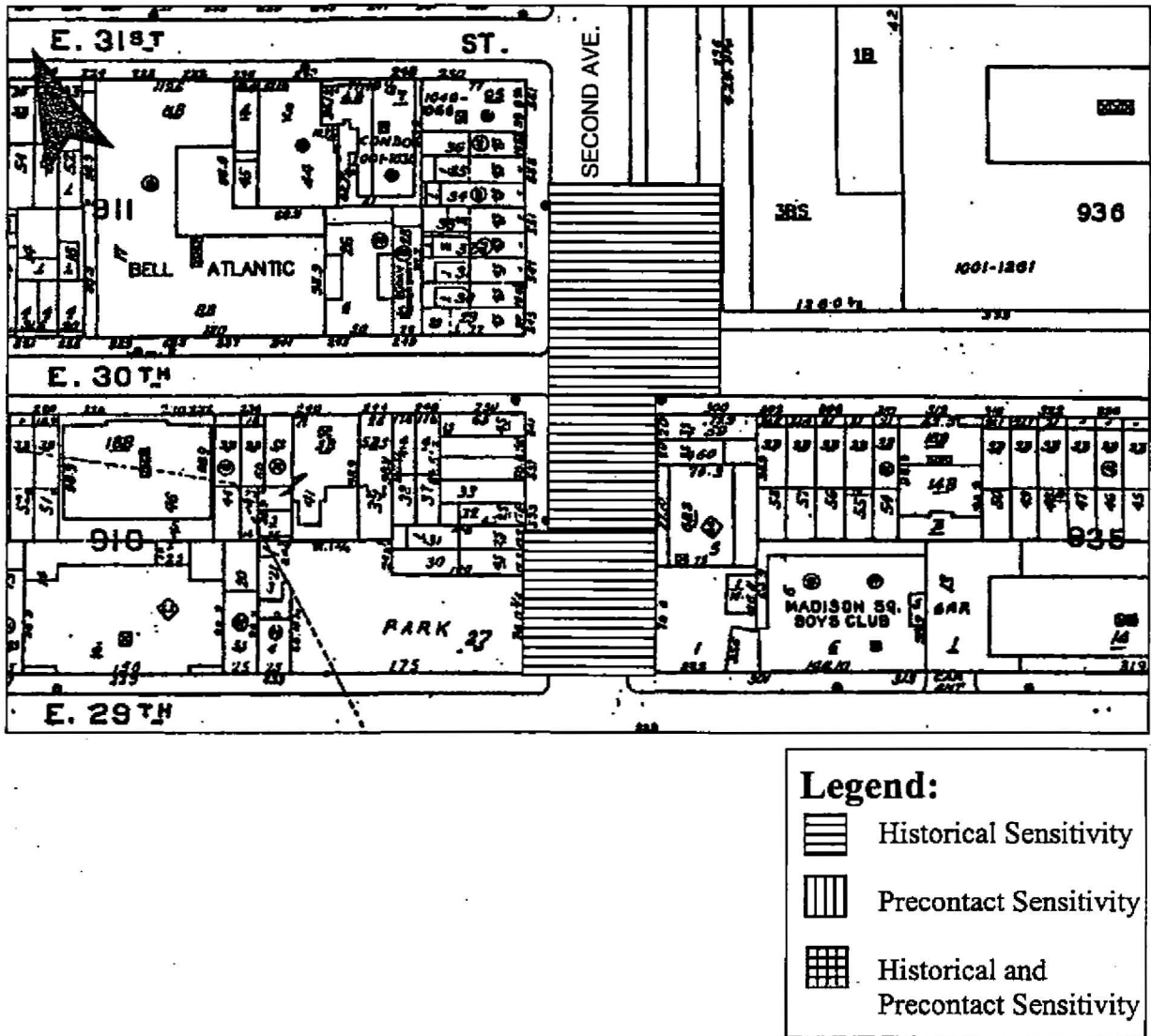


FIGURE 15

*Finalized Area of Potential Archaeological Sensitivity.
Second Avenue, East 31st Street to East 29th Street.
Sanborn 2001.*

Approximate Scale: 3/4 inch = 100 feet



Photograph 1: St. Vartan Park, east side of Second Avenue (Block 941). Second Avenue Between East 35th and East 36th Streets.



Photograph 2: St. Vartan Park, south side of East 36th Street (Block 941). Second Avenue Between East 35th and East 36th Streets.



Photograph 3: Approach to Queens Midtown Tunnel on East 36th Street. Second Avenue Between East 35th and East 36th Streets.



Photograph 4: East 33rd Street, view east from Second Avenue. East 33rd Street East of Second Avenue.



Photograph 5: Kips Bay Plaza apartments, south side of East 33rd Street (Block 936). East 33rd Street East of Second Avenue.



Photograph 6: North side of East 33rd Street (Block 939). East 33rd Street East of Second Avenue.



Photograph 7: North side of East 33rd Street (Block 939). East 33rd Street East of Second Avenue.



Photograph 8: North side of East 33rd Street (Block 939). East 33rd Street East of Second Avenue.



Photograph 9: North side of East 33rd Street (Block 939). East 33rd Street East of Second Avenue.



Photograph 10: Northeast corner of Second Avenue and East 30th Street, view north (Block 936). Second Avenue Between East 31st and East 29th Streets.



Photograph 11: Northeast corner of Second Avenue and East 30th Street, view east (Block 936). Second Avenue Between East 31st and East 29th Streets.



Photograph 12: Southeast corner of Second Avenue and East 30th Street (Block 935). Second Avenue Between East 31st and East 29th Streets.



Photograph 13: Northeast corner of Second Avenue and East 29th Street (Block 935).
Second Avenue Between East 31st and East 29th Streets.